Submittal of Annual Reports and Other Compliance Documents for Municipal Separate Storm Sewer System (MS4) Permits

NOTE: Missing or incomplete fields are highlighted at the bottom of each page. You may save, close and return to your draft permit as often as necessary to complete your application. After 120 days your draft is **deleted.**

Form 3400-224(R8/2021)

Reporting Information :

Will you be completing the Annual Report or other submittal type? (•) **Annual Report** ( ) **Other**

Project Name:	2023 Annual Report
County:	Milwaukee
Municipality:	Wauwatosa, City
Permit Number:	S065404
Facility Number:	31319
Reporting Year:	2023

Is this submittal also satisfying an Urban Nonpoint Source Grant funded deliverable? ( ) **Yes** (•) **No**

Required Attachments and Supplemental Information

Please complete the contents of each tab to submit your MS4 permit compliance document. The information included in this checklist is necessary for a complete submittal. A complete and detailed submittal will help us review about your MS4 permit document. To help us make a decision in the shortest amount of time possible, the following information must be submitted:

Annual Report

- Review related web site and instructions for Municipal storm water permit eReporting [Exit Form]
- Complete all required fields on the annual report form and upload required attachments
- Attach the following other supporting documents as appropriate using the attachments tab above
  - Public Education and Outreach Annual Report Summary
  - Public Involvement and Participation Annual Report Summary
  - Illicit Discharge Detection and Elimination Annual Report Summary
  - Construction Site Pollution Control Annual Report Summary
  - Post-Construction Storm Water Management Annual Report Summary
  - Pollution Prevention Annual Report Summary
    - Leaf and Yard Waste Management
    - Municipal Facility (BMP) Inspection Report
    - Municipal Property SWPPP
    - Municipally Property Inspection Report
    - Winter Road Maintenance
  - Storm Sewer Map Annual Report Attachment
  - Storm Water Quality Management Annual Report Attachment

- TMDL Attachment
- Storm Water Consortium/Group Report
- Municipal Cooperation Attachment
- Other Annual Report Attachment

- Attach the following permit compliance documents as appropriate using the attachments tab above

  - Storm Water Management Program
    - Public Education and Outreach Program
    - Public Involvement and Participation Program
    - Illicit Discharge Detection and Elimination Program
    - Construction Site Pollutant Control Program
    - Post-Construction Storm Water Management Program
    - Pollution Prevention Program
      - Municipal Storm Water Management Facility (BMP) Inventory
      - Municipal Storm Water Management Facility (BMP) Inspection and Maintenance Plan
  - Total Maximum Daily Load documents *(*If applicable, see permit for due dates.)*
    - TMDL Mapping*
    - TMDL Modeling*
    - TMDL Implementation Plan*
    - Fecal Coliform Screening Parameter *
    - Fecal Coliform Inventory and Map *(S050075-03 general permittees Appendix B B.5.2 – document due to the department by March 31, 2022)*
    - Fecal Coliform Source Elimination Plan *(S050075-03 general permittees Appendix B - document due to the department by October 31,2023)*

- Sign and Submit form

Do not close your work until you SAVE.

Form 3400-224 (R8/2021)

Municipal Contact Information- Complete

Notice: Pursuant to s. NR 216.07(8), Wis. Adm. Code, an owner or operator of a Municipal Separate Storm Sewer System (MS4) is required to submit an annual report to the Department of Natural Resources (Department) by March 31 of each year to report on activities for the previous calendar year ("reporting year"). This form is being provided by the Department for the user's convenience for reporting on activities undertaken in each reporting year of the permit term. Personal information collected will be used for administrative purposes and may be provided to the extent required by Wisconsin's Open Records Law [ss. 19.31-19.39, Wis. Stats.].
Note: Compliance items must be submitted using the Attachments tab.

Municipality Information

Name of Municipality	Wauwatosa, City
Facility ID # or (FIN):	31319
Updated Information:	☐ Check to update mailing address information
Mailing Address:	7725 W. North Ave
Mailing Address 2:	
City:	Wauwatosa, City
State:	WI
Zip Code:	53213 xxxxx or xxxxx-xxxx

Primary Municipal Contact Person (Authorized Representative for MS4 Permit)

The "Authorized Representative" or "Authorized Municipal Contact" includes the municipal official that was charged with compliance and oversight of the permit conditions, and has signature authority for submitting permit documents to the Department (i.e., Mayor, Municipal Administrator, Director of Public Works, City Engineer).

☐ Select to ***create new*** primary contact

First Name:	Maggie
Last Name:	Anderson, P.E.

☐ Select to ***update*** current contact information

Title:	Senior Civil Engineer
Mailing Address:	7725 W. North Ave
Mailing Address 2:	
City:	Wauwatosa
State:	WI
Zip Code:	53213 xxxxx or xxxxx-xxxx
Phone Number:	414-479-3444 Ext: xxx-xxx-xxxx
Email:	manderson@wauwatosa.net

Additional Contacts Information (Optional)

☑ I&E Program

Individual with responsibility for: (Check all that apply)	☐ IDDE Program ☐ IDDE Response Procedure Manual ☐ Municipal-wide Water Quality Plan ☐ Ordinances ☐ Pollution Prevention Program ☐ Post-Construction Program ☐ Winter roadway maintenance
First Name:	Jacob
Last Name:	Fincher
Title:	Executive Director
Mailing Address:	600 E Greenfield Ave
Mailing Address 2:	
City:	Milwaukee
State:	WI
Zip Code:	53204 xxxxx or xxxxx-xxxx
Phone Number:	262-716-2211 Ext: xxx-xxx-xxxx
Email:	fincher@swwtwater.org
Individual with responsibility for: (Check all that apply)	☐ I&E Program ☐ IDDE Program ☐ IDDE Response Procedure Manual ☐ Municipal-wide Water Quality Plan ☐ Ordinances ☐ Pollution Prevention Program ☐ Post-Construction Program ☑ Winter roadway maintenance
First Name:	Jason
Last Name:	Blasiola
Title:	Ops Superintendent
Mailing Address:	11100 W Walnut Rd
Mailing Address 2:	
City:	Wauwatosa
State:	WI
Zip Code:	53226 xxxxx or xxxxx-xxxx
Phone Number:	414-471-8427 Ext: xxx-xxx-xxxx
Email:	jblasiola@wauwatosa.net
	☑ I&E Program

Individual with responsibility for: (Check all that apply)	☐ IDDE Program ☐ IDDE Response Procedure Manual ☐ Municipal-wide Water Quality Plan ☐ Ordinances ☐ Pollution Prevention Program ☐ Post-Construction Program ☐ Winter roadway maintenance
First Name:	Eva
Last Name:	Ennamorato
Title:	Communications Manag
Mailing Address:	7725 W North Ave
Mailing Address 2:	
City:	Wauwatosa
State:	WI
Zip Code:	53213 xxxxx or xxxxx-xxxx
Phone Number:	414-479-8916 Ext: xxx-xxx-xxxx
Email:	eennamorato@wauwatosa.net

Individual with responsibility for: (Check all that apply)	☐ I&E Program ☐ IDDE Program ☐ IDDE Response Procedure Manual ☐ Municipal-wide Water Quality Plan ☐ Ordinances ☐ Pollution Prevention Program ☑ Post-Construction Program ☐ Winter roadway maintenance
First Name:	Jessica
Last Name:	Henderson
Title:	Civil Engineer
Mailing Address:	7725 W North Ave
Mailing Address 2:	
City:	Wauwatosa
State:	WI
Zip Code:	53213 xxxxx or xxxxx-xxxx
Phone Number:	414-479-8978 Ext: xxx-xxx-xxxx
Email:	jhenderson@wauwatosa.net

Municipal Billing Contact Person (Authorized Representative for MS4 Permit)

☑ Select to ***create new*** Billing contact

First Name:	Kristen
Last Name:	Kilsdonk

☑ Select to ***update*** current contact information

Title:	Business Manager
Mailing Address:	11100 W Walnut Rd
Mailing Address 2:	
City:	Wauwatosa
State:	WI
Zip Code:	53213 xxxxx or xxxxx-xxxx
Phone Number:	414-831-0804 Ext: xxx-xxx-xxxx
Email:	kkilsdonk@wauwatosa.net

1. Does the municipality rely on another entity to satisfy some of the permit requirements?

◉ Yes ○ No

☑ Public Education and Outreach SWWT

☑ Public Involvement and Participation SWWT

☑ Illicit Discharge Detection and Elimination RiverKeepers

☐ Construction Site Pollutant Control

☐ Post-Construction Storm Water Management

☐ Pollution Prevention

2. Has there been any changes to the municipality's participation in group efforts towards permit compliances (i.e., the municipality has added or dropped consortium membership)?

○ Yes ◉ No

Missing Information

Do not close your work until you **SAVE.**

Note: For the minimum control measures, you must fill out all questions in sections 1 through 7.

Form 3400-224 (R8/2021)

Minimum Control Measures- Section 1 : Complete

1. Public Education and Outreach

a. Does MS4 conduct any educational efforts or events independently (not with a group) ◉ Yes ○ No

b. How many total educational events were held during the reporting year: 54

c. Were any of the public education and outreach delivery mechanisms conducted during the reporting year active or interactive? ◉ Yes ○ No

d. Please select all storm water topics, target audiences, and delivery mechanisms used in the reporting year

Public Education and Outreach Delivery Mechanisms (Active and Passive)	
Active/Interactive Mechanisms	**Passive Mechanisms**
☐ Education activities (school presentations, summer camps)	☐ Passive print media (brochures at front desk, posters, etc.)
☐ Information booth at event	☑ Distribution of print media (mailings, newsletters, etc.) via mail or email.
☑ Targeted group training (contractors, consultants, etc.)	☑ Media offerings (radio and TV ads, press release, etc.)
☐ Government event (public hearing, council meeting)	☑ Social media posts
☐ Workshops	☐ Signage
☐ Tours	☑ Website
☑ Other: Conference	☑ Other: TV Display

Topics Covered	Target Audience
☑ Illicit discharge detection and elimination	☑ General Public
☑ Household hazardous waste disposal/pet waste management/vehicle washing	☑ Public Employees
☑ Yard waste management/pesticide and fertilizer application	☑ Residents
☑ Stream and shoreline management	☑ Businesses
☑ Residential infiltration	☑ Contractors
☑ Construction sites and post-construction storm water management	☑ Developers
☑ Pollution prevention	☑ Industries
☑ Green infrastructure/low impact development	☑ Public Officials
☑ Other: General Watershed Education	☐ Other:

e. Will additional information/summary of these education events be attached to the annual report? ◉ Yes ○ No

If no, please provide additional comment in the brief explanation box below. *Limit response to 250 characters and/or attach supplemental information on the attachments page.*

See attachments I and II for more information about the activities performed in partnership with Sweet Water.

Missing Information

Do not close your work until you **SAVE.**

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Form 3400-224 (R8/2021)

Minimum Control Measures - Section 2 : Complete

2. Public Involvement and Participation

a. Permit Activities. Select all of the following topics the Permittee did to engage public participation and involvement.

Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
☑ MS4 Annual Report ☑ Storm Water Management Program ☐ Storm Water related ordinance ☐ Other: Presentations to Common Counc...	☑ General Public ☐ Public Employees ☑ Residents ☐ Businesses ☐ Contractors ☐ Developers ☐ Industries ☑ Public Officials ☐ Other	101 +	○ Yes ◉ No

b. Volunteer Activities. Select all of the following audiences targeted for volunteer involvement and participation related to storm water.

☐ NA (Individual Permittee)

Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
Volunteer Opportunity	☑ General Public ☐ Public Employees ☑ Residents ☑ Businesses ☐ Contractors ☐ Developers ☐ Industries ☐ Public Officials ☐ Other	101 +	○ Yes ◉ No

c. Brief explanation on Public Involvement and Participation reporting. *Limit response to 250 characters and/or attach supplemental information on the attachments page.*

See attachments I and II for more information about the activities performed in partnership with Sweet Water. See attachment III for City efforts to educate and involve public officials, residents, businesses, etc.

Missing Information

Do not close your work until you **SAVE.**

Note: For the minimum control measures, you must fill out all questions in sections 1 through 7

Minimum Control Measures - Section 3 : Complete

3. Illicit Discharge Detection and Elimination

a.	How many total outfalls does the municipality have?	50
b.	How many outfalls did the municipality evaluate as part of their routine ongoing field screening program?	49
c.	From the municipality's routine screening, how many were confirmed illicit discharges?	0
d.	How many illicit discharge complaints did the municipality receive?	0
e.	From the complaints received, how many were confirmed illicit discharges?	0
f.	How many of the identified illicit discharges did the municipality eliminate in the reporting year (from both routine screening and complaints)? (If the sum of 3.c. and 3.e. does not equal 3.f., please explain below.)	0

g. What types of regulatory mechanisms does the municipality have available to compel compliance with this program? Check all that are available and how many times each were used in the reporting year.

☑ Verbal Warning	1
☑ Written Warning (including email)	1
☐ Notice of Violation	
☐ Civil Penalty/ Citation	

Additional Information:

h. Brief explanation on Illicit Discharge Detection and Elimination reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page.*

Supplemental information on the IDDE reporting is included in Appendix IV.

Missing Information

Do not close your work until you **SAVE.**

Note: For the minimum control measures, you must fill out all questions in sections 1 through 7

Form 3400-224 (R8/2021)

Minimum Control Measures - Section 4 : Complete

4. Construction Site Pollutant Control

a. How many total construction sites with one acre or more of land disturbing construction activity were active at any point in the reporting year? 14

b. How many construction sites with one acre or more of land disturbing construction activity did the municipality issue permits for in the reporting year? 7

c. How many erosion control inspections did the municipality complete in the reporting year (at sites with one acre or more of land disturbing construction activity)? 56

d. What types of regulatory mechanisms does the municipality have available to compel compliance with this program? Check all that are available and how many times each were used in the reporting year.

☑ Verbal Warning	1
☑ Written Warning (including email)	21
☑ Notice of Violation	13
☐ Civil Penalty/ Citation	
☑ Stop Work Order	0
☑ Forfeiture of Deposit	0
☐ Other - Describe below	

e. Brief explanation on Construction Site Pollutant Control reporting . *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page*.

See Attachment VI for supplemental information for Construction Site Pollutant Control.

Missing Information

Do not close your work until you **SAVE.**

Note: For the minimum control measures, you must fill out all questions in sections 1 through 7

Minimum Control Measures - Section 5 : Complete

5. Post-Construction Storm Water Management

a. How many new structural storm water management Best Management Practice (BMP) have received local approval ? 3

*Engineered and constructed systems that are designed to provide storm water quality control such as wet detention ponds, constructed wetlands, infiltration basins, grassed swales, permeable pavement,

b. Does the MS4 have procedures for inspecting and maintaining private storm water facilities? ◉ Yes ○ No

c. If Yes, how many privately owned storm water management facilities were

inspected in the reporting year ? Inspections completed by private landowners should be included in the reported number. 34

d. Does the municipality utilize privately owned storm water management BMP in its pollutant reduction analysis? (●) Yes ( ) No

e. Does MS4 have maintenance authority on these privately owned BMPs?
Yes

f. How many municipally operated (private) storm water management BMPs were inspected in the reporting year? 0

g. What types of enforcement actions does the municipality have available to compel compliance with the regulatory mechanism? Check all that apply and enter the number of each used in the reporting year.

☑ Verbal Warning	0
☑ Written Warning (including email)	0
☑ Notice of Violation	0
☐ Civil Penalty/ Citation	
☑ Forfeiture of Deposit	0
☑ Complete Maintenance	0
☑ Bill Responsible Party	0
☐ Other - Describe below	

e. Brief explanation on Post-Construction Storm Water Management reporting . *If marked 'Unsure' on any questions above, justify your reasoning. Limit your response to 250 characters and/or attach supplemental information on the attachments page*.

See Attachment VII for supplemental information for Post-Construction Storm Water Management

Missing Information

Do not close your work until you **SAVE.**

Note: For the minimum control measures, you must fill out all questions in sections 1 through 7

Form 3400-224 (R8/2021)

Minimum Control Measures - Section 6 : Complete

6. Pollution Prevention

Storm Water Management Best Management Practice Inspections ☐ Not Applicable

a. Enter the total number of municipally owned or operated (i.e., privately owned BMPs) structural storm water management best management practices. 35

b. How many new municipally owned storm water management best management practices were installed in the reporting year ? 2

c. How many municipally owned (public) storm water management best management practices were inspected in the reporting year? 25

d. What elements are looked at during inspections (250 character limit)?

See supplemental information in Appendix V.

e. How many of these facilities required maintenance? 11

f. Brief explanation on Storm Water Management Best Management Practice inspection reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page*.

See supplemental information in Appendix V.

Public Works Yards & Other Municipally Owned Properties that require a stormwater pollution prevention plan (SWPPP)* ☐ Not Applicable

g. How many municipal properties require a SWPPP? 1

h. How many inspections of municipal properties have been conducted in the reporting year? 5

i. Have amendments to the SWPPPs been made?

○ Yes ◉ No

j. If yes, describe what changes have been made. Limit response to 250 characters and/or attach supplemental information on the attachment page:

k. Brief explanation on Storm Water Pollution Prevention Plan reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page.*

In 2022, the City contracted with Sigma Engineering to complete an updated SWPP for the DPW site. The report is due in the fall of 2024.

* Any municipally owned property that has the potential to generate stormwater pollution should have a SWPPP. For example, if a municipal property stores compost piles, material storage, yard wastes, etc., outside and can contaminate stormwater runoff—a SWPPP is required.

Collection Services - *Street Sweeping Program* ☐ Not Applicable

l. Did the municipality conduct street sweeping during the reporting year?

◉ Yes ○ No

m. If known, how many tons of material was removed? 841

n. Does the municipality have a low hazard exemption for this material? ○ Yes ○ No

o. If street sweeping is identified as a storm water best management practice in the pollutant loading analysis, was street cleaning completed at the assumed frequency?

◉ Yes - Explain frequency every 4 weeks

○ No - Explain _____

○ Not Applicable

Collection Services - *Catch Basin Sump Cleaning Program* ☐ Not Applicable

p. Did the municipality conduct catch basin sump cleaning during the reporting year? ◉ Yes ○ No

q. How many catch basin sumps were cleaned in the reporting year? 621

r. If known, how many tons of material was collected? 66

s. Does the municipality have a low hazard exemption for this material? ○ Yes ○ No

t. If catch basin sump cleaning is identified as a storm water best management practice in the pollutant loading analysis, was cleaning completed at the assumed frequency?

◉ Yes- Explain frequency Every other year

○ No - Explain _____

○ Not Applicable

Collection Services - *Leaf Collection Program* ☐ Not Applicable

u. Does the municipality conduct curbside leaf collection? ◉ Yes ○ No

v. Does the municipality notify homeowners about pickup? ◉ Yes ○ No

w. Where are the residents directed to store the leaves for collection?

☐ Pile on terrace ☑ Pile in street ☐ Bags on terrace

☐ Other - Describe _____

x. What is the frequency of collection?

4 collections from 10/1/23 to 12/7/23

y. Is collection followed by street sweeping? ◉ Yes ○ No

z. Brief explanation on Collection Services reporting. *Limit response to 250 characters and/or attach supplemental information on the attachments page*

See supplemental information in Appendix XVII.

Winter Road Management ☐ Not Applicable

*Note: We are requesting information that goes beyond the reporting year, answer the best you can.

aa. How many lane-miles of roadway is the municipality responsible for doing snow and ice control? (*One mile of a two-way road equals two lane miles*.) 408

ab. Provide amount of de-icing products used by month last winter season?

Solids (tons) (ex. sand, or salt-sand)

Product	*Oct*	*Nov*	*Dec*	*Jan*	*Feb*	*Mar*
Salt	131	88	0	954	154	0

Liquids (gallons) (ex. brine)

Oct	*Nov*	*Dec*	*Jan*	*Feb*	*Mar*

Brine	0	50	0	4865	1635	0

ac. Was salt applying machinery calibrated in the reporting year? (●) Yes ( ) No

ad. Have municipal personnel attended salt reduction strategy training in the reporting year? (●) Yes ( ) No

Training Date	*Training Name*	*# Attendance*
9/20/2023	SaltWise	30

ae. Brief explanation on Winter Road Management reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page*

See supplemental information in Appendix XII.

Internal (Staff) Education & Communication

af. Has the municipality provided an opportunity for internal training or education to staff implementing the municipality's procedures for each of the pollution prevention program element ? (●) Yes ( ) No

If yes, describe what training was provided (250 character limit):

Prior to the winter season and in advance of each snow event, the staff is directed on correct usage of salt and/or brine.

ag. Describe how the municipality has kept the following local officials and municipal staff aware of the municipal storm water discharge permit programs, procedures and pollution prevention program requirements.

Elected Officials

Community Affairs presentation on 11/28/23. Common Council presentation on 03/19/24 of 2023 MS4 Annual Report

Municipal Officials

Board of Public Works presentation on 03/18/24 of 2023 MS4 Annual Report.

Appropriate Staff (such as operators, Department heads, and those that interact with public)

Meetings with Southeastern Wisconsin Watersheds Trust, Inc.

ah. Brief explanation on Internal Education reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page.*

See Attachments I and II for more information about the activities performed in partnership with Sweet Water.

Missing Information

Do not close your work until you **SAVE.**

Note: For the minimum control measures, you must fill out all questions in sections 1 through 7

Minimum Control Measures - Section 7 : Complete

7. Storm Sewer System Map

a. Did the municipality update their storm sewer map this year?

○ Yes ◉ No

If yes, check the areas the map items that got updated or changed:

- ☐ Storm water treatment facilities
- ☐ Storm pipes
- ☐ Vegetated swales
- ☐ Outfalls
- ☐ Other - Describe below

b. Brief explanation on Storm Sewer System Map reporting. *If you marked Unsure for an question for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page*.

See Appendix XIII

Missing Information

Do not close your work until you SAVE.

Form 3400-224 (R8/2021)

Final Evaluation - Complete

Fiscal Analysis

Complete the fiscal analysis table provided below. For municipalities that do not break out funding into permit program elements, please enter the monetary amount to your best estimate of what funding may be going towards these programs.

Annual Expenditure Reporting Year	**Budget** Reporting Year	**Budget** Upcoming Year	**Source of Funds**

Element: Public Education and Outreach

0	0	0	Storm water utility

Element: Public Involvement and Participation

0	0	0	Storm water utility

Element: Illicit Discharge Detection and Elimination

0	0	0	Storm water utility

Element: Construction Site Pollutant Control

0	0	0	Storm water utility

Element: Post-Construction Storm Water Management

0	0	0	Storm water utility

Element: Pollution Prevention

0	0	0	Storm water utility

Other (describe)

			Select...

Please provide a justification for a "0" entered in the Fiscal Analysis. *Limit response to 250 characters*.

See budget summary of Stormwater Management Reserve in Appendix XII

Water Quality

a: Were there any known water quality improvements in the receiving waters to which the

municipality's storm sewer system directly discharges to?
○ Yes ◉ No ○ Unsure If Yes, explain below:

b : Were there any known water quality degradation in the receiving waters to which the municipality's storm sewer system directly discharges to?
○ Yes ◉ No ○ Unsure If Yes, explain below:

c: Have any of the receiving waters that the municipality discharges to been added to the impaired waters list during the reporting year?
○ Yes ◉ No ○ Unsure

d: Has the municipality evaluated their storm water practices to reduce the pollutants of concern?
◉ Yes ○ No ○ Unsure

Storm Water Quality Management

a. Has the municipality completed or updated modeling in the reporting year (relating to developed urban area performance standards of s. NR 151.13(2)(b)1., Wis. Adm. Code)? ◉ Yes ○ No

b. If yes, enter percent reduction in the annual average mass discharging from the entire MS4 to surface waters of the state as compared to implementing no storm water management controls:

Total suspended solids (TSS) 17.3

Total phosphorus (TP) 11.9

Additional Information

Based on the municipality's storm water program evaluation, describe any proposed changes to the municipality's storm water program. *If your response exceeds the 250 character limit, attach supplemental information on the attachments page.*

NA

Missing Information

Do not close your work until you SAVE.

Form 3400-224 (R8/2021)

Requests for Assistance on Understanding Permit Programs

Would the municipality like the Department to contact them about providing more information on understanding any of the Municipal Separate Storm Sewer Permit programs?

Please select all that apply:

- ☐ Public Education and Outreach
- ☐ Public Involvement and Participation
- ☐ Illicit Discharge Detection and Elimination
- ☐ Construction Site Pollutant Control
- ☐ Post-Construction Storm Water Management
- ☐ Pollution Prevention
- ☐ Storm Water Quality Management
- ☐ Storm Sewer System Map
- ☐ Water Quality Concerns
- ☐ Compliance Schedule Items Due
- ☐ MS4 Program Evaluation

Do not close your work until you **SAVE.**

Form 3400-224(R8/2021)

Required Attachments and Supplemental Information

Any other MS4 program information for inclusion in the Annual Report may be attached on here. Use the Add Additional Attachments to add multiple documents.

Upload Required Attachments (15 MB per file limit) - Help reduce file size and trouble shoot file uploads
*Required Item

Note: To replace an existing file, use the 'Click here to attach file ' link or press the to delete an item.

Attach - Other Supporting Documents

AR_EO

File Attachment — I_Wauwatosa 2023 SWWT Report.pdf

AR_IP

File Attachment — II_Wauwatosa Stormwater Education and Public Involvement Efforts.pdf

AR_CSPC

File Attachment — VI_Construction Site Pollutant Control.pdf

AR_PCSSW

File Attachment — VII_Post Construction SW Management.pdf

AR_MuniFacInsp

File Attachment — VIII_Public Works Yard Inspections.pdf

AR_IDDE

File Attachment — IV-Outfall Testing.pdf

AR_IP

File Attachment — III_City presentation to Comm Affairs.pdf

AR_IP

File Attachment — III_City presentation to residents.pdf

AR_BMPInspSum

File Attachment

IX-Green Alley Cleaning Records.pdf

AR_PP

File Attachment

V-Green Alley Maintenance Guidance.pdf

AR_Other

File Attachment

XII_BUDGET.pdf

AR_SWMap

File Attachment

XIII_STORM SEWER SYSTEM MAP.pdf

AR_WintRdMain

File Attachment

XII_WINTER ROADWAY MAINTENANCE GUIDE.pdf

(To remove items, use your cursor to hover over the attachment section. When the drop down arrow appears, select remove item)

Attach - Permit Compliance Documents

SWQM_TMDLBacInv

File Attachment

XIV_Wauwatosa Bacteria Source Map.pdf

SWQM_TMDLBacPlan

File Attachment

XIV_Fecal Elimination Plan.pdf

SWQM_TMDLMap

File Attachment

XVII_TMDL MAPPING.pdf

(To remove items, use your cursor to hover over the attachment section. When the drop down arrow appears, select remove item)

Missing Information

Draft and Share PDF Report with the permittee's governing body or delegated representatives.

Press the button below to create a PDF. The PDF will be sent to the email address associated with the WAMS ID that is signed in. After the annual report has been reviewed by the governing body or delegated representative, return to the MS4 eReporting System to submit the final report to the DNR.

Draft and Share PDF Report

Do not close your work until you **SAVE.**

Form 3400-224(R8/2021)

Sign and Submit Your Application

Steps to Complete the signature process

1. Read and Accept the Terms and Conditions
2. Press the Submit and Send to the DNR button

NOTE: For security purposes all email correspondence will be sent to the address you used when registering your WAMS ID. This may be a different email than that provided in the application. For information on your WAMS account click HERE .

Terms and Conditions

Certification: I hereby certify that I am an authorized representative of the municipality covered under Wauwatosa, City MS4 Permit for which this annual report or other compliance document is being submitted, and that the information contained in this submittal and all attachments were gathered and prepared under my direction or supervision. Based on my inquiry of the person or persons under my direction or supervision involved in the preparation of this document, to the best of my knowledge, the information is true, accurate, and complete. I further certify that the municipality's governing body or delegated representatives have reviewed or been apprised of the contents of this annual report. I understand that Wisconsin law provides severe penalties for submitting false information.

Signee (must check current role prior to accepting terms and conditions)

- ○ Authorized municipal contact using WAMS ID.
- ○ Delegation of Signature Authority (Form 3400-220) for agent signing on the behalf of the authorized municipal contact.
- ○ Agent seeking to share this item with authorized municipal contact (authorized municipal contact must get WAMS id and complete signature).

Name:	
Title:	

Authorized Signature.

☐ I accept the above terms and conditions.

After providing the final authorized signature, the system will send an email to the authorized party and any agents. This email will include a copy to the final read only version of this application.

2023 Sweet Water Public Education Report

City of Wauwatosa

February 2024

sweet water
SOUTHEASTERN WISCONSIN WATERSHEDS TRUST, INC.

Prepared by:
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Table of Contents

1. Public Education + Outreach 2023 Programs Summary

The following document was prepared for the City of Wauwatosa to include in their 2023 annual MS4 eReport. It includes a summary of activities conducted to engage in effective public education as mandated by Wisconsin's administrative code - NR216. If you have any questions or would like more information, please contact Brigid Meyers, Watershed Program Manager of Southeastern Wisconsin Watersheds Trust, Inc. (meyers@swwtwater.org).

The Respect Our Waters program identifies the target pollutants of concern, the target audiences, the delivery mechanisms, and the entity responsible for implementation (*II.A.1*). In 2023, the program focused on developing materials and implementing mechanisms to educate residents, restaurants, grocery stores, business owners, developers, and designers in the City of Wauwatosa about bacteria pollution. Education and outreach mechanisms include but are not limited to the distribution of print materials, website development, a regional social media campaign, and attending in-person community events. The Respect Our Waters campaign addressed more than three permit topics in 2023 (*II.A.2)* which are outlined in the Respect Our Waters 2023 completed plan. In addition, the program provided a mechanism to track and report the results of this cooperative program (*II.A.*)

The Technical Education Program focused on collaborating with municipalities to identify opportunities to make individual and group education and outreach programs more effective in the City of Wauwatosa. Opportunities to meet and discuss relevant topics were provided, including presentations and moderated meetings. Access to training and additional materials for personalization were developed on an ongoing basis and provided for use. Sweet Water also assessed potential high priority targeted education activities that had been previously identified and submitted to the DNR (*II.B.1).* The efficacy of high priority activities in the City of Wauwatosa was evaluated in terms of severity of the problem, target audience, pollutants of concern and the ability to achieve a measurable outcome. We also took into consideration alternative priorities that may have emerged since developing the original list. Once an activity was decided, Sweet Water worked with the City of Wauwatosa to carry out the activity and set up a metrics plan in preparation for completing the final permit condition by September 30th, 2024 *(II.B.2)*.

2. Respect Our Waters (*Permit Section II.A)*

Respect Our Waters 2023 Completed Plan			
Audience		General Permit Topic	Activity Completed
Residents	1	Illicit Discharge Detection & Elimination	MS4 Permit Portal and Print/Promotional Materials Developed- Section 2.A and 2.C
			Website Update- Section 2.B
			Watershed Wednesday and Wisconsin Stormwater Week,- 2.E and 2F
	2	Household Hazardous Waste Disposal/ Pet Waste Management/ Vehicle Washing	MS4 Permit Portal and Print/Promotional Materials Developed- Section 2.A and 2.C
			Website Update- Section 2.B
			Watershed Wednesday- 2.E
	5	Residential Infiltration	MS4 Permit Portal and Print/Promotional Materials Developed- Section 2.A and 2.C
			Website Update- Section 2.B
			Watershed Wednesday- 2.E
Restaurants, grocery stores, & other appropriate businesses	4	Pollution Prevention	MS4 Permit Portal and Print/Promotional Materials Developed- Section 2.A and 2.C
			Website - Section 2.B
			Fact Sheets and Linkedin 2.D and 2F
			Watershed Wednesday- 2.E
Developers and designers	8	Green Infrastructure/Low Impact Development	MS4 Permit Portal and Print/Promotional Materials Developed- Section 2.A and 2.C
			Fact Sheets and Linkedin - 2.D and 2F
			Watershed Wednesday- 2.E

2.A. MS4 Permit Compliance Portal

In 2023, Sweet Water staff developed and launched our MS4 Permit Compliance Portal. The “MS4 Permit Compliance Portal" is a simple, interactive mechanism that provides a series of monthly prompts to help fulfill education and outreach permit compliance activities. The Portal is tailored to the City of Wauwatosa’s unique community needs and increases the strength of compliance programming.

The intention was to allow the City of Wauwatosa and other partners to use outreach mechanisms most utilized by their residents, such as municipal newsletters, social media accounts, and other platforms, to disseminate education. These topics included:

- Snow + Ice Control
- Bacteria Pollution
- Residential Infiltration Techniques + Protection
- Pet Waste
- Pollution Prevention at Businesses
- Green Infrastructure
- Illicit Discharge Detection and Elimination
- Household Hazardous Waste Disposal
- Leaf Management

The portal is created with a built-in tracking mechanism for MS4 partners to report when and how they used resources, as well as other activities that they performed to educate the public. See Appendix A for examples of the portal and Wauwatosa’s submitted reports to Sweet Water of their individual use of the portal.

2.B. Website

In 2023, Sweet Water and Root-Pike Watershed Initiative Network (RPW) collaborated to revitalize the Respect Our Waters webpage. This was the initial phase of a multi-year redevelopment plan. In this initial phase, a concerted effort was made to refine and tailor existing pages for residential audiences and the general public, ensuring a more engaging and user-friendly experience. This involved meticulous edits to improve content relevance, streamline information, and incorporate interactive elements. In addition to the collaborative efforts, Sweet Water staff also updated and developed new webpages in 2023, which include the following:

- New: Pollution Prevention at Work for Business Audiences
- New: Overview of Bacteria Pollution: What it is and How You Can Prevent it
- Updated: Illicit Discharge Detection and Elimination, Residential Infiltration, and Pet Waste to include bacteria pollution prevention and impacts

Existing web pages for residential audiences include the following topics:

- Stream Banks and Shorelines: Erosion Control
- Watersheds and Stormwater

- The Impacts of Pet Waste, Vehicle Fluids, and Leaves on Stormwater Pollution
- Winter Driveway and Sidewalk Care
- Tips for Residential Green Infrastructure including Rain Gardens, Rain Barrels, Stormwater Trees
- Managing Lawns and Gardens

Existing web pages for non-residential audiences include the following topics:

- Sediment and Erosion Control for Construction Sites
- Turf Management and Landscaping Pollution Prevention
- Stormwater BMP Management
- Low-Impact Development and Green Infrastructure

In 2023, the Respect Our Waters website had a total of 4,900 visitors[1], with 4,000 being unique[2], and 8,000 page views[3]. The newly developed bacteria pollution overview and pollution prevention at businesses had 504 and 288 views respectively. The City of Wauwatosa updated their municipal website to include stormwater pollution prevention materials this year. In addition, analytical data shows that residents in the City of Wauwatosa were directed to Respect Our Waters directly from a municipal site and 18 members of their community visited the website.

2.C. Materials

In 2023, Sweet Water staff created flyers and graphics for in-person and virtual forms of outreach. In 2021, a webpage was created to serve as a clearinghouse for all of these materials so that the City of Wauwatosa and other partners could also access and use these materials. The webpage is accessible at https://www.swwtwater.org/request-support.

New materials that were developed in 2023 and are available on this page include:

- Winter Maintenance Graphics-Yard, Ditch, Drain
- Adopt Your Drain Graphic
- Green Infrastructure Graphic
- Pollution Prevention at Work Graphics
- Proper Salt Use Graphic
- Bacteria Pollution Prevention Graphics-Pet waste
- Fall Leaf Maintenance Graphic
- Illicit Discharge Graphics
- Household Hazardous Waste Graphic

See examples of these graphics in Appendix B.

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[1] *Total visitors are tracked by visit with a browser cookie that expires after 30 minutes. Any hits within that 30-minute browsing session count as one visit.*

[2] *Unique visitors is an estimate of the total number of actual visitors that reached your site.*

[3] *Page views is the total number of views (page requests) across all of your pages.*

2.D. Fact Sheets

In 2023, Sweet Water staff created fact sheets to provide more detailed information on stormwater pollutants such as the causes, environmental impacts, human health implications, and best management practices for pollutant reduction. Fact sheets were made in conjunction and promoted with outreach templates as well as social media posts. The intention was to direct interested individuals to more in-depth information. Fact sheets addressed the following permit topics in 2023:

- Pollution Prevention at Businesses
- Green Infrastructure and Low-Impact Development
- Stormwater Pollution for Public Employees

Fact pages are available at swwtwater.org/request-support and respectourwater.org. See examples of the fact sheets in Appendix C.

2.E. Facebook

The Respect Our Waters Facebook page serves as a depository of posts for the City of Wauwatosa and other partners to share directly with their residents. This page is used to directly reach the general public of southeastern Wisconsin municipalities and counties.

The first campaign was developed to allow municipalities with Facebook accounts to seamlessly share valuable information with their residents. These posts were strategically synchronized with MS4 permit compliance portals and linked within municipal portals. It's important to highlight that the majority of these posts were not sponsored advertisements; rather, their reach and engagement were organically generated as municipalities actively shared the content with their residents.

Table 1: 2023 Respect Our Waters MS4 Permit Compliance Portal Campaign Metrics

Snow and Ice Control				
Date	**Subtopic**	**Link Number**	**Reach**	**Engagements**
12-Jan	Winter Drain & Ditch Tips	6387129384647715	4,469	170
22-Nov	Salt Use	725817259576206	8,845	499
Residential Pollution				
20-Mar	Residential Infiltration	578416807649586	3,732	100
19-Apr	Pet Waste and Bacteria	595435822614351	3,201	132
18-Oct	Winter Yard Prep	703749251783007	2,912	57
Pollution Prevention				

4-May	Pollution Prevention at Work	616646113826655	3,423	109
Yard Waste Management				
18-Sep	Leaf Management (PSA + Infographic)	68359998379793	5,700	368
		681876170636982	35	22

The second Facebook campaign conducted in 2023 is our “Watershed Wednesday" campaign. This is a joint initiative between Sweet Water and the Root-Pike Watershed Initiative Network (RPW), where stormwater education information is published every Wednesday and is boosted to ensure the message is received in municipalities and counties throughout our service region.

Table 2: 2023 Respect Our Waters Watershed Wednesday Campaign Metrics

Yard Waste Management				
Date	**Subtopic**	**Link Number[4]**	**Reach[5]**	**Engagements[6]**
28-Jun	Fertilizers	638227435001856	6,718	199
9-Aug	Grass Clippings	662698809221385	4,823	115
Stream and Shoreline Management				
2-Aug	Eroding shorelines	658568382967761	7,614	252
Residential Pollution Prevention Illicit Discharge				
14-Jun	Watershed Overview	630107055813894	88	3
12-Jul	Pet Waste Management	646812260810040	6,047	262
19-Jul	Illicit Discharge Detection and Reporting	643239264500673	5,919	227
26-Jul	Pollution Prevention at Home	645749450916321	6,352	168
23-Aug	What is household hazardous waste and how to manage	667123975445535	2,022	111
Residential Infiltration + G.I				
21-Jun	Green Infrastructure Examples and Benefits	633190355505564	5,930	109

[4] *Link Number: The unique post number. Access the post by typing www.facebook.com/RespectOurWaters/posts/ and then the unique post number after the back-slash.*

[5] *Reach: The number of people who saw the post at least once. Reach is different from impressions, which may include multiple views of your post by the same people. This metric is estimated by Facebook.*

[6] *Engagements: The number of reactions, comments, shares and clicks on your post.*

5-Jul	Native Plants	642510731240193	2,669	326
16-Aug	Native Plants	666509065507026	7,870	318
Pollution Prevention				
30-Aug	Pollution Prevention at Businesses	667711642053435	4,600	76

2.F. Linkedin Campaign

In 2023, the Sweet Water staff initiated a strategic educational campaign targeting non-residential audiences through LinkedIn advertising. Educational materials were developed that were tailored to resonate with the unique needs of businesses, developers, public employees, public officials, and designers. Sweet Water utilized the advertisement software and meticulously honed in on the aforementioned audiences within our municipal service area. This precision targeting ensured our educational messaging was delivered to the target audience. For all of our campaigns, except bacteria pollution, we were able to discern the location of the target audience at the municipal level. From this data, we were able to determine that 160 individuals in the City of Wauwatosa were directed to our LinkedIn campaign on Stormwater pollution overview, GI/LID, and/or Erosion Control topic.

Table 3: 2023 Sweet Water Linkedin Campaign Metrics

Date	Topic	Target Audience	Impressions[7]	Reach[8]
2-Nov	Stormwater Pollution Overview	Public Employees + Officials	5,780	585
15-Nov	Bacteria Pollution	Small Business Owners, Restaurant Employees	12,444	1,920
23-Nov	G.I and Environmentally Sensitive Design	Develops and Designers	3,707	442
1-Dec	Erosion Control	Contractors	2,535	256

[7] Impressions are the total number of exposures to your content. This can include the same person seeing your content multiple times.

[8] *Reach: The number of people who saw the post at least once. Reach is different from impressions, which may include multiple views of your post by the same people. This metric is estimated by Facebook.*

2.G. Wisconsin Stormwater Week

Sweet Water was a part of the first Wisconsin Stormwater Week in 2023. Stormwater Week is a collaborative effort of organizations throughout the State that work to raise awareness about the sources of water pollution. This was signed into proclamation by the governor. In alignment with our campaign, Sweet Water published the following posts:

Table 4: 2023 Sweet Water Wisconsin Stormwater Week Campaign Metrics

Date	Topic	Link Number[9]	Reach[10]	Engagements[11]
7-Aug	Stormwater 101	654748153349784	232	14
8-Aug	Rain Collection 101	662140605943872	331	31
8-Aug	Rain Collection 101	662090179282248	48	1
9-Aug	Lawn Care 101	662698809221385	3,907	115
10-Aug	Leaves 101	654756400015626	260	10
10-Aug	Leaves 101	654751690016097	36	2
11-Aug	Only Rain Down the Drain 101	654753500015916	471	5

In addition, the City of Wauwatosa officially joined the Stormwater Week campaign pledging to promote daily topics, webinars, and messaging to their residents. Sweet Water developed a “Stormwater Week" Portal which linked the above-listed Facebook posts and infographics as well as provided messaging on the topic, see Appendix D for an example. The City of Wauwatosa received this portal and shared posts with their community.

2.H. Events

2.H.1. General Public Events

In 2023, Respect Our Waters attended multiple regional and local community events. In 2023, we were able to increase the number of events attended which totaled over 20 different events spanning over 29 days reaching 2500+ booth visitors. We developed and launched a new interactive booth that had a stormwater plinko game and stormwater trivia, which upon playing

[9] *Link Number: The unique post number. Access the post by typing www.facebook.com/RespectOurWaters/posts/ and then the unique post number after the back-slash.*

[10] *Reach: The number of people who saw the post at least once. Reach is different from impressions, which may include multiple views of your post by the same people. This metric is estimated by Facebook.*

[11] *Engagements: The number of reactions, comments, shares and clicks on your post.*

the individual could have the opportunity to win educational prizes, stickers, magnets, water bottles, and bags.

See a list of events attended in 2023 below and more information about reach, topics covered, and more in Appendix E.

2.H.2. Professional Event

On September 7th, 2023, Sweet Water hosted the Clean Rivers, Clean Lake Conference at Milwaukee Area Technical College Mequon Campus. Presentations at this event covered the following permit topics- TMDL Analysis, Wetlands for Stormwater Management, Green Infrastructure as Natural Habitat, and funding opportunities.
Presentations and presenters included:

- Enhancing MS4 Permit Compliance Through Public and Private Partnerships: A Case Study: Matthew Maederer, Village of Brown Deer, and Lauren Hill, Molson Coors
- Set it and Forget It No More! Maintenance Enforcement for Post-Construction SW BMPs: Theresa Caven, City of Brookfield
- Nutrient Sourcing and Mitigation Solutions at a WI Inland Lake: Adrienne Cizek, Aqualis
- Implementing GI through Community Partnerships: Kristin Ihnchak, GreenPrint, Lisa Sasso, MMSD, Yesi Perez, Sixteenth Street Community Health Centers
- The Urban Soil Health Project: Pete Wood, WDNR
- Bipartisan Infrastructure Law Funding Assistance for Water Related Projects: Lisa Creegan, WDNR, Matt Kaelin, WDNR
- Using Green Infrastructure to Create Wildlife Habitat: Part 2- How to Develop Habits for Pollinators, Neal O'Reilly, University of Wisconsin-Milwaukee
- Performing a TMDL Analysis in a World Where Your Land Ownership Doesn't Fit into a Nice box, Tiffany Alkinburgh, Rukert/Mielke, Jack Sudar, Milwaukee County, Casey McQuin, Milwaukee County
- MMSD-USGS Corridor Study, Hayley Olds, USGS, Faith Fitzpatrick, USGS, Peter Lenaker, USGS
- A Bacteria Study for MS4 Purposes, Scott Brandmeier, Village of Fox Point

Members of City staff who attended this event included:

- Jessica Henderson, Civil Engineer
- Nathan Peksa, Civil Engineer

3. Technical Education *(Permit Section II.B)*

3.A. Individual Activity Progress

As a technical education program member, the City met with Sweet Water to choose a prioritized activity to carry out in 2023. During this meeting, highly ranked activities were discussed, taking into consideration general feasibility, target pollutant, audience, and potential for a valuable metric. We also considered local partner groups within the MS4 to partner with for activities that would benefit from collaboration. Once the activity was selected, Sweet Water provided summary sheets and a plan of action. Multiple points of contact were required to finalize the plan. Sweet Water also consulted with the DNR to modify activities to ensure that the potential for impact was maximized.The chosen activity commenced and was completed in 2023. All activity progress was tracked, with multiple points of contact throughout the year to ensure progress and provide updates. In 2024, metrics will be assessed and a full summary provided.

3.B. Additional MS4 Activities

3.B.1. Technical Education Meeting

Sweet Water hosted meetings for Technical Education to address relevant topics of concern. Maggie Anderson and Jessica Henderson the following meeting:

I. MS4 Quarterly Meeting - 3/9/23
   - Location: St. Francis City Hall
   - Topics included: Changes to the annual reporting form, Accessing BIL and federal funding, and Updates on the Fresh Coast Green Communities Initiative for GI Installation.

3.B.2. MS4 Trainings

As a technical education program member, the City has access to Sweet Water's "one-stop-shop". The one-stop-shop is a resource hub for MS4 staff training materials and materials to support public involvement activities. Permit topics covered on the hub include Illicit Discharge Detection and Elimination, Stormwater Pollution Prevention Planning, Winter Road Management/Salt Strategy, and Green Infrastructure.

Appendix A. MS4 Permit Compliance Portal

MS4 Permit Compliance Portal

Brought to you by: Southeastern Wisconsin Watersheds Trust, Inc.
Contact info: meyers@swwtwater.org

Double click HERE to read instructions

February Tasks:	Action Item				
Not Complete	Does your MS4 have the ability share stormwater education and outreach materials on the following sources *(select yes or no)* to the right?	Facebook (double click to respond)	*Write in estimated followers. If no access write none*	-	-
		Instagram (double click to respond)	*Estimated followers*		
		Website (double click to respond)	-		
		Newsletter (double click to respond)	*Estimated people receiving*		
		Email blast (double click to respond)	*Estimated people receiving*		
		Other? Fill in the blank to right	*here*		
Not Complete	Please share the following stormwater education information online	Click here to find facebook post. Select share to feed and optionally add additional text	Did you share it? (double click to respond)	*Estimated amount of individuals reached (Leave cell as is if you do not have facebook access)*	
Optional Activity Not Complete	*(Optional)* *Download the PDF and share with residents (whatever platform you prefer)*	The link to storm drain and storm ditch pdf. Example text to share: Winter is coming! To keep your property and waters safe this snowy season, follow these 3 tips. Visit https://www.respectourwaters.org/ice-and-snow-control to learn more. "	If you shared. Please follow instructions to the right.If you did not share please just write "none".	*Where did you share?*	*Estimated amount of individuals reached? (Leave cell as is if you did not share)*
Not Complete	Are there any additional educational activies you have completed this month?	*Example: I did X **(activity/event)** and talked to X **people** about X **topic** on X **date** . If no additional activities please write "none" in cell to right.*	*Activity?* *Date?* *#People reached?* *What stormwater topic(s)?*	-	-
February Tasks Incomplete			-		

April Tasks:	Action Item			
Not Complete	Link the bacteria stormwater pollution webpage on your municipal webpage.	Click here to find bacteria pollution webpage.	Did you share it? (double click to respond)	

Not Complete	*Download the PDF and share with residents (on your preferred platform)*	Bacteria pollution prevention graphic is here. Example text to share: Spring is approaching and that means it's time to start planning your backyard projects! Consider planting natives and building a rain garden to reduce bacteria pollution and Respect Our Waters.	*Where did you share?*	*Estimated amount of individuals reached*	
Not Complete	If we printed out educational information to be shared would you be able to share it in your utility bill, water bill, or other muncipal mailer?	Double click to respond	*If you have specifications for mailers, please provide information to the right or connect us with someone who can share more information.*	*enter here*	
Not Complete	Are there any additional educational activies you have completed this month?	*Example: I did **X (activity/event)** and talked to **X people** about **X topic** on **X date**. If no additional activities please write "none" in cell to right.*	*Activity?* *Date?* *#People reached?* *What stormwater topic(s)?*	-	-
Optional Activity Not Complete	*Feedback on the portal. Enter the answer to the right of the question*	*1. We are sending out new portal information on the 2nd to last Wednesday before the new month starts (i.e June's portal will be available May 24th). Does that work with your schedule?*	*enter here*		
		2. Do you want us to continue to send out reminders for incomplete tasks?	*enter here*		
		3. Any other comments?	*enter here*		
April Tasks Incomplete			-		

May Tasks:	**Action Item**				
Not Complete	Link the pet waste pollution webpage on your municipal webpage.	Click here to find pet waste webpage.	Did you share it? (double click to respond)		
Not Complete	Please share the following stormwater education information.	Select the outreach method you would like to use (double click to respond)	-	- -	*Estimated amount of individuals reached*
Not Complete	Are there any additional educational activies you have completed this month?	*Example: I did **X (activity/event)** and talked to **X people** about **X topic** on **X date**. If no additional activities please write "none" in cell to right.*	*Activity?* *Date?* *#People reached?* *What stormwater topic(s)?*	-	-
		1. Is there any upcoming event that you would like us to attend this summer?	*Enter here*		

Not Complete	We are seeking general feedback on the following prompts. Please enter the answer to the right of the question	2. We are seeking general interest inquiries about whether or not your municipality would benefit from the removal of debris from corporate volunteers. For examples of past cleanups, look here.	*Enter here*		
		3. Are you interested in participating in a grant project to install native plant species on public property that could include educational signage for MS4 compliance.	*Enter here*		
May Tasks Incomplete	-				

June Tasks:	**Action Item**				
Not Complete	Link the pollution prevention webpage on your municipal webpage.	Click here to find webpage.	Did you share it? (double click to respond)		
Not Complete	Please share the following stormwater education information.	Select the outreach method you would like to use (double click to respond)	-	-	*Estimated amount of individuals reached*
Completed	No additional activities or questions, thank you.				
June Tasks Incomplete	-				

July Tasks:	**Action Item**				
Not Complete	Please share the following stormwater education information.	Select the outreach method you would like to use (double click to respond)	-	-	*Estimated amount of individuals reached*
Not Complete	PLEASE SIGN UP: Sweet water is helping to launch the first annual Wisconsin Stormwater week, August 5th-13th	We are requesting that your community "sign up" in order to show the WDNR and the entire state that your community supports preventing stormwater pollution. Click the "Join Here" button on the home page and fill out the form.	What does it mean to sign up? 1. We will add your information to the partners page. 2. That is it! Leading up to August, we will modify this MS4 portal to include Stormwater Week's social media posts and other outreach activities. 3. Simply signing up will count as an additional MS4 education compliance activity. 4. There are more opportunities to get involved (like host a local event) if your community is interested.	Did you sign up? (double click to respond)	-

Not Complete	We would like to feature your community on the news. Do you have a "stormwater story" that we could highlight on TV? Please provide basic information to the right and we will follow up.	*Enter here*			
Optional Activity Not Complete	Would you be willing to have a 10 minute Zoom call to help us learn how we can best grow the Adopt Your Drain program in your community? If yes, click the cell to the right to schedule a time to chat.	*To schedule a zoom call, click here*	Did you schedule? (Double click to respond)		
Not Complete	Are there any additional educational activies you have completed this month?	Example: I did X (activity/event) and talked to X people about X topic on X date . If no additional activities please write "none" in cell to right.	*Activity? Date? #People reached? What stormwater topic(s)?*	-	-
Complete	MS4 and TMDL Opportunity: Clean Water State Revolving Fund	Sweet Water is working with the WDNR to understand which MS4s will qualify for loan forgiveness and we will follow up with those who are.			
July Tasks Incomplete			-		

August Tasks:	**Action Item**				
Not Complete	Link the illicit discharge detection and elimination webpage on your municipal webpage.	Click here to find the illicit discharge detection and elimination webpage.	Did you share it? (double click to respond)		
Not Complete	Please share the following stormwater education information	Select the outreach method you would like to use (double click to respond)	-	-	*Estimated amount of individuals reached*
Optional Activity Not Complete	Promote the municipal specific Adopt Your Drain education information on your platform of choice	Select the outreach method you would like to use (double click to respond)	-	-	Estimated amount of individuals reached

Not Complete	Thanks to those who have responded already. If you haven't please confirm participation for 2024	Click here to find program costs.	Did you review (double click to respond)		
Not Complete	Are there any additional educational activies you have completed this month?	*Example: I did **X (activity/event)** and talked to **X people** about **X topic** on **X date** . If no additional activities please write "none" in cell to right.*	*Activity? Date? #People reached? What stormwater topic(s)?*	-	-
August Tasks Incomplete			-		

September Tasks:	**Action Item**				
Not Complete	Please share the following stormwater education information	Select the outreach method you would like to use (double click to respond)	-	-	*Estimated amount of individuals reached*
Not Complete	Are you interested in participating in a pilot study to explore the use of soil decompaction, soil amendments, and/or impervious surface removal as a way to meet MS4 and TMDL compliance requirements?	*Enter here*			
Not Complete	Are there any additional educational activies you have completed this month?	*Example: I did **X (activity/event)** and talked to **X people** about **X topic** on **X date** . If no additional activities please write "none" in cell to right.*	*Activity? Date? #People reached? What stormwater topic(s)?*	-	-
Completed	Reminder: Clean Rivers, Clean Lakes Conference is on September 7th at MATC Mequon. Click here for conference details	Click here to register today!	-	-	-
September Tasks Incomplete			-		

October Tasks:	**Action Item**			
			-	

Not Complete	Please share the following stormwater education information	Select the outreach method you would like to use (double click to respond)	-	-	*Estimated amount of individuals reached*
Not Complete	Are you interested in Sweet Water uploading information for MS4 Permit Section II.A and II.B for your annual report the the DNR portal?	We may have asked this previously. We are gathering a list to begin the process with the DNR.	*Enter here*		
Not Complete	Are there any additional educational activies you have completed this month?	*Example: I did **X (activity/event)** and talked to **X people** about **X topic** on **X date**. If no additional activities please write "none" in cell to right.*	*Activity? Date? #People reached? What stormwater topic(s)?*	-	-
October Tasks Incomplete			-		

November Tasks:	**Action Item**				
Not Complete	Please share the following stormwater education information	Select the outreach method you would like to use (double click to respond)	-	-	*Estimated amount of individuals reached*
Completed	American Rivers would like to get your feedback on gaps your community has in accessing financial resources to fund natural infrastructure investments. Please take this survey.	Find survey here.			
Not Complete	Are there any additional educational activies you have completed this month?	*Example: I did **X (activity/event)** and talked to **X people** about **X topic** on **X date**. If no additional activities please write "none" in cell to right.*	*Activity? Date? #People reached? What stormwater topic(s)?*	-	-
		*II.D.5 Provide training resources for staff responsible for implementation of the IDDE program at least **once per permit term***	*Have you completed or plan to complete this training in 2023?*	Enter here	-

Not Complete	*There are internal trainings* required by your MS4 permit. Reminder, technical education participation there are templates available for you to utilize*	*II.G.1.c Provide resources for municipal staff and other personnel on the Permittee's salt strategy no less than **every other year***	*Have you completed or plan to complete this training in 2023?*	Enter here	-
		*II.G.6 Provide training resources for appropriate municipal staff and other personnel involved in implementing pollution prevention programs at least o**nce per permit term***	*Have you completed or plan to complete this training in 2023?*	Enter here	-
	**Internal training requirements are municipal-specific. Trainings regarding the best available practices do not equate to municipal-specific strategies or policies.*				
November Tasks Incomplete	-				

December Tasks:	**Action Item**				
Not Complete	Please share the following stormwater education information	Select the outreach method you would like to use (double click to respond)	-	-	*Estimated amount of individuals reached*
Not Complete	Are you interested in Sweet Water conducting municipal yard walk throughs to assess pollution sources to help you be better prepared in the event of an audit?	Are you interested? (double click to respond)			
Not Complete	Are there any additional educational activies you have completed this month?	*Example: I did **X (activity/event)** and talked to **X people** about **X topic** on **X date**. If no additional activities please write "none" in cell to right.*	*Activity? Date? #People reached? What stormwater topic(s)?*	-	-
December Tasks Incomplete	-				

Municipality	Month	Topic	Mechanism	Details
Greenfield (City of)	January 2023	Residential Infiltration	Social Media	This City shared MMSD's post about their household Pipe Check Program on social media. There were 411 impressions. The target audience was homeowners
Greenfield (City of)	January 2023	Snow and Ice Control	Social Media/Website	The post offered information about Salt Awareness week and was shared on social media and the City's website. There were 4 engagements on the post. The target audience was Snow management professionals, homeowners
Bayside (Village of)	February 2023	Snow And Ice Control	Social Media	-
Glendale (City of)	February 2023	Snow And Ice Control	Social Media/Emails	City E-Newsletter
Glendale (City of)	February 2023	Snow and Ice Control	Webinar/Training	Saltwise Webinar on February 8, 2023, where 12 staff virtually attended. The topics including demystifying deicers
Fox Point (Village of)	February 2023	Snow And Ice Control	Social Media	-
River Hills (Village of)	February 2023	Snow And Ice Control	Flyer	Sent fliers with tax bills
Whitefish Bay (Village of)	February 2023	Residential Infiltration	Social Media	Posted MMSD's Spring 2023 Rain Garden Plant Sale. 6 "Likes"
Brookfield (City of)	February 2023	Snow and Ice Control	Email	Emailed 3/15 & 2/06, 1/03 to 12 people about salt training

Brookfield (City of)	February 2023	General Watershed Education	Email	Emailed 3/15 & 2/06, 1/03 to 12 people about river clean up
Brookfield (City of)	February 2023	Snow And Ice Control	Emails	Direct emails were sent
Germantown (Village of)	February 2023	Snow And Ice Control	Social Media	-
Greenfield (City of)	February 2023	Snow And Ice Control	Social Media/Website	Website post in March, 2023
Menomonee Falls (Village of)	February 2023	Snow And Ice Control	Social Media	-
Milwaukee (City of)	February 2023	Snow And Ice Control	Social Media/Website	-
Milwaukee (County of)	February 2023	Snow And Ice Control	Social Media	-
Wauwatosa (City of)	February 2023	Snow and Ice Control	Social Media	February 23: Re-tweet of MMSD information about salt coverage on a driveway. This reached 1,150 people. We also shared their Facebook post. This reached over 6,000 people.
Wauwatosa (City of)	February 2023	Snow and Ice Control	Social Media & Email	February 16: winter storm update. This information was shared via email, Twitter, and Facebook reaching over 10,000 people. While most of the content was about our response to the storm, we did answer

				questions about salting and plowing responsibility.
West Allis (City of)	February 2023	Snow And Ice Control	Social Media	-
West Milwaukee (Village of)	February 2023	Snow And Ice Control	Website	posted information on website
Cedarburg (City of)	February 2023	Snow And Ice Control	Social Media	-
Cudahy (City of)	February 2023	Snow And Ice Control	Social/Newsletter/Website	We will share on City Website, Newsletter, and Facebook
Grafton (Village of)	February 2023	Snow And Ice Control	Social Media	-
Mequon (City of)	February 2023	Snow And Ice Control	Emails	City newsletter - email blast
Slinger (Village of)	February 2023	Snow And Ice Control	Website	Placed information on the Village website. We also cite WI Saltwise on our website
Ozaukee (County of)	February 2023	Snow And Ice Control	Social Media	Shared on Facebook
Bayside (Village of)	February 2023	Residential Infiltration	Social Media	Promoted MMSD rain garden sales and promoted the water drop alert. Estimated reach is 351
Bayside (Village of)	February 2023	Flooding	Social Media	Educated people on the storm that occurred early in the week. Estimated reach is 141
Bayside (Village of)	April 2023	Residential Infiltration	Social Media	Shared on Facebook, 1 like and one share to a private page
Bayside (Village of)	April 2023	Bacteria Pollution	Website	Updated website

Glendale (City of)	Apr 2023	Residential Infiltration	Event	April 27, 2023 Worked with WisDNR, Parkway Middle School staff and students, City officials
Glendale (City of)	April 2023	Residential Infiltration	Social Media	Shared on Facebook, estimated reach 2500
Glendale (City of)	April 2023	Bacteria Pollution	Website	Updated website
River Hills (Village of)	April 2023	Residential Infiltration	Email	Sent out a constant contact describing a bio-filtration project for The Village of River Hills, which reached approximately 400 residents.
River Hills (Village of)	April 2023	Bacteria Pollution	Website	Updated website
River Hills (Village of)	April 2023	Residential Infiltration	Website/Email	Village Website and Constant Contact, estimated reach 400+
Whitefish Bay (Village of)	April 2023	Residential Infiltration	Social Media	Shared on Facebook, estimated reach 3,900
Whitefish Bay (Village of)	April 2023	Residential Pollution Prevention	Social Media	Shared MMSD's Water Drop Alert on 4/4/23 with a reach of 3.9K
Whitefish Bay (Village of)	April 2023	Bacteria Pollution	Website	Updated website
Brookfield (City of)	April 2023	Erosion Control, Snow and Ice Control, Phosphorus Pollution, Stream and Shoreline Management	Event	Waukesha County SW Conference on April 12-13, 2 people attended. Topics include Erosion/Salt/Phos./Streambanks as well as Earth Day River Cleanups - MKE Riverkeepers
Brookfield (City of)	April 2023	Residential Infiltration	Flyer	Posted in City Hall, estimated reach 50

Butler (Village of)	April 2023	Bacteria Pollution	Website	Updated website
Germantown (Village of)	April 2023	Residential Infiltration	Social Media	Shared on Facebook, estimated reach 100
Germantown (Village of)	April 2023	Bacteria Pollution	Website	Updated website
Greenfield (City of)	April 2023	Residential Infiltration	Social Media	Shared on Facebook, estimated reach 100+
Greenfield (City of)	April 2023	Bacteria Pollution	Website	Updated website
Greenfield (City of)	April 2023	Illicit Discharge Detection and Elimination and General Watershed Education	Website Update	March 23, 2023 - Posted Annual MS4 and IDDE reports on City Website. MS4 annual report covers all WPDES permit topics. IDDE report covers IDDE topics
Menomonee Falls (Village)	April 2023	Residential Infiltration	Social Media	Shared on Facebook, estimated reach 3500
Menomonee Falls (Village)	April 2023	Bacteria Pollution	Website	Updated website
Milwaukee (City of)	April 2023	Residential Infiltration	Social Media	Shared on Facebook, estimated reach 6,700
Milwaukee (City of)	April 2023	Bacteria Pollution	Website	Updated website
Milwaukee (County of)	April 2023	Residential Infiltration	Social Media	Shared on Facebook, estimated reach 21,000+
Milwaukee (County of)	April 2023	Bacteria Pollution	Website	Updated website
Wauwatosa (City of)	April 2023	Bacteria Pollution	Website	Updated website

West Allis (City of)	April 2023	Residential Infiltration	Social Media	Shared on Facebook, estimated reach 10,000+
West Allis (City of)	April 2023	Bacteria Pollution	Website	Updated website
West Milwaukee (Village of)	April 2023	Residential Infiltration	Social Media	Posted on Facebook, estimated reach 200
West Milwaukee (Village)	April 2023	Bacteria Pollution	Website	Updated website
Cedarburg (City of)	April 2023	Residential Infiltration	Social Media	Shared on Facebook, estimated reach 2,500
Cedarburg (City of)	April 2023	Bacteria Pollution	Website	Updated website
Grafton (Village of)	April 2023	Residential Infiltration	Social Media	Shared on Facebook, estimated reach 1,400
Grafton (Village of)	April 2023	Residential Infiltration and Residential Pollution Prevention	Social Media	Facebook Post on 4/26 with an estimated reach is 1,400 followers. Topics included: Rain barrels, rain gardens and keeping bad actors out of storm sewers.
Grafton (Village of)	April 2023	Residential Infiltration and Residential Pollution Prevention	Social Media	Facebook Post on 4/5 with an estimated reach is 1,400 followers. Topics included: Rain barrels, rain gardens and keeping bad actors out of storm sewers.
Grafton (Village of)	April 2023	Residential Infiltration and Residential Pollution Prevention	Social Media	Facebook Post on 4/12 with an estimated reach is 1,400 followers. Topics included: Rain barrels, rain gardens and keeping bad actors out of storm sewers.
Grafton (Village of)	April 2023	Residential Infiltration and Residential Pollution Prevention	Social Media	Facebook Post on 4/19 with an estimated reach is 1,400 followers. Topics included:

				Rain barrels, rain gardens and keeping bad actors out of storm sewers.
Grafton (Village of)	April 2023	Bacteria Pollution	Website	Updated website
Mequon (City of)	April 2023	Residential Infiltration	Social Media	Facebook DPW Page 6/22/23, estimated 30+
Mequon (City of)	April 2023	Bacteria Pollution	Website	Updated website
Ozaukee (County of)	April 2023	Residential Infiltration	Social Media	Shared on Facebook
Ozaukee (County of)	April 2023	Bacteria Pollution	Website	Updated website
Saukville (Village of)	April 2023	Residential Infiltration	Newsletter	Our Weekly E- Newsletter "Saukville Says", estimated reach 650
Saukville (Village of)	April 2023	Bacteria Pollution	Website	Updated website
Bayside (Village of)	May 2023	Household Hazardous Waste	Social Media	Shared on Facebook, estimated reach 250
Bayside (Village of)	May 2023	Yard Waste Management	Social Media	Promote yard waste containers on social media to keep yard waste out of drainage ditches. Posted on May 13 to Facebook, Instagram, and LinkedIn.
Bayside (Village of)	May 2023	Household Hazardous Waste	Website	Updated website
Brookfield (City of)	May 2023	Household Hazardous Waste	Newsletter	Estimated reach 15,000
Brookfield (City of)	May 2023	Household Hazardous Waste	Website	Updated website
Butler (Village of)	May 2023	Household Hazardous Waste	Social Media	Shared on Facebook
Butler (Village of)	May 2023	Residential Pollution Prevention	Social Media	Promoted Adopt Your Drain program on Facebook. Estimated reach 1,000

Butler (Village of)	May 2023	Household Hazardous Waste	Website	Updated website
Cedarburg (City of)	May 2023	Household Hazardous Waste	Social Media	Shared on Facebook
Cedarburg (City of)	May 2023	Residential Pollution Prevention	Social Media	Promoted Adopt Your Drain program on Facebook. Estimated reach 50
Fox Point (Village of)	May 2023	Household Hazardous Waste	Website	Updated on village website
Germantown (Village of)	May 2023	Household Hazardous Waste	Social Media	Shared on Facebook
Germantown (Village of)	May 2023	Household Hazardous Waste	Website	Updated website
Glendale (City of)	May 2023	Household Hazardous Waste	Social Media	Shared on Facebook, estimated reach 2,000
Glendale (City of)	May 2023	Household Hazardous Waste	Website	Updated website
Grafton (Village of)	May 2023	Household Hazardous Waste	Social Media	Shared on Facebook, estimated reach 1,500
Grafton (Village of)	May 2023	Household Hazardous Waste	Website	Updated website
Grafton (Village of)	May 2023	Residential Pollution Prevention	Website	Promoted Adopt Your Drain program on Village website. Estimated reach 250.
Greenfield (City of)	May 2023	Household Hazardous Waste	Social Media	Shared on Facebook, estimated reach 100
Greenfield (City of)	May 2023	Household Hazardous Waste	Website	Updated website
Menomonee Falls (Village of)	May 2023	Household Hazardous Waste	Social Media	Shared on Facebook, estimated reach 3,900
Menomonee Falls (Village of)	May 2023	Household Hazardous Waste	Website	Updated website
Mequon (City of)	May 2023	Household Hazardous Waste	Social Media	Shared on Facebook, estimated reach 45

Mequon (City of)	May 2023	Household Hazardous Waste	Website	Updated website
Milwaukee (City of)	May 2023	Household Hazardous Waste	Social Media	Shared on Facebook, estimated reach 6,800
Milwaukee (City of)	May 2023	Household Hazardous Waste	Website	Updated website
Milwaukee (County of)	May 2023	Household Hazardous Waste	Social Media	Shared on Facebook, estimated reach 21,000+
Milwaukee (County of)	May 2023	Household Hazardous Waste	Website	Updated website
Ozaukee (County of)	May 2023	Household Hazardous Waste	Social Media	Shared on Facebook, estimated reach 37
Ozaukee (County of)	May 2023	Household Hazardous Waste	Website	Updated website
River Hills (Village of)	May 2023	Household Hazardous Waste	Flyer	Estimated reach 1,600
Saukville (Village of)	May 2023	Household Hazardous Waste	Newsletter	Our Weekly E- Newsletter "Saukville Says", estimated reach 650
Saukville (Village of)	May 2023	Household Hazardous Waste	Website	Updated website
South Milwaukee (City of)	May 2023	Household Hazardous Waste	Website	Updated website
Wauwatosa (City of)	May 2023	Household Hazardous Waste	Website	Updated website
West Allis (City of)	May 2023	Household Hazardous Waste	Social Media	Shared on Facebook, estimated reach 10,000

West Allis (City of)	May 2023	Residential Pollution Prevention	Social Media	Promoted Adopt Your Drain program on City website. Estimated reach 10,000.
West Allis (City of)	May 2023	Household Hazardous Waste	Website	Updated website
West Milwaukee (Village of)	May 2023	Household Hazardous Waste	Newsletter	Estimated reach 300
West Milwaukee (Village of)	May 2023	Residential Pollution Prevention	Newsletter	Promoted Adopt Your Drain program in the municipal newsletter. Estimated reach 4,500.
West Milwaukee (Village of)	May 2023	Household Hazardous Waste	Website	Updated website
Whitefish Bay (Village of)	May 2023	Residential Pollution Prevention	Newsletter	Promoted Adopt Your Drain program in a newsletter. Estimated reach 4,976.
Whitefish Bay (Village of)	May 2023	Household Hazardous Waste	Social Media	Shared on Facebook, estimated reach 3,900
Whitefish Bay (Village of)	May 2023	Household Hazardous Waste	Website	Updated website
Brookfield (City of)	May 2023	BMP Maintenance	Event/Training	May 2023 (multiple) 48 Proper Maintenance of private SW BMPs for HOAs City FB page
Brookfield (City of)	May 2023	Pet Waste Management	Social Media	Posted on the city's Facebook page to remind people to pick up pet waste
Wauwatosa (City of)	May 2023	Pollution Prevention	Social Media	We shared landscaping updates that improve stormwater at Hart Park. It reached 4,980 people

Ozaukee (County of)	May 2023	Residential Pollution Prevention	Print materials	Clean Sweep event on 5/13/2023; Ozaukee Dirt mailer distributed on 5/1/23 to 259 people
Bayside (Village of)	June 2023	Pollution Prevention At businesses	Social Media	Shared on Facebook, estimated reach 100
Bayside (Village of)	June 2023	Residential Pollution Prevention	Social Media	Shared post about cleaning local storm drains on social media. Reached approx. 175 people.
Bayside (Village of)	June 2023	Pollution Prevention At businesses	Website	Updated website
Brookfield (City of)	June 2023	Pollution Prevention At businesses	Social Media/Website	Posted on Facebook and the city website, estimated reach 200
Brookfield (City of)	June 2023	Pollution Prevention At businesses	Website	Updated website
Cedarburg (City of)	June 2023	Pollution Prevention At businesses	Social Media	Shared on Facebook, estimated reach 100
Cedarburg (City of)	June 2023	Pollution Prevention At businesses	Website	Updated website
Fox Point (Village of)	June 2023	Pollution Prevention At businesses	Flyer	Over 100 businesses were sent the flyer
Fox Point (Village of)	June 2023	Pollution Prevention At businesses	Website	Updated website
Germantown (Village of)	June 2023	Pollution Prevention At businesses	Social Media	Shared on Facebook, 1 like
Glendale (City of)	June 2023	Pollution Prevention At businesses	Social Media	Shared on Facebook, estimated reach 1,200
Glendale (City of)	June 2023	Pollution Prevention At businesses	Website	Updated website
Grafton (Village of)	June 2023	Pollution Prevention At businesses	Flyer	Sent flyer directly to business lists, estimated reach 846
Grafton (Village of)	June 2023	Pollution Prevention At businesses	Website	Updated website
Greenfield (City of)	June 2023	Pollution Prevention At businesses	Social Media	Shared on Facebook, estimated reach 100

Greenfield (City of)	June 2023	Pollution Prevention At businesses	Website	Updated website
Mequon (City of)	June 2023	Pollution Prevention At businesses	Newsletter	Sent via newsletter, estimated reach 3960
Mequon (City of)	June 2023	Pollution Prevention At businesses	Website	Updated website
Milwaukee (City of)	June 2023	Pollution Prevention At businesses	Social Media	Posted on twitter, there were 310 interactions
Milwaukee (City of)	June 2023	Pollution Prevention At businesses	Website	Updated website
Milwaukee (County of)	June 2023	Pollution Prevention At businesses	Social Media	Shared on Facebook, estimated reach 21,00
Milwaukee (County of)	June 2023	Pollution Prevention At businesses	Website	Updated website
Ozaukee (County of)	June 2023	Pollution Prevention At businesses	Social Media	Shared on Facebook, 2 likes
Ozaukee (County of)	June 2023	Pollution Prevention At businesses	Website	Updated website
Saukville (Village of)	June 2023	Pollution Prevention At businesses	Newsletter	Sent via newsletter, estimated reach of 650-1000 depending on how many people open and read the weekly newsletter for the week.
Saukville (Village of)	June 2023	Pollution Prevention At businesses	Website	Updated website
South Milwaukee (City of)	June 2023	Pollution Prevention At businesses	Social Media	Shared on Facebook, estimated reach 6,500

Wauwatosa (City of)	June 2023	Pollution Prevention At businesses	TV Display	The TV displays near the library entrance. The library gets thousands of visitors per week.
Wauwatosa (City of)	June 2023	Pollution Prevention At businesses	Website	Updated website
West Allis (City of)	June 2023	Pollution Prevention At businesses	Social Media	Shared on Facebook, estimated reach 10,000
West Allis (City of)	June 2023	Pollution Prevention At businesses	Website	Updated website
West Milwaukee (Village of)	June 2023	Pollution Prevention At businesses	Flyer	Sent flyer directly to business lists, estimated reach 300
West Milwaukee (Village of)	June 2023	Pollution Prevention At businesses	Website	Updated website
Whitefish Bay (Village of)	June 2023	Pollution Prevention At businesses	Social Media	Shared on Facebook, estimated reach 3,900
Fox Point (Village of)	June 2023	G.I, yard waste management, IDDE, construction site erosion control, post-construction stormwater management, and pollution prevention	Website Update	The DPW revamped their stormwater public education and outreach page. The webpage also links to outside resources from state and federal agencies
Whitefish Bay (Village of)	June 2023	Residential Infiltration	Social Media	Posted about MMSD Rain Barrel Workshops on June 13, 2023 with a reach of about 3.9K (plus)
Brookfield (City of)	June 2023	BMP Maintenance Training	Event/Training	HOA Stormwater BMP Maintenance Training on 06/14/23 to 40 people about Retention Pond Maintenance

Milwaukee (City of)	June 2023	Bacteria pollution	Social Media	The city shared the bacteria pollution information on Facebook
Wauwatosa (City of)	June 2023	Residential Infiltration	Social Media	We shared information about tree cell installation happening on North Avenue. This reached 8,000 people on Facebook
Ozaukee (County of)	June 2023	Best Management Practices	Event/Training	Breakfast on the Farm/ Plot Day on 6/10/23 and 6/27/23 on what is stormwater and BMP brochures
Bayside (Village of)	July 2023	Residential Pollution Prevention, Yard Waste Management, Erosion Control	Program Development	Launched the Adopt-A-Drain Program. 4 drains have been adopted. Promoted Rain Barrels for purchase through the Village. Promoted Yard Waste Carts for purchase to keep yard waste out of stormwater. Updating Village's Erosion Control ordinance and fees.
Bayside (Village of)	July 2023	Green Infrastructure	Social Media	Shared on Facebook, estimated reach 100
Brookfield (City of)	July 2023	Green Infrastructure	Flyer	Shared flyer, estimated reach 250
Fox Point (Village of)	July 2023	Green Infrastructure	Village Website	102 visited the Village of Fox Point Stormwater Public Education and Outreach site
Germantown (Village of)	July 2023	Green Infrastructure	Social Media	Shared on Facebook, estimated reach 244
Glendale (City of)	July 2023	Green Infrastructure	Newsletter	Sent via newsletter, estimated reach 2,000
Grafton (Village of)	July 2023	Green Infrastructure	Social Media	Shared on Facebook, estimated reach 2,800

Greenfield (City of)	July 2023	Green Infrastructure	City Website News Flash	Estimated reach 250+
Menomonee Falls (Village)	July 2023	Green Infrastructure	Social Media	Shared on Facebook, estimated reach 4,000
Mequon (City of)	July 2023	Green Infrastructure	Social Media	Shared on Facebook, estimated reach 45
Milwaukee (City of)	July 2023	Green Infrastructure	Social Media	Shared on Facebook, estimated reach 6,800
Milwaukee (County of)	July 2023	Green Infrastructure	Social Media	Shared on Facebook, estimated reach 21,000
Ozaukee (County of)	July 2023	Green Infrastructure	Social Media	Shared on Facebook, 2 likes
Saukville (Village of)	July 2023	Green Infrastructure	Email	Sent via email blast, estimated reach of 650-1,000 depending on how many people open and read the weekly newsletter for the week.
Wauwatosa (City of)	July 2023	Green Infrastructure	Social Media	Shared on Linkedin, estimated reach 400
West Allis (City of)	July 2023	Green Infrastructure	Social Media	Shared on Facebook, estimated reach 10,000
West Milwaukee (Village of)	July 2023	Green Infrastructure	Flyer	Shared flyer, estimated reach 400
Whitefish Bay (Village of)	July 2023	Green Infrastructure	Social Media	Shared on Facebook, estimated reach 244
Fox Point (Village of)	July 2023	General Watershed Education	Event	At the Village Board meeting (7/11), a Proclamation recognizing Stormwater Week

				is on the agenda. It was signed by the Village President
Brookfield (City of)	July 2023	Stormwater Management	Event/Training	2 SW Week Webinars and classes shared internally with staff
Germantown (Village of)	July 2023	General Watershed Education, Residential Infiltration, and Residential Pollution Prevention	Print distribution	Sent out a utility mailer to 6,066 property owners
Wauwatosa (City of)	July 2023	Residential Infiltration	Social Media	We shared content during Wisconsin Stormwater Week on Facebook. This reached 3,700 people.
Bayside (Village of)	August 2023	Residential Pollution Prevention	Social Media	Water Drop Alert on August 13
Bayside (Village of)	August 2023	Residential Infiltration Residential Pollution Prevention	Social Media	Stormwater Week August 8-11; 600 reached
Bayside (Village of)	August 2023	IDDE	Social Media	Shared on Facebook, estimated reach 150
Bayside (Village of)	August 2023	IDDE	Website	Updated website
Brookfield (City of)	August 2023	IDDE	Social Media	Shared the ROW PSA on Facebook on 8/26/23
Brookfield (City of)	August 2023	IDDE	Website	Updated website
Butler (Village of)	August 2023	IDDE	Social Media	Shared on Facebook, estimated reach 1,100
Butler (Village of)	August 2023	IDDE	Website	Updated website
Cedarburg (City of)	August 2023	Residential Pollution Prevention	Social Media	Promoted Adopt Your Drain program on Facebook. Estimated reach 100
Cedarburg (City of)	August 2023	IDDE	Social Media	Shared on Facebook, estimated reach 100
Cedarburg (City of)	August 2023	IDDE	Website	Updated website

Fox Point (Village of)	August 2023	IDDE	Village Website	There were 35 visitors to the Village of Fox Point Stormwater Public Education and Outreach site between July 1 and Aug 24.
Fox Point (Village of)	August 2023	IDDE	Website	Updated website
Germantown (Village of)	August 2023	Residential Pollution Prevention	Social Media	Promoted Adopt Your Drain program on Facebook.
Germantown (Village of)	August 2023	IDDE	Social Media	Shared on Facebook
Glendale (City of)	August 2023	IDDE	Social Media	Shared on Facebook, estimated reach 2,000+
Glendale (City of)	August 2023	IDDE	Website	Updated website
Grafton (Village of)	August 2023	Residential Pollution Prevention	Social Media	Promoted Adopt Your Drain program on Facebook with 1,500 followers.
Grafton (Village of)	August 2023	IDDE	Social Media	Shared on Facebook, estimated reach 1,500
Grafton (Village of)	August 2023	IDDE	Website	Updated website
Greenfield (City of)	August 2023	IDDE	City Website Newsflash	Shared via City Newsflash, estimated reach 100+
Greenfield (City of)	August 2023	IDDE	Website	Updated website
Mequon (City of)	August 2023	IDDE	Newsletter	Shared via newsletter, estimated reach 3960
Mequon (City of)	August 2023	Residential Pollution Prevention	Social Media	Promoted Adopt Your Drain program on Facebook on 8/8/23. Estimated reach 30+
Mequon (City of)	August 2023	IDDE	Website	Updated website
Milwaukee (City of)	August 2023	IDDE	Social Media	Shared on Facebook, estimated reach 6,500

Milwaukee (City of)	August 2023	IDDE	Website	Updated website
Milwaukee (County of)	August 2023	IDDE	Social Media	Shared on Facebook, estimated reach 21,000
Milwaukee (County of)	August 2023	IDDE	Website	Updated website
Ozaukee (County of)	August 2023	IDDE	Social Media	Shared on Facebook, estimated reach 12
Ozaukee (County of)	August 2023	IDDE	Website	Updated website
Saukville (Village of)	August 2023	IDDE	Newsletter	Shared via newsletter, estimated reach 650-1,000
Saukville (Village of)	August 2023	IDDE	Website	Updated website
Wauwatosa (City of)	August 2023	IDDE	Linkedin	Shared on Linkedin
Wauwatosa (City of)	August 2023	IDDE	Website	Updated website
West Allis (City of)	August 2023	IDDE	Social Media	Shared on Facebook, estimated reach 10,000
West Allis (City of)	August 2023	IDDE	Website	Updated website
West Milwaukee (Village of)	August 2023	IDDE	Flyer	Shared flyer, estimated reach 500
West Milwaukee (Village of)	August 2023	IDDE	Website	Updated website

Whitefish Bay (Village of)	August 2023	IDDE	Social Media	Shared on Instagram, estimated reach 295
Whitefish Bay (Village of)	August 2023	IDDE	Website	Updated website
Whitefish Bay (Village of)	August 2023	Yard Waste Management	Social Media	Shared Facebook post on 8/9/2023, estimated reach 500
Whitefish Bay (Village of)	August 2023	Residential Pollution Prevention	Social Media	Shared Facebook post on 8/11/2023, estimated reach 500
Butler (Village of)	August 2023	Household Hazardous Waste	Social Media/Newsletter	Promoted proper hazardous household waste which reached approximately 500 through constant contact and about 1,100 people through Facebook.
Germantown (Village of)	August 2023	Yard Waste Management	Utility Bill	Water utility mailer about leaf management, approximately 6,000+ residents
Bayside (Village of)	September 2023	Residential Pollution Prevention	Social Media	Promoted Adopt-A-Drain Program reaching 150 individuals
Bayside (Village of)	September 2023	Household Hazardous Waste	Social Media	Shared on Facebook, estimated reach 150
Bayside (Village of)	September 2023	Yard Waste Management	Website Update	Created a Fall Collections section on the Village website to educate residents on keeping leaves out of the waterways
Brookfield (City of)	September 2023	Household Hazardous Waste	City Website	Posted on City Website, estimated reach 50
Brookfield (City of)	September 2023	SW Management	Training/Event	SW Management HOA Training on 9/13, 915, and 9/21 to 12 people on maintaining private SW BMPs

Butler (Village of)	September 2023	Household Hazardous Waste	Newsletter	Estimated reach of 450
Butler (Village of)	September 2023	Social Media	Social Media	Shared on Facebook about the utility mailer and adopt your drain.
Butler (Village of)	September 2023	Household Hazardous Waste	Social Media	Shared on Facebook, estimated reach 1,100
Fox Point (Village of)	September 2023	Household Hazardous Waste	Village Website	-
Fox Point (Village of)	September 2023	General Watershed Education	Website Promotion	Schools outside of the stated reached out to the Village about there new stormwater hub on there website as a great example
Germantown (Village of)	September 2023	Household Hazardous Waste	Social Media	Shared on Facebook, estimated reach 50
Glendale (City of)	September 2023	Household Hazardous Waste	Social Media/Website	Shared on Facebook and website, estimated reach 2,000
Glendale (City of)	September 2023	Snow and Ice Control	Training/Event	MKE Riverkeeper 2023 Smart Salting Workshop - Winter Road Maintenance on August 22, 2023 where 5 DPW Staff attended
Grafton (Village of)	September 2023	Household Hazardous Waste	Social Media	Shared on Facebook
Greenfield (City of)	September 2023	Household Hazardous Waste	City Website Newsflash	Posted on City Website Newsflash, estimated reach 200+
Mequon (City of)	September 2023	Household Hazardous Waste	Social media	Shared on Facebook, estimated reach 140
Milwaukee (City of)	September 2023	Household Hazardous Waste	Social Media	Shared on Facebook, estimated reach 6,800

Milwaukee (County of)	September 2023	Household Hazardous Waste	Social Media	Shared on Facebook, estimated reach 20,000
Ozaukee (County of)	September 2023	Household Hazardous Waste	Social Media	Shared on Facebook, estimated reach 24
River Hills (Village of)	September 2023	Residential Pollution Prevention	Direct Conversation	Debris removal on Sept. 5th-7th spoke with 3 residents of the area.
Saukville (Village of)	September 2023	Household Hazardous Waste	Newsletter	Shared via newsletter, estimated reach 600-1,000 residents
Wauwatosa (City of)	September 2023	Household Hazardous Waste	TV Display	Estimated reach 1,400
West Allis (City of)	September 2023	Household Hazardous Waste	Social Media	Shared on Facebook, estimated reach 10,000
West Milwaukee (Village of)	September 2023	Household Hazardous Waste	Newsletter	Shared on Facebook, estimated reach 4,000
Whitefish Bay (Village of)	September 2023	Household Hazardous Waste	Social Media	Shared on Facebook and Instagram, estimated reach 231
Bayside (Village of)	October 2023	Yard Waste Management	Social Media	Shared on Facebook on 10/3
Brookfield (City of)	October 2023	Yard Waste Management	Social Media	Shared on Facebook, 2 likes
Butler (Village of)	October 2023	Yard Waste Management	Newsletter	Estimated reach 500
Cedarburg (City of)	October 2023	Yard Waste Management	Social Media	Shared on Facebook, estimated reach 100
Fox Point (Village of)	October 2023	Yard Waste Management	Village website	613 direct emails sent from Latest News posting on leaves. There is an approximate average of over 200 visits to the village web site a day (over 20,000 over the last 90 days)

Germantown (Village of)	October 2023	Yard Waste Management	Social Media	Shared on Facebook, estimated reach 100
Glendale (City of)	October 2023	Yard Waste Management	Social Media	Shared on Facebook, estimated reach 10,000
Grafton (Village of)	October 2023	Yard Waste Management	Social Media	Shared on Facebook
Greenfield (City of)	October 2023	Yard Waste Management	Social Media	Shared on Facebook, estimated reach 100+
Mequon (City of)	October 2023	Yard Waste Management	Newsletter	Estimated reach 3,690
Milwaukee (City of)	October 2023	Yard Waste Management	Social Media	Shared on Twitter there were 2 likes and 330 impressions
Milwaukee (County of)	October 2023	Yard Waste Management	Social Media	Shared on Facebook, estimated reach 20,000
Ozaukee (County of)	October 2023	Yard Waste Management	Social Media	Shared on Facebook
Saukville (Village of)	October 2023	Yard Waste Management	Email Blast	Estimated reach 600
Wauwatosa (City of)	October 2023	Yard Waste Management	Newsletter	Estimated reach 2,500
West Allis (City of)	October 2023	Yard Waste Management	Social Media	Shared on Facebook, estimated reach 10,000
West Milwaukee (Village of)	October 2023	Yard Waste Management	Flyer	-
Whitefish Bay (Village of)	October 2023	Yard Waste Management	Email Blast	Estimated reach 4,957
Whitefish Bay (Village of)	October 2023	Yard Waste Management	Social Media	We also shared leaf waste management information on the Village's Facebook, Instagram, and Twitter pages on Thursday,

				October 26, which, in total, reached nearly 300 people.
Brookfield (City of)	October 2023	Snow and Ice Control	Newsletter	10/20/23 Newsletter to 5,000 about responsible winter salting
Butler (Village of)	October 2023	Residential Infiltration	Utility Mailer	We sent out utility bill mailers to everyone in the Village.
Bayside (Village of)	November 2023	Residential Infiltration	Social media	Shared on Facebook, estimated reach 150
Bayside (Village of)	November 2023	Yard Waste Management	Social Media	Throughout the month we educated residents on the proper placement of loose leaves to ensure they stay out of ditches and the water stream.
Brookfield (City of)	November 2023	Residential Infiltration	Social Media	Shared on Facebook, estimated reach 50
Butler (Village of)	November 2023	Residential Infiltration	Social media	Shared on Facebook, estimated reach 1,200
Cedarburg (City of)	November 2023	Residential Infiltration	Social Media	Shared on facebook, estimated reach 100
Fox Point (Village of)	November 2023	Residential Infiltration	Village website	Estimated amount of individuals reached 100-200
Germantown (Village of)	November 2023	Residential Infiltration	Social Media	Shared on Facebook, estimated reach 50
Glendale (City of)	November 2023	Residential Infiltration	Newsletter	Estimated reach 2,000
Grafton (Village of)	November 2023	Residential Infiltration	Social Media	Shared on Facebook
Greenfield (City of)	November 2023	Residential Infiltration	City Website Newsflash	Estimated reach 1,000+
Mequon (City of)	November 2023	Residential Infiltration	Social Media	Shared on Facebook, estimated reach 148
Milwaukee (City of)	November 2023	Residential Infiltration	Flyer	Estimated reach 11,200

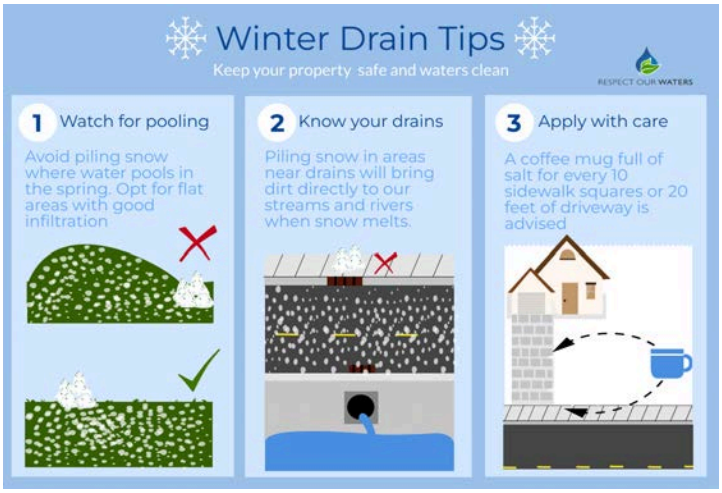
Milwaukee (County of)	November 2023	Residential Infiltration	Social Media	Shared on Facebook, estimated reach 20,000
Ozaukee (County of)	November 2023	Residential Infiltration	Social Media	Shared on Facebook, estimated reach 79
Saukville (Village of)	November 2023	Residential Infiltration	Email Blast	Estimated reach 650
Wauwatosa (City of)	November 2023	Residential Infiltration	Social Media	Shared on Facebook, estimated reach 2,000
West Allis (City of)	November 2023	Residential Infiltration	Social Media	Shared on Facebook, estimated reach 10,000
West Milwaukee (Village of)	November 2023	Residential Infiltration	Newsletter	Estimated reach 500
Whitefish Bay (Village of)	November 2023	Residential Infiltration	Social Media	Shared on Twitter, estimated reach 150
Fox Point (Village of)	November 2023	Yard Waste Management and Residential infiltration	Website Update	On the village web site: the forester posted information about mulching leaves vs. disposal information on prepping rain barrel/garden
Butler (Village of)	November 2023	Residential Pollution Prevention	Print Distribution	Sent adopt your drain mailers to 800 properties and a survey to 100 properties.
Ozaukee (County of)	November 2023	Residential Pollution Prevention	Event	Storm drain stenciling by Riveredge on Nov 9
Bayside (Village of)	December 2023	Snow and Ice Control	Social Media	Shared on Facebook, estimated reach 200

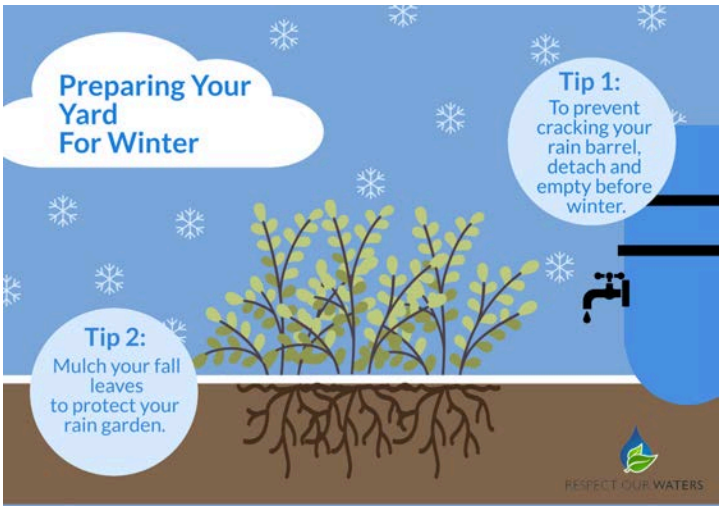
Bayside (Village of)	December 2023	Pet Waste Management	Social Media	Scoop The Poop campaign on 12/9 reaching 388 people.
Bayside (Village of)	December 2023	Yard Waste Management, Residential Pollution Prevention	Website Update	Shared the Bayside Collection Guide on 12/4 reaching 306 people.
Butler (Village of)	December 2023	Snow and Ice Control	Social Media	Shared on Facebook, estimated reach 1,200
Cedarburg (City of)	December 2023	Snow and Ice Control	Social Media	Shared on Facebook, estimated reach 100
Fox Point (Village of)	December 2023	Snow and Ice Control	Village Website	-
Germantown (Village of)	December 2023	Snow and Ice Control	Social Media	Shared on Facebook, estimated reach 50
Glendale (City of)	December 2023	Snow and Ice Control	Social Media	Shared on Facebook, estimated reach 2,000
Grafton (Village of)	December 2023	Snow and Ice Control	Social Media	Shared on Facebook, estimated reach 1,600
Greenfield (City of)	December 2023	Snow and Ice Control	City Website Newsflash	Estimated reach 150
Mequon (City of)	December 2023	Snow and Ice Control	Newsletter	Shared on Facebook, estimated reach 150
Milwaukee (County of)	December 2023	Snow and Ice Control	Social Media	Shared on Facebook, estimated reach 20,000
Ozaukee (County of)	December 2023	Snow and Ice Control	Social Media	Shared on Facebook, estimated reach 42
Saukville (Village of)	December 2023	Snow and Ice Control	Email Blast	Estimated reach 650
West Allis (City of)	December 2023	Snow and Ice Control	Social Media	Shared on facebook, estimated reach 10,000

West Milwaukee (Village of)	December 2023	Snow and Ice Control	Newsletter	Shared on Facebook, estimated reach 500
Whitefish Bay (Village of)	December 2023	Snow and Ice Control	Social Media	Shared on Facebook, estimated reach 1,700
Port Washington (City of)	December 2023	Erosion/ Flooding/ Green Infrastructure General Watershed Education	TV Interview	Port Washington recieved a federal grant to protect infrastructure near Valley creek. The link to the article is: https://cbs58.com/news/million-dollar-plan-port-washington-getting-federal-aid-to-find-solutions-for-flooding-erosion
Glendale (City of)	December 2023	Snow and Ice Control, Training	Training/Event	Glendale Winter Road Management Strategy on December 5, 2023 to 14 DPW Staff
Port Washington (City of)	Summer 2023	General Watershed Education	Stenciling Event	Ozaukee County Watershed Coalition (OCWC) partnered with the City of Port Washington for a unique take on stormwater drain stenciling by turning it into an art mural project.

Appendix B. Respect Our Waters Materials

Winter Maintenance Graphics



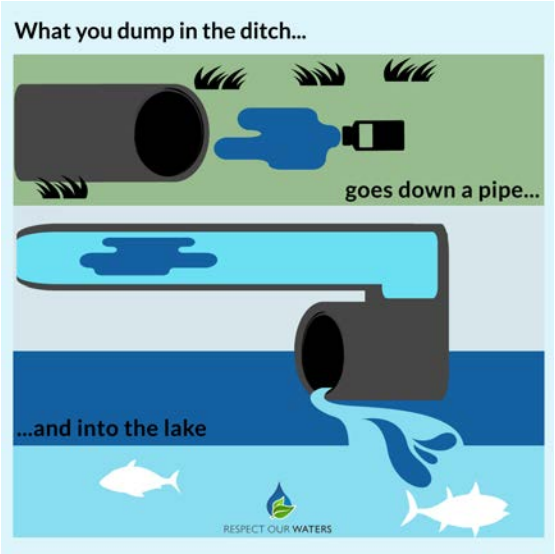


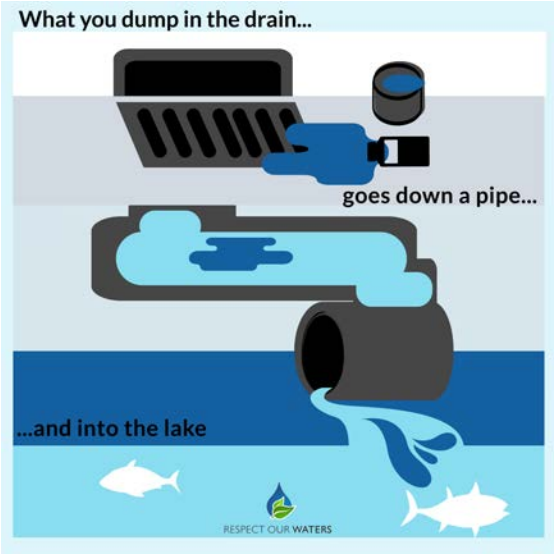
Pollution Prevention at Work Graphics:

Fall Leaf Maintenance Graphic:

Bacteria Pollution Prevention Graphics:

Illicit Discharge Graphics:





Green Infrastructure Graphic:

Household Hazardous Waste Graphic:

Salt Use Graphic:

Appendix C. Fact Sheets

Stormwater & Business

Help prevent stormwater pollution while working

Flowing rain, melting snow and even water generated from your business is classified as stormwater runoff. Stormwater runoff picks up excess fertilizer and pesticides, oil, sand, leaves, grass clippings, and many other pollutants.

All businesses have the potential to contribute to stormwater pollution. Pollutants in stormwater can reach our freshwater systems then cause human and environmental problems. Follow these tips to keep our waters safe while at work:

1. **If its not rain, it does not belong in the drain.**
   Do not put any substances down the storm drain system. Have disposal methods posted where relevant.

2. **Contain, don't drain.**
   If items are left outside, cover them. It protects our freshwater and prevents loss of materials.

3. **Beware of your garbage.**
   Rain and snowmelt carry trash and "dumpster slurry", which is full of harmful nutrients and bacteria, right into our freshwater.

The type of work you do can influence how you can protect our waters while at work. Learn more about different types of work below:

Do you work with yards?

- Try to avoid spraying pesticides and fertilizers onto driveways or sidewalks.
- Check local rules when getting rid of leaves and grass clippings to ensure correct disposal.

Do you work with food?

- Know how to dispose of cooking oils and animal fats, they can be just as bad as petroleum oil.
- Make sure dumpsters are closed and inspected regularly for leaks. This prevents bacteria from food from entering our waterways.

Do you work with chemicals?

- Know when you can throw out chemicals and when they need to be sent to a hazardous waste recycling facility.
- Have a plan for spills that are posted for employees to see. Have a spill kit available readily available and labeled.

Do you work with animals?

- Never leave animal waste outside and uncovered, especially before a storm or snow event. Animal waste contains dangerous bacteria and diseases.
- When disposing of waste, make sure it is bagged to provide an extra layer of protection from pollution.

This information was brought to you by
Southeastern Wisconsin Watersheds Trust, Inc.
Get more information online at
www.respectourwaters.org

RESPECT OUR WATERS

Respect Our Waters
Green Infrastructure & Low Impact Design Fact Sheet

Green infrastructure is a nationally recognized, impactful strategy for managing stormwater & is required in some new or re-development projects in some areas of Wisconsin

Fact 1: A proactive approach is essential to managing bacteria pollution. Green infrastructure improves water quality by serving as a defense mechanism and keeping harmful pollutants from entering the waterways.

Green infrastructure captures rain where it falls. Allowing it to filter into the earth replenishing groundwater supplies. Soil and plants help capture and remove pollutants from stormwater in a variety of ways, including adsorption, filtration, plant uptake, and the decomposition of organic matter. These processes break down and capture many common pollution found in stormwater runoff, from oil to harmful bacteria found in pet waste.

Fact 2: GI and LID can save developers and site owners money and increase their property values while also providing benefits to surrounding residents that improve their quality of life.

Benefits can include:

- Reduced need for salt in snow and ice control
- Enhanced local air and water quality
- Improved community aesthetics and cohesion
- Mitigation of the urban heat island effect and noise pollution
- Increased opportunities for urban habitat and agriculture
- Lower energy consumption for heating and cooling

Fact 3: The key to unlocking these benefits is choosing the right GI or LID strategies that are also appropriate for the site.

GI strategies that help reduce stormwater runoff and removal of common stormwater pollutants include:
Rainwater Harvesting Structures: These structures capture water for future use. Rain barrels are often used on smaller properties while above or below-ground cisterns can be used on larger properties.
Rain Gardens: Rain gardens are designed to capture rainwater and divert it from becoming runoff. This is done by placing the garden in a location where water will run towards it, modifying the soil so that water can filter into the ground, and using plants that can tolerate moisture and also help water soak into the ground.
Bioswales: Bioswales are similar to rain gardens but they also function as channels to move water away from infrastructure while also allowing for infiltration. They are generally built on larger private or public properties, or in right-of-ways. They may have native plants or grasses planted within them.
Pervious/Permeable Pavements: Pervious pavements & pavers reduce runoff from parking lots, roads, or other paved areas. Gaps between pavers or within the aggregate allow water to filter into the soil beneath.
Blue/Green Roofs: Green roofs use water to nourish plants that are planted on the roof or in trays that are placed in grids on the roof. Blue/green roofs also store extra water for later use in cisterns or other devices.
Tree Canopy: Trees are green infrastructure too! Their leaves catch water before it hits the ground, allowing some to evaporate and some to run down into the earth more slowly. Their roots help absorb water and direct some of it down into the soil. The roots also hold soil in place so it isn't washed away.

For more information about GI and LI and how they can help prevent common stormwater pollutants from entering our waterways visit **www.respectourwaters.org/environmentally-sensitive-design.**

Respect Our Waters
Stormwater Pollution Fact Sheet

Stormwater runoff is rain and melting snow that flows off building rooftops, driveways, lawns, streets, parking lots, construction sites, and industrial storage yards. Stormwater runoff becomes stormwater pollution when it picks up fertilizers, pesticides, pet waste, leaves, chemicals, and other contaminants. Unlike sewage, stormwater does not flow into a treatment plant to be cleaned. Stormwater pollution is currently one of the greatest threats to clean water in the Greater Milwaukee Watersheds. How we manage the pollutants that rain and snowmelt can carry has a clear impact on our local waterways and drinking water. The pollutants of greatest concern in our watersheds are:

Pet waste: Timely removal of pet waste has benefits for public and watershed health. Pet waste contains dangerous bacteria, diseases, and pathogens such as *E. coli* and roundworms. Additionally, it attracts rodents which can also carry disease. When pet waste gets washed into our rivers and lakes, it releases excess nutrients and *E. coli* into our waters. This can cause toxic algal growth and beach closures along Lake Michigan. Investment in pet waste stations is a common strategy for reducing bacteria loading in stormwater and can assist with meeting total maximum daily load (TMDL) requirements.[1]

Leaves: Keeping storm drains and ditches clear of leaves or garbage prevents flooding and flood-related damage. Leaves are also a source of excess phosphorus which can lead to increased algal growth and degraded habitat for fish. A USGS study found that leaf litter and other organic debris accounted for 56 percent of the annual total phosphorus load in urban stormwater, compared to 16 percent when streets were cleared of leaves prior to a rain event.[2] Efficient leaf removal as well as reminding citizens to sweep leaves a foot away from the curb reduces the amount of leaves entering the rivers and improves water quality.

Salt: Limiting salt use on roadways helps slow salt-related damage to infrastructure, vehicles, and water distribution pipes as well as improving water quality. For residents, 12 oz of salt is sufficient for 10 sidewalk squares or a 20ft driveway, and residents are encouraged to sweep up and remove excess salt. Encouraging these practices in your community can limit salt from entering our rivers, lakes, and streams.

According to a Southeastern Wisconsin Regional Planning Commission (SEWRPC) report based on WisDOT and EPA data, **$1** spent on direct winter maintenance can cause between **$7** and **$15** of damages to motor vehicles and infrastructure.[3] Spent salt enters our rivers and streams and eventually the lake, degrading water quality.

Furthermore, water treatment plants do not remove salt, which has the potential to cause further corrosion to water lines, potentially leaching heavy metals like lead out of our pipes and into our drinking water during the winter months.[4]

Preventing pollutants from entering our stormwater system is less expensive than restoring a polluted waterway. For more information on stormwater pollution and how to prevent it visit www.respectourwaters.org.

Sources [1]Wisconsin Department of Natural Resources (WDNR). 2014. UTMDL Guidance for MS4 Permits: Planning, Implementation, and Modeling Guidance. Prepared by the Bureau of Watershed Managment.
[2]Selbig, William. "Evaluation of leaf removal as a means to reduce nutrient concentrations and loads in urban stormwater" Science of Total Environment, Vol 571, November 15, 2016. P 124-133.
[3]Impacts of Chlorides on Infrastructure and the Built Environment." SEWRPC Technical Report No. 62 Chapter 4.
[4]E G Stets. "Increasing chloride in rivers of the conterminous U.S. and linkages to potential corrosivity and lead action level exceedances in drinking water" Sci Total Environ. 2018 Volumes 613–614, Pages 1498-1509, ISSN 0048-9697

Appendix D. Stormwater Week Portal

Wisconsin Stormwater Week Social Media Plan

Brought to you by: Southeastern Wisconsin Watersheds Trust, Inc.
Contact info: meyers@swwtwater.org

Instructions

Double click HERE to read instructions

Date	Topic	Type of Post	Facebook Link	Optional Text to Include	Infographic Links	MS4 Comments
Monday, August 7	Stormwater 101	Educational	here (live at 1pm)	Did you know that stormwater runoff can carry pollutants into our waterways? Learn how you can be part of the solution and protect Wisconsin's freshwater resources by visiting www.respectourwaters.org . #WIStormwaterWeek #Stormwater101 #waterislife	Walkshed Walk Through	
Tueday, August 8	Rain Collection 101	Education	here (live at 1pm)	Save water, reduce stormwater runoff and nourish your garden by harvesting rainwater. Discover the benefits of rain collection and how to get started in your own backyard by visting www.respectourwaters.org/residential-infiltration #WIStormwaterWeek #RainCollection101	Rain Collection Fact	
		Webinar	here (live at 11am)	Join us TODAY from Noon-1 PM for a FREE statewide webinar on Managing Water Where It Falls. Discover the importance of rain collection, learn how to install a rain garden and rain barrel and find out how these backyard practices benefit homeowners. Register at www.wistormwater.com/toolkit/webinars #WIStormwaterWeek #RainCollection101	Rain Barrel and Garden Workshop	
Wedneday. August 9	Lawn Care 101	Education	here (live at 1pm)	A beautiful lawn doesn't have to come at the cost of water pollution. Find out how to maintain a healthy and environmentally-friendly lawn using proper watering techniques, natural care practices and minimal use of chemicals by visting www.respectourwaters.org/yard-management. #WIStormwaterWeek #LawnCare101	Grass and Algae	
Thursday, August 10	Leaves 101	Educational	here (live at 1pm)	Leaves may seem harmless, but did you know they can contribute to freshwater pollution? Learn how to protect local water quality by composting, mulching and disposing of leaves properly by visiting www.respectourwaters.org/leaf-management. #WIStormwaterWeek #Leaves101	Leaves and Water	
		Webinar	here (live at 11am)	Join us TODAY from Noon-1 PM for a FREE statewide webinar on Leaf-free Streets for Clean Waters. Learn why timely street leaf removal helps keep pollution out of local waterways based on a U.S. Geological Survey study in Dane County. Register at www.wistormwater.com/toolkit/webinars #WIStormwaterWeek #Leaves101 #waterislif	Leaf-Free Street Webinar	
Friday, August 11	Only Rain Down the Drain 101	Educational	here (live at 1pm)	Storm drains are for rain, not pollutants! Let's make sure only rain and snowmelt flow down the drain. Keep waterways clean and fish and wildlife happy. Learn more by visiting www.respectourwaters.org/illicit-discharge #WIStormwaterWeek #OnlyRainDownTheDrain101	Pipe Discharge	

Appendix E. 2023 Events

Event	Date	Topics Covered	Materials Provided	Metrics	Other Details
Rock the Green	April 22	-Illicit Discharge -Infiltration Practices -Household Hazardous Waste -Local Municipality Information -Non-point Source Pollution -Pet Waste -Salt Reduction Strategies -Green Infrastructure -Stormwater Management -Watershed Education -Yard Maintenance -Rain Garden -Plastic Pollution -Chemical Pollution -Adopt Your Drain	Storm Water Plinko	75 Visitors	

Green Day in the Bay	May 6	-Infiltration Practices -Household Hazardous Waste -Stream and Shoreline -Pet Waste -Salt Reduction Strategies -Adopt Your Drain -Watershed Education -Yard Maintenance -Bacteria Pollution -Chemical Pollution -Sweet Water	Storm Water Plinko	28 Visitors	
Waste Free Crew	May 9	Storm Water Pollution	Storm Water Plinko	140 Visitors	
Pollinator Palooza	May 20	-Illicit Discharge -Household Hazardous Waste -Pet Waste, Residential Infiltration -Stream and Shoreline Management -Green Infrastructure -Salt Practices -Adopt Your Drain -General Watershed Education -MS4 Permit	Storm Water Plinko	29 Visitors	

West Allis DPW Day	May 20	Pet Waste	-Dog Poop Toss -Respect Our Water Material	184 Visitors	Materials Taken: -40 Dog Waste Bags -10+ Respect our Waters Stickers -27 Flyers
My Crew Bayside	May 23	-Household Hazardous Waste -Pet Waste -Leaves and Grass Clippings -Pesticide and Fertilizers -Residential Infiltration -Stream and Shoreline -Management -Salt Reduction Strategies -Adopt Your Drain -Watershed Education -Plastic Pollution -Fish Creek	Storm Water Plinko	24 Visitors	
A La Carte, West Allis	June 4	-Leaves and Grass Clippings -Pet Waste -Adopt Your Drain -Watershed Education -Storm Sewers	Storm Water Plinko	85 Visitors	

		-Stormwater Management -Drinking Water -Sweet Water -Freshwater			
Lakefront Brewery Trivia	July 23	-Illicit Discharge -Household Hazardous Waste -Pet Waste -Residential Infiltration -Green Infrastructure -Adopt Your Drain -Watershed Education	Watershed Trivia	94 Visitors	
Washington County Fair	July 25-30	-Infiltration Practices -Local Municipality Information -Stream and Shoreline -Non-Point Source Pollution -No Wipes Down Pipes -Pet Waste -Salt Reduction Strategies -Stormwater Basins -Stormwater Management -Watershed Education	-Storm Water Plinko -Watershed model -Raffle	758 Visitors	

		-Yard Maintenance			
Slinger National Night Out	August 1	-Pet Waste -Fertilizer -Watershed Education -Illicit Discharge -Leaf Management -Nutrient Pollution -Residential Infiltration -Salt Use -Sediment Pollution -Shorelines -Car Washing	Watershed Trivia	68 Visitors	
Butler Night Out	August 1	Storm Water Trivia	Butler flier promoting new website	39 Visitors	
Ozaukee County Fair	August 2-6	-Illicit Discharge -Infiltration Practices -Household Hazardous Waste -Stream and Shorelines -Non-Point Source Pollution -Pet Waste -Salt Reduction Strategies	-Adopt Your Drain Materials -Salt Use Display, -Storm Water Plinko	379 Visitors	

		-Stormwater Basins -Stormwater Management -Watershed Education -Yard Maintenance			
Molson Coors Clean Up	September 21	-Stormwater Pollution -General Watershed Health -Storm Drains -Storm Drain Stenciling -Sediment Pollution		150 Attendees	-1000 door hangers distributed -30+ storm drain stenciled -30 gallons of trash removed -93 yards of brush and logs removed
Fox Point Village Picnic	September 22	-Household Hazardous Waste -Pet Waste -Vehicle Washing -Leaves and Grass Clippings -Pesticide and Fertilizer -Stream and Shoreline -Management -Salt Practices -General Watershed Education	Storm Water Plinko	91 Visitors	

Harbor Fest	September 23	-Illicit Discharge -Household Hazardous Waste -Pet Waste -Vehicle Washing -Leave and Grass Clippings -Pesticides and Fertilizer -Salt Practices -Adopt Your Drain -General Watershed Education -Plastic Pollution -Sediment Pollution -Chemical Pollution -Bacteria Pollution -Waste Water Treatment Plants	-Storm Water Plinko -Adopt Your Drain and Respect Our Waters Material	291 Visitors	
Treasure of Oz	October 10	-Household Hazardous Waste -Pet Waste -Vehicle Washing -Leaves and Grass Clippings -Residential Infiltration -Salt Practices -General Watershed Education	-Storm Water Plinko -Adopt Your Drain and Respect Our Waters Material	25 Visitors	

Molson Coors Health Fair	October 12	-Illicit Discharge -Household Hazardous Waste -Pest Waste -Vehicle Washing -Leave and Grass Clipping -Pesticides and Fertilizer -Residential Infiltration -Construction -Salt Practices -General Watershed Education	-Watershed Trivia -Adopt Your Drain and Respect Our Waters Material	70 Visitors	
Brookfield Farmers Market	October 21	-Household Hazardous Waste -Pet Waste -Vehicle Washing -Leaves and Grass Clippings -Residential Infiltration -Stream and Shoreline -Management -Salt Practices -Adopt Your Drain -General Watershed Education	-Storm Water Plinko, - Adopt Your Drain and Respect Our Waters Material -Watershed Trivia	35 Visitors	

Horse Management Workshop	November 16	-Nutrient Management -Watershed Health -Water Quality	-Surveys	66 attendees	

City of Wauwatosa Stormwater Education and Public Involvement Efforts

In 2023, we shared stormwater education in several formats. Here are several examples:

- Multiple communications pieces on the city's website, email, and social media about construction on North Avenue in 2023 which included stormwater improvements. Here's an example news article from the city's website.

City of Wauwatosa, WI

Search

Discover Tosa
Explore, Events, Recreation

Get Involved
Volunteer, Report, Help

Services
Pay, Find, Learn

Public Safety
Volunteer, Report, Help

Government
Departments, City Council

How Do I...
Apply, Get, Pay

- Apply
- Contact
- Find
- Learn
- License
- Pay
- Register
- Rent
- Report
- Request
- Search
- Sign-Up
  - eNews
  - For public construction news
- View
- Visit
- Volunteer
  - Vote
- Watch

How Do I... » Sign-Up »

For Public Construction News

Font Size: Share & Bookmark Feedback Print

North Avenue Construction in 2023

Post Date: 03/01/2023 12:33 PM

In 2023, there will be significant construction on North Avenue between Met To Wee Lane and Mayfair Road. This will include:

- Reconstruction of W North Avenue from Mayfair Road (WIS 100) to Met to Wee Lane including the replacement of pavement, curb and gutter and sidewalk
- Utility replacement including water main, sanitary sewer, storm sewer, traffic signals and street lighting throughout the project limits
- Bicycle lanes, pedestrian sidewalk and curb ramp upgrades throughout the project limits
- Pavement marking and signing upgrades throughout the project limits
- Drainage opportunities for green infrastructure
- Replacement and addition of city trees

Timeline: January – November 2023

A contractor has already started work on the gas line and fiber. You'll notice orange barrels in their work area. In early March our Forestry Team will be removing city trees along this stretch of North Avenue. We will be mulching these trees. Later in the year, we will be replacing all of the trees and adding more trees along North Avenue. Some of the trees will have stormwater systems below the surface of the road. These tree cells will hold approximately 68,000 gallons of stormwater. (See the image to the right.)

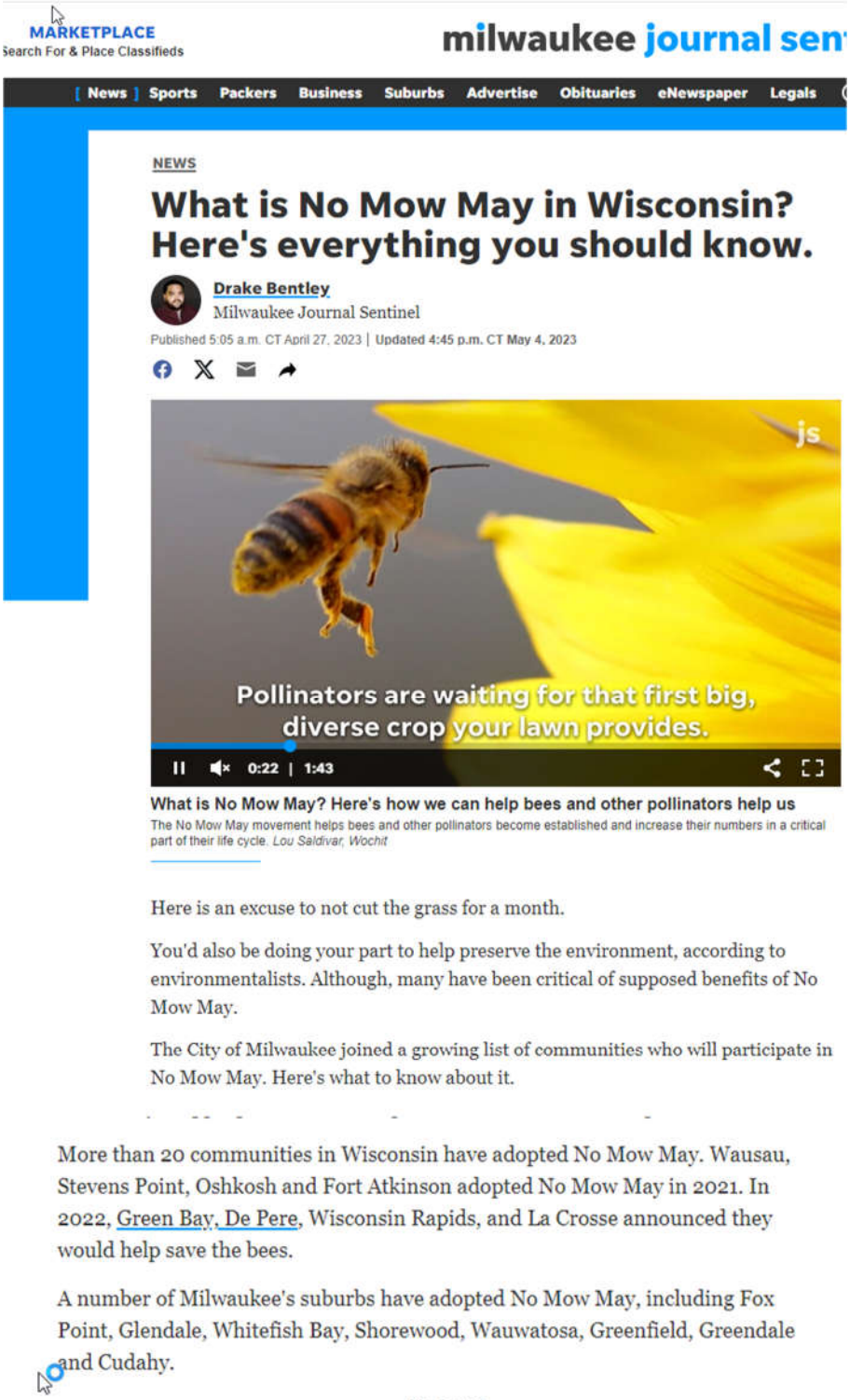
We anticipate construction on the utilities to start in late March or early April. Traffic will be reduced to one lane in both directions throughout the duration of the project. The project will continue through late November 2023.

You can subscribe to bi-weekly email updates about this project at Wauwatosa.net/NorthAve

Wauwatosa received significant federal funding to replace the bridges over Menomonee River

We have been approved for almost $19 million in federal bridge dollars for the reconstruction of the North Avenue bridges over the Menomonee River. That bridge work is anticipated to occur in 3 to 5 years. The future bridge project will then include roadwork between Met to Wee Lane and N 95th Street. The bridges will be raised, causing a full reconstruct of the roadway within those limits, including the intersection of Menomonee River Parkway.

- Promoted No Mow May throughout our communication channels. We were part of a list of communities featured in a Journal Sentinel Article that have adopted No Mow May.



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NEWS

What is No Mow May in Wisconsin? Here's everything you should know.

Drake Bentley
Milwaukee Journal Sentinel

Published 5:05 a.m. CT April 27, 2023 | Updated 4:45 p.m. CT May 4, 2023

What is No Mow May? Here's how we can help bees and other pollinators help us

The No Mow May movement helps bees and other pollinators become established and increase their numbers in a critical part of their life cycle. *Lou Saldivar, Wochit*

Here is an excuse to not cut the grass for a month.

You'd also be doing your part to help preserve the environment, according to environmentalists. Although, many have been critical of supposed benefits of No Mow May.

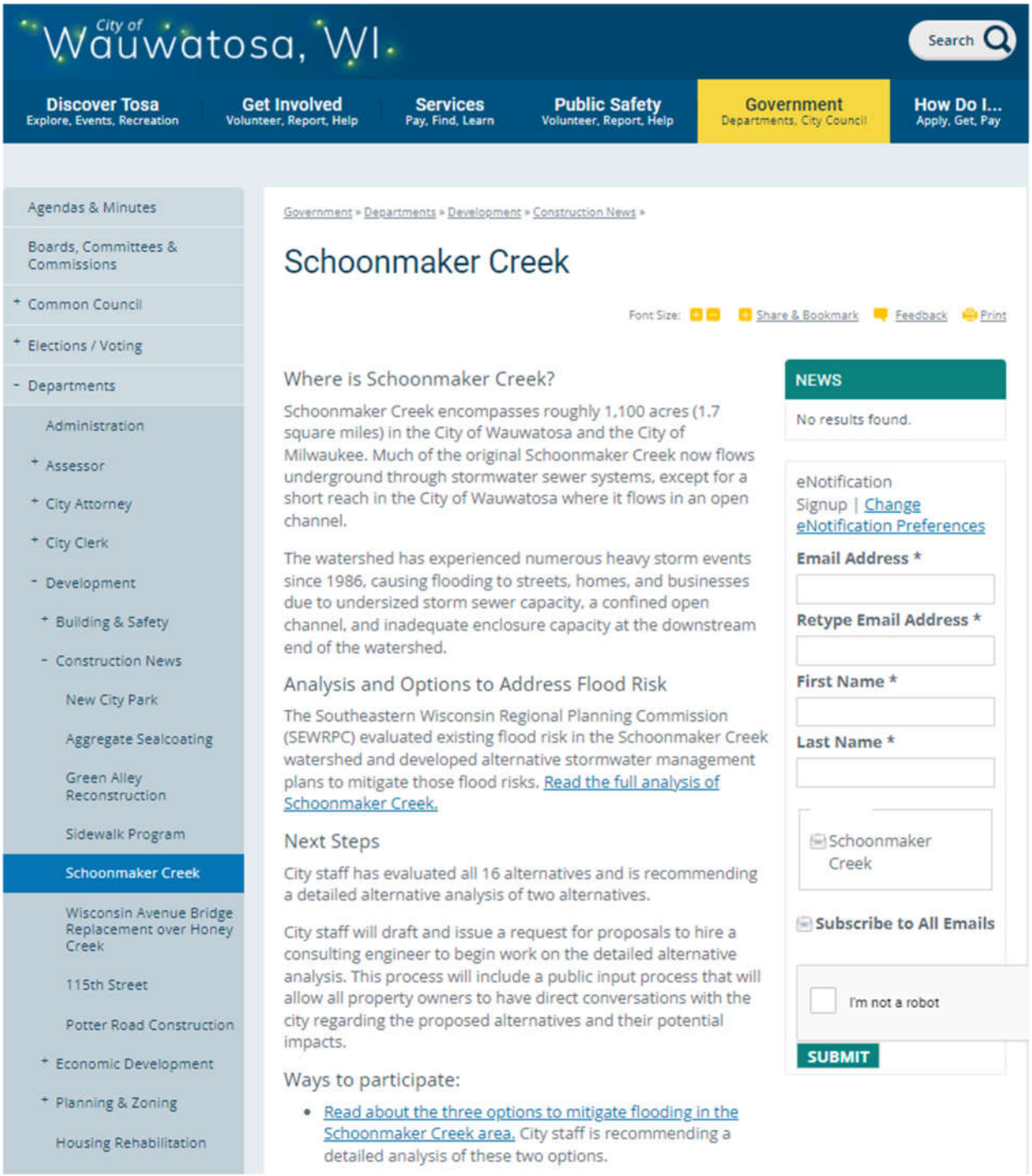
The City of Milwaukee joined a growing list of communities who will participate in No Mow May. Here's what to know about it.

More than 20 communities in Wisconsin have adopted No Mow May. Wausau, Stevens Point, Oshkosh and Fort Atkinson adopted No Mow May in 2021. In 2022, Green Bay, De Pere, Wisconsin Rapids, and La Crosse announced they would help save the bees.

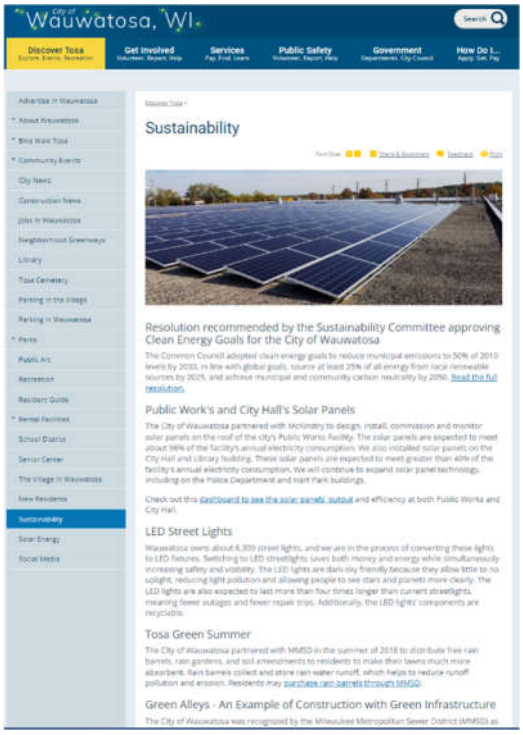
A number of Milwaukee's suburbs have adopted No Mow May, including Fox Point, Glendale, Whitefish Bay, Shorewood, Wauwatosa, Greenfield, Greendale and Cudahy.

- The Sustainability Committee held a community event about No Mow May and pollinator habitats on May 4 at the Hart Park Community Center

- The Common Council continues to discuss Schoonmaker Creek and the long-term planning we're undertaking to address stormwater concerns.
    - Public meeting: July 25, 2023
    - Public meeting: August 1, 2023



- Updated the city's sustainability website with city goals and links to Respect Our Water stormwater education - https://www.wauwatosa.net/discover-tosa/sustainability



Green Alleys - An Example of Construction with Green Infrastructure

The City of Wauwatosa was recognized by the Milwaukee Metropolitan Sewer District (MMSD) as a 'Green Luminary' for our green alley construction. We have installed 22 green alleys so far. The green alleys feature new concrete paving, storm sewer relay, surface restorations, and sidewalk and drive approaches in alleyways. The process reduces rainfall runoff, helps clean and recharge groundwater and alleviates flooding concerns.

Stormwater Improvements

This is why the City of Wauwatosa invests in stormwater upgrades, catch basin cleaning, measuring of bacteria, education about stormwater, and more. Learn about ways that residents and business owners can reduce bacteria pollution.

Single Use Plastic Straws

The Common Council passed an ordinance prohibiting single-use plastic straws in Wauwatosa. No establishment serving food or drinks to the public may provide a customer with a single-use plastic straw.

Exceptions to this ordinance include:

- Prepackaged individual serving beverages where a small plastic straw is included in the packaging
- Upon a customer's request
- Milkshakes, smoothies, or other beverages that require a large, durable straw for which a non-plastic straw would not be suitable
- Compostable straws. The City of Wauwatosa's Sustainability Committee will publish a list of acceptable compostable straws on wauwatosa.net
- Plastic straws in hospitals, nursing homes, or other healthcare facilities

The compostable straw must meet the requirements for ASTM 06400 or ASTM 06868, whichever is appropriate, or is certified or accepted by the Biodegradable Products Institute or the Compost Manufacturing Alliance and is accepted by local industrial composters for Wauwatosa. These straws may not be compostable in a backyard or home composting environment.

The Sustainability Committee recommends the following resources to find alternatives to plastic straws:

- Compost Manufacturing Alliance
- Biodegradable Products Institute

No-Mow May

No Mow May is a conservation initiative that encourages people to stop mowing or mow less often for the month of May to create habitat and provide resources for bees and other early-season pollinators. During the month of May in Wauwatosa, homeowners can choose to participate in this optional program.

- Wauwatosa hosted the Tosa Green Summit on September 9th & 16th at Wauwatosa City Hall. This has become a very popular and well attended event and this year was the 13th annual. The Tosa Green Summit has it's own social media page for residents to follow (there are currently 713 followers). Below is a list of statistics from the 2023 summit:
    - Over 200 attendees visiting 24 exhibits and 2 breakout presentations
    - Recycling collections kept the following out of our landfills:
        - 41,497 lbs household hazardous waste
        - 21,784 lbs electronics
        - 4,300 lbs scrap metal
        - 10,720 lbs shredded paper
        - 4,891 lbs textiles
        - 185 lbs medicine
        - 35 bikes

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+ Rental Facilities
School District
Senior Center
The Village in Wauwatosa
New Residents

News List

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2023 Tosa Green Summit

The Tosa Green Summit takes place Saturday, September 9 and Saturday, September 16.

Post Date: 07/10/2023 8:40 AM

The 13th annual, 2023 Tosa Green Summit is coming this September, providing opportunities to Build Awareness and Take Action on all things green and sustainable.

Saturday Sept. 9:

- 8 am to 1 pm recycling for paper shredding, meds, textiles, bikes and donations to Tosa Cares, all in the City Hall Parking Lot, 76th and North
- 10 am to 1 pm: exhibits highlighting initiatives in energy, water, land, transit and nature in the Lower Civic Center
- 10 am and 11 am NEW THIS YEAR: speaker series featuring Tosa DPW's Jason Blasiola on Recycling; and local Naturalist, author and photographer, Eddee Daniel; in the Upper Civic Center

Saturday Sept. 16:

- 8 am to 1 pm recycling for MMSD Household hazardous Waste, Electronics and NEW THIS YEAR: SCRAP METAL, all in the City Hall Parking Lot, 76th and North

For updates, see our facebook page at: https://www.facebook.com/TosaGreenSummit

For more information, contact Jeff Roznowski at jroznowski@wi.rr.com or 414-803-9500

Return to full list >>

Tosa Green Summit
September 8, 2023 ·

Tomorrow, Saturday, 9/9, is the day. Wauwatosa City Hall. Tosa Green Summit Day 1.

Recycle paper, meds, textiles, bikes, toothbrush/toothpaste tubes, donate to Tosa Cares, 8 am to 1 pm, parking lot

24 exhibitors: land, water, food, energy, transit and more, 10 am to 1 pm, lower civic center... See more

6 4

Like Comment

Album **Green summit 2023**

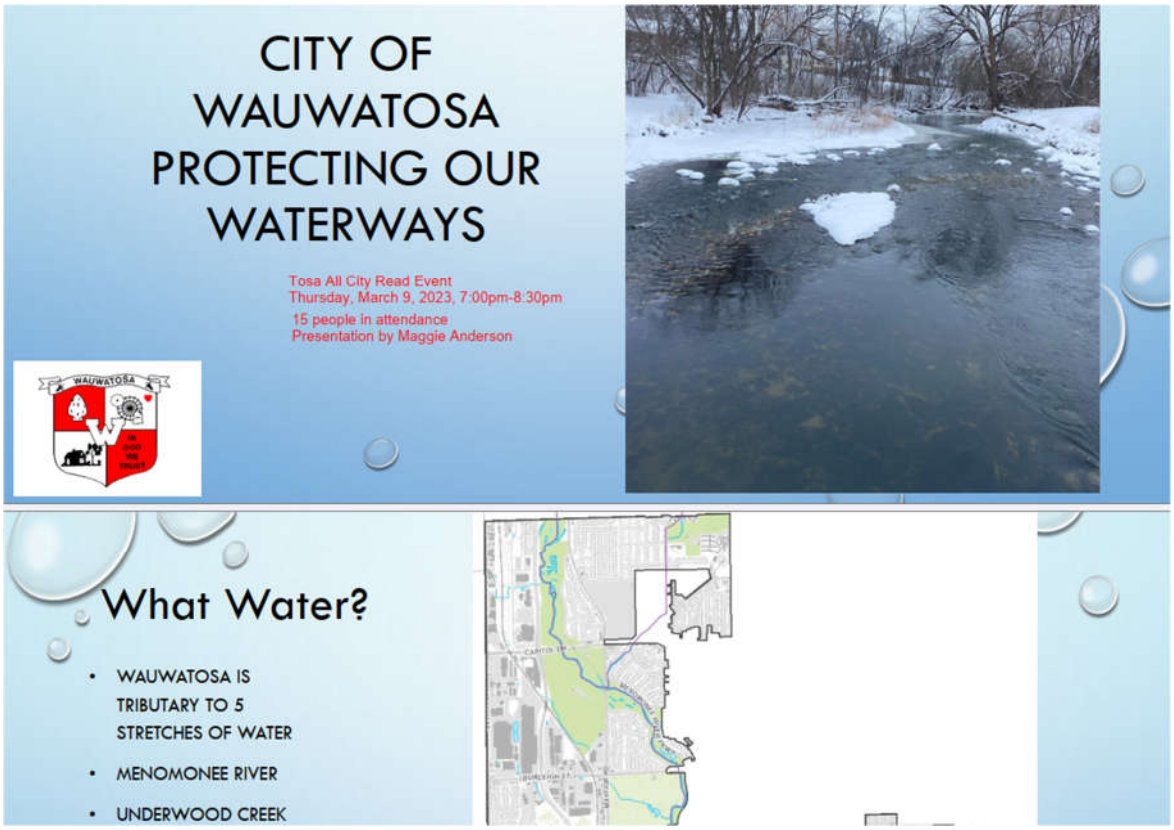
Tosa Green Summit
September 9, 2023 ·

Todays Green Summit was very well attended—24 exhibitors, 2 presenters and six collections. Thank you for your participation!

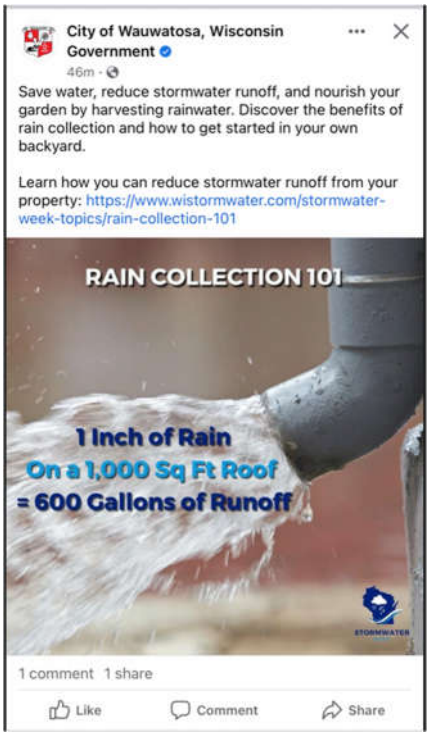
8

Like Comment

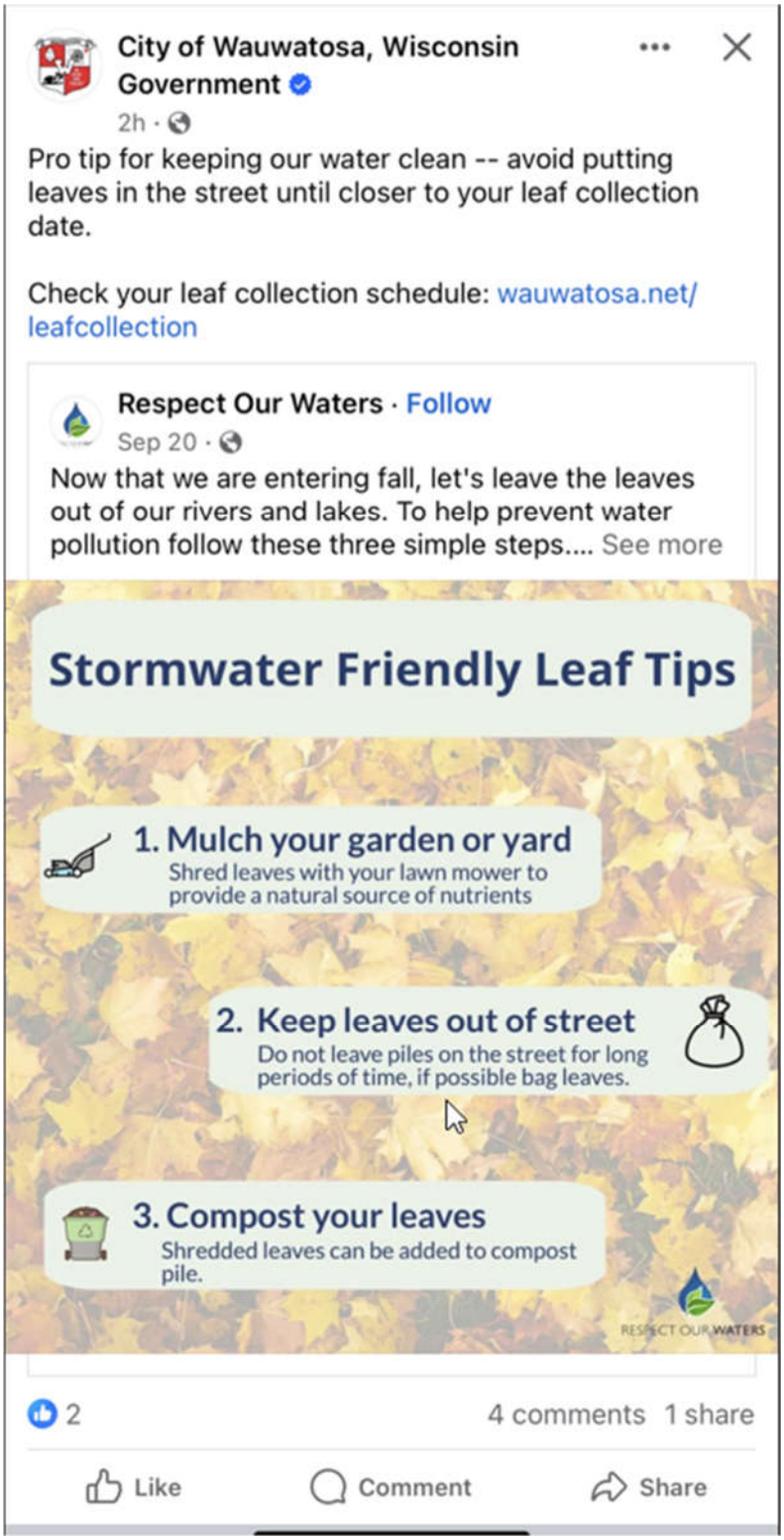
- City Senior Civil Engineer, Maggie Anderson, presented a slideshow called ‘City of Wauwatosa Protecting our Waterways’ at the City Hall Library on March 9, 2023 that was attended by 15 residents.



City social media post on August 8, 2023:



City social media post on October 19, 2023:

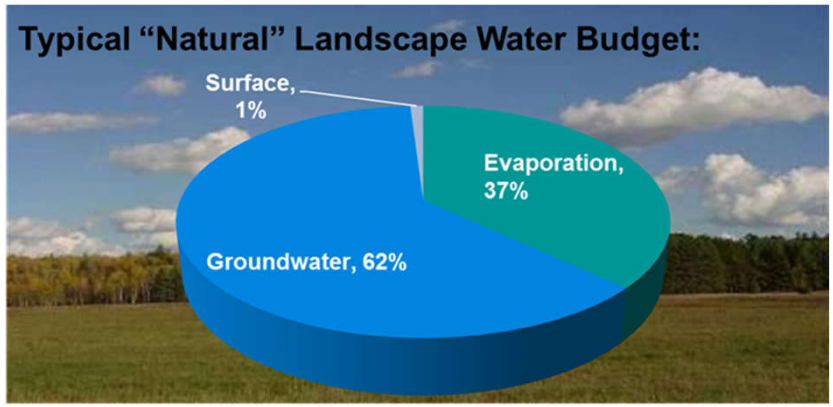


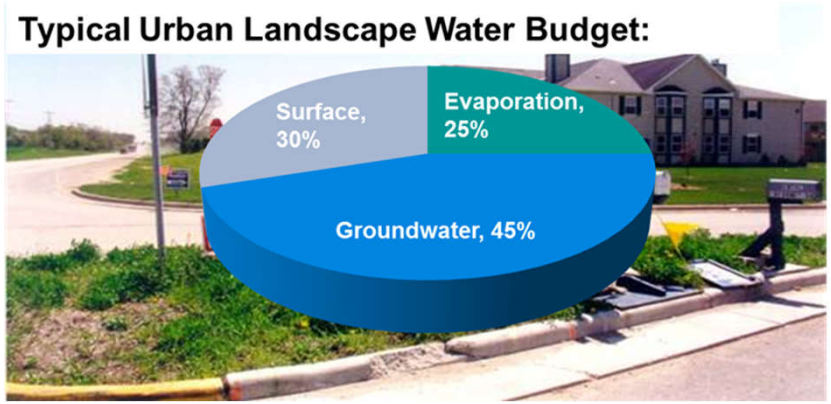
Citywide Stormwater Management Plan

Community Affairs Committee

November 28, 2023

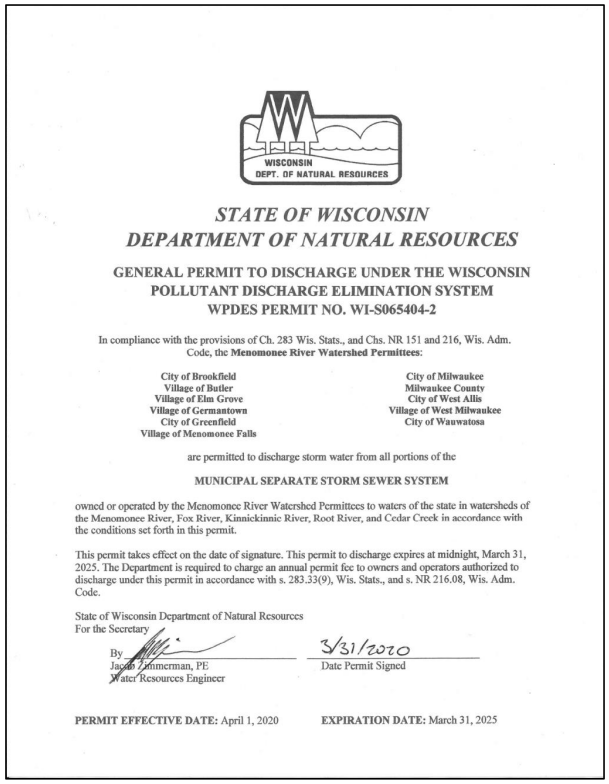
Stormwater Runoff Quality Impacts Receiving Waters





With each rain event, stormwater runoff flows over the land, into storm sewers, and then our rivers & lakes

WPDES Permit



WISCONSIN DEPT. OF NATURAL RESOURCES

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

GENERAL PERMIT TO DISCHARGE UNDER THE WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM
WPDES PERMIT NO. WI-S065404-2

In compliance with the provisions of Ch. 283 Wis. Stats., and Chs. NR 151 and 216, Wis. Adm. Code, the **Menomonee River Watershed Permittees**:

City of Brookfield
Village of Butler
Village of Elm Grove
Village of Germantown
City of Greenfield
Village of Menomonee Falls
City of Milwaukee
Milwaukee County
City of West Allis
Village of West Milwaukee
City of Wauwatosa

are permitted to discharge storm water from all portions of the

MUNICIPAL SEPARATE STORM SEWER SYSTEM

owned or operated by the Menomonee River Watershed Permittees to waters of the state in watersheds of the Menomonee River, Fox River, Kinnickinnic River, Root River, and Cedar Creek in accordance with the conditions set forth in this permit.

This permit takes effect on the date of signature. This permit to discharge expires at midnight, March 31, 2025. The Department is required to charge an annual permit fee to owners and operators authorized to discharge under this permit in accordance with s. 283.33(9), Wis. Stats., and s. NR 216.08, Wis. Adm. Code.

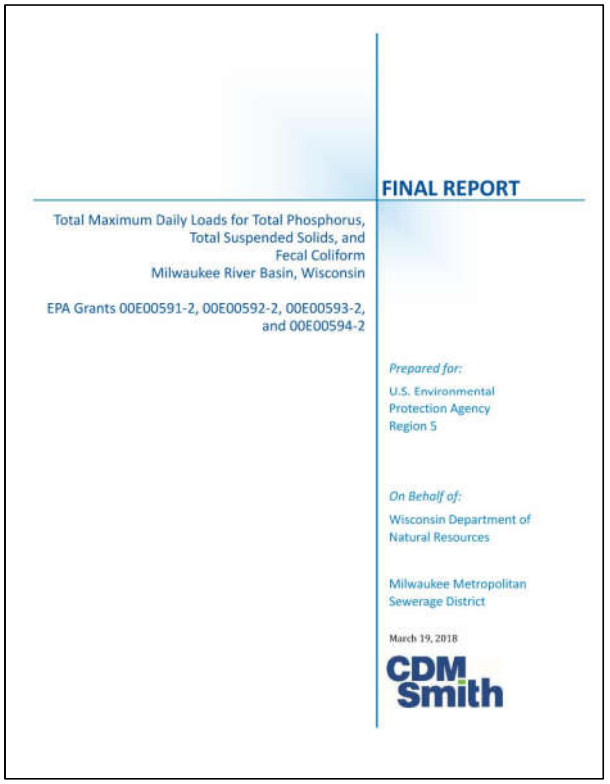
State of Wisconsin Department of Natural Resources
For the Secretary

By _____ 3/31/2020
Jason Zimmerman, PE — Date Permit Signed
Water Resources Engineer

PERMIT EFFECTIVE DATE: April 1, 2020 **EXPIRATION DATE:** March 31, 2025

"requires an MS4 permittee to develop, implement and maintain storm water programs to reduce the discharge of pollutants from the MS4 to waters of the state"

Milwaukee River Basin TMDL



FINAL REPORT

Total Maximum Daily Loads for Total Phosphorus, Total Suspended Solids, and Fecal Coliform
Milwaukee River Basin, Wisconsin

EPA Grants 00E00591-2, 00E00592-2, 00E00593-2, and 00E00594-2

Prepared for:
U.S. Environmental Protection Agency
Region 5

On Behalf of:
Wisconsin Department of Natural Resources

Milwaukee Metropolitan Sewerage District

March 19, 2018

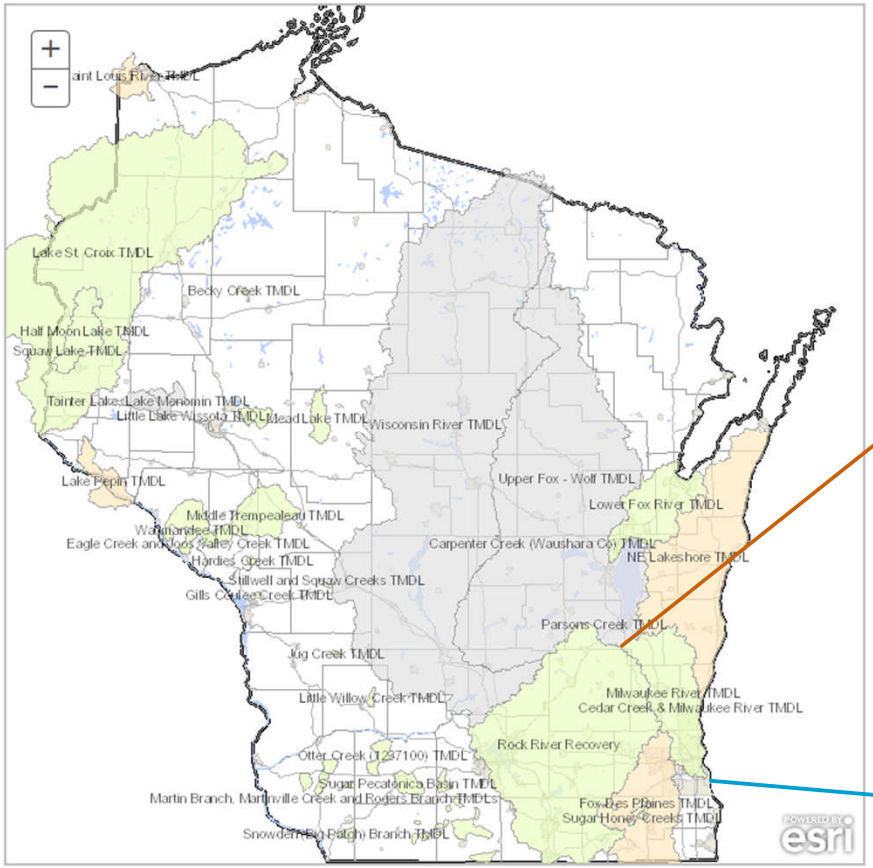
CDM Smith

A total maximum daily load (TMDL) evaluation sets "acceptable pollution loads" for each watershed based on monitoring and computer modeling

Background - Definitions

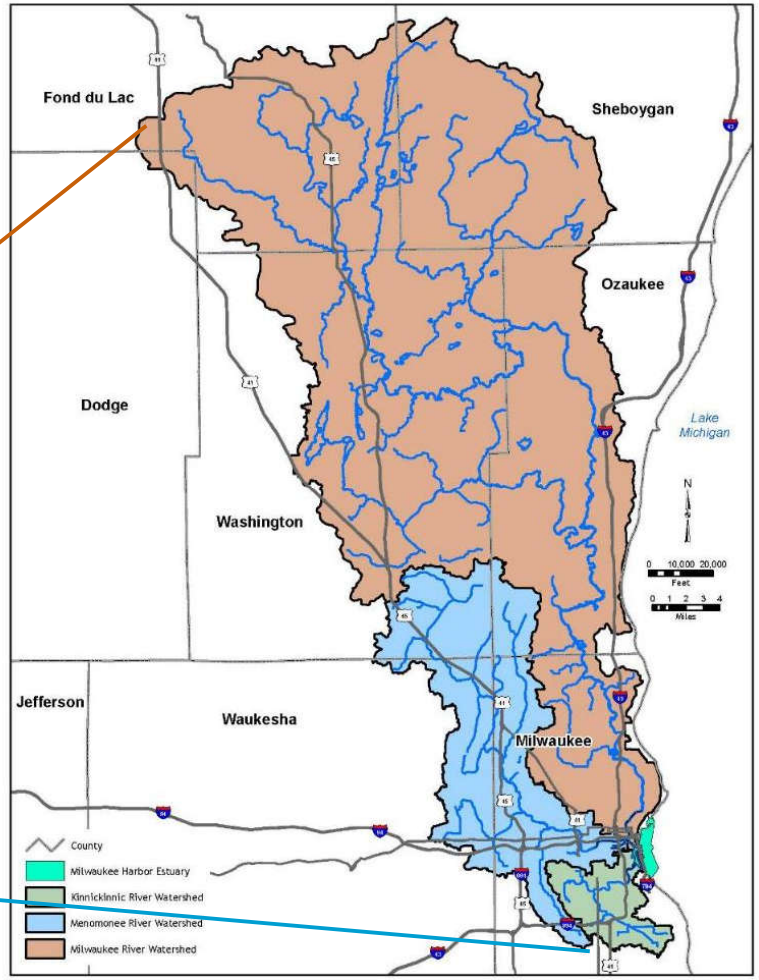
- **WPDES: Wisconsin Pollutant Discharge Elimination System** (Permit)
  - State Stat Ch 283 enacting federal water pollution control requirements and regulating discharges
- **MS4: Municipal Separate Storm Sewer System** (MS4)
  - City owned and operated conveyance system (ditches, curb and gutter, sewers, ponds, etc.)
- **TMDL: Total Maximum Daily Loads**
  - The amount of pollution a water body can receive and still meet water quality standards
- The Milwaukee River and area waterways now have TMDLs for:
  - **TSS: Total Suspend Solids**
  - **TP: Total Phosphorus**
  - Bacteria (not a focus of this study)
- This Citywide Stormwater Management Plan evaluated Stormwater Management Practices (SMPs) and progress towards meeting TMDLs
- This Plan was partially funded with a WDNR stormwater management grant

TMDLs in Wisconsin and the Milwaukee River Basin TMDL Area

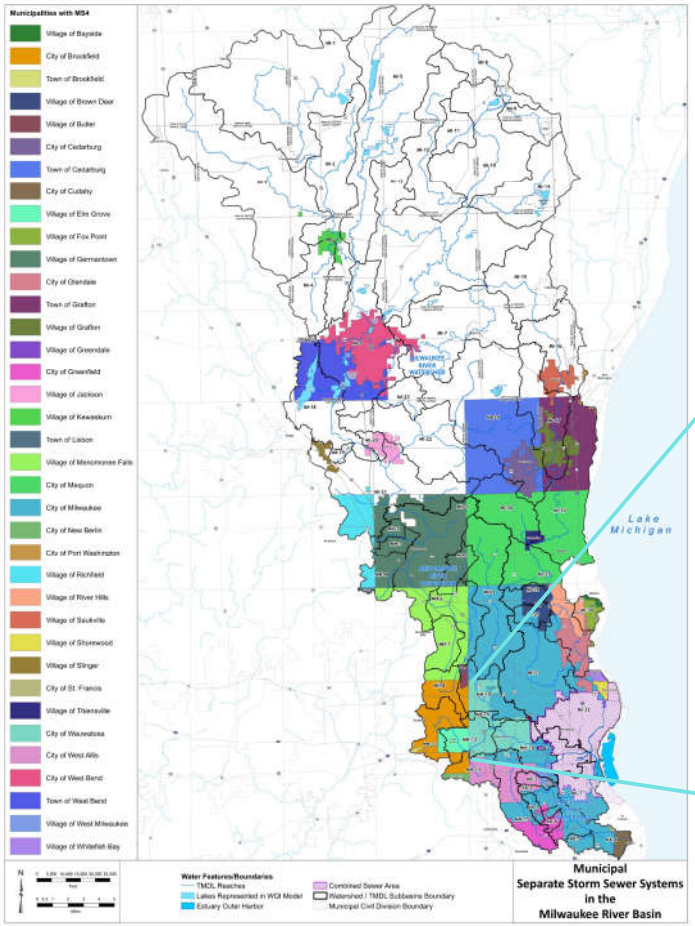


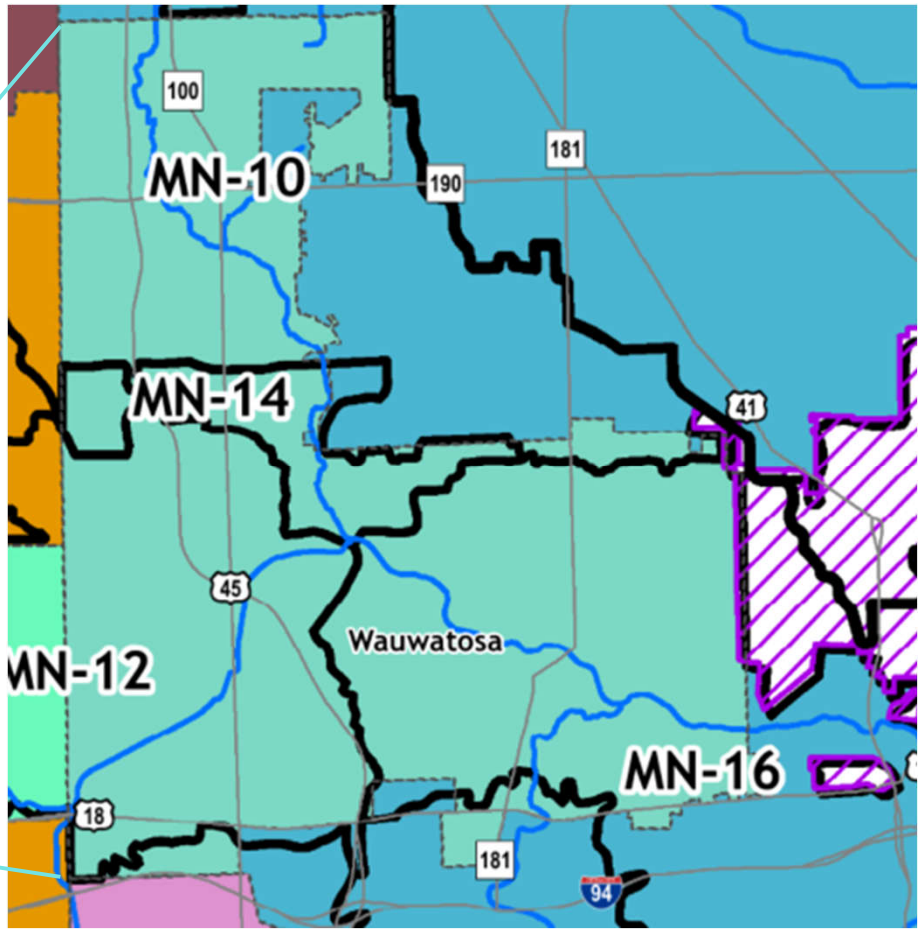
Wisconsin TMDL Status

- TMDL Approved
- TMDL Implementation
- TMDL Development



MS4s in the Milwaukee River Basin TMDL





TMDL Reachsheds with Corresponding TSS and TP Reduction Targets

Reachshed ID	Reachshed Description	Analyzed Area (acres)	TMDL Target TSS Load Reduction (%)	TMDL Target TP Load Reduction (%)
MN-10	Menomonee River (from Underwood Creek to Little Menomonee River)	1,046	67.2%	31.7%
MN-12	Underwood Creek (Menomonee River to South Branch Underwood Creek)	1,775	80.0%	76.1%
MN-13	South Branch Underwood Creek	152	76.8%	69.8%
MN-14	Menomonee River (from Honey Creek to Underwood Creek)	509	64.8%	49.4%
MN-15	Honey Creek	133	73.6%	67.2%
MN-16	Menomonee River (from Estuary to Honey Creek)	2,307	72.0%	49.4%
Totals		5,921		

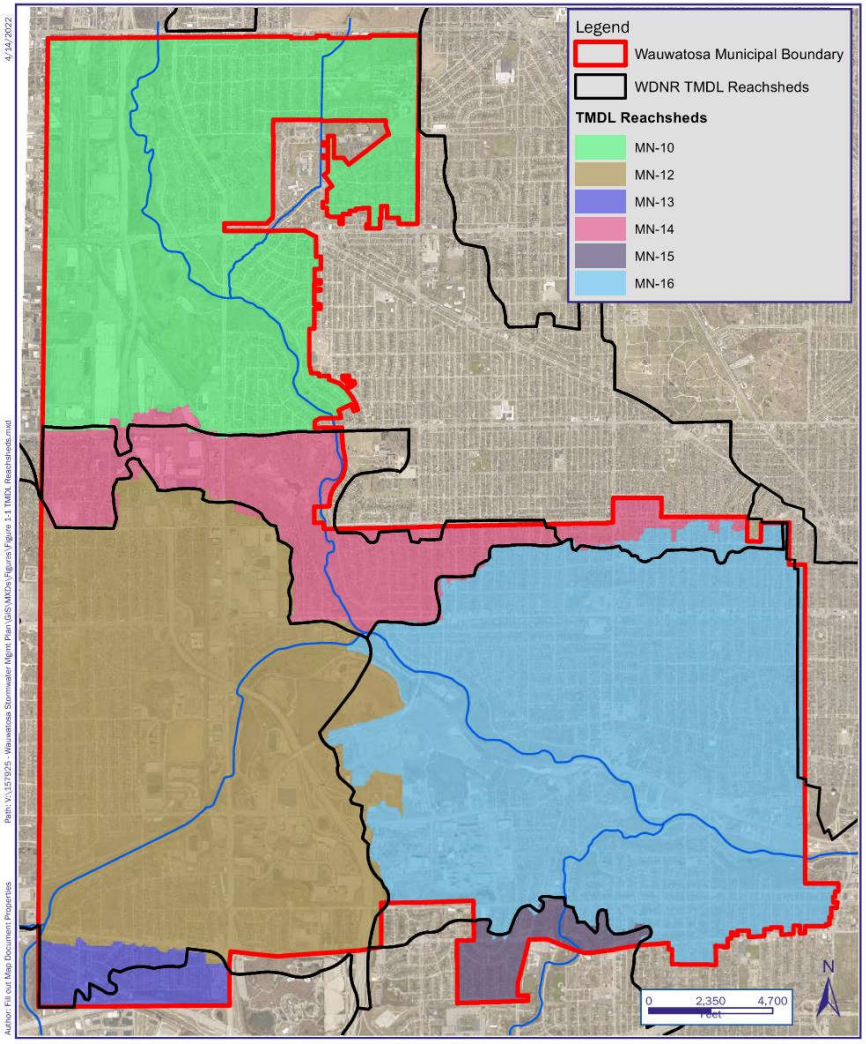


Figure 1-1
TMDL Reachsheds
City of Wauwatosa
Stormwater Quality Management Plan

Stormwater Pollution Control “Tool Box”

“Proven Practices” with WDNR Standards

Street Cleaning

Grass Swales

Wet Detention

Leaf Management

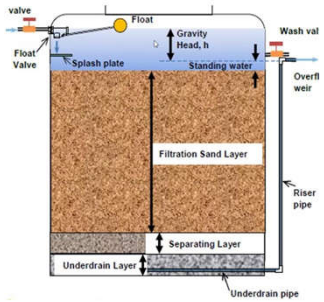
Catch Basins

Green Infrastructure: Bioretention / Porous Pavement / Green Alleys

Proprietary Filters

Stormwater Pollution Control “Tool Box”

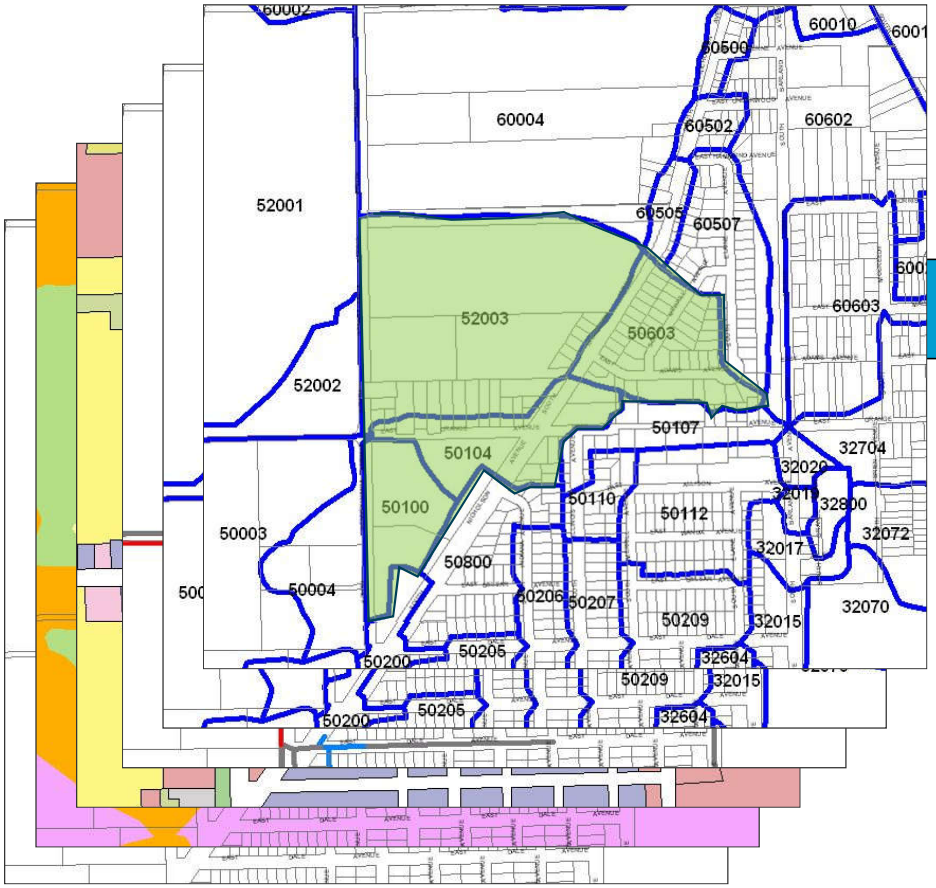
Practices with WDNR Standards Guidance In Development



Sand Filter With Additives (e.g. Iron/Slag)

Enhanced Wet Detention (Coagulant Addition)

Modeling to Estimate Pollutant Loads and Reductions



Modeling based on:

- USGS (and others) Research
- WDNR Guidance
- City Specific Data

Historical Datasets (e.g. rainfall, pollutants)

Stormwater Quality Model (WinSLAMM)

Treatment Practices

Basins

Sewers

Land Use

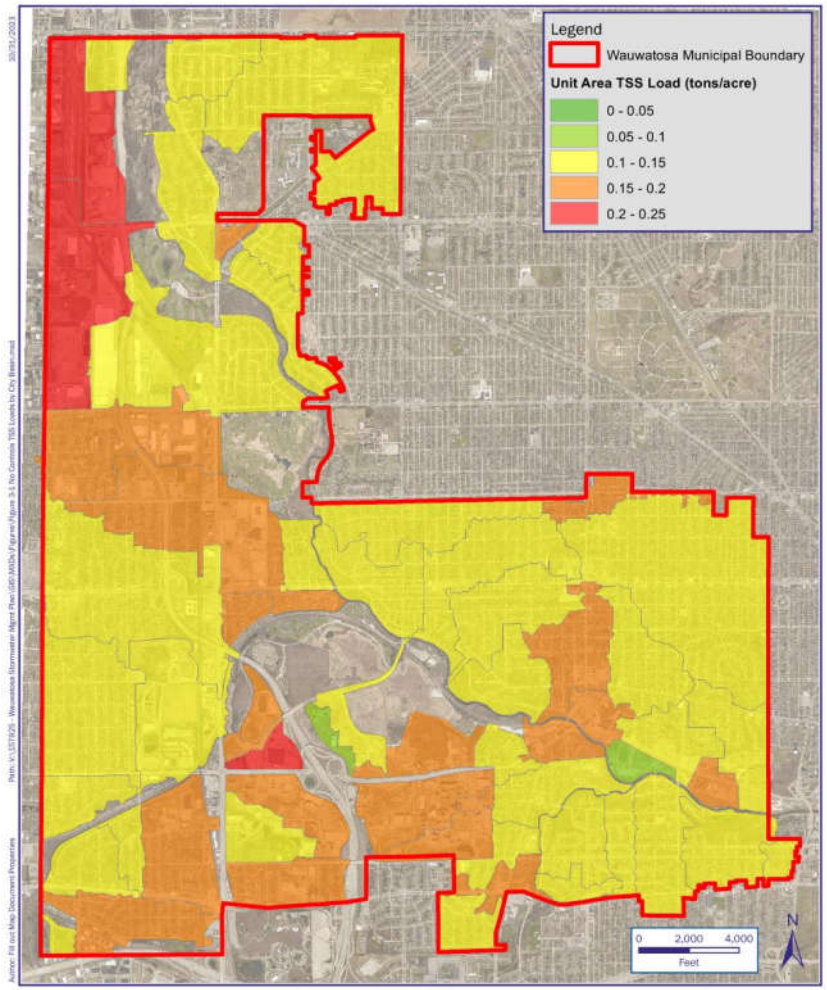
Soils

Basemap

Where We Are Today With Reducing Stormwater Pollution

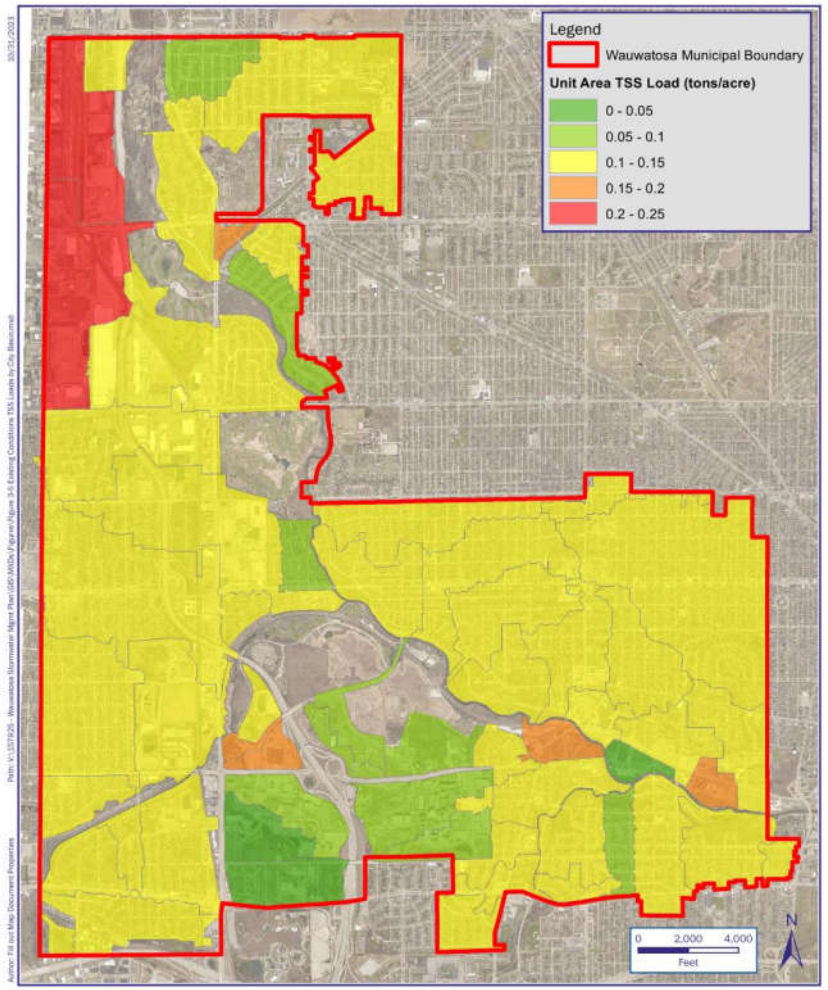
TMDL Reachshed	Reachshed Description	Analyzed Area (ac)	TMDL TSS Reduction Target %	TSS Load Reduction % With Controls Installed Today	TMDL TP Reduction Target %	TP Load Reduction % With Controls Installed Today
MN-10	Menomonee River (from Underwood Creek to Little Menomonee River)	1,046	67.2%	10.9%	31.7%	7.7%
MN-12	Underwood Creek (Menomonee River to South Branch Underwood Creek)	1,775	80.0%	19.8%	76.1%	14.0%
MN-13	South Branch Underwood Creek	152	76.8%	9.3%	69.8%	5.8%
MN-14	Menomonee River (from Honey Creek to Underwood Creek)	509	64.8%	13.8%	49.4%	9.8%
MN-15	Honey Creek	133	73.6%	9.8%	67.2%	6.2%
MN-16	Menomonee River (from Estuary to Honey Creek)	2,307	72.0%	20.4%	49.4%	13.4%
Totals		5,921	73.1%	17.3%	55.2%	11.9%

TSS - “Do Nothing” v.s. Controls Installed Today



Brown AND Caldwell

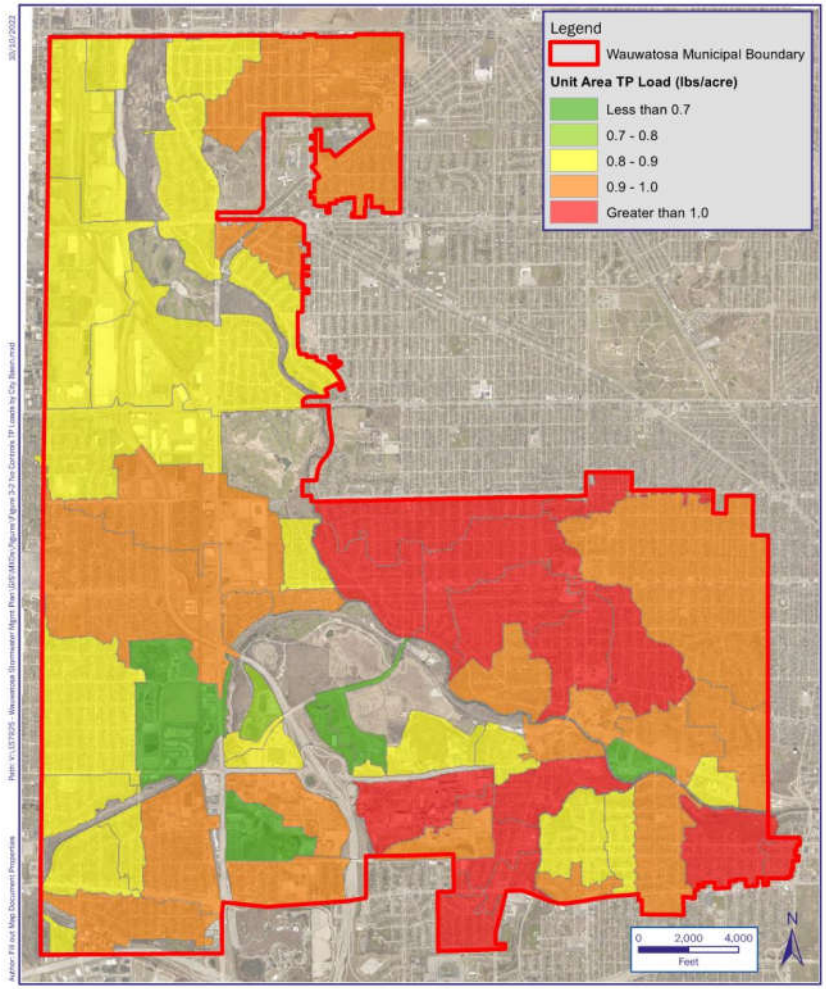
Figure 3-1
No Controls TSS Load Per Acre
City of Wauwatosa
Stormwater Quality Management Plan



Brown AND Caldwell

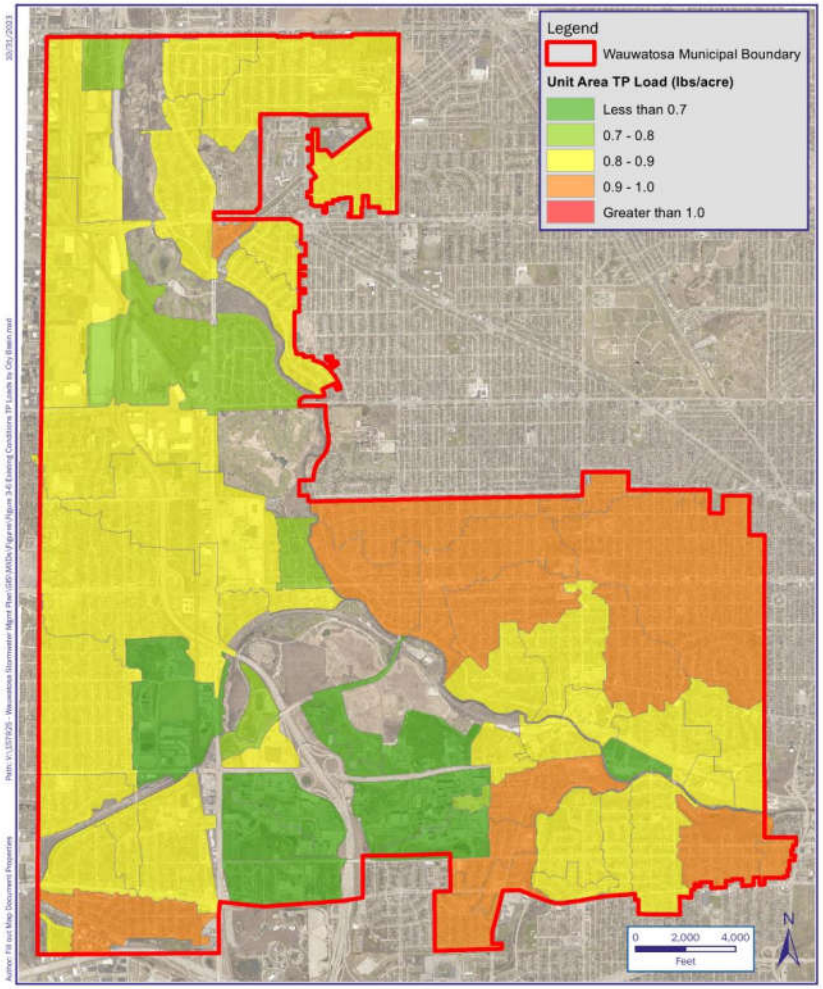
Figure 3-5
With Controls TSS Load Per Acre
City of Wauwatosa
Stormwater Quality Management Plan

TP - “Do Nothing” v.s. Controls Installed Today



Brown AND Caldwell

Figure 3-2
No Controls TP Load Per Acre
City of Wauwatosa
Stormwater Quality Management Plan



Brown AND Caldwell

Figure 3-6
With Controls TP Load Per Acre
City of Wauwatosa
Stormwater Quality Management Plan

Implementation Plan Components

Current Permit Term:

Implementation Item	Cost Considerations
Investigate “Uncaptured” Private Sites (locations, ability to include reductions through O&M agreements or ordinance)	Additional staff support needed to research sites or consider ordinance updates
Continued Green Alley / Catch Basin Installations	In CIP, no additional cost impacts
Track Redevelopment	Minimal existing staff / cost impacts
Research Grants/Funding	Minor existing staff / cost impacts

Implementation Plan Components

Next Permit Term:

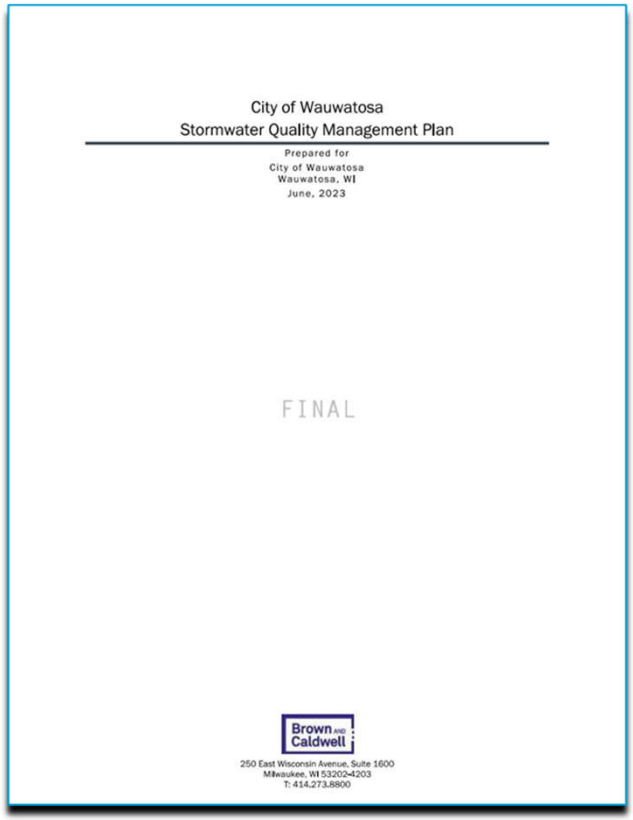
Implementation Item	Cost Impact
Continued Green Alley / Catch Basin Installations	Some projects in current CIP, future TBD
Track Redevelopment	Minimal existing staff / cost impacts
Modify Street Cleaning Program (High Efficiency Cleaners every 5 weeks)	Incremental cost for High Efficiency Cleaner, 250 hours of new staff time needed
Research Potential Leaf Management Program Adjustments and Expand Public Education	Minimal existing staff / cost impacts
Work With Menomonee River Group Partners to consider post-construction ordinance changes	Minimal existing staff / cost impacts
Explore opportunities to incorporate stormwater quality components into future projects (e.g. Schoonmaker Creek)	TBD

Remaining Pollution Reduction Needs

TMDL Reachshed	Reachshed Description	Analyzed Area (ac)	TMDL TSS Reduction Target %	TSS Load Reduction % With Controls Installed Today	Remaining TSS Reduction Needed %	TMDL TP Reduction Target %	TP Load Reduction % With Controls Installed Today	Remaining TP Reduction Needed %
MN-10	Menomonee River (from Underwood Creek to Little Menomonee River)	1,046	67.2%	10.9%	56.3%	31.7%	7.7%	24.0%
MN-12	Underwood Creek (Menomonee River to South Branch Underwood Creek)	1,775	80.0%	19.8%	60.2%	76.1%	14.0%	62.1%
MN-13	South Branch Underwood Creek	152	76.8%	9.3%	67.5%	69.8%	5.8%	64.0%
MN-14	Menomonee River (from Honey Creek to Underwood Creek)	509	64.8%	13.8%	51.0%	49.4%	9.8%	39.6%
MN-15	Honey Creek	133	73.6%	9.8%	63.8%	67.2%	6.2%	61.0%
MN-16	Menomonee River (from Estuary to Honey Creek)	2,307	72.0%	20.4%	51.6%	49.4%	13.4%	36.0%
Totals		5,921	73.1%	17.3%	55.8%	55.2%	11.9%	43.3%

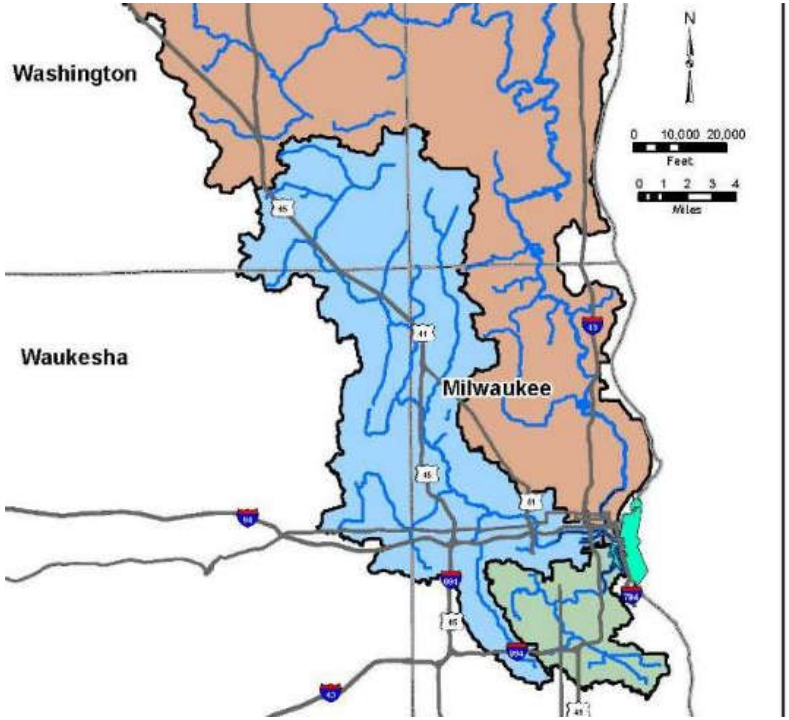
Where do we go from here?

- WDNR reviewed and concurred with City's pollutant reduction analysis (9/5/2023)
- City will follow implementation plan
- WPDES Permit Renewal in 2025
  - WDNR expects "continual progress" towards TMDL reduction goals
  - Permit will include group and individual requirements
  - Citywide Plan components will be incorporated


City of Wauwatosa
Stormwater Quality Management Plan
Prepared for
City of Wauwatosa
Wauwatosa, WI
June, 2023
FINAL
Brown AND Caldwell
250 East Wisconsin Avenue, Suite 1600
Milwaukee, WI 53202-4203
T: 414.273.8800

Where do we go from here?

- Menomonee River Watershed Group
  - 11 municipal partners
  - City to Work with Group to Consider Coordinated Post-Construction Redevelopment Ordinance Changes




Questions and Discussion

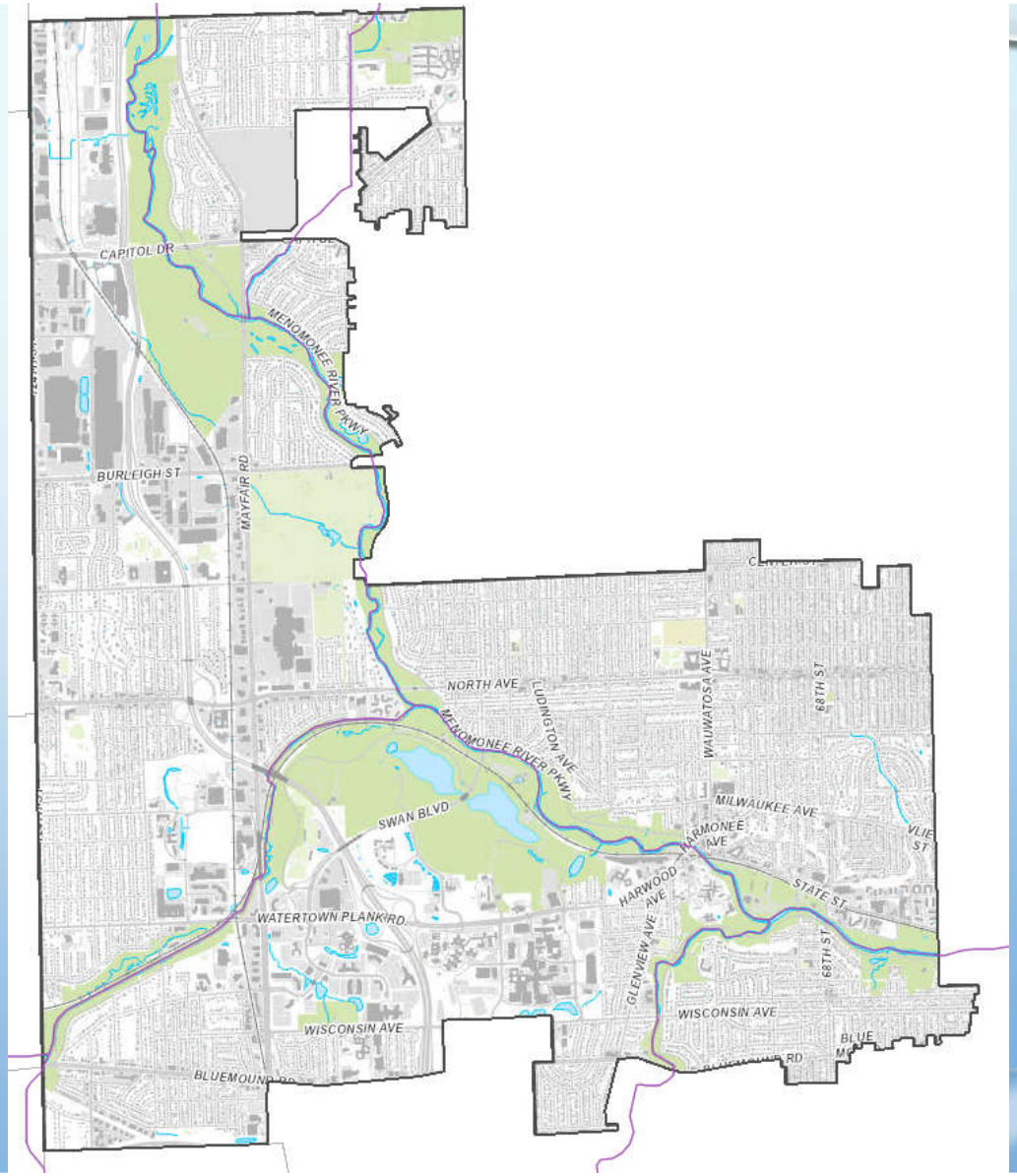

Brown AND
Caldwell

CITY OF WAUWATOSA STORMWATER MANAGEMENT

What Water?

- WAUWATOSA IS TRIBUTARY TO 5 STRETCHES OF WATER
- MENOMONEE RIVER
- UNDERWOOD CREEK
- HONEY CREEK
- GRANTOSA CREEK
- SCHOONMAKER CREEK

- ALL OF THESE FLOW TO LAKE MICHIGAN



HOW DOES TOSA HELP?

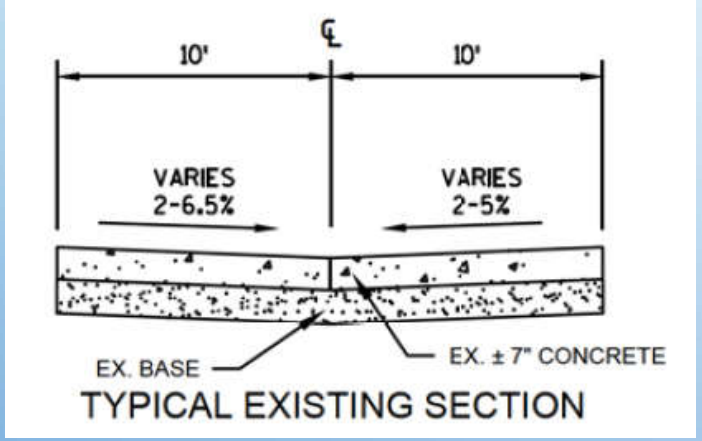
- STREET SWEEPING
- CATCH BASIN CLEANING
- ENFORCE DEVELOPMENT REQUIREMENTS
- INSTALL GREEN INFRASTRUCTURE

CITY GREEN INFRASTRUCTURE

- HART PARK POROUS PAVEMENT
- FIRE STATION GREEN ROOF
- POLICE STATION POROUS PAVEMENT AND STORMWATER TREES
- VILLAGE STORMWATER TREES
- GREEN ALLEYS
- 69TH ST CENTER PERMEABLE PAVERS

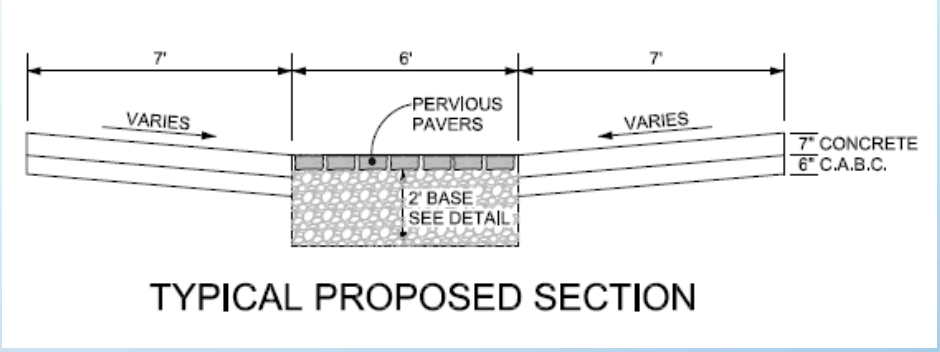
GREEN ALLEY DESIGN PROCESS

EXISTING
V ALLEY

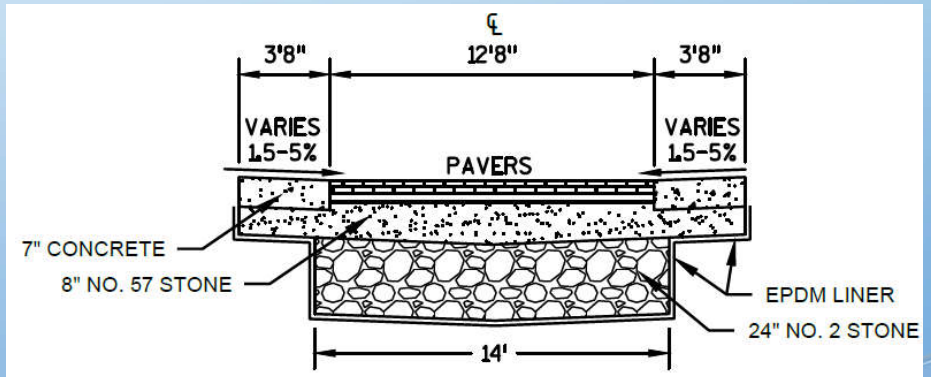


TYPICAL EXISTING SECTION

PROPOSED
ALLEY



TYPICAL PROPOSED SECTION



TYPICAL PROPOSED SECTION

RESIDENT OUTREACH

WAUWATOSA GREEN ALLEY PROGRAM

The Green Alley Program is a new approach to the City of Wauwatosa's existing alley program. When an alley is scheduled for reconstruction, it is determined if it is suitable for a Green Alley installation. Where soil conditions are appropriate, water is allowed to infiltrate into the soils through the joints between the permeable pavers, instead of being directed into the City's storm sewer system. This not only helps reduce rainfall runoff, but it also provides an environmental benefit by cleaning and recharging the groundwater. Furthermore, by not sending additional rain water to the storm sewer system, a green alley can help alleviate flooding issues.

GREEN ALLEY DOS AND DON'TS

DO:

- Keep your green alley clean of dirt and debris
- Install rain gardens and bioswales on your property to absorb and filter water before reaching the alley.

DO NOT:

- Dump chemicals or toxic materials on or near the green alley.
- Spread sand or dirt on or near permeable paving.
- Remove stone from between permeable pavers.

FREQUENTLY ASKED QUESTIONS:

Q: Will my green alley overflow during large storms?

A: Each green alley is designed to allow rainfall to infiltrate into the subsoil. In the case of an uncommonly large rain event, each alley is designed so that water will run into the adjacent streets and into the storm sewer.

Q: Will ice be a problem in the winter?

A: In most cases, icing will be reduced because melting snow can permeate through the alley pavement.

Q: What do I do if my green alley does not appear to be draining?

A: Contact the Public Works Yard at 414-471-8422 to report any problem with your alley.

THIS SUSTAINABLE PROJECT IS PROUDLY BROUGHT TO YOU BY THE MILWAUKEE METROPOLITAN SEWERAGE DISTRICT AND THE CITY OF WAUWATOSA

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION
7725 WEST NORTH AVENUE
WAUWATOSA, WI 53213
Telephone: (414) 479-8927
Fax: (414) 471-8492
www.wauwatosa.net

William T. Wehrley, P.E.
City Engineer
wwehrley@wauwatosa.net

July 23, 2017

Re: Green Alley Construction

Dear Resident:

The work on your alley has been awarded to a Contractor (LaLonde Construction) and will be occurring over a 4-6 week period sometime between August 1st and November 17th. In the coming weeks we will be holding a pre construction meeting with the contractor to define schedule. You will be receiving further notification prior to the work on your alley beginning.

The reconstruction of the alley will include placing a strip of pavers down the center of the alley. Water is allowed to soak through the joints in the pavers rather than run along the surface. This not only helps reduce rainfall runoff, but it also provides an environmental benefit by removing pollutants.

We are requesting your input on the color of the pavers. After responses from property owners along the alley are received, the color receiving the most votes will be placed. Below is an image of choices. If you would like to see examples of these pavers, a location description is listed below to reference

CHARCOAL

Installed in alley between 102nd St and 103rd St, south of North Ave.

RUSTIC RED

Installed in alley between 91st St and Swan Blvd, north of North Ave

RIVER

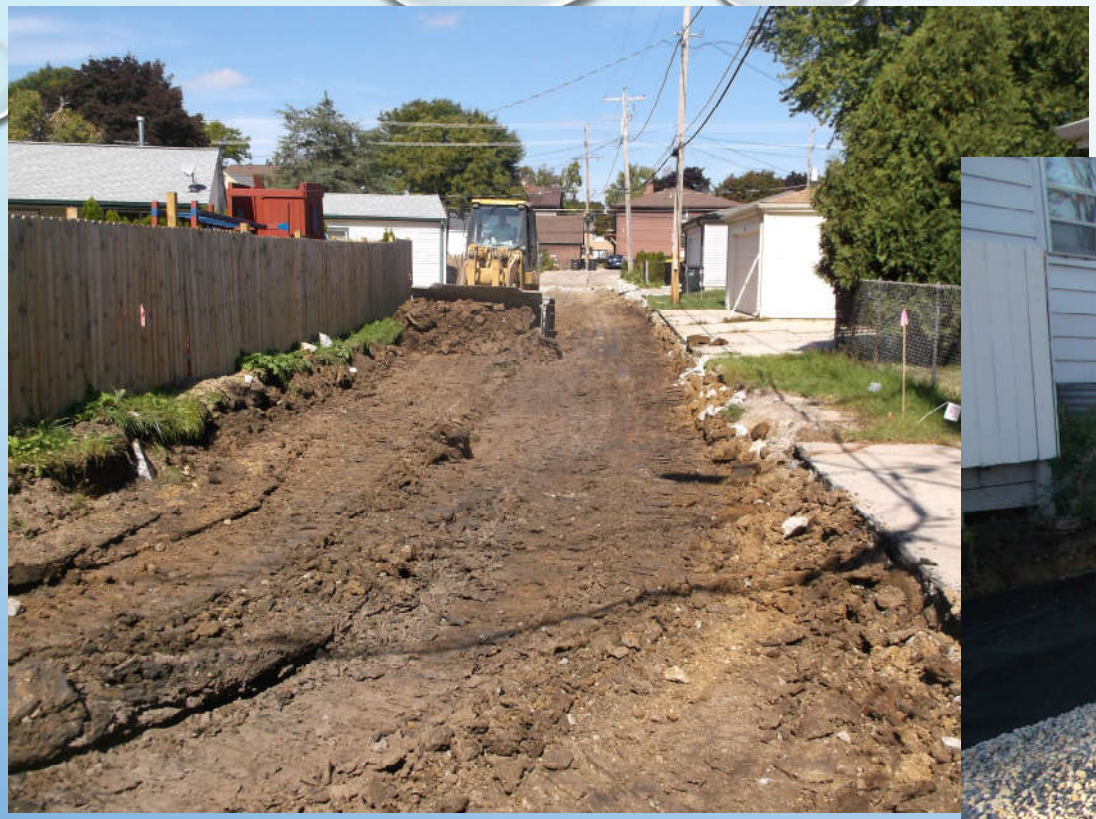
Not installed currently

GREEN Infrastructure

CITY OF WAUWATOSA

MMSD

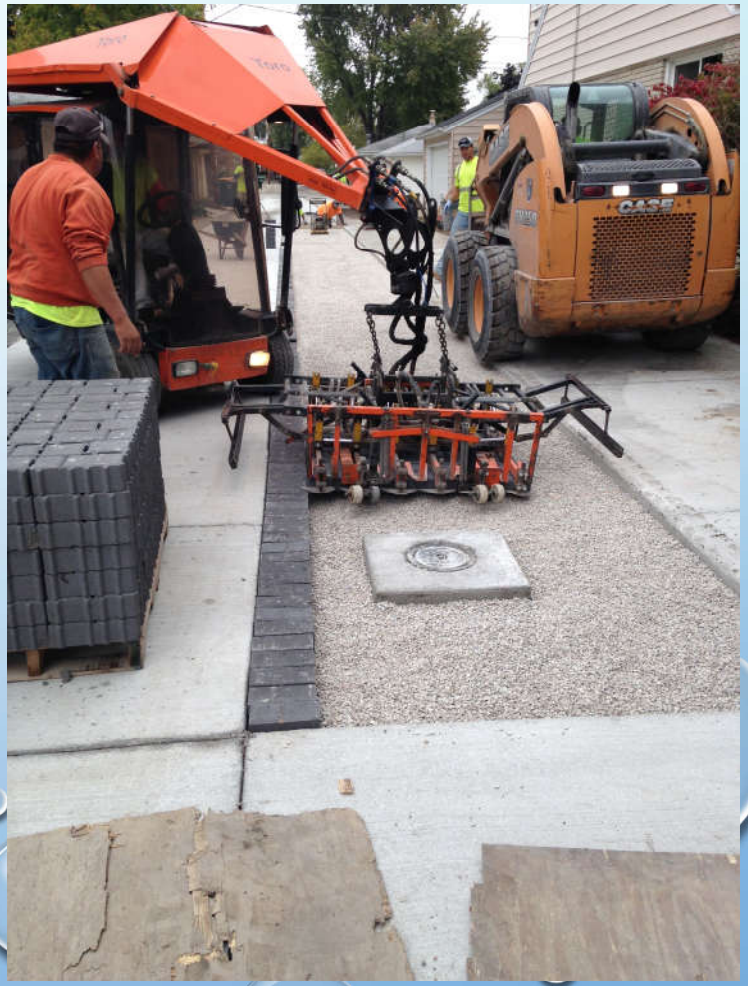
CONSTRUCTION



CONSTRUCTION

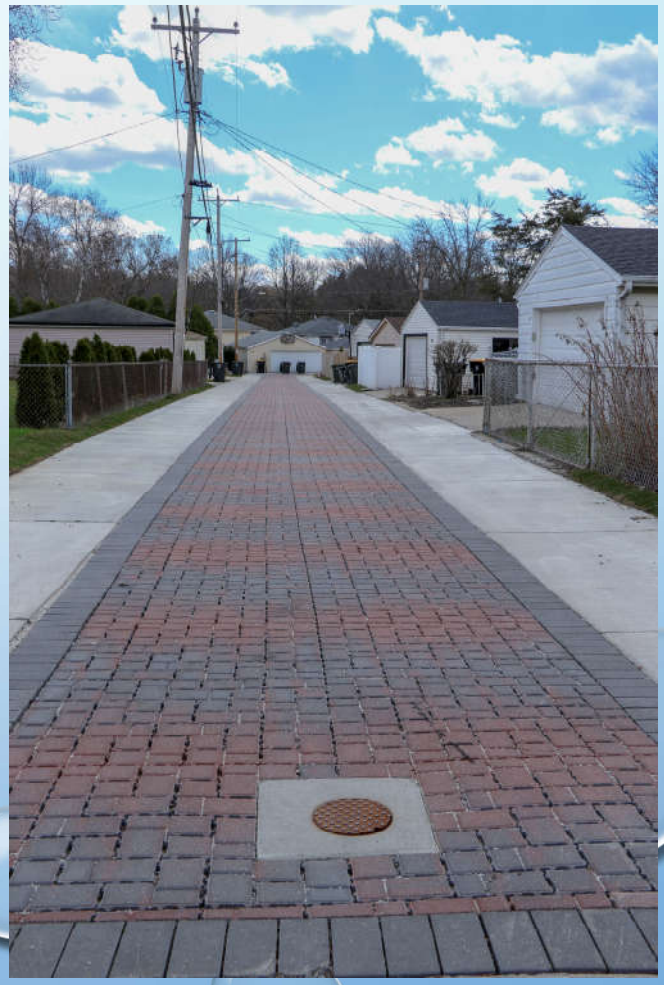
CONSTRUCTION

CONSTRUCTION



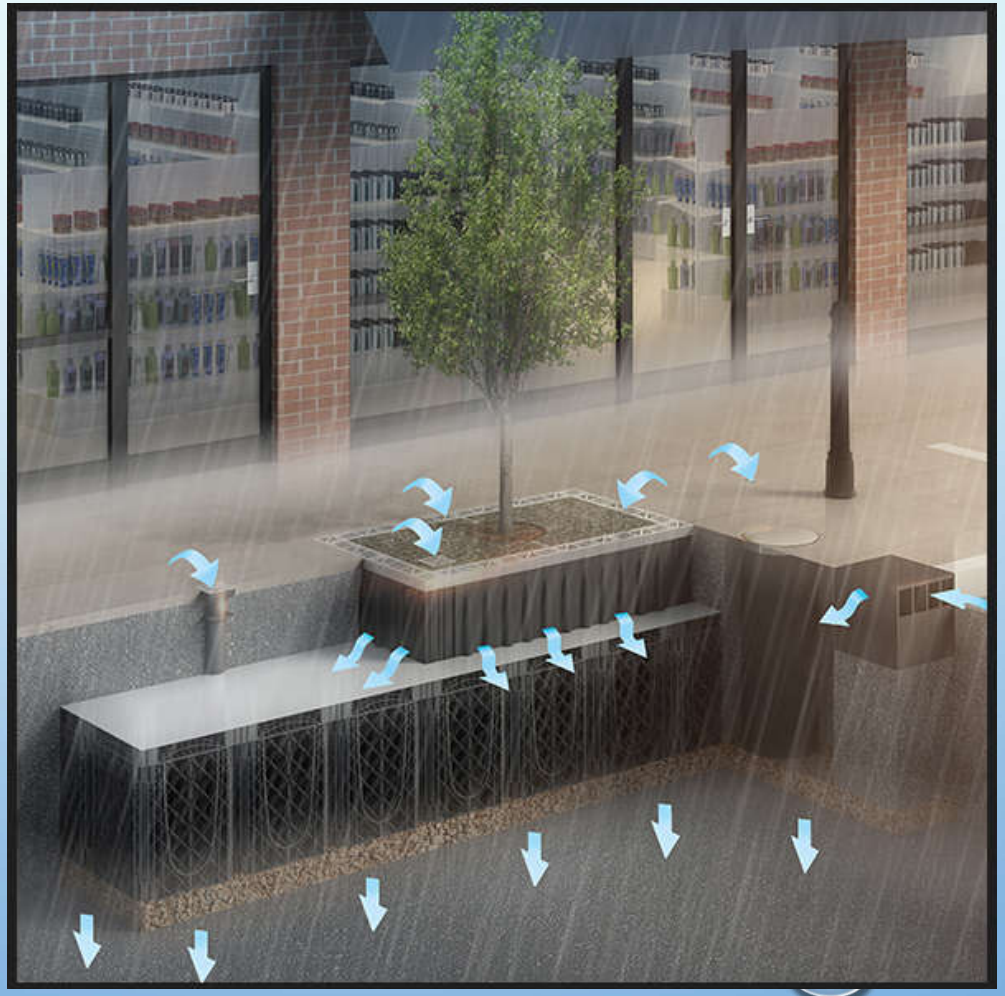
CONSTRUCTION

CONSTRUCTION



CONTINUED COMMITMENT

- THE CITY IS COMMITTED TO ADDITIONAL GREEN INFRASTRUCTURE IN OUR 5 YEAR CAPITAL IMPROVEMENT PLAN
- NORTH AVE
- GREEN ALLEYS
- 116TH ST PARK




QUESTIONS??

Summary of 2023 Outfall Testing Results

Outfalls Tested:	49
Flow Present:	26
No Flow Present:	23

Testing Variable	Limit/Range	Range of Samples	# Samples above limit	Percentage above limit
Copper	1 mg/L	0.00-0.95	1	2.04%
Chlorine	0.2 mg/L	0.00-0.02	3	6.12%
Ammonia	19 mg/L	0.00-1.0	3	6.12%
Detergent	0.25 mg/L	0.00-0.5	6	12.24%
pH	6.00-9.00	7.00-7.00	0	0.00%

City of Wauwatosa
2023 Outfall Testing

Structure ID:	Todays Date:	Investigator:	Rainfall Last 24HRS (IN):	Rainfall Last 72HRS (IN):	Submerged with Water:	Submerged with Sediment:	Flow Present:	Flow Description:	Temperature (F):	pH:	Copper (mg/l):	Chlorine (mg/l):	Ammonia (mg/l):	Color:	Detergent (ppm):	Flow Color:	Color Severity:	Surface Cover:	Flow Odor:	Debris Around Outfall:	Turbidity:	Debris in Pipe:	Vegetation:	Outfall Damage:
ST10-091	10/18/2023 15:39	DAVID GIL	0	0	PARTIALLY	NO	YES	MODERATE	59.3	8	0	-0.02	6	12	0.25	GRAY	CLEARLY VISIBLE IN BOTTLE	FOAM	NONE	NONE	SLIGHTLY CLOUDY	NONE	NONE	NONE
ST11-009	10/18/2023 17:09	DAVID GIL	0	0	NO	NO	YES	LOW	55.4	7	0.78	-0.02	0.5	165	0.25	CLEAR	FAINT COLORS IN BOTTLE	NONE	SULFIDE	NONE	CLEAR	NONE	NORMAL	NONE
ST12-010	11/13/2023 13:32	DAVID GIL	0	0	NO	NO	YES	LOW	50.8	7	0.68	0.03	0	50	0.25	CLEAR	CLEARLY VISIBLE IN BOTTLE	NONE	NONE	NONE	CLEAR	NONE	NONE	NONE
ST13-010	10/24/2023 17:03	DAVID GIL	0	0	NO	NO	YES	LOW	57.4	8	0.65	-0.02	0.5	74	0.25	CLEAR	CLEARLY VISIBLE IN BOTTLE	NONE	NONE	OTHER	CLEAR	OTHER	EXCESS GROWTH	CORROSION
ST14-010	10/18/2023 14:06	DAVID GIL	0	0	NO	NO	YES	LOW	59.5	7	0.58	-0.02	3	87	0.25	CLEAR	FAINT COLORS IN BOTTLE	NONE	NONE	NONE	CLEAR	NONE	NONE	CHIPPING
ST14-031	11/15/2023 20:16	DAVID GIL	0	0	NO	NO	NO													NONE		NONE	NORMAL	OFFSET JOINTS
ST14-049	10/17/2023 17:54	DAVID GIL	0	0	NO	NO	YES	MODERATE	58.7	7	0.5	-0.04	0.5	28	0.25	CLEAR	CLEARLY VISIBLE IN OUTFALL FLOW	NONE	NONE	NONE	CLEAR	NONE	NONE	
ST14-071	11/15/2023 18:31	DAVID GIL	0	0	NO	NO	NO	INTERMITTENT												NONE		NONE	NONE	NONE
ST14-073	10/24/2023 13:58	DAVID GIL	0	0	NO	NO	YES	MODERATE	55.8	7	0.67	-0.01	3	89	0.25	CLEAR	FAINT COLORS IN BOTTLE	NONE	NONE	NONE	CLEAR	NONE	NONE	OFFSET JOINTS
ST15-009	11/14/2023 20:07	DAVID GIL	0	0	NO	NO	YES	LOW	50.8	7	0.36	0	0.5	64	0.75	CLEAR	FAINT COLORS IN BOTTLE	NONE	NONE	NONE	CLEAR	NONE	NORMAL	OFFSET JOINTS
ST16-001	11/3/2023 14:49	DAVID GIL	0	0	NO	NO	NO	INTERMITTENT												NONE		NONE	NONE	NONE
ST16-063	10/24/2023 18:56	DAVID GIL	0	0	NO	NO	YES	LOW	58.4	7	0.73	0	0.5	43	0.25	CLEAR	CLEARLY VISIBLE IN BOTTLE	NONE	NONE	NONE	CLEAR	NONE	NONE	NONE
ST16-122	11/3/2023 15:32	DAVID GIL	0	0	NO	NO	NO	INTERMITTENT												NONE		NONE	NONE	CHIPPING
ST17-048	11/3/2023 16:29	DAVID GIL	0	0	NO	NO	YES	MODERATE	49.1	7	0.8	0	0.5	58	0.5	CLEAR	FAINT COLORS IN BOTTLE	NONE	NONE	NONE	CLEAR	NONE	NONE	CHIPPING
ST18-010	11/15/2023 19:04	DAVID GIL	0	0	NO	NO	NO													NONE		NONE	NORMAL	CORROSION
ST18-051	11/15/2023 18:32	DAVID GIL	0	0	NO	NO	NO													NONE		NONE	NONE	NONE
ST18-059	10/24/2023 15:32	DAVID GIL	0	0	NO	NO	YES	LOW	60.3	7	0.72	0.01	0	41	0.5	CLEAR		NONE	NONE	NONE	CLEAR	NONE	NONE	NONE
ST18-061	11/15/2023 19:45	DAVID GIL	0	0	NO	FULLY	NO													OTHER		OTHER	EXCESS GROWTH	
ST19-111	10/17/2023 15:27	DAVID GIL	0	0						7	0.37	0	0	2	0.25	CLEAR	CLEARLY VISIBLE IN BOTTLE	NONE	NONE	NONE	CLEAR	NONE	NONE	SPALLING
ST2-001	11/13/2023 20:52	DAVID GIL	0	0	PARTIALLY	NO	NO	INTERMITTENT												NONE		NONE	NONE	NONE
ST26-010	11/15/2023 14:40	DAVID GIL	0	0	NO	NO	YES	MODERATE	49.5	7	0.46	0	0.5	24	0.5	CLEAR	CLEARLY VISIBLE IN BOTTLE	NONE	NONE	NONE	CLEAR	NONE	NONE	NONE
ST27-010	10/17/2023 13:47	DAVID GIL	0	0	PARTIALLY	PARTIALLY	YES	LOW	50.2	7	0.37	0.04	0.05	117	0.75	CLEAR	CLEARLY VISIBLE IN BOTTLE	NONE	NONE	OTHER	CLEAR	SEDIMENT	EXCESS GROWTH	NONE
ST28-001	11/3/2023 17:22	DAVID GIL	0	0	PARTIALLY	NO	NO	INTERMITTENT												NONE		NONE	NONE	NONE
ST29-008	11/15/2023 15:40	DAVID GIL	0	0	PARTIALLY	NO	NO	INTERMITTENT												NONE		SEDIMENT	NONE	NONE
ST3-010	11/13/2023 21:09	DAVID GIL	0	0	FULLY	FULLY	NO													OTHER		OTHER	EXCESS GROWTH	
ST32-015	11/17/2023 16:13	DAVID GIL	0	0	NO	NO	YES	MODERATE	53.5	7	0.49	0	0.5	45	0.75	CLEAR	CLEARLY VISIBLE IN BOTTLE	NONE	NONE	NONE	CLEAR	NONE	NONE	NONE
ST33-010	11/17/2023 18:13	DAVID GIL	0	0	NO	NO	YES	MODERATE	54.5	6	0.7	0	0.5	28	0.75	CLEAR	FAINT COLORS IN BOTTLE	NONE	NONE	NONE	CLEAR	NONE	NONE	OFFSET JOINTS
ST34-021	11/16/2023 15:04	DAVID GIL	0	0	PARTIALLY	NO	YES	LOW	49.4	6	0.61	0.01	0.5	73	0.5	CLEAR	CLEARLY VISIBLE IN BOTTLE	NONE	NONE	NONE	CLEAR	NONE	NONE	NONE
ST34-300	11/16/2023 15:03	DAVID GIL	0	0	PARTIALLY	NO	NO	INTERMITTENT										NONE	NONE			NONE	NORMAL	NONE
ST36-001	11/13/2023 20:33	DAVID GIL	0	0	PARTIALLY	NO	NO	INTERMITTENT										NONE		NONE		NONE	NONE	
ST36-109	11/13/2023 19:40	DAVID GIL	0	0	NO	NO	YES	MODERATE	51.7	7	0.66	-0.02	0.5	53	0.5	CLEAR	CLEARLY VISIBLE IN BOTTLE	NONE	NONE	NONE	CLEAR	NONE	NONE	
ST37-001	11/17/2023 19:34	DAVID GIL	0	0	PARTIALLY	NO	NO	INTERMITTENT								GREEN	CLEARLY VISIBLE IN OUTFALL FLOW	NONE	NONE	NONE	SLIGHTLY CLOUDY	NONE	NONE	NONE
ST38-010	11/17/2023 20:49	DAVID GIL	0	0	NO	NO	YES	LOW	51.1	8	0.75	0	0.5	19	0.75	CLEAR	CLEARLY VISIBLE IN OUTFALL FLOW	GASOLINE	NONE	NONE	CLEAR	NONE	NORMAL	NONE
ST38-024	11/16/2023 18:59	DAVID GIL	0	0	PARTIALLY	NO	YES	LOW	53.6	7	0.8	0	1	80	0.5	CLEAR	CLEARLY VISIBLE IN BOTTLE	NONE	NONE	OTHER	CLEAR	NONE	EXCESS GROWTH	NONE
ST39-011	11/17/2023 15:21	DAVID GIL	0	0	PARTIALLY	NO	YES	LOW	51.4	8	0.92	0	0	52	0.25	CLEAR	CLEARLY VISIBLE IN BOTTLE	NONE	NONE	NONE	SLIGHTLY CLOUDY	NONE	NORMAL	NONE
ST40-116	11/17/2023 14:36	DAVID GIL	0	0	NO	NO	NO	INTERMITTENT												NONE		TRASH	NORMAL	NONE

GREEN ALLEY MAINTENANCE

The key maintenance objective for permeable pavement systems is to prevent void spaces from becoming clogged or requiring sediment removal. Infiltration issues can be identified when runoff ponds on the surface or is no longer infiltrating into the surface rapidly. Regular vacuum cleaning of the paver joints will help prevent clogging and extend the longevity of the system. Over the course of use, the paver aggregate may also need replenishment for proper use.

1. Preventative Maintenance: Generally recommended at least two times per year, in the spring and fall, using appropriate equipment. Regenerative air vacuums are effective if regular preventive maintenance is performed. Pure air vacuums are most effective for regular maintenance, but are more expensive to operate. Two times per year is recommended for typical applications
2. Restorative Maintenance: For heavily clogged areas where water ponds longer than 30 minutes after a storm, extra effort, such as pressure washing and/or use of higher end (pure air vacuum) equipment, may be required. Restorative maintenance usually first relies upon an initial vacuum sweeper to remove as much surface debris as possible.
3. Visual inspection for porous pavements will be beneficial after rainfall to observe if clogging is occurring. The appropriate inspection frequency will be site specific and may adjust with the age of the systems. The City should regularly observe porous pavement areas that receive runoff from adjacent areas as these areas are more prone to clogging.

Vacuum Sweeper Technologies

1. "Pure Air" Vacuum. Pure air vacuums are the most effective at loosening and removing sediment from the openings in porous pavement. Fine particles are vacuumed out of the pavement matrix in a concentrated vacuum column and are collected in the sweeper hopper.
2. Regenerative Air. Regenerative air sweepers contain a blower system that generates a high velocity air column, forcing it against the pavement at an angle, and creating a peeling or knifing effect. The high volume air blast loosens the debris from the pavement surface, then transports it across the width of the sweeping head and lifts it into the containment hopper via a suction tube. Regenerative air sweepers are generally not recommended for heavily clogged areas because the technology may not be effective at all.
3. Both pure air vacuum and regenerative air systems need to be used carefully on paver block systems so as to prevent aggregate removal between pavers if required by the paver specification. Alternatively, some of the aggregate between the pavers can be sacrificed and replaced periodically to maintain a highly permeable system.
4. Some paver types recommend compressed air cleaning between pavers instead of vacuuming.
5. The term sweeper is a partial misnomer, since the vacuum function is not actually providing mechanical sweeping; however, sweeper is the common noun used to describe the unit.
6. Using the existing Elgin Pelican fleet is not recommended for porous pavement maintenance, since they rely upon mechanical sweeping

OPERATION AND MAINTENANCE CONSIDERATIONS

Regular maintenance and key maintenance considerations and procedures consist of the following:

Documentation

A log must be kept with the following information:

· Date, time and alley location of inspection

- Work performed: vacuumed, swept, debris removal, weed control, replacement of infill

Inspection

- Performance inspections, general observations (spalling, cracking, missing paver blocks, etc.) pavement condition and verification of infiltration should be performed at least annually, either during a rain event or after a major storm (within 48 hours): to ensure that water infiltrates into the surface.
- Check for standing water at or below the surface of the permeable pavers.
- Check surface stability. Repair subgrade if pavers are loose or wobbly.
- If ponding or poor infiltration persists, remove and replace the subgrade drainage
- Fill joints between pavers with specified granular material.

Debris removal

- Keep surfaces clean and free of trash, debris, and sediment accumulation.
- Debris should be removed routinely as a source control measure.
- Replacement of the Pavement or Infill Material If surface is completely clogged and rendering a minimal surface infiltration rate, restoration of surface infiltration can be achieved by removing the first ½ to 1 inch of soiled aggregate infill

Sweeping

- Sweep surfaces regularly
- Sweeping with a regenerative air sweeper (not a broom sweeper) should be performed approximately two times per year.

Vacuuming

- Sweeping with a vacuum sweeper has shown to be effective for removing solids and debris from the void space of permeable pavement.

Weed control

- Do control weeds when they are small – if killed when large, dead weed biomass can clog pavement
- Weed control applications should be used on any weeds that grow in permeable pavement.
- Weeds should not be pulled, as doing so can damage the fill media and pull up pavers.
- Grass growth is a sign of Sediment Accumulation

Snow removal

- Plowing is a recommended snow removal process.
- Conventional liquid treatments (deicers) will not stay at the surface of a permeable pavement as needed to be effective.
- Sand should never be applied to a permeable pavement, as it will reduce infiltration.

Construction Site Pollutant Control

Supplemental Information

There were 14 active construction sites with a disturbance of 1 acre or more in the City of Wauwatosa during the 2023 permit year. City Engineering Department staff completed 56 erosion control inspections at these sites during the 2023 permit year. The erosion control inspections were conducted on all active construction sites at a minimum of every 45 days as required.

Attached is the inspection tracking list of all active erosion control permits in the 2023 permit year, as well as an example of an inspection in which a written warning and notice of violation was required. The inspection form, photos, and email correspondence between the City and the contractor and owner has been included for reference.

2023 Erosion Control Inspection Tracking - Active Construction Greater than 1 Acre

Site Plan Permit	Permit Number	Permit Type	Address	Contractor Name	Project Name	Initial Inspection	Active Construction Inspection Frequency - every 45 days (60 days if inactive)							Final Inspection
						Date	Date	Date	Date	Date	Date	Date	Date	Date
21-15	ER21-3179	EROSION	8701 W Watertown Plank Rd	Boldt	Children's Hospital NW Tower - Orange Package 3	9/29/2021	3/7/2023	4/18/2023	6/7/2023	7/28/2023	-			7/28/2023
21-08	ER22-1582	EROSION	9480 W Watertown Plank Rd	CG Schmidt	Irgen's UWM Innovation Campus	5/16/2021	3/7/2023	4/18/2023	6/7/2023	-	-	-	-	6/7/2023
21-07	ER21-4042	EROSION	2929 N Mayfair Rd	Steven's Construction	Campbell's Multi-Family	5/16/2021	3/7/2023	4/18/2023	6/7/2023	7/28/2023	-	-	-	7/28/2023
21-27	ER22-1545	EROSION	6442 River Parkway	MSP Housing	River Parkway Phase 2	6/23/2022	3/7/2023	4/18/2023	6/7/2023	-	-	-	-	6/7/2023
-		EROSION	DPW/DOT Fill Site…		DPW Yard Fill Site for WisDOT Zoo I/C	12/19/2022	3/7/2023	-	-	-	10/9/2023	11/13/2023	12/26/2023	
22-02	BC2022-0149	EROSION	1501 N Mayfair Rd	Briohn Building Corp.	Uptown Quick Lane Service Center	12/19/2022	3/7/2023	4/18/2023	6/7/2023	7/28/2023	10/9/2023			10/9/2023
-	BC2022-0225 and BC2022-0224	EROSION	9455 Watertown Plank Rd	Payne & Dolan	MRMC West-Pavement Pulverizing and Stockpiling	12/19/2022	3/7/2023	4/18/2023	6/7/2023	7/28/2023	10/9/2023	11/13/2023	12/26/2023	
19-03	BC2022-0109	EROSION	1401 N Mayfair Rd		Staybridge Suites	4/18/2023		4/18/2023	6/7/2023	7/28/2023	10/9/2023	11/13/2023	12/26/2023	
SP2022-0008	BC2022-0225	EROSION	9250 W Doyne Ave		Froedtert Parking Structure	6/7/2023			6/7/2023	7/28/2023	10/9/2023	11/13/2023	12/26/2023	
SP2022-0009	BC2023-0095	EROSION	2166 N 68th Street	VJS	Washington Elementary Site Improvements	6/7/2023			6/7/2023	7/28/2023	10/9/2023			10/9/2023
SP2023-0005	BC2022-0225	EROSION	MRMC Parking Lot		Parking Lot at WTP & 92nd St	10/9/2023					10/9/2023	11/13/2023	12/26/2023	
SP2023-0018	BC2022-0235	EROSION	MCW Cancer Research Bldg			10/9/2023					10/9/2023	11/13/2023	12/26/2023	
SP2023-0003	BC2023-0108	EROSION	MSP Development (Mayfair Collection)		3325 and 3375 Foundry Way	10/9/2023					10/9/2023	11/13/2023	12/26/2023	
SP2023-0004	BC2023-0281	EROSION	Irgens - Research Drive		850 and 800 N Mayfair Rd	10/9/2023					10/9/2023	11/13/2023	12/26/2023	
SP2023-0027	BC2023-0272	EROSION	4545 N 92nd St.		Luther Manor									
SP2023-0008		EROSION	3029 N 112th St.		Jilly's Car Wash									
SP2023-0025		EROSION	3300 124th St.		Phoenix Loading Docks									
SP2023-0040		EROSION	10201 W Watertown Plank Rd.		Vel R Phillip's Juvenile Justice Center									

Table 2: Construction Site Inspection Frequency

Site	Inspection Frequency
(1) All sites one acre or more in size	* New projects shall be inspected within the first two weeks of commencement of land disturbing activity * All active sites shall be inspected at least once every 45 days * All inactive sites shall be inspected at least once every 60 days
(2) Follow up inspection	* Follow up inspections are required within 7 days of any sediment discharge or inadequate control measure, unless corrections were made and observed by the inspector during initial inspection or corrections
(3) Final inspection	* Confirm that all graded areas have reached final stabilization and that all temporary control measures are removed, and permanent storm

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

CONSTRUCTION SITE INSPECTION REPORT

Form 3400-187 (rev. 9/04)

Notice: Use of this specific form is voluntary, but the information contained on this form must be collected and kept by the permittee under s. NR 216.48(4), Wis. Adm. Code, for a construction site covered under the General WPDES Construction Site Storm Water Discharge Permit, Permit No. WI-0067831-2. This form is provided for the convenience of the permittee to meet the requirements of s. NR 216.48(4), Wis. Adm. Code. Multiple copies of this form may be made to compile the inspection report.

Inspections of implemented erosion and sediment control best management practices must be performed weekly and within 24 hours after a precipitation event 0.5 inches or greater which results in runoff.

Weekly written reports of all inspections conducted by or for the permittee must be maintained throughout the period of general permit coverage.

The information maintained in accordance with s. NR 216.48 (4) must be submitted to the Department upon request.

Name of Permittee: Tracy Weber	
Construction Site Name (Project): Staybridge Suites	**Construction Site ID No.:**
Location: 1401 N Mayfair Rd	**County:** Milwaukee
Contractor: Megnum Excavating	**Field Office Phone:**

Note: Weekly inspection reports, along with erosion control and stormwater management plans, are required to be maintained on site and made available upon request.

Date of inspection (mm/dd/yy): 10/09/23

Time of inspection: **Start:** 09:30 a.m.

End: 10:15 a.m.

Type of inspection: ☐ **Weekly** ☐ **Precipitation Event** ☑ **Other (specify)** City of Wauwatosa Erosion Control Inspection

Name(s) of individual(s) performing inspection: Nathan Peksa

Weather: 50 degrees and sunny

Description of present phase of construction: Site grading underway

Modifications Required	Yes	No	Not Applicable	**Comments/Recommendations** about the overall effectiveness of the erosion and sediment control measures. **Note**: For each item checked "Yes", complete the follow-up information on page 2.
Ditch Checks	☐	☐	☑	
Erosion Control Plan	☐	☑	☐	
Erosion Mat	☐	☑	☐	
Grading Practices	☐	☑	☐	
Inlet Protection	☐	☑	☐	
Mulch	☐	☑	☐	
Offsite Sediment	☐	☑	☐	
Permanent Seeding	☐	☑	☐	
Schedule / Phasing	☐	☑	☐	
Silt Fence	☑	☐	☐	Silt fence along eastern property line has multiple areas that are dysfunctional
Silt Screen	☐	☑	☐	
Sod	☐	☑	☐	
Stabilized Outlet	☐	☐	☑	
Temp. Diversion Channel	☐	☐	☑	
Temp. Settling Basin	☐	☐	☑	
Temporary Seeding	☐	☑	☐	
Tracking Pads	☑	☐	☐	Tracking pad must be replaced and fix per tech standard.
Turbidity Barrier	☐	☐	☑	
Other (specify) see below	☐	☐	☑	

Other Modifications Required:

Name of Permittee: Tracy Weber	
Construction Site Name (Project): Staybridge Suites	**Construction Site ID No.:**

Use the space below for detailed follow-up action items.

Exact place of erosion/sediment control inspected	**Type of erosion/sediment control and its observed condition**	**Description of any necessary maintenance or repair to erosion/sediment control, including anticipated date of completion**
*Silt fence on Eastern side of site.	*Areas where current silt fence is not touching the ground or is not functioning as it should because the ground has shifted.	*Push soil spoils away from silt fence and replace damaged areas of geotextile fabric and wooden stakes. Stabilize surrounding area to avoid future problems with silt fence falling or not staying in place.
*Tracking pad at construction entrance	*Tracking pad has exposed areas of soil where stone has been displaced.	*Replace stone with new stone and grade to ensure entire driving surface is up to tech standard.

Additional Comments:

RESET

Site Inspection Photos on 10-09-23

Site Inspection Photo on 11-13-23

Jessica Henderson

From: Jessica Henderson
Sent: Tuesday, November 28, 2023 5:29 PM
To: 'jasonsingh@aol.com'; 'jaychiefoil@yahoo.com'; 'Tracy Weber'; 'tweb7256@icloud.com'
Cc: Nate Peksa; Mike Steiner; Jennifer Stilling; Stefanie Escobedo; Mary Boettcher
Subject: RE: [External] Re: 1401 N Mayfair - Staybridge Suites - EC ENFORCEMENT ACTION - DAILY FINES

Hello,
The City has issued a daily fine of $100 for the lack of responsiveness to the sediment tracking at 1401 N Mayfair Road as outlined in our previous communications. A violation letter/invoice will be sent to you in the mail for payment. Daily fines of $100 will be issued per City Code 24.13.030.K.6 until documentation has been provided that the roadway has been properly swept and the tracking pad has been installed in compliance with Wisconsin Department of Natural Resources Technical Standard 1057.

Please address this issue promptly to bring this site into compliance.

Thank you,

Jessica Henderson, PE
Civil Engineer
City of Wauwatosa
7725 W. North Avenue
Wauwatosa, WI 53213
P 414.479.8978
jhenderson@wauwatosa.net

Wauwatosa Self Serve Portal: Online Permitting

From: Jessica Henderson
Sent: Tuesday, November 21, 2023 10:24 AM
To: 'jasonsingh@aol.com' <jasonsingh@aol.com>; jaychiefoil@yahoo.com; Tracy Weber <tw4960@yahoo.com>; tweb7256@icloud.com
Cc: Nate Peksa <npeksa@wauwatosa.net>; Mike Steiner <msteiner@wauwatosa.net>
Subject: RE: [External] Re: 1401 N Mayfair - Staybridge Suites - EC Inspection 10-09-23 - ENFORCEMENT ACTION WARNING

Thank you Jay for the response. Please provide an update on the plan of action for the tracking pad repair/replacement.

Jessica Henderson, PE
Civil Engineer
City of Wauwatosa
7725 W. North Avenue
Wauwatosa, WI 53213
P 414.479.8978

jhenderson@wauwatosa.net

Wauwatosa Self Serve Portal: Online Permitting

From: jasonsingh@aol.com <jasonsingh@aol.com>
Sent: Monday, November 20, 2023 9:19 PM
To: jaychiefoil@yahoo.com; Tracy Weber <tw4960@yahoo.com>; tweb7256@icloud.com; Jessica Henderson <jhenderson@wauwatosa.net>
Cc: Nate Peksa <npeksa@wauwatosa.net>; Mike Steiner <msteiner@wauwatosa.net>
Subject: [External] Re: 1401 N Mayfair - Staybridge Suites - EC Inspection 10-09-23 - ENFORCEMENT ACTION WARNING

My guys swept the road this afternoon. I will send you pics tomorrow. Thanks. Jay 414-588-0554

On Monday, November 20, 2023 at 02:16:25 PM CST, Jessica Henderson <jhenderson@wauwatosa.net> wrote:

Hi Mr Singh,

Thank you for your team's responsiveness to the repair of the silt fence issue on the Staybridge Suites property. However, we are still awaiting a response on the course of action for the street sweeping and repair/replacement of the tracking pad. This hadn't been addressed as of a site visit earlier this morning. Your contractor has asked for you to respond on this.

Please confirm as soon as possible to avoid us having to start issuing daily fines. We will also need pictures sent of the completed work for our records.

Thank you,

Jessica Henderson, PE

Civil Engineer

City of Wauwatosa

7725 W. North Avenue

Wauwatosa, WI 53213

P 414.479.8978

jhenderson@wauwatosa.net

Wauwatosa Self Serve Portal: Online Permitting

From: Jessica Henderson
Sent: Friday, November 17, 2023 11:35 AM
To: 'jaychiefoil@yahoo.com' <jaychiefoil@yahoo.com>; 'jasonsingh@aol.com' <jasonsingh@aol.com>; 'TW4960@yahoo.com' <TW4960@yahoo.com>; 'tweb7256@icloud.com' <tweb7256@icloud.com>
Cc: Jennifer Stilling <jstilling@wauwatosa.net>; Mike Steiner <msteiner@wauwatosa.net>; Nate Peksa <npeksa@wauwatosa.net>; Stefanie Escobedo <sescobedo@wauwatosa.net>
Subject: RE: 1401 N Mayfair - Staybridge Suites - EC Inspection 10-09-23 - ENFORCEMENT ACTION WARNING

Hello,

Thank you for sending the attached images showing repair of the silt fence Tracy. Can you please confirm the plan of action for the tracking pad repair?

The City is also still awaiting confirmation of the construction schedule over the winter, and if there will be any periods of inactivity on the site for longer than 14 days.

Thank you,

Jessica Henderson, PE

Civil Engineer

City of Wauwatosa

7725 W. North Avenue

Wauwatosa, WI 53213

P 414.479.8978

jhenderson@wauwatosa.net

Wauwatosa Self Serve Portal: Online Permitting

ONLINE LICENSES AND PERMITS
No more paper. Submit plans from wherever you are.
Access updates and easily communicate with staff.

From: Jessica Henderson
Sent: Thursday, November 16, 2023 1:05 PM
To: 'jaychiefoil@yahoo.com' <jaychiefoil@yahoo.com>; jasonsingh@aol.com; 'TW4960@yahoo.com' <TW4960@yahoo.com>; 'tweb7256@icloud.com' <tweb7256@icloud.com>
Cc: Jennifer Stilling <jstilling@wauwatosa.net>; Mike Steiner <msteiner@wauwatosa.net>; Nate Peksa <npeksa@wauwatosa.net>; Stefanie Escobedo <sescobedo@wauwatosa.net>
Subject: 1401 N Mayfair - Staybridge Suites - EC Inspection 10-09-23 - ENFORCEMENT ACTION WARNING

Hello,

This is a second follow-up email to the erosion control issues identified in the City's 10-9-23 inspection (see email chain below). We have yet to receive any kind of response and will be moving forward with enforcement action if the site is not in compliance by the end of the week. If no corrective action has been completed by Monday 11-20-23, we will start issuing daily fines of $100 until the proper corrective action has been completed, per City Code Section 24.13.030.K.6.

In addition to the silt fence issue that has been previously communicated, the City has conducted another erosion control inspection of this site on 11-13-23, as required by our WDNR MS4 permit inspection cycle of at least every 45 days. It has been identified that sediment from the construction site is tracking onto the Mayfair frontage road due to an inadequate tracking pad. See attached inspection form. The following must also be done by Monday or daily fines will be issued:

- The sediment currently on the Mayfair frontage road must be removed by street sweeping. Flushing may not be used. Sediment must be returned to the site or disposed of properly. See link to WDNR technical standard 1057 below for more information about sediment removal.
- The tracking pad must also be refreshed and stone added such that it meets the minimum width, length, and stone depth as required by WDNR technical standard 1057.

Link to DNR technical standard 1057: https://dnr.wisconsin.gov/sites/default/files/topic/Stormwater/1057TrackoutControlPractices.pdf

Please respond as soon as possible with a plan of action and when we can expect these corrections to be completed..

Thank you,

Jessica Henderson, PE

Civil Engineer

City of Wauwatosa

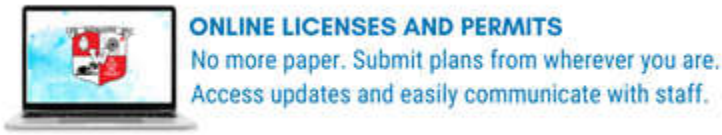
7725 W. North Avenue

Wauwatosa, WI 53213

P 414.479.8978

jhenderson@wauwatosa.net

Wauwatosa Self Serve Portal: Online Permitting



From: Nate Peksa <npeksa@wauwatosa.net>
Sent: Monday, November 6, 2023 2:59 PM
To: TW4960@YAHOO.COM; jasonsingh@aol.com; jaychiefoil@yahoo.com; tweb7256@icloud.com
Cc: Jessica Henderson <jhenderson@wauwatosa.net>; Jennifer Stilling <jstilling@wauwatosa.net>
Subject: RE: 1401 N Mayfair - Staybridge Suites - Erosion Control Inspection 10-09-23

Hello,

On 10/09/2023 the City completed an erosion control inspection of the 1401 N Mayfair Staybridge Suites site. In the absence of a response from your team on our concerns, the City is inquiring to know the status of the issues presented in the 10/12/2023 email and if they have been addressed? Please send pictures of completed work for our records.

Additionally, through conversations with the building department, we have heard that there may be a potential pause in construction over the winter season. Please confirm the construction schedule over the winter and if there will be any periods of inactivity on the site for longer than 14 days. This information is being requested as a reminder that per Wisconsin State Legislature NR 151.105(6)(d), as well as Erosion Control Note #12 in the City Approved Civil Plan Set, that temporary stabilization of disturbed soils is required if the site will be inactive for a period of over 14 days.

Let me know if there are any further questions.

Nate

Nathan Peksa

Civil Engineer

City of Wauwatosa

7725 W. North Avenue

Wauwatosa, WI 53213

262.202.1632

npeksa@wauwatosa.net

From: Nate Peksa
Sent: Thursday, October 12, 2023 9:05 AM
To: 'TW4960@YAHOO.COM' <TW4960@YAHOO.COM>; 'jasonsingh@aol.com' <jasonsingh@aol.com>; 'jaychiefoil@yahoo.com' <jaychiefoil@yahoo.com>
Cc: Jessica Henderson <jhenderson@wauwatosa.net>; Jennifer Stilling <jstilling@wauwatosa.net>
Subject: 1401 N Mayfair - Staybridge Suites - Erosion Control Inspection 10-09-23

Hello Tracy and Jay,

The City completed an Erosion Control inspection of this site on Friday 10/09/23 as required by our WDNR MS4 permit to verify that erosion control measures are all in place and operating as intended. The following issues were found and must be addressed (see attached inspection form):

- Silt fence damaged on East side of site – push soil spoils off of geotextile silt fence and replace damaged areas of geotextile fabric and wooden stakes.

A copy of the inspection form is attached to this email along with a few example pictures of the damaged silt fence. Please be sure to replace all areas of defect on the East side of the site.

Please respond with pictures to verify completion of this work.

Post-Construction Storm Water Management

Supplemental Information

The City's ordinance requires that a Maintenance Agreement be created for all BMP's required for storm water management. The City sends out a letter to all Maintenance Agreement owners to request maintenance and inspection records on an annual basis. See attached letter template sent out in November 2023 and the list of BMP owners this was sent to.

Three additional sites were approved to construct storm water management facilities to meet the City's stormwater requirements in 2023. However, the request letter for maintenance and inspection records is only sent to properties with BMP's that have been fully constructed for at least 1 year.

November 3, 2023

Kevin Heus Director of Buildings and Grounds
Wauwatosa School District
12121 W North Ave
Wauwatosa WI 53226

RE: Stormwater Management Maintenance Agreement - Wauwatosa West Athletic Fields

Dear Kevin Heus:

As the owner of a property with a Stormwater Management Maintenance Agreement, you are required to perform certain maintenance actions to ensure that your Stormwater Best Management Practices (BMP's) continue to function as they were designed. These actions are outlined in your maintenance plan and include such things as monthly visual inspections and the completion of any needed repairs. Our records show a stormwater maintenance agreement for the Wauwatosa West Athletic Fields located at 11400 W. Center Street.

Please submit copies of your inspection reports, as outlined in your maintenance plan by December 29, 2023. It is strongly recommended that you have a qualified, engineering professional complete your annual BMP inspection with your facilities manager. By doing so, your facilities manager can be educated as to what to look for during the monthly inspections. Once the report is completed, please send us an electronic PDF copy via email to npeksa@wauwatosa.net.

If you need a copy of your maintenance plan or agreement, please contact Nate Peksa at 414-831-5549 or npeksa@wauwatosa.net.

Sincerely,

Nate Peksa
Civil Engineer

2023 Private BMP Inspection and Maintenance Record Requests

Parking Permit #	Recorded?	PROJECT NAME	PROJECT ADDRESS	OWNER NAME_1	OWNER NAME_2	OWNER COMPANY	OWNER ADDRESS	CITY	STATE	ZIP	PHONE	Email	BMP(s)
	No	Wisconsin Lutheran College Academic Facility	88TH St. & Wisconsin Avenue	Gary Schmid	Vice President of Finance	Wisc Lutheran College	8800 W Bluemound Rd	Milwaukee	WI	53226	414-443-8590	gary.schmid@wlc.edu	Underground Detention and Dry Retention
	No	Froedtert Memorial Lutheran Hospital	92ND St. & Wisconsin Avenue	Ryan Marks	Vice President	Facility and Planning Development	9200 W Wisconsin Ave	Milwaukee	WI	53226	414-805-3000	ryan.marks@froedtert.com	Sumped CB's(4);Oil/sand interceptor
3-26	No	VNA Hospice	7620 Honey Creek Parkway	Liana M Wayda		Visiting Nurse Assoc of Wisconsin	11333 W National Ave	Milwaukee	WI	53227	(414) 327-2295		Detention Pond (2,798 s.f); Sumped CB's and Diversion Swale
4-02	No	Wisconsin Lutheran College	8800 W. Bluemound Road	Gary Schmid	Vice President of Finance	Wisc Lutheran College	8800 W Bluemound Rd	Milwaukee	WI	53226	414-443-8590	gary.schmid@wlc.edu	
3-05	No	Wisconsin Lutheran College Athletic Fields	10200 Watertown Plank Road	Gary Schmid	Vice President of Finance	Wisc Lutheran College	8800 W Bluemound Rd	Milwaukee	WI	53226	414-443-8590	gary.schmid@wlc.edu	Detention Pond
		Milwaukee Regional Medical Center (MRMC)	95TH St. & Watertown Plank Road	Mark Geronime	Vice President of Operations	MRMC	8700 Watertown Plank Rd (Mail stop 5)	Milwaukee	WI	53226		mgeronime@mrmcffl.org	
10-05	Yes	Bryant & Stratton College	10950 W. Potter Road	Paula Armato		F Street 10950 LLC	1134 N 9th Street, Suite 200	Milwaukee	WI	53233	(262) 348-6986	paula@fstreetgroup.com	CB's (12); Vortsentry Unit and Tricon CB inserts for filtration
7-17	No	Mayfair Medical	2999 N. Mayfair Road	Natalie Brooks	Environmental Compliance Manager	St. Luke's Medical Center	2900 W. Oklahoma Ave.	Milwaukee	WI	53215	(920)-312-2851	natalie.brooks@aah.org	Vortsentry Unit for underground detention
8-12	Yes	Renner Kia Redevelopment (Pick n Save)	1717 N. Mayfair Road	TCB Pick Owner, LLC	Alex Smith	Newport Capital Partners	353 N. Clark Street, Suite 3625	Chicago	IL	60654	(312) 724-7045	alex@newportcapitalptrs.com	Sumped CB's (10), Porous Pavement (2,400 SY), Biofiltration Islands (3)
	No	Learning Gardens at Kradwell School	1220 Dewey Avenue	Natalie Brooks	Environmental Compliance Manager	St. Luke's Medical Center	2900 W. Oklahoma Ave.	Milwaukee	WI	53215	(920)-312-2851	natalie.brooks@aah.org	3 Biofiltration basins: E of school (1,255sf); W of school (539sf); N of hospital - by Alumni House (1,788sf)
10-09	No	Cedar Glen Apartments (Mt. Tosa)	1661 Rivers Bend Lane	Elizabeth Sili	Regional Manager	Horizon Management Services, Inc.	3900 S Prairie Hill Lane	Greenfield	WI	53228	(414) 727-2621	e.sili@horizondbm.com	Det. Pond 1 (2,550 s.f.); Det. Pond 2 (1,400 s.f.); Bioswale (73,082 s.f.)?
12-08	No	Aurora Psych Presidents House	1220 Dewey Avenue	Natalie Brooks	Environmental Compliance Manager	St. Luke's Medical Center	2900 W. Oklahoma Ave.	Milwaukee	WI	53215	(920)-312-2851	natalie.brooks@aah.org	Dry Pond (~3,500sf)
13-11	No	UWM Innovation Park	1225 Discovery Parkway	Andrea Mullins	Innovation Campus Owners Association Inc.	Innovation Campus Owners Association I	1401 Discovery Parkway, Suite 100	Milwaukee	WI	53226	414-443-0700	AMullins@irgens.com	22 biofiltration basin and permeable pavement within ABB parking lot
13-03	No	Mayfair Mall	2500 N. Mayfair Road	Chris Jaeger	Senior General Manager	Mayfair Retail	2500 N Mayfair Road	Wauwatosa	WI	53226	(414) 207-5830	chrisjaeger@bpretail.com	
12-10	No	Mayfair Collection	11500 W. Burleigh Street	Claudette Zoch		HSA Commercial Inc	16955 West Wisconsin Ave	Brookfield	WI	53005	(262) 938-0911	czoch@hsacommercial.com	2 underground detention vaults, porous asphalt, sumped CB's.
14-04	No	Meijer-277	11123 W. Burleigh Street	Dan Gezon		Miejer	2350 3 Mile Rd NW	Grand Rapids	MI	49544	(616) 735-8142	Daniel.Gezon@meijer.com	StormTrap (or equal), Water quality swale, sumped CB's
14-03	No	Apartments at 1215 (The Reef)	1215 N. 62ND Street	Wayne Wiertzema		Wangard Investment	1200 N Mayfair Rd Suite 220	Milwaukee	WI	53202	(414) 777-1200	wwiertzema@wangard.com	
14-08	No	La Z Boy	10830 W. Burleigh Street	Sheri Carlisle		La-Z-Boy Retail	10830 W Burleigh St	Wauwatosa	WI	53222	(732) 966-2293	sheric.amf@outlook.com	Underground Detention; Sumped CB's; Grass Swales
14-09	No	Whitman Athletic Fields	11100 W. Center Street	Kevin Heus	Director of Buildings and Grounds	Wauwatosa School District	12121 W North Ave	Wauwatosa	WI	53226	(414) 773-1053	heuske@wauwatosa.k12.wi.us	
14-21	Yes	Russ Darrow Kia	1901 N. Mayfair Road	George Salomon	Compliance Manager	Russ Darrow Wauwatosa Real Estate LLC	W133 N8569 Executive Pkwy	Menomonee Falls	WI	53051	847-612-6214	georgesalomon@ymail.com	Underground Detention
15-01	No	UW Credit Union	6510 W. State Street	Todd Peterson	Building & Grounds Manager	UW Credit Union	3500 University Ave	Madison	WI	53507	(608) 206-5033	tpeterson@uwcu.org	
15-06	No	Wauwatosa West Athletic Fields	11400 W. Center Street	Kevin Heus	Director of Buildings and Grounds	Wauwatosa School District	12121 W North Ave	Wauwatosa	WI	53226	(414) 773-1053	heuske@wauwatosa.k12.wi.us	Outlet Controls Structure for turf drainage system
15-07	Yes	2100 Mayfair	2100 N. Mayfair Road	Sheila Baker	Hoffman Management C/O The 2100, LLC	The 2100, LLC	150 N Sunny Slope Rd #200	Brookfield	WI	53005	(262) 785-4500	jczarnecki@commercialunited.com	Sumped CB's
15-10	Yes	Tosa Center	1155 N. Mayfair Road	Current Owner		Gateway Tosa HC LLC	300 N. Lake Ave, Suite 620	Pasadena	CA	91101	(414) 443-2598	mhunefeld@irgens.com	Biofiltration basin; Sumped CB's
15-15	No	The Reserve at Mayfair	11011 W. North Avenue	Andrew Schalk	Maintenance Director	Mayfair Property Partners LLC, C/O Atlantic Realty Partners	3500 Lenox Rd Suite 1250	Atlanta	GA	30326	(404) 591-2491	Raaronson@goarp.com	Sumped CB's
15-20	No	Stamp Factory	11415 W. Burleigh Street	Claudette Zoch		HSA Commercial Inc	16955 West Wisconsin Ave	Brookfield	WI	53005	(262) 938-0911	czoch@hsacommercial.com	Biofiltration islands (6), biofiltration basin, dry pond, underground detention
15-22	Yes	St. Camillus	10101 W. Wisconsin Avenue	Dave Sinkula	Director of Plant Operations	St Camillus	10101 W Wisconsin Ave	Wauwatosa	WI	53226	(414) 259-3751	dsinkula@stcam.com	Bioretention Basin
16-05	Yes	Synergy at the District (District Lofts)	11220 and 11240 District Drive	Allison McGuirk	Director of Asset Management	Open Path Investments	999 18th Street, Suite 1120s	Denver	CO	80202	(510) 331-2275	Allison@openpathinvestments.com	Underground detention, underground WQ unit, sumped CB's
16-06	Yes	Wauwatosa West Softball Field	11400 W. Center Street	Kevin Heus	Director of Buildings and Grounds	Wauwatosa School District	12121 W North Ave	Wauwatosa	WI	53226	414-773-1053	heuske@wauwatosa.k12.wi.us	Underground detention, sumped CB's
16-19	Yes	MRMC Permanent Plant Upgrades	9250 Watertown Plank Road	Mark Geronime	Vice President of Operations	MRMC	8700 Watertown Plank Rd (Mail stop 5)	Milwaukee	WI	53226		mgeronime@mrmcffl.org	Biofiltration basin, underground detention, sumped CB's
17-01	No	Aurora Psych - Dewey House	1220 Dewey Avenue	Natalie Brooks	Environmental Compliance Manager	St. Luke's Medical Center	2900 W. Oklahoma Ave.	Milwaukee	WI	53215	(920)-312-2851	natalie.brooks@aah.org	Bioretention Basin
17-05	Yes	Longfellow Middle School Softball Field	7600 W. North Avenue	Kevin Heus	Director of Buildings and Grounds	Wauwatosa School District	12121 W North Ave	Wauwatosa	WI	53226	414-773-1053	heuske@wauwatosa.k12.wi.us	Underground detention, sumped CB's
17-07	Yes	Wauwatosa West Parking Lot	11400 W. Center Street	Kevin Heus	Director of Buildings and Grounds	Wauwatosa School District	12121 W North Ave	Wauwatosa	WI	53226	414-773-1053	heuske@wauwatosa.k12.wi.us	Porous asphalt pavement, bioretention basins
17-15	Yes	U-Haul	11700 W. Capital Drive	Jim Christianson	U-Haul	U-Haul	17000 W. Capital Drive	Wauwatosa	WI	53226	262-343-6730	jim_christianson@uhaul.com	2 biofiltration basins, sumped CB's
18-04	Yes	Longfellow Middle School Paving Improv	7600 W. North Avenue	Kevin Heus	Director of Buildings and Grounds	Wauwatosa School District	12121 W North Ave	Wauwatosa	WI	53226	414-773-1053	heuske@wauwatosa.k12.wi.us	Porous asphalt pavement, sumped CB's
18-14	Yes	Lutheran Home Memory Care	7500 W. North Avenue	Kathy Cavers		The Lutheran Home	7500 W. North Ave	Wauwatosa	WI	53213	414-258-6171 ext. 309	kathy_cavers@thelutheranhome.org	2 Underground detention systems, 2 up-flow filters, sumped CB's
18-22	Yes	Renaissance Hotel	2300 N. Mayfair Road	Don Kramer	Chief Engineer of Plant Opperations	Mayfair Hotel Holdings LLC	172 N Broadway	Milwaukee	WI	53203	414-520-3953	don.kramer@concordhotels.com	Controlled Rooftop Detention and 10 sumped CB's

19-07	Yes	St Camillus Tower	10100 W. Blue Mound Road	David Sinkula		St. Camillus Health System, Inc.	10101 W. Wisconsin Ave	Wauwatosa	WI	53226	414-259-3751	dsinkula@stcam.com	2 underground detention systems, 3 up-flow filters and 2 dry detention basins
19-09	Yes	Underwood Elementary School	11132 W. Potter Road	Kevin Heus	Director of Buildings and Grounds	Wauwatosa School District	12121 W North Ave	Wauwatosa	WI	53226	414-773-1053	heuske@wauwatosa.k12.wi.us	Dry Pond, Permeable Pavement, Synthetic Turf-Underdrain system, Sumped CB's (12)
19-12	Yes	Wauwatosa East H.S. Site Improvements	7500 Milwaukee Avenue	Kevin Heus	Director of Buildings and Grounds	Wauwatosa School District	12121 W North Ave	Wauwatosa	WI	53226	414-773-1053	heuske@wauwatosa.k12.wi.us	Biofiltration basins, porous pavement, sumped CB's
19-14	Yes	Lincoln Elementary School	1741 Wauwatosa Avenue	Kevin Heus	Director of Buildings and Grounds	Wauwatosa School District	12121 W North Ave	Wauwatosa	WI	53226	414-773-1053	heuske@wauwatosa.k12.wi.us	2 Biofiltration basins, Turf-Underdrain system, permeable pavers, 15 sumped CB's
19-24	Yes	Wilson/WSTEM Elementary School	1060 Glenview Avenue	Kevin Heus	Director of Buildings and Grounds	Wauwatosa School District	12121 W North Ave	Wauwatosa	WI	53226	414-773-1053	heuske@wauwatosa.k12.wi.us	2 Biofiltration basins, Turf-Underdrain system
19-25	Yes	McKinley Elementary School	2435 N 89th Street	Kevin Heus	Director of Buildings and Grounds	Wauwatosa School District	12121 W North Ave	Wauwatosa	WI	53226	414-773-1053	heuske@wauwatosa.k12.wi.us	Biofiltration basin, Turf-underdrain system, permeable pavers
19-30	No	Mayfair Collection Phase 4											2 Underground detention systems
19-31	Yes	River Parkway	6400-6442 River Parkway	Mark Hammond	Vice President of Development	MSP Real Estate, Inc	7901 W National Ave	West Allis	WI	53214	414-259-2108	mhammond@msphousing.com	Underground detention system
20-07	Yes	Amazon	11800 W Burleigh St	Beth Rummel	Property Manager	Phoenix Investors, LLC	401 E Kilbourn Ave, Suite 201	Milwaukee	WI	53202	414-719-6779	brummel@phoenixinvestors.com	Underground Stormtrap Detention
20-18	Yes	Ronald McDonald House	8984 W Watertown Plank Rd	Jessica Greb	Director of Facilities	Ronald McDonald House Charities of Eastern WI	8948 W. Watertown Plank Rd	Wauwatosa	WI	53226	414-475-1117	jgreb@rmhc-easternwi.org	2 Dry Detention Basins
21-01	Yes	Watertown Apartments	9150 W Watertown Plank Rd	Ryan Maurer	Assistant Property Manager	Watertown Apartments, LLC	9150 Watertown Plank Rd	Wauwatosa	WI	53226	414-386-2500	rmaurer@oakbrookcorp.com	2 biofiltration basins, permeable pavement draining to an underground storage layer
21-07	Yes	Campbell Apartments	2929 N Mayfair Rd	Tony Rossi Sr		M&R Mayfair Venture, LLC	1 North Franklin, Suite 700	Chicago	IL	60606	312-407-6702	tony@rmk.com	Underground detention system
21-11	Yes	Roosevelt Elementary	2535 N 73rd St	Kevin Heus	Director of Buildings and Grounds	Wauwatosa School District	12121 W North Ave	Wauwatosa	WI	53226	414-773-1053	heuske@wauwatosa.k12.wi.us	Turf-underdrain system
21-08	Yes	Irgen's UWM Innovation Campus	1301-1425 Discovery Parkway	Andrea Mullins	Innovation Campus Owners Association Inc.	Innovation Campus Owners Association Inc. c/o Irgens Partners, LLC	1401 Discovery Parkway, Suite 100	Milwaukee	WI	53226	414-443-0700	AMullins@irgens.com	Green Roof above parking structure; Biorentntion Basins (B, C and D series)
SP2022-0011	No	St Joe's Parking Lot Reconstruction	12130 W Center Street	Julie McKendry	Business Administrator	St. Joseph Congregation	12130 W Center St.	Wauwatosa	WI	532222	414-771-4626 ext. 103	mckendryj@stjoetosa.com	Wet Detention Basin (NW corner of parking lot)
23-03	No	MSP at Mayfair	3325 Foundry Way	Mark Hammond	Vice President of Development	MSP Real Estate, Inc	7901 W National Ave	West Allis	WI	53214	414-259-2108	mhammond@msphousing.com	Storm sewer system, permeable pavers, bio-retention basin
23-27	No	Luther Manor	4545 92nd St.	Jeff Yersin		RA Smith	16745 W Bluemound Rd.	Brookfield	WI	53005	262-317-3232	jeff.yersin@rasmith.com	Sumped catch basins

Public Works Yard
Quarterly Site Inspection Checklist

Quarterly site inspections are performed to evaluate the effectiveness of controlling stormwater contamination and to identify any

1. Drainage conditions.

-Inspect site for possible erosion problems.

None

-Determine if drainage off the Property has changed.

Drainage has not changed

-Are there any new areas of ponding or streaming?

None

2. Potential Pollution Sources

-Is there any indication of oils or greases in the outdoor material storage areas?

No

-Is there any standing water with sheens, sludge, foam, etc.?

No

-Are there any signs of erosion or sediment transport into inlets or off site from storage areas?

No - Ensure daily clean up of spilled soil/gravel from covered storage areas

-Is there any litter or debris not associated with normal operations (such as snow removal)?

No

-Are there any signs of spills or other contaminants on the Property?

No

-Is there any cracking or other signs of wear on the fuel island pump hoses?

No

3. Catch Basins

-Is there sediment buildup that requires cleaning (sump should be no more than 40% full).

No

- Is there any floating oils or greases in catch basins?

No

4. Other Observations:

- Take note of anything else at the Property that may be of significance to the Storm Water Pollution Prevention Plan.

Catch basins near the fire training grounds and the landfill were clogged with mulch and debris, keep these grates clear

Signed: J. Henderson Printed Name: Jessica Henderson

Title: Civil Engineer Date: 4/18/2023

Public Works Yard
Quarterly Site Inspection Checklist

Quarterly site inspections are performed to evaluate the effectiveness of controlling stormwater contamination and to identify any

1. Drainage conditions.

-Inspect site for possible erosion problems.

None

-Determine if drainage off the Property has changed.

Drainage has not changed

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None

2. Potential Pollution Sources

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No

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No

- Is there any floating oils or greases in catch basins?

No

4. Other Observations:

- Take note of anything else at the Property that may be of significance to the Storm Water Pollution Prevention Plan.

Signed:_____Nate Peksa_____ Printed Name:__Nate Peksa__

Title: __Civil Engineer__ Date:_ _ _6/22/2023___

Public Works Yard
Quarterly Site Inspection Checklist

Quarterly site inspections are performed to evaluate the effectiveness of controlling stormwater contamination and to identify any

1. Drainage conditions.

-Inspect site for possible erosion problems.

None

-Determine if drainage off the Property has changed.

Drainage has not changed

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-Is there any cracking or other signs of wear on the fuel island pump hoses?

No

3. Catch Basins

-Is there sediment buildup that requires cleaning (sump should be no more than 40% full).

No

- Is there any floating oils or greases in catch basins?

No

4. Other Observations:

- Take note of anything else at the Property that may be of significance to the Storm Water Pollution Prevention Plan.

Signed:_____Nate Peksa_____ Printed Name:__Nate Peksa__

Title: __Civil Engineer__ Date:_____10/09/2023___

Public Works Yard
Quarterly Site Inspection Checklist

Quarterly site inspections are performed to evaluate the effectiveness of controlling stormwater contamination and to identify any

1. Drainage conditions.

-Inspect site for possible erosion problems.

None

-Determine if drainage off the Property has changed.

Drainage has not changed

-Are there any new areas of ponding or streaming?

None

2. Potential Pollution Sources

-Is there any indication of oils or greases in the outdoor material storage areas?

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No

- Is there any floating oils or greases in catch basins?

No

4. Other Observations:

- Take note of anything else at the Property that may be of significance to the Storm Water Pollution Prevention Plan.

Signed:_____Nate Peksa_____ Printed Name:__Nate Peksa__

Title: __Civil Engineer__ Date:_ _ _____11/13/2023___

Public Works Yard
Quarterly Site Inspection Checklist

Quarterly site inspections are performed to evaluate the effectiveness of controlling stormwater contamination and to identify any

1. Drainage conditions.

-Inspect site for possible erosion problems.

None

-Determine if drainage off the Property has changed.

Drainage has not changed

-Are there any new areas of ponding or streaming?

None

2. Potential Pollution Sources

-Is there any indication of oils or greases in the outdoor material storage areas?

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-Is there any standing water with sheens, sludge, foam, etc.?

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-Is there any litter or debris not associated with normal operations (such as snow removal)?

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-Are there any signs of spills or other contaminants on the Property?

No

-Is there any cracking or other signs of wear on the fuel island pump hoses?

No

3. Catch Basins

-Is there sediment buildup that requires cleaning (sump should be no more than 40% full).

Yes (Catch basin near the fire training area) See photo in file folder

- Is there any floating oils or greases in catch basins?

No

4. Other Observations:

- Take note of anything else at the Property that may be of significance to the Storm Water Pollution Prevention Plan.

Signed:_____Nate Peksa_____ Printed Name:__Nate Peksa__

Title: __Civil Engineer__ Date:_ _ _12/26/2023___

FUND NO. 52

STORM WATER MGMT RESERVE

PURPOSE

The Storm Water Management Budget involves the inspecting, cleaning, and repairing of over 103 miles of storm sewers and 7,247 storm inlets in the City. It also involves responding to flooding and other emergencies to clear inlets and keep water flowing as needed. A storm water utility was formed in 2000.

BUDGET SNAPSHOT

	2023	2024	Change
Exp	$ 4,065,158	$ 4,280,828	$ 215,670
Rev	$ 6,413,979	$ 6,057,659	$ (356,320)
Net Cost	$(2,348,821)	$(1,776,831)	$ 571,990
FTE's			

MAJOR CHANGES

- No major changes to the Storm Water Management Budget.

PROGRAMS/SERVICE LINES

STORM SEWER CLEANING PROGRAM

Covers inspecting of over 7,247 storm inlets over 10 years with annual inlet and catch basin cleaning generating about 75 tons of material for disposal. Wisconsin Chapter NR 216 has increased the cleaning effort which is generally completed with treating basins for West Nile. 600 basins should be cleaned annually to remain in compliance with DNR requirements.

STORM SEWER REPAIRS PROGRAM

Storm sewer repair involves inspection and repair of manholes and inlets by area every ten years, with scheduled repairs usually in street sealcoating areas, and non-scheduled repairs outside of those areas as needed.

LEAF COLLECTION PROGRAM

The program attends to fall leaf pick-up and sweeping of leaves in the streets, as well as recovery of those leaves. Approximately 4,000 tons of leaves are collected annually.

STREET CLEANING PROGRAM

Performs a minimum of six complete cycles of sweeping of all City streets and alleys as well as hand sweeping areas on medians, difficult-to-sweep parking lots, and islands.

GREEN ALLEY MAINTENANCE PROGRAM

Green alleys reduce rainfall runoff, help clean and recharge groundwater and alleviates flooding concerns. Green alleys present certain unconventional maintenance responsibilities which include vacuum and mechanical sweeping, weed control in pavers, debris removal and replacement of the stone between the porous pavers after each cleaning to prevent clogging.

PLANTING PROGRAM

Planting of approximately 400 to 500 trees and other vegetation to reduce the potential negative impacts of surface water runoff by intercepting and holding large volumes of precipitation on surface areas (i.e. leaves, branches and trunks) while reducing soil erosion by slowing the speed of runoff on the ground. Trees extensive roots systems increase the infiltration and storage of storm water in the soil.

EAB TREATMENT PROGRAM

In recognition of the contribution trees make towards reducing the amount of storm water runoff, the City funds a portion of the Emerald Ash Borer (EAB) treatment program using storm water utility funds.

2022 ACHIEVEMENTS AND PERFORMANCE MEASUREMENTS

- To comply with the City's NR 216 permit, approximately 600 basins must be cleaned annually. 635 catch basins were cleaned, removing 104.31 tons of debris.
- The division averaged cleaning 21 basins per day.
- Our street sweeping program has removed 894 tons of debris from city streets and swept 3,632 miles of street.
- Averaged 18 miles of sweeping per day
- All storm sewers and catch basins were inspected, tuck-pointed, or rebuilt in the 2022 seal coat area.
- Operations Division cleaned nine of the green alleys
- The average labor cost to clean each alley was $363.93. Only three of the nine green alleys required power washing.

2023 ACHIEVEMENTS

- To comply with the City's NR 216 permit, approximately 600 basins must be cleaned annually. As of July 22, 2022, 532 catch basins have been cleaned, removing 83.74 tons of debris. The Department is on a two-year cleaning cycle for the City's catch basins.
- As of July 22, 2022, our street sweeping program has removed 560 tons of debris from city streets and has swept 1,644.20 miles of street.

- All storm sewers and catch basins were inspected, tuck-pointed, or rebuilt in the 2022 seal coat area.
- As of July 22, 2023, eleven green alleys were cleaned.
- The average labor cost to clean each alley was $658.93. Ten of the eleven green alleys needed power washing.
- Launch online street sweeping tracking map and tracking in the EAM.

2024 GOALS

- Reevaluate the leaf route map to improve the leaf collection program efficiencies.
- Develop and implement a maintenance program for the police department's porous pavement parking lot.
- Continue the inlet cleaning program and programmed inspections and repairs of inlets in conjunction with the seal coating program.
- Explore the future use of the GIS for tracking maintenance and repairs.
- Continue update of Stormwater Management Plan

2023 BUDGETARY CHANGES

CREDIT CARD FEES — INCREASE $28,000

The city began absorbing credit card fees three years ago. Based on actuals to date, we recommend increasing this budget to $81,000.

STORM WATER FEES — DECREASE $405,287

Storm water fee revenue is re-estimated down to $5,540,452 based on the first six month actuals and the assumption that the hospital complex qualifies for a credit that will be backdated to 2022.

AMORTIZATION OF BOND PREMIUM REVENUE — DECREASE $170,682

Due to the implementation of a new software for debt management, the City is changing its methodology for amortizing premium earned when issuing bonds. As a result a one-time accounting adjustment is necessary in 2023. Future years will increase. This revenue has already been received so there is no change in cash, the amount of which that revenue is recognized each year will change.

INTEREST INCOME — INCREASE $78,500

$83,300 is budgeted in interest income. This represents the Stormwater's share of the City's investment of its pooled available cash. The increase is due to the rising interest rates which increase the return the City receives on its investment.

2024 BUDGETARY CHANGES

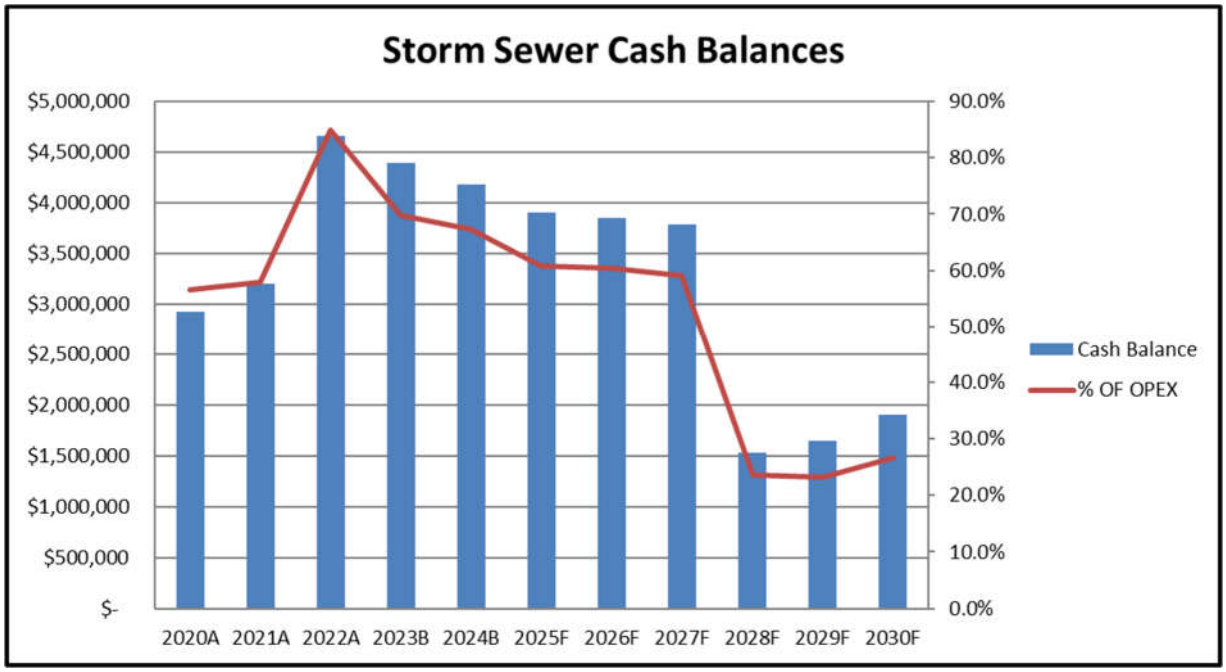
STORM WATER FEES — DECREASE $125,398

The 2024 Budget assumes a 0% rate increase as originally forecasted last year. The revenue decreases and expected 2.1% based on current year actual receipts and an anticipated credit for the Milwaukee Regional Medical Campus. This results in a decrease in storm water fees to $5,540,452. Historical rate increases have been necessary to fund capital improvements that address deferred maintenance as well as street and basement back-ups during heavy rain events. The table below shows the impact of this rate increase on a residential bill and future planned rate increases.

Projected Storm Sewer Rate Increases

	2021	2022	2023	2024B	2025F	2026F	2027F	2028F
Rate Increase	0%	0%	0%	0%	3%	3%	5%	4%
Quarterly Residential Bill Est.	$ 32.63	$ 32.63	$ 32.63	$ 32.63	$ 33.61	$ 34.62	$ 36.35	$ 37.80

If there is no change in the requested rate increase, no additional committee approval will be sought. As shown below, cash balances are projected to be drawn down for cash financing capital including the Schoonmaker project.



INTERGOVERNMENTAL REVENUES	DECREASE $299,850

The City will not be receiving any green solutions grants from MMSD resulting in a decrease of $357,530. However, this is offset by receiving $57,680 in funding from the state Department of Natural Resources for the stormwater management plan.

INTEREST INCOME	INCREASE $61,300

$66,100 is budgeted in interest income. This represents the Stormwater's share of the City's investment of its pooled available cash. The increase is due to the rising interest rates which increase the return the City receives on its investment .

CREDIT CARD FEES	INCREASE $28,000

The city began absorbing credit card fees three years ago. Based on actuals to date, we recommend increasing this budget to $81,000.

CASH FINANCING	NO CHANGE

$700,000 is included to cash finance capital projects in order to reduce overall debt and interest expense

BUDGET SUMMARY TABLE

Storm Sewer Fund #52					
Expenditures					
2022 Actual	**2023 Adopted Budget**	**2023 Revised**	**Name**	**2024 Budget**	**2024 / 2023 % of Change**
402,964	420,471	420,471	Wages	438,003	4.2%
41,727	15,000	30,000	Overtime	30,000	100.0%
165,547	197,178	197,178	Benefits	214,525	8.8%
907	362	362	Other Compensation	672	85.9%
17,214	21,425	29,835	Operating Expenses	28,425	32.7%
150,689	138,350	138,350	Commodities	138,350	0.0%
458,299	508,876	616,489	Services	533,178	4.8%
2,094	5,352	5,352	Utilities	5,450	1.8%
1,358,858	1,474,977	1,446,584	Fixed Charges	1,551,400	5.2%
556,155	419,782	419,782	Internal Charges	472,539	12.6%
160,677	163,385	163,385	Other Expenses	168,286	3.0%
2,127,887	4,560,093	6,158,336	Capital Outlay	700,000	-84.6%
(2,120,637)	(3,860,093)	(3,860,093)	Asset Purchase Contra	-	-100.0%
-	-	-	Capital Transfers	-	0.0%
3,322,381	**4,065,158**	**5,766,030**	**TOTAL**	**4,280,828**	**5.3%**
Revenues					
2022 Actual	**2023 Adopted Budget**	**2023 Revised**	**Name**	**2024 Budget**	**% of Change**
-	357,530	357,530	InterGov Revenues	57,680	-83.9%
44,336	50,000	42,500	Fines and Penalties	41,600	-16.8%
5,937,809	5,945,739	5,540,452	Public Charges	5,820,341	-2.1%
80,407	4,800	83,300	Miscellaneous	66,100	1277.1%
92,698	55,910	(114,772)	Other Sources	71,938	28.7%
6,155,251	**6,413,979**	**5,909,010**	**TOTAL**	**6,057,659**	**-5.6%**
Net Cost					
(2,832,870)	**(2,348,821)**	**(142,980)**	**TOTAL**	**(1,776,831)**	**-24.4%**

PERSONNEL SCHEDULE

*Personnel are allocated to this budget from Public Works Operations.

ID	BORDERING STREETS, N-E-S-W	Installed	Contractor Rebuild	Trackless Broom	Power Wash	Vacuum Broom	Brush Chips Back in	Jetted	Last Inspected
0001	~~Meinecke-64th-North-65th~~	~~2015~~	x						
0002	~~North-102nd-Fisher Pkwy-103rd~~	~~2015~~	x	10/14/22	10/14/22	10/14/22	10/14/22		
0003	~~Elm Lawn-Watertown Plank-85th~~	~~2016~~	x						
0004	~~WTP-Robertson-Gridley-Elm Lawn~~	~~2016~~	x						
0005	~~Center-74th-Clark-75th~~	~~2016~~	x						
0006	Center-68th-Clarke-69th	2017		5/18/23	5/18/23	5/18/23	5/18/23	x	
0007	Center-69th-Clarke-70th	2017		5/18/23	5/18/23	5/18/23	5/18/23	x	
0008	Meinecke-90th-North-91st	2017		5/15/23	5/15/23	5/15/23	5/15/23	x	
0009	North-90th-Jackson Park-Swan	2017		5/22/23	5/22/23	5/22/23	5/22/23	x	
0010	Meinecke-91st-North-Swan	2017		5/15/23	5/15/23	5/15/23	5/15/23	x	
0011	Stickney-Swan-Men River Pkwy-93rd	2017		5/16/23	5/16/23	5/16/23	5/16/23	x	
0012	North-106th-Garfield-107th	2018		10/14/22	10/14/22	10/14/22	10/14/22	in 2023	
0013	North-103rd-Fisher Pkwy-104th	2018		10/13/22	10/13/22	10/13/22	10/13/22	in 2023	
0014	Garfield-116th-Gilbert-117th	2018		5/12/23	5/12/23	5/12/23	5/12/23	in 2023	
0015	North-117th-Garfield-118th	2018		5/11/23	5/11/23	5/11/23	5/11/23	in 2023	
0016	North-118th-Garfield-119th	2018		5/10/23	5/10/23	5/10/23	5/10/23	in 2023	
0017	North-122nd-Garfield-124th	2018		5/9/23	5/9/23	5/9/23	5/9/23	in 2023	
0018	Hadley-73rd-Center-74th_EW LEG	2020		10/17/22	n/a	10/17/22	10/17/22	in 2025	
0019	Hadley-73rd-Center-74th_NS LEG	2020		10/17/22	n/a	10/17/22	10/17/22	in 2025	
0020	Center-67th-Clarke-68th	2020		10/17/22	n/a	10/17/22	10/17/22	in 2025	
0021	Meinecke-66th-North-67th	2020		10/18/22	n/a	10/18/22	10/18/22	in 2025	
0022	Meinecke-67th-North-68th	2020		10/18/22	n/a	10/18/22	10/18/22	in 2025	
0023	North-81st-Jackson Park Blvd-83rd	2021		5/19/23	n/a	5/19/23	5/19/23	in 2026	
0024	Washington Blvd-60th-Vliet-Washington Cr	2021		10/18/22	n/a	10/18/22	10/18/22	in 2026	
0025	Hampton-110th-Derby-Mayfair	2021		5/23/23	n/a	5/23/23	5/23/23	in 2026	
	Hart Park			x	n/a	x	n/a	n/a	
	Police Department	2020		x	n/a	x	n/a	n/a	
	Paver Parking Stalls 116th & Walnut			x	n/a	x	n/a	n/a	

Sensible Salting Program

The Sensible Salt Programs goal is to reduce salt usage by 30% and keep the environment cleaner. Under this program, Wauwatosa will limit salting on secondary roads; limit overnight salting; focus application at hills, intersections, curves, and bridges; and implement spot salting, or salting at 150 ft. intervals on main roads.

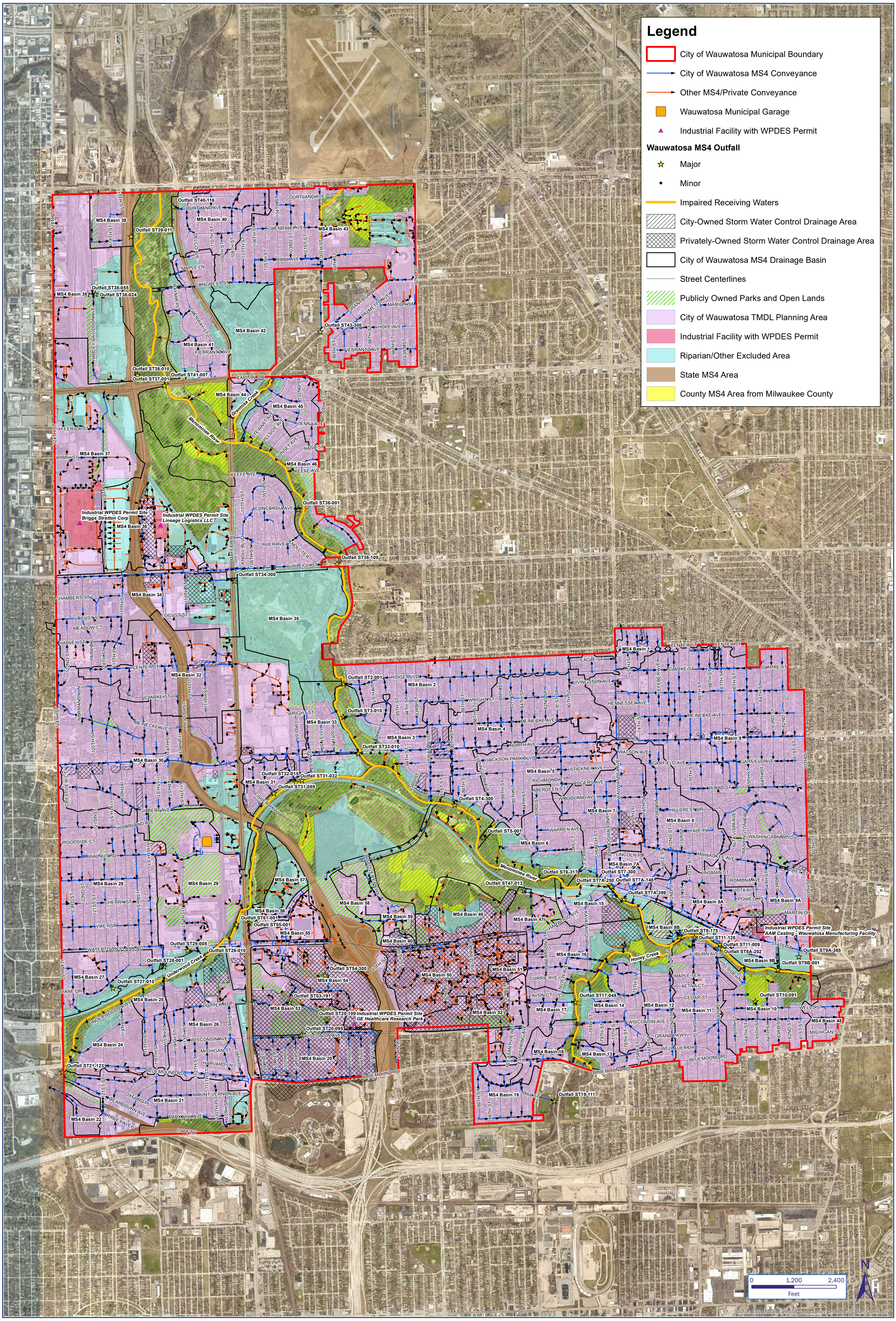
Sensible Salting: "the right amount in the right place at the right time."

Sensible salting requires, among other things, careful application of salt, good spreading equipment, calibration of spreaders, automatic controls, adequate covered storage, proper maintenance around storage areas and an awareness by all who use salt of the need to protect the environment.

Sensible Salting Practices lead to a 30% reduction in salt usage and help to keep our environment clean. Sensible Salting Practices include the following policies used by the City of Wauwatosa Department of Public Works:

- Limited Salting During the Late Evening/Early Morning Hours: From 11:00 p.m. - 4:00 a.m. very limited salting will take place, as salting is not effective due to low traffic volumes. The goal of the DPW during this time is to ensure passable roads, which means only intersections, hills, curves, and bridges will be salted. Beginning at 4:00 a.m., DPW prepares the roads for rush hour. There may be some snow pack in the middle of the block until sun, traffic and salt tracking melts snow.
- Salting During Snow Events: During periods of 1' inch per hour snowfall or greater, main roads will be plowed as frequently as possible. These roads will also be salted at intersections, hills, curves, bridges, and school zones. "Spot Salting" will also be utilized which means roads will be salted at 150 ft. intervals to allow the salt to be effectively spread around.
- Limited Salting on Secondary Roads: Secondary Roads (side streets) will be plowed as often as possible, but will only be salted at intersections, bridges, hills, curves, and school zones for 200 ft. intervals. Spot Salting will also be used when necessary.
- Proper Training of Employees and Communication of this Policy: The Director of Public Works is responsible for ensuring all employees understand and follow the City's Sensible Salting Practices.
- Proper Calibration of Equipment: All equipment will be calibrated to ensure the Sensible Salting Practices are implemented correctly.
- Investigation of Alternative Products: The Department of Public works will continue to investigate, purchase, and utilize other alternative products such as brine and other enhanced deicers.

When conditions warrant, such as those found during and after an ice storm, the City has the ability to salt as necessary, as safety of the residents and visitors of the City of Wauwatosa remains our main priority.



Brown AND Caldwell

Figure 5-1
MS4 Storm Sewer System Map
City of Wauwatosa
Stormwater Quality Management Plan

CITY OF WAUWATOSA
ENGINEERING SERVICES
7725 WEST NORTH AVENUE
WAUWATOSA, WI 53213
Telephone: (414) 479-8927
www.wauwatosa.net

William T. Wehrley, P.E.
City Engineer
wwehrley@wauwatosa.net

CITY OF WAUWATOSA
FECAL BACTERIA ELIMINATION PLAN

1. Introduction

As a part of the City's WPDES Permit (WI-S065404-2) the City of Wauwatosa is required to develop a fecal bacteria elimination plan. The purpose of this plan is to outline the strategies and actions the City will undertake to eliminate fecal bacteria discharges from our storm sewer system in compliance with the permit requirements set forth by the Wisconsin Department of Natural Resources (WDNR). This is critical step in ensuring the protection of water quality within the Menomonee River Watershed.

2. Characterization of the Storm Sewer System

The City is comprised of approximately 131 miles of storm sewers with almost 10,000 storm manholes, inlets and catch basins. This amount of infrastructure allows for many possibilities of pathways for fecal bacteria to enter the system. The City's Storm Sewer Systems map is included in Appendix A.

3. Identification of Fecal Bacteria Sources

In 2022 the City completed a citywide Bacteria Source Inventory. The inventory includes a comprehensive list of all known sources of bacteria within the permitted area. Each source is geographically mapped and described with precise location data. The inventory and map are included in Appendix B.

4. Monitoring Program

In 2021 and 2022 we partnered with RiverKeepers to complete bacteria testing and set our benchmark. The Riverkeepers used 3M Petrifilm Plates to test stormwater outfall water samples using a protocol documented in our Milwaukee Riverkeeper Bacteria Monitoring Training Manual. The process included collecting water samples at stormwater outfalls or from manholes identified by the City, plating those samples on 3M Petrifilm, incubating them, and counting *E. coli* colonies. This monitoring will continue as a part of our outfall testing program. Results from the monitoring are included in Appendix C.

The initial testing from all major outfalls returned two outfalls that exceeded our set benchmark of too numerous to count. At these outfalls, we then performed up the pipe testing to try and determine specific locations of bacteria sources.

Unfortunately, the up the pipe testing was inconclusive in discovering a direct fecal source. Possible sources include urban runoff from dumpster, animal waste and exfiltration from the sanitary sewer system.

5. Pollution Prevention and Control Measures

Eliminating the source of fecal bacteria in the city's storm sewer system is essential for protecting public health and the environment. Fecal contamination in stormwater can occur due to various sources, including illicit discharges, sanitary sewer overflows, and pet waste. Here are some solutions to help address this issue:

A. Sanitary sewer system I&I prevention measures. The City has been committed to the rehabilitation of it's sanitary sewer system. We maintain approximately 153 miles of sanitary sewer. Currently, approximately 61% of our old sewer have been lined or replaced with PVC sewers. Included in our 5 year Capital Improvement Program is extensive funding to relay, line and improve our existing sanitary sewer mains. Additionally, grouting of sanitary sewer laterals is funded through MMSD's Private Property Infiltration Program. This work will continue our effort of reducing exfiltration of wastewater from our system. Lastly, the City is currently pilot testing technology from Finlan called Aquapriori to quantify the amount of clear water in our sanitary sewer system. If clear water leaks into our sanitary sewers, sewage can leak out. The City will use this technology to locate high leak locations with more efficiency. The program will go until the end of 2024. All of these programs will continue to lessen the occurrence of sanitary sewer overflows.

B. Targeted outreach to businesses and residents - As a part of the City's partnership with Southeastern Wisconsin Watersheds Trust (SWWT) we have access to templates and flyers to aid in public education and outreach. The City will educate residents on pet waste and business owners on dumpster activities.

C. Green Infrastructure - Implementing green infrastructure solutions such as bio-retention basins, catch basins and permeable pavement to capture and treat stormwater before it reaches the river. The City plans on green infrastructure installations at the 116th St Park in 2024 and permeable pavement in City alleys in 2025.

D. Water Quality Monitoring – Continue to monitor water quality in the storm sewer system to detect contamination early and pinpoint sources.

6. Emergency Response Plan

If a known bacteria source is entering the City system, we have a response plan in place to address the immediate threat of a sewage spill. This plan is included in Appendix D.

7. Conclusion

Identifying and eliminating the source of fecal bacteria in the city's storm sewer system has been a complex and challenging task due to several factors. These difficulties arise from the nature of stormwater systems, the characteristics of fecal bacteria, and the various potential sources of contamination. Fecal bacteria can enter stormwater systems from a wide range of sources, including sewage leaks, sanitary sewer overflows, animal waste, wildlife, and illicit connections. Pinpointing the exact source among these possibilities can be challenging.

Despite these challenges, advancements in microbial source tracking techniques and interdisciplinary collaboration among environmental scientists, engineers, and public health officials have improved the ability to identify and mitigate fecal contamination in stormwater systems. However, due to the complexity of urban environments and the persistence of contamination sources, complete eradication of the problem remains an ongoing challenge.

APPENDIX A

Legend

- City of Wauwatosa Municipal Boundary
- City of Wauwatosa MS4 Conveyance
- Other MS4/Private Conveyance
- Wauwatosa Municipal Garage
- Industrial Facility with WPDES Permit

Wauwatosa MS4 Outfall

- Major
- Minor
- Impaired Receiving Waters
- City-Owned Storm Water Control Drainage Area
- Privately-Owned Storm Water Control Drainage Area
- City of Wauwatosa MS4 Drainage Basin
- Street Centerlines
- Publicly Owned Parks and Open Lands
- City of Wauwatosa TMDL Planning Area
- Industrial Facility with WPDES Permit
- Riparian/Other Excluded Area
- State MS4 Area
- County MS4 Area from Milwaukee County

0 1,200 2,400
Feet

N

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Brown AND Caldwell

Figure 5-1
MS4 Map
City of Wauwatosa
Stormwater Quality Management Plan

WAUWATOSA IN GOD WE TRUST

APPENDIX B

CITY OF WAUWATOSA
ENGINEERING SERVICES
7725 WEST NORTH AVENUE
WAUWATOSA, WI 53213
Telephone: (414) 479-8927
www.wauwatosa.net

William T. Wehrley, P.E.
City Engineer
wwehrley@wauwatosa.net

CITY OF WAUWATOSA
BACTERIA SOURCE INVENTORY

As a part of the City's WPDES Permit (WI-S065404-2) the City of Wauwatosa shall develop and submit an inventory of fecal coliform sources and a map indicating the location of the potential sources. The following is a list of potential sources investigated:

1. Known or suspected leaking or failing septic systems.
    a. There are no known septic systems within the City of Wauwatosa

2. Sanitary sewer overflow locations
    a. WA3012-189A
    b. WA3012-187A
    c. WA3040-124A
    d. WA3008-255A
    e. WA3032-227
    f. WA3032-238
    g. WA3037-503A

3. Livestock and domesticated animals housed or raised within the MS4 permitted area and discharging into the MS4, but not including household pets.
    a. There are no known livestock housed/raised within the City of Wauwatosa

4. Zoos, kennels, animal breeders, pet stores, and dog training facilities.
    a. 2929 N 114th St
    b. 6228 W State St

5. Waste hauling, storage, and transfer facilities.
    a. Department of Public Works at 11100 W Walnut Rd. No onsite transfer facilities. Waste is hauled directly to landfills.

6. Areas that attract congregations of nuisance urban birds and wildlife.
    a. The City is not aware of any congregations of nuisance wildlife. We will continue to monitor water bodies for this.

7. Known or suspected properties with inadequate food or organic waste handling or storage.
    a. No known or suspected properties within the city.

8. Composting sites or facilities.
    a. 3rd party collection of residential compost is completed within the City. The composting is done off site. The City holds a permit for some on site composing at the Department of Public Works.

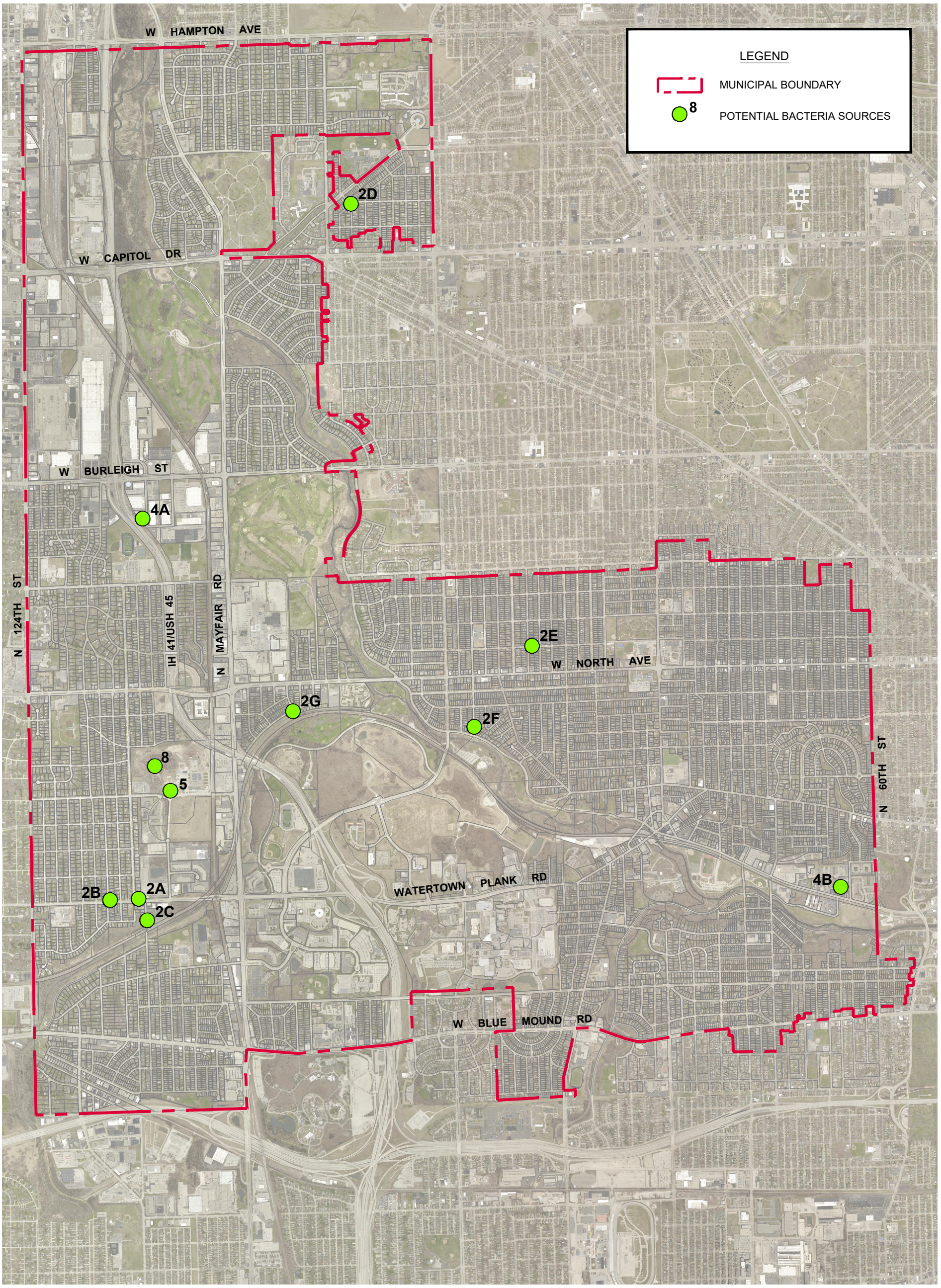
9. Known or suspected areas with improper human sanitation use.
    a. No known or suspected areas.

10. Any other source that the permittee identifies as discharging to the MS4.
    a. No other sources were identified.

BACTERIA SOURCE IDENTIFICATION MAP

CITY OF WAUWATOSA
MARCH, 2023

SCALE
0 2400 4800
FEET



FILE NAME : S:\DEPARTMENT FOLDERS\ENGINEERING\WDNR ANNUAL REPORTS\2022\BACTERIA SOURCE MAP\WAUWATOSA BACTERIA SOURCE MAP.DWG PLOT DATE : 3/9/2023 3:00 PM PLOT BY : WTREU

APPENDIX C

City of Wauwatosa
Bacteria Testing at Outfalls
Performed by Riverkeepers Staff with assistance from City of Wauwatosa

Sampling Date	Sampling Time	Site ID	Site Description	E. coli Replicate 1 (/100mL)	Total Coliform Replicate 1 (/100mL)	Notes	Plate Photos	Infrastructure Photos
05/11/2021	5:00 PM	ST7-300	MN River upstrm Harwood	0	1400	Heavy flow, clear	https://drive.google.com/file/d/18u91KrQB8Pjg7	
05/11/2021	4:29 PM	ST19-111	Honey Cr @ WLC HS	200	1700	Heavy flow, clear	https://drive.google.com/file/d/1AMQoFzz-91AE	
05/11/2021	4:05 PM	ST17-048	Honey Cr W bank near St Jude	6000	8100	Low flow, clear; Replicate was damaged	https://drive.google.com/file/d/1ApnlvQ32ZzeCi	https://drive.googl
05/11/2021	3:08 PM	ST9B-001	North bank MN near Senior Home	4300	6500	Low flow, clear	https://drive.google.com/file/d/1B-CnBWkf3956	
05/11/2021	2:51 PM	ST9A-365	Schoonamaker Cr. confluence	100	TNTC	Heavy flow, clear; TNTC = Too numerous to count	https://drive.google.com/file/d/1BAu_qnMT1KV4	
05/11/2021	3:33 PM	ST8-175	N bank MN at Hart Park near skate park	0	6600	Low flow, clear	https://drive.google.com/file/d/1BP2U3hrdosCH	
05/11/2021	2:12 PM	ST11-009	South bank MN; E of 68th	0	7200	Good flow, clear	https://drive.google.com/file/d/19dPCrllxjdZtRJY	
05/11/2021	2:34 PM	ST10-091	Jacobus Park Creek	1300	10800	Heavy flow, clear	https://drive.google.com/file/d/19sasbTY4Gr4W	
05/11/2021	5:18 PM	ST5-001	MN River Hoyt Park	TNTC	TNTC	Heavy flow, clear; TNTC = Too numerous to count	https://drive.google.com/file/d/195VhV6cKe7a-5	
5/11/2021	5:39 PM	ST47-013	Outfall to CG Creek from WBP			Dry, no flow		https://drive.googl
06/01/2021	3:09 PM	ST2-001	MN River at Ridge			Unable to sample, pipe inundated with river water		https://drive.googl
06/01/2021	3:28 PM	ST36-109	MN River at Burleigh (west)	100	TNTC	Heavy flow, clear, grass clippings	https://drive.google.com/file/d/1eoQwMQx77m8	https://drive.googl
06/01/2021	3:37 PM	ST36-001	MN River at Concordia (west)	100	11300	Pipe was inundated with medium flow, sample was ta	https://drive.google.com/file/d/1ex7vsZeaPPow	https://drive.googl
06/01/2021	4:03 PM	ST33-010	MN River at North (west)	0	2700	Low flow, clear, split pipe	https://drive.google.com/file/d/1eyF30Nz3Xpugt	
06/01/2021	4:19 PM	ST32-015	Underwood Cr. at 103rd	0	TNTC	Heavy flow, clear	https://drive.google.com/file/d/1f7rhkv5ExeFzh-	
06/04/2021	11:56 AM	ST61-001	Underwood Creek west of Mayfair Rd	200	11700	Heavy flow, clear	https://drive.google.com/file/d/1fIR2rzsp85bAKe	
06/04/2021	12:20 PM	ST29-008	Underwood Creek at W Watertown Plank Rd			Inundated with river water		https://drive.googl
06/04/2021	12:31 PM	ST28-001	Underwood Creek on 115th St			Inundated with river water		https://drive.googl
06/04/2021	12:40 PM	ST27-010	Underwood Creek at 120th St	TNTC	TNTC	Low flow, clear	https://drive.google.com/file/d/1fLExBdVc2YSri4	
06/04/2021	1:21 PM	ST26-010	Underwood Creek at Bryant & Stratton College	600	8300	Medium flow, clear	https://drive.google.com/file/d/1fOHBYD5N8bcE	https://drive.googl
06/04/2021	1:45 PM	ST45-099	W Grantosa and Capitol			Dry, no flow		https://drive.googl
06/04/2021	1:55 PM	ST43-300	W Grantosa & N 100th St			Inundated with river water		https://drive.googl
06/04/2021	2:14 PM	ST40-116	MN River at Mayfair Rd and W Courtland Ave	500	TNTC	Medium flow, clear	https://drive.google.com/file/d/1fONwW_6CLi6c	
06/04/2021	2:28 PM	ST38-024	Harley Davidson Ave	0	8700	Medium flow, clear	https://drive.google.com/file/d/1fY2oun6hc-VBjC	
06/15/2021	9:50 AM	ST37-001	West Side Burleigh Currie Park			Inundated with river water		https://drive.googl
06/15/2021	10:08 AM	ST41-007	East Side of Burleigh North of Currie Park			Inundated with river water		https://drive.googl
06/15/2021	10:24 AM	ST38-010	North of Capital near small Cemetary	0	2800	Medium flow, clear, some water was foamy looked lik	https://drive.google.com/file/d/1HCi7i9HzTvu1rE	https://drive.googl
06/15/2021	11:24 AM	ST39-011	West side of Menomonee River, near HWY 43 (bike trail)	2000	22500	Low flow, clear, some standing water milky colors	https://drive.google.com/file/d/1B7tPeadlDe9dh	https://drive.googl

City of Wauwatosa
Bacteria Testing at Outfalls and Upstream Manholes
Performed by Riverkeepers Staff with assistance from City of Wauwatosa

Date	Time	OUTFALL ID	Site Description	UP THE PIPE MH ID	Site Description	E. coli Replicate 1 (/100mL)	Total Coliform Replicate 1 (/100mL)	Notes	Plate Photos
8/18/2021	1:06 PM	ST2-001	MN River at Ridge	ST2-504	MH at intersection of Ridge and Harding			No flow, small amount of stagnant water	
8/18/2021	10:20 AM	ST28-001	Underwood Creek on 115th St	ST28-006	MH at interection of 115th & Watertown Plank	TNTC	TNTC	Heavy flow, clear	https://drive.google.com/file/d/1V-
8/18/2021	11:11 AM	ST29-008	Underwood Creek at W Watertown Plank Rd	ST29-012	MH at NE corner of 113th & Watertown Plank			Manhole completely cemented over, sampled at ST29-016	
8/18/2021	11:11 AM	ST29-009	Underwood Creek at W Watertown Plank Rd	ST29-016	MH north of man hole ST29-012 in Empire Fish loading dock parking lot	300	6000	Very heavy flow, clear - potentially water main break	https://drive.google.com/file/d/1BO
8/18/2021	12:49 PM	ST43-300	W Grantosa & N 100th St	ST43-301	INLET on south side of Grantosa Dr			Dry	
8/19/2021	9:20 AM	ST37-001	West Side Burleigh Currie Park	ST37-031	MH south of Capitol Dr in easement on property 12009 Capitol Dr	1500	4700	Very heavy flow, clear; could be WPDES discharge from nearby industries?	https://drive.google.com/file/d/1Lm
8/18/2021	12:17 PM	ST41-007	East Side of Burleigh North of Currie Park	County MH (ST41-012)	North side of Capitol Drive just east of Men River Pkwy Bridge - shown in red circle	0	0	Medium flow, clear	https://drive.google.com/file/d/1zzS

City of Wauwatosa
Bacteria Testing Up the Pipe from Outfall with Bacteria TNTC
Performed by Riverkeepers Staff with assistance from City of Wauwatosa

Date	Time	Sta	Pipe Direction	Structure Location	E. coli Replicate 1 (/100mL)	Total Coliform Replicate 1 (/100mL)	Notes	Plate Photos	Infrastructure Photos
8/19/2021	10:05 AM	ST5-052	N	84TH ST			Dry		
8/19/2021	10:00 AM	ST5-054	N	84TH ST			Dry		
8/19/2021	9:56 AM	ST5-055	S	84TH ST			Dry, PVC pipe coming from address 2031		https://drive.googl
8/19/2021	10:17 AM	ST5-057	N	85TH ST	500	3200	Heavy flow, clear	https://drive.google.com/file/d/1zuLheeFz	
8/19/2021	10:25 AM	ST5-059	N	STICKNEY AND 85TH	0	1000	Heavy flow, clear	https://drive.google.com/file/d/1CuCV6UJ	
8/19/2021	11:09 AM	ST5-032	NW	LUDINGTON	TNTC	TNTC	Low flow, clear	https://drive.google.com/file/d/1_faFRPgC	
8/19/2021	11:05 AM	ST5-031	NW	LUDINGTON	700	4700	Low flow, clear	https://drive.google.com/file/d/16pySbXxr	
8/19/2021	11:00 AM	ST5-028	NW	LUDINGTON	100	4700	Low flow, clear	https://drive.google.com/file/d/1Je-b0I61iS	
8/19/2021	10:55 AM	ST5-027	NW	LUDINGTON			No flow, small amount of stagnant water		
8/19/2021	10:41 AM	ST5-020	NW	LUDINGTON	100	3400	No flow, enough water to get a sample - fecal matter along egde of sewer	https://drive.google.com/file/d/1tE1DgMA	https://drive.googl
8/18/2021	9:00 AM	ST27-012	NE	120TH AND DIANE DR			No flow, too little to sample		
8/18/2021	9:00 AM	ST27-012	SW	120TH AND DIANE DR			No flow, too little to sample		
8/18/2021	9:00 AM	ST27-012	NW	120TH AND DIANE DR	2200	TNTC	Heavy flow, clear	https://drive.google.com/file/d/1eLGHJW-	
8/18/2021	9:30 AM	ST27-029	N	122ND	300	7800	Medium flow, clear - building up from the east pipe ST27-018 E (sampled also)	https://drive.google.com/file/d/102_A85x7	
8/18/2021	9:30 AM	ST27-029	E	122ND	100	9200	Medium flow, clear build up mounded in this pipe	https://drive.google.com/file/d/1VEBX5O4	
8/19/2021	9:00 AM	ST27-018	W	120TH	TNTC	TNTC	Medium flow, clear	https://drive.google.com/file/d/13qIH5_x0	
8/18/2021	9:15 AM	ST27-020	W	120TH	4900	TNTC	Medium flow, clear	https://drive.google.com/file/d/1zvU3hbiH	
Outfall:	**ST5-001**								

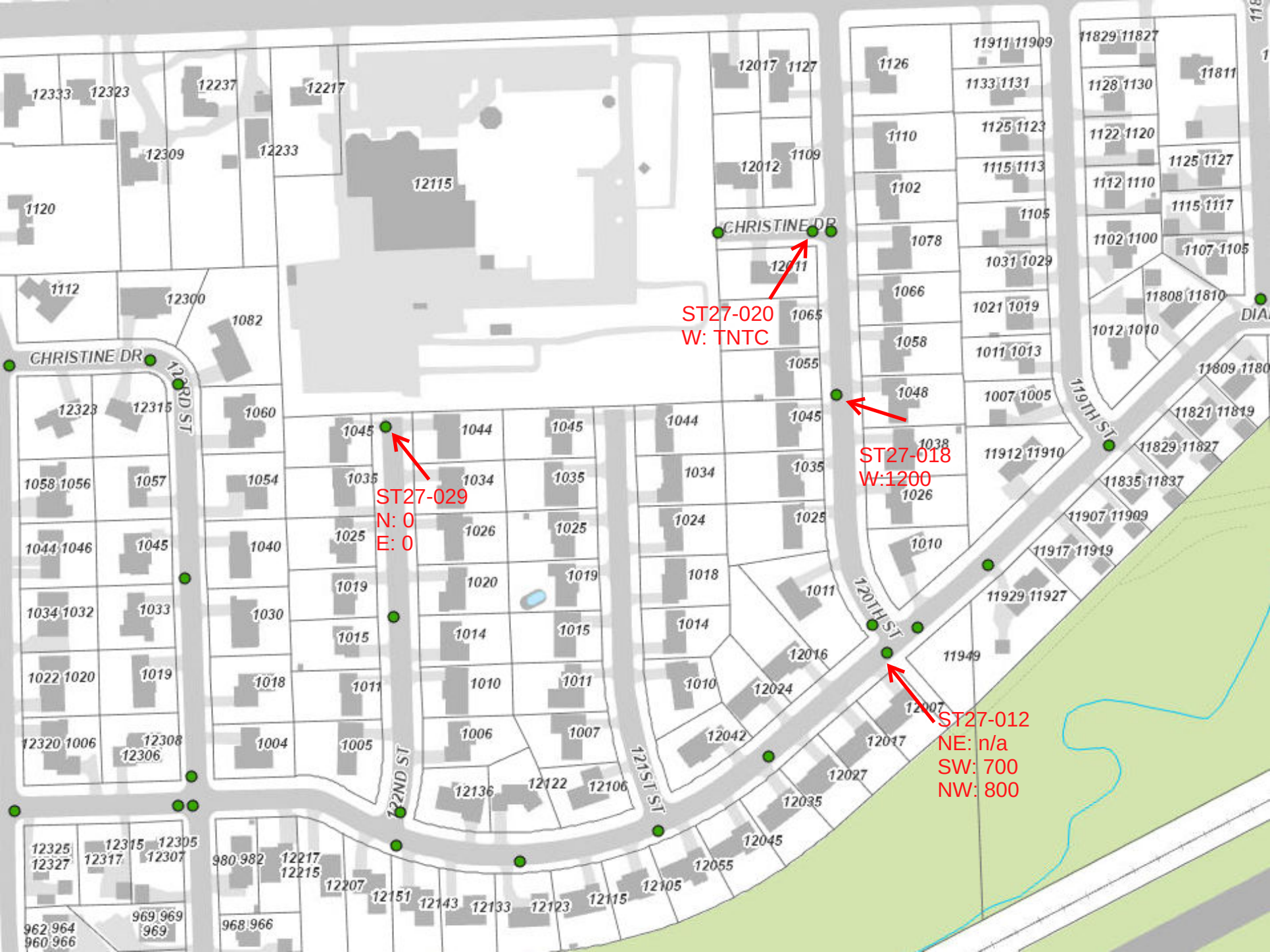
Date	Time	Test MH	Pipe Direction	Structure Location	E. coli (/100mL)	Total Coliform (/100mL)	Notes	Plate Photos	Infrastructure Photos
06/01/2021	1:34 PM	ST5-043	NE	LUDINGTON AND HOYT PARK D	200	3800	Heavy flow	https://drive.google.com/file/d/1efM1TQ2S7db24BS_OvZaF	
06/01/2021	1:36 PM	ST5-043	NW	LUDINGTON AND HOYT PARK D	7700	1500	Low flow	https://drive.google.com/file/d/1ed9Dk2GG194x7a9seH4sF	
06/01/2021	1:48 PM	ST5-049	N	85TH AND HILLCREST	800	6100	Heavy flow	https://drive.google.com/file/d/1egK2dDUY1-GebzFHPdxE5	
06/01/2021	1:56 PM	ST5-170	E	85TH AND HILLCREST	16500	1900	Low flow	https://drive.google.com/file/d/1ehaJmy6rlN5Ql32wak3T-7T	
06/01/2021	2:08 PM	ST5-041	NE	LUDINGTON AND 86TH			Dry		
06/01/2021	2:08 PM	ST5-041	NW	LUDINGTON AND 86TH	13600	2700	Medium flow	https://drive.google.com/file/d/1eos_z6mgnq24Ys_kjavyRK	
06/01/2021	2:21 PM	ST5-019	NW	LUDINGTON AND STICKNEY			Dry		
06/01/2021	2:21 PM	ST5-019	E	LUDINGTON AND STICKNEY			Dry		
06/01/2021	2:37 PM	ST5-063	N	83RD AND JACKSON PARK BLVD			Dry		
06/01/2021	2:37 PM	ST5-063	E	83RD AND JACKSON PARK BLV	100	2400	Heavy flow	https://drive.google.com/file/d/1euKqb2pXB7L7iYwVknd720	

Date	Time	Sta	Pipe Direction	Structure Location	E. coli Replicate 1 (/100mL)	Total Coliform Replicate 1 (/100mL)	Notes	Plate Photos	Infrastructure Photos	Wauwatosa online map: https://gis.wauwatosa.net/wauwageo/
8/19/2021	10:05 AM	ST5-052	N	84TH ST			Dry			
8/19/2021	10:00 AM	ST5-054	N	84TH ST			Dry			
8/19/2021	9:56 AM	ST5-055	S	84TH ST			Dry, PVC pipe coming from address 2031		https://drive.google.com/file/d/1-Q0WSuhDSL0b8y9-HDNd7C6qf-uTe7eh/view?usp=sharing	
8/19/2021	10:17 AM	ST5-057	N	85TH ST	500	3200	Heavy flow, clear	https://drive.google.com/file/d/1zuLhee		
8/19/2021	10:25 AM	ST5-059	N	STICKNEY AND 85TH	0	1000	Heavy flow, clear	https://drive.google.com/file/d/1CuCV6		
8/19/2021	11:09 AM	ST5-032	NW	LUDINGTON	TNTC	TNTC	Low flow, clear	https://drive.google.com/file/d/1_faFRP		
8/19/2021	11:05 AM	ST5-031	NW	LUDINGTON	700	4700	Low flow, clear	https://drive.google.com/file/d/16pySbX		
8/19/2021	11:00 AM	ST5-028	NW	LUDINGTON	100	4700	Low flow, clear	https://drive.google.com/file/d/1Je-b0l6		
8/19/2021	10:55 AM	ST5-027	NW	LUDINGTON			No flow, small amount of stagnant water			
8/19/2021	10:41 AM	ST5-020	NW	LUDINGTON	100	3400	No flow, enough water to get a sample - fecal matter along egde of sewer	https://drive.google.com/file/d/1tE1DgN	https://drive.google.com/file/d/1-L2Jv0Rnwx5yypZLhpJQj4MuxS-JoZ1y/view?usp=sharing	
8/18/2021	9:00 AM	ST27-012	NE	120TH AND DIANE DR			No flow, too little to sample			
8/18/2021	9:00 AM	ST27-012	SW	120TH AND DIANE DR			No flow, too little to sample			
8/18/2021	9:00 AM	ST27-012	NW	120TH AND DIANE DR	2200	TNTC	Heavy flow, clear	https://drive.google.com/file/d/1eLGHJ		
8/18/2021	9:30 AM	ST27-029	N	122ND	300	7800	Medium flow, clear - building up from the east pipe ST27-018 E (sampled also)	https://drive.google.com/file/d/102_A8		
8/18/2021	9:30 AM	ST27-029	E	122ND	100	9200	Medium flow, clear build up mounded in this pipe	https://drive.google.com/file/d/1VEBX5		
8/19/2021	9:00 AM	ST27-018	W	120TH	TNTC	TNTC	Medium flow, clear	https://drive.google.com/file/d/13qIH5_		
8/18/2021	9:15 AM	ST27-020	W	120TH	4900	TNTC	Medium flow, clear	https://drive.google.com/file/d/1zvU3hb		

2022 MONITORING

Date	Time	Sta	Pipe Direction	Structure Location	E. coli Replicate 1 (/100mL)	Total Coliform Replicate 1 (/100mL)	Notes	Plate Photos	Infrastructure Photos
7/21/2022		ST5-052	N	84TH ST			Dry, no flow		
7/21/2022		ST5-054	N	84TH ST			Dry, no flow		
7/21/2022		ST5-055	S	84TH ST			Dry, no flow - sediment build up		
7/21/2022		ST5-057	N	85TH ST	TNTC	TNTC	Medium flow, some pooling, clear water	https://drive.google.com/file/d/1VyGeGB01r-Uss38656SRnu_16-nZ4bb/view?usp=sharing	
7/21/2022		ST5-059	N	STICKNEY AND 85TH	100	1500	Medium flow, some pooling, clear water	https://drive.google.com/file/d/1W1wv_e2xuuHxjs8RQmWQsSZF3bos33eY/view?usp=sharing	
7/21/2022		ST5-032	NW	LUDINGTON	2700	12600	Low flow, pooling, off colored water	https://drive.google.com/file/d/1Voinw8Pac0mIpRumpnp1xX_71h1OkmvJ/view?usp=sharing	
7/21/2022		ST5-031	NW	LUDINGTON	TNTC	TNTC	Low flow, pooling/stagnant water	https://drive.google.com/file/d/1UyuGkFVq_FbKrfKU5LK8NcYsHqU8eiYE/view?usp=sharing	
7/21/2022		ST5-028	NW	LUDINGTON	400	5800	Low flow, pooling/stagnant water, clear	https://drive.google.com/file/d/1VfJSGG9PRaRow9VWteluyHz2cHmdX8xU/view?usp=sharing	
7/21/2022	10:42	ST5-027	NW	LUDINGTON			Very little stagnant water, unable to collect sample		
7/21/2022	10:47	ST5-020	NW	LUDINGTON					
7/21/2022	11:10	ST27-012	NE	120TH AND DIANE DR			Stagnant, no flow, no sample collected		
7/21/2022	11:15	ST27-012	SW	120TH AND DIANE DR	700	7400	Medium flow, clear water	https://drive.google.com/file/d/1W6bG4N9ZZUl7dxpt8m80MYvDfN8VCRbU/view?usp=sharing	
7/21/2022	11:12	ST27-012	NW	120TH AND DIANE DR	800	4800	High flow, clear water	https://drive.google.com/file/d/1VPuJ0qpA1pXVuu8B6vghk4k98WzoRwAX/view?usp=sharing	
7/21/2022	11:32	ST27-029	N	122ND	0	2000	Low flow, auburn/clay colored water	https://drive.google.com/file/d/1VabEg78fSJN3wVboAtrUzBovBBcj16FH/view?usp=sharing	
7/21/2022	11:30	ST27-029	E	122ND	0	2700	Medium flow, clear /clay colored water	https://drive.google.com/file/d/1VQM87nQTUqKQ_vdj4MvOA0i6DBl0Tfzp/view?usp=sharing	
7/21/2022	11:42	ST27-018	W	120TH	1200	11800	Medium flow, clear water	https://drive.google.com/file/d/1VsC9lKEgvKopDvR97dvPYM2fl5bV1OqD/view?usp=sharing	
7/21/2022	11:45	ST27-020	W	120TH	TNTC	TNTC	Medium flow, clear water	https://drive.google.com/file/d/1V_v19dcO6RMoYG41LCBqgL1cnjO5s8g6/view?usp=sharing	
8/2/2022	9:15	ST28-025	N	116TH, N of Watertown Plank			Dry		
8/2/2022	9:23	ST28-033	N	117TH, N of Watertown Plank	3800	TNTC	Medium flow, sample collected	https://drive.google.com/file/d/1WlsOzZXuo1xYcPy-h2HsWEGS31mZW1jT/view?usp=sharing	
8/2/2022	10:37	ST28-013	W	118TH & WTP			Dry all directions		
8/2/2022	9:37	ST28-035	W	117TH & VLIET			Now flow, bottom looked damn not enough water to collect sample		
8/2/2022	9:44	ST28-069	W	117TH & CHERRY			Low flow, unable to collect sample - need to come back with a flat sided pole sampler		
8/2/2022	10:21	ST28-088	W	118TH & ELMHURST PKWY			Square man hole cover, partially cemented over unable to pop - sampled up pipe at ST28-090		https://drive.google.com/file/d/1Uw_Q3MRQmtuBmvp9lm3B2znxR0R0Sm6Z/view?usp=sharing	
8/2/2022	10:25	ST28-090	W		800	4900	Medium flow, clear, sample collected	https://drive.google.com/file/d/1WN6XAxk3k_laqoeN8Z_WDRBMKwy60YNj/view?usp=sharing		
8/2/2022	10:10	ST28-095	N, W, E	117TH & WALNUT RD	TNTC	TNTC	Low flow, samples from main stream could not differentiate between pipes, the split in direction was north of where the mar	https://drive.google.com/file/d/1WN2cX	https://drive.google.com/file/d/1WlJH9ZWpl46qZAp-A2bJC9L9jsBNd2gv/view?usp=sharing	


ST28-095
N: TNTC
W: TNTC
E: TNTC
ST28-088
W: Dry
ST28-090
W: 800
ST28-069
W: Dry
ST28-035
W: Dry
ST28-025
N: Dry
ST28-033
N: 3800
ST28-013
W: Dry
116TH ST
117TH ST
118TH ST
119TH ST
WATERTOWN PLANK RD


ST27-020
W: TNTC
ST27-029
N: 0
E: 0
ST27-018
W:1200
ST27-012
NE: n/a
SW: 700
NW: 800
CHRISTINE DR
CHRISTINE DR
122ND ST
122ND ST
121ST ST
120TH ST
119TH ST

APPENDIX D

CITY OF WAUWATOSA
ENGINEERING SERVICES
7725 WEST NORTH AVENUE
WAUWATOSA, WI 53213
Telephone: (414) 479-8927
www.wauwatosa.net

William T. Wehrley, P.E.
City Engineer
wwehrley@wauwatosa.net

CITY OF WAUWATOSA
ILLICIT DISCHARGE DETECTION & ELIMINATION
ENFORCEMENT RESPONSE PLAN

Introduction:

As a part of the City's WPDES Permit (WI-S065404-2) all major outfalls are inspected on an annual basis for the presence of illicit discharges. This information is recorded and maintained within the City's ArcGIS online platform.

Authorized Enforcement Agency:

The City's municipal code Chapter 24-13.040.O, "Illicit Connections and Discharges" outlines the compliance procedures when responding to an illicit discharge. Whenever the City of Wauwatosa finds a person has failed to meet a requirement of this section, the City of Wauwatosa may order compliance by written notice of violation to the responsible person.

Procedures for Responding to Known or Suspected Illicit Discharges:

If dry weather field screening efforts reveal discharges with color, odor, turbidity, oil sheen, or surface scum, a field analysis shall be conducted that includes testing of the discharge for detergents and ammonia. This testing shall be completed to determine whether the flow is contaminated with sanitary or wastewater, and whether the source is tap water or a natural source of water.

The City will notify the Wisconsin Department of Natural Resources (DNR), in accordance with NR 706 of the Wisconsin Administrative Code, immediately upon discovering a spill or hazardous substance which may result in discharge of pollutants to waters of the state. The DNR can be notified at **1-800-943-0003**. The City will cooperate with the DNR in efforts to investigate and prevent such discharges from polluting waters of the state.

City of Wauwatosa Response Procedures:

1.) If a call is received at the City with a report of an illicit discharge concern, the call should be forwarded to the Operations Superintendent for review within 48 hours. Public works will direct the appropriate City staff to field investigate the concern. Initial field investigation will consist of visual inspection of the surface waters and storm sewer manholes for evidence of discharge in the highlighted area. Results of this field investigation will be reported to the Engineering Division for further action.

2.) Drainage Area Investigations:

If the Operations Superintendent determines that there is reasonable evidence of an illicit discharge, the next step will be a drainage area investigation. This process can be performed by a number of City staff, such as the Director of Public Works, the

Senior Civil Engineer, or the City Engineer. This investigation consists of a parcel by parcel analysis of potential generating sites within the drainage area of a problem outfall. Techniques used to investigate the drainage area include:

a. Land Use Investigations
b. Building Permit review
c. As-built construction plan review
d. Property ownership research through County Tax Inquiry

The results of the drainage area investigation will be reported to the Senior Civil Engineer and they will determine whether further Storm Sewer Network Investigations are necessary or if the City can proceed directly to On-Site Discharge Investigations.

3.) Storm Drain Network Investigations

When a drainage area is identified, storm drain investigations can narrow the source of a discharge problem to a single segment of a storm sewer. The investigation should start at the outfall and work progressively up the trunk sewer. If necessary, the Operations Superintendent will coordinate with the City Engineer and any outside contractors, to perform the following tasks:

a. Smoke Testing
b. Video Taping
c. Dye Testing
d. Water Sampling

The results of the Storm Drain Network Investigation will be reported to the Senior Civil Engineer and it will be determined whether On-Site Discharge Investigations will be necessary.

4.) On-Site Discharge Investigations

Once the illicit discharge has been isolated to a specific section of storm sewer, an on-site investigation can be performed. On-site investigations are typically performed by observation, water sampling and/or dye testing the plumbing systems of households and buildings. The Operations Superintendents employees shall perform the on-site investigations and report finding to them for enforcement action.

5.) Correction and Enforcement

Whenever the City finds a person has violated a prohibition or failed to meet a requirement of the Illicit Connections & Discharges Ordinance as determined through the procedures above, the City may order compliance by written notice of violation to the responsible person. Such notice may require without limitation the actions listed in the Illicit Connections & Discharges Ordinance.

City of Wauwatosa Cost Estimates for Fecal Elimination Plan BMPs:

1. Sanitary sewer system I&I prevention measures (pages 2-7) – 5 year capital improvement plan estimates for this work. Aquapriori cost estimate
2. Targeted outreach to businesses and residents – This is staff time only and estimated at 40-80 hours per year
3. Green Infrastructure (pages 8-11) - Estimates for 2025 green alleys and 116th St Park
4. Water Quality Monitoring (pages 12-14) – Riverkeepers proposal

CITY OF WAUWATOSA CAPITAL IMPROVEMENTS PROGRAM
PROJECT REQUEST FORM

IDENTIFICATION

Project Title:	Schoonmaker Creek Sewershed Utility Improvements and Flood Relief
Project No.:	3005

PROJECT DESCRIPTION

Justification:	Annual Operating Budget Impact:
The Southeastern Wisconsin Regional Planning Commission (SEWRPC) was retained by MMSD to study stormwater flooding in East Tosa. Final study has been completed. In August, 2022, the Common Council narrowed the list of options down to two. We have retained a consultant to further investigate the final two options and prepare detailed cost estimates. Costs below are placeholders as the final solution(s) have not been selected yet. Funding for solutions will likely entail many years of construction beyond this 5-year window. Since it will likely be many years before a pipe solution could bring relief to these homes, a small amount of funds may be spent to reduce stormwater flood damages in susceptible areas that could go a long way towards reducing risks and anxiety for these homeowners. Water and paving costs are not fully included below but will need to be budgeted as those details are developed. Costs below assume that Sanitary and Storm pay for some of the Martha Washington paving and water main costs since that project is part of the critical path.	

Year of Construction: 2023-TBD Expected Life of Item/Project: 72 years

Request made by: William Wehrley, City Engineer

SOURCE OF FUNDS SUMMARY

Source of Funds	ACTUAL TO DATE	BUDGET TO DATE	2024	2025	2026	2027	2028	Total
Levy-backed Bonds							$ 1,000,000	$ 1,000,000
Rate-backed Bonds- San			$ 145,880			$ 3,056,520	$ 4,799,421	$ 8,001,821
Rate-backed Bonds- Storm			$ 144,280	$ 350,000		$ 316,717		$ 810,997
Rate-backed Bonds - Water								$ -
Special Assessment								$ -
Other Funds-Water								$ -
Other Funds-Sanitary			$ 104,120	$ 350,000	$ 565,000	$ 1,169,480	$ 616,290	$ 2,804,890
Other Funds-Storm			$ 105,720		$ 380,000	$ 593,283	$ 1,080,000	$ 2,159,003
TIF								$ -
General Fund Transfer								$ -
Grants//Shared Costs								$ -
Surplus								$ -
Amortization Fund								$ -
Other Funds						$ 448,950	$ 3,574,400	$ 4,023,350
Transportation Utility								$ -
Total	$ -	$ -	$ 500,000	$ 700,000	$ 945,000	$ 5,584,950	$ 11,070,111	$ 18,800,061

USE OF FUNDS - BY COMPONENT

Components	ACTUAL TO DATE	BUDGET TO DATE	2024	2025	2026	2027	2028	Total
Design - in house			$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 500,000
Design - other			$ 400,000	$ 600,000	$ 600,000	$ 1,048,950	$ 381,164	$ 3,030,114
Construction Management - in house								$ -
Construction Management - other					$ 245,000	$ 361,000	$ 259,400	$ 865,400
Land Acquisition								$ -
Construction						$ 4,075,000	$ 10,329,548	$ 14,404,548
Other								$ -
Total	$ -	$ -	$ 500,000	$ 700,000	$ 945,000	$ 5,584,950	$ 11,070,111	$ 18,800,061

USE OF FUNDS - BY PROJECT TYPE

	ACTUAL TO DATE	BUDGET TO DATE	2024	2025	2026	2027	2028	Total
Transportation						$ 269,750	$ 2,200,000	$ 2,469,750
Sanitary Sewers			$ 250,000	$ 350,000	$ 565,000	$ 4,226,000	$ 5,415,711	$ 10,806,711
Storm Sewers			$ 250,000	$ 350,000	$ 380,000	$ 910,000	$ 1,080,000	$ 2,970,000
Water						$ 179,200	$ 2,374,400	$ 2,553,600
Structures & Equip.								$ -
TIF								$ -
Parks								$ -
Other								$ -
Total	$ -	$ -	$ 500,000	$ 700,000	$ 945,000	$ 5,584,950	$ 11,070,111	$ 18,800,061

CITY OF WAUWATOSA CAPITAL IMPROVEMENTS PROGRAM
PROJECT REQUEST FORM

IDENTIFICATION

Project Title:	WA4004 Sanitary Sewer Lining and Lateral Grouting
Project No.:	3011

PROJECT DESCRIPTION

Justification:	Annual Operating Budget Impact:
Sanitary Sewer lining and grouting of sanitary laterals is scheduled for areas of sewershed WA4004 east of 70th Street and south of Blue Mound Road. Work is anticipated to take two years to complete, starting in 2025. MMSD PPII funds will be requested to offset the lateral grouting costs.	Lining of mainline sewers will aid in keeping the mains free of roots.

Year of Construction: 2026-2027 Expected Life of Item/Project: 75

Request made by: William Wehrley, City Engineer

SOURCE OF FUNDS SUMMARY

Source of Funds	ACTUAL TO DATE	BUDGET TO DATE	2024	2025	2026	2027	2028	Total
Levy-backed Bonds								$ -
Rate-backed Bonds- San				$ 200,000	$ 568,080			$ 768,080
Rate-backed Bonds- Storm								$ -
Rate-backed Bonds - Water								$ -
Special Assessment								$ -
Other Funds-Water								$ -
Other Funds-Sanitary					$ 606,920			$ 606,920
Other Funds-Storm								$ -
TIF								$ -
General Fund Transfer								$ -
Grants//Shared Costs					$ 1,400,000			$ 1,400,000
Surplus								$ -
Amortization Fund								$ -
Other Funds								$ -
Transportation Utility								$ -
Total	$ -	$ -	$ -	$ 200,000	$ 2,575,000	$ -	$ -	$ 2,775,000

USE OF FUNDS - BY COMPONENT

Components	ACTUAL TO DATE	BUDGET TO DATE	2024	2025	2026	2027	2028	Total
Design - in house				$ 200,000				$ 200,000
Design - other								$ -
Construction Management - in house					$ 75,000			$ 75,000
Construction Management - other								$ -
Land Acquisition								$ -
Construction					$ 2,500,000			$ 2,500,000
Other								$ -
Total	$ -	$ -	$ -	$ 200,000	$ 2,575,000	$ -	$ -	$ 2,775,000

USE OF FUNDS - BY PROJECT TYPE

	ACTUAL TO DATE	BUDGET TO DATE	2024	2025	2026	2027	2028	Total
Transportation								$ -
Sanitary Sewers				$ 200,000	$ 2,575,000			$ 2,775,000
Storm Sewers								$ -
Water								$ -
Structures & Equip.								$ -
TIF								$ -
Parks								$ -
Other								$ -
Total	$ -	$ -	$ -	$ 200,000	$ 2,575,000	$ -	$ -	$ 2,775,000

CITY OF WAUWATOSA CAPITAL IMPROVEMENTS PROGRAM
PROJECT REQUEST FORM

IDENTIFICATION

Project Title:	WA4003 Sanitary Sewer Lining and Lateral Grouting
Project No.:	3012

PROJECT DESCRIPTION

Justification:	Annual Operating Budget Impact:
Sanitary Sewer lining and grouting of sanitary laterals is scheduled for portions of sewershed WA4003 north of State Street. Design is anticipated to be in 2028. Construction work is anticipated to take two years to complete, starting in 2029. MMSD PPII funds will be requested to offset the lateral grouting costs.	Lining of mainline sewers will aid in keeping the mains free of roots.

Year of Construction: 2029-2030 Expected Life of Item/Project: 75

Request made by: William Wehrley, City Engineer

SOURCE OF FUNDS SUMMARY

Source of Funds	ACTUAL TO DATE	BUDGET TO DATE	2024	2025	2026	2027	2028	Total
Levy-backed Bonds								$ -
Rate-backed Bonds- San								$ -
Rate-backed Bonds- Storm								$ -
Rate-backed Bonds - Water								$ -
Special Assessment								$ -
Other Funds-Water								$ -
Other Funds-Sanitary							$ 216,000	$ 216,000
Other Funds-Storm								$ -
TIF								$ -
General Fund Transfer								$ -
Grants//Shared Costs								$ -
Surplus								$ -
Amortization Fund								$ -
Other Funds								$ -
Transportation Utility								$ -
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ 216,000	$ 216,000

USE OF FUNDS - BY COMPONENT

Components	ACTUAL TO DATE	BUDGET TO DATE	2024	2025	2026	2027	2028	Total
Design - in house							$ 216,000	$ 216,000
Design - other								$ -
Construction Management - in house								$ -
Construction Management - other								$ -
Land Acquisition								$ -
Construction								$ -
Other								$ -
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ 216,000	$ 216,000

USE OF FUNDS - BY PROJECT TYPE

	ACTUAL TO DATE	BUDGET TO DATE	2024	2025	2026	2027	2028	Total
Transportation								$ -
Sanitary Sewers							$ 216,000	$ 216,000
Storm Sewers								$ -
Water								$ -
Structures & Equip.								$ -
TIF								$ -
Parks								$ -
Other								$ -
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ 216,000	$ 216,000

CITY OF WAUWATOSA CAPITAL IMPROVEMENTS PROGRAM
PROJECT REQUEST FORM

IDENTIFICATION

Project Title:	Sanitary Sewer Spot Improvements
Project No.:	3024-3028

PROJECT DESCRIPTION

Justification:	Annual Operating Budget Impact:
During the course of a year, sink holes may develop on the street or review of television tapes may highlight areas of concern in the City's sewer system. Sometimes these problems are of such a nature that repairs must be done on an emergency basis. This account will provide funds to pay for the repairs.	

Year of Construction: Annual — Expected Life of Item/Project: 72 years

Request made by: William Wehrley, City Engineer

SOURCE OF FUNDS SUMMARY

Source of Funds	ACTUAL TO DATE	PREVIOUS YR BUDGET	2024	2025	2026	2027	2028	Total
Levy-backed Bonds								$ -
Rate-backed Bonds- San								$ -
Rate-backed Bonds- Storm								$ -
Rate-backed Bonds - Water								$ -
Special Assessment								$ -
Other Funds-Water								$ -
Other Funds-Sanitary			$ 73,200	$ 75,640	$ 78,080	$ 80,520	$ 82,960	$ 390,400
Other Funds-Storm								$ -
TIF								$ -
General Fund Transfer								$ -
Grants//Shared Costs								$ -
Surplus								$ -
Amortization Fund								$ -
Other Funds								$ -
Transportation Utility								$ -
Total	$ -	$ -	$ 73,200	$ 75,640	$ 78,080	$ 80,520	$ 82,960	$ 390,400

USE OF FUNDS - BY COMPONENT

Components	ACTUAL TO DATE	YR BUDGET	2024	2025	2026	2027	2028	Total
Design - in house			$ 9,600	$ 9,920	$ 10,240	$ 10,560	$ 10,880	$ 51,200
Design - other								$ -
Construction Management - in house								$ -
Construction Management - other			$ 3,600	$ 3,720	$ 3,840	$ 3,960	$ 4,080	$ 19,200
Land Acquisition								$ -
Construction			$ 60,000	$ 62,000	$ 64,000	$ 66,000	$ 68,000	$ 320,000
Other								$ -
Total	$ -	$ -	$ 73,200	$ 75,640	$ 78,080	$ 80,520	$ 82,960	$ 390,400

USE OF FUNDS - BY PROJECT TYPE

	ACTUAL TO DATE	YR BUDGET	2024	2025	2026	2027	2028	Total
Transportation								$ -
Sanitary Sewers			$ 73,200	$ 75,640	$ 78,080	$ 80,520	$ 82,960	$ 390,400
Storm Sewers								$ -
Water								$ -
Structures & Equip.								$ -
TIF								$ -
Parks								$ -
Other								$ -
Total	$ -	$ -	$ 73,200	$ 75,640	$ 78,080	$ 80,520	$ 82,960	$ 390,400

CITY OF WAUWATOSA CAPITAL IMPROVEMENTS PROGRAM
PROJECT REQUEST FORM

IDENTIFICATION

Project Title:	Sanitary Lining Independent of Paving
Project No.:	3100

PROJECT DESCRIPTION

Justification:	Annual Operating Budget Impact:
The intent of this program is to line and repair sanitary sewers in locations that are outside the paving program where spot repairs and relining will bring the system back to a State of Good Repair. These locations will be determined by the Engineering staff and contracts will be let for this work annually.	

Year of Construction: Annual — Expected Life of Item/Project: 72 years

Request made by: William Wehrley, City Engineer

SOURCE OF FUNDS SUMMARY

Source of Funds	ACTUAL TO DATE	BUDGET TO DATE	2024	2025	2026	2027	2028	Total
Levy-backed Bonds								$ -
Rate-backed Bonds- San			$ 277,500	$ 277,500	$ 277,500	$ 277,500	$ 277,500	$ 1,387,500
Rate-backed Bonds- Storm								$ -
Rate-backed Bonds - Water								$ -
Special Assessment								$ -
Other Funds-Water								$ -
Other Funds-Sanitary								$ -
Other Funds-Storm								$ -
TIF								$ -
General Fund Transfer								$ -
Grants//Shared Costs								$ -
Surplus								$ -
Amortization Fund								$ -
Other Funds								$ -
Transportation Utility								$ -
Total	$ -	$ -	$ 277,500	$ 277,500	$ 277,500	$ 277,500	$ 277,500	$ 1,387,500

USE OF FUNDS - BY COMPONENT

Components	ACTUAL TO DATE	BUDGET TO DATE	2024	2025	2026	2027	2028	Total
Design - in house			$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 100,000
Design - other								$ -
Construction Management - in house								$ -
Construction Management - other			$ 7,500	$ 7,500	$ 7,500	$ 7,500	$ 7,500	$ 37,500
Land Acquisition								$ -
Construction			$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 1,250,000
Other								$ -
Total	$ -	$ -	$ 277,500	$ 277,500	$ 277,500	$ 277,500	$ 277,500	$ 1,387,500

USE OF FUNDS - BY PROJECT TYPE

	ACTUAL TO DATE	BUDGET TO DATE	2024	2025	2026	2027	2028	Total
Transportation								$ -
Sanitary Sewers			$ 277,500	$ 277,500	$ 277,500	$ 277,500	$ 277,500	$ 1,387,500
Storm Sewers								$ -
Water								$ -
Structures & Equip.								$ -
TIF								$ -
Parks								$ -
Other								$ -
Total	$ -	$ -	$ 277,500	$ 277,500	$ 277,500	$ 277,500	$ 277,500	$ 1,387,500

M10005WA03 Engineer's Cost Estimate

	Units	Cost	Total
Equipment			
Extech Instruments RE300 ExStik ORP Meter	1 Each	$150.00	$150.00
Extech EC510 Waterproof ExStik II pH/Conductivity Meter Kit	1 Each	$200.00	$200.00
1 Qt Bucket	2 Each	$10.00	$20.00
1 Gallon Bucket	2 Each	$15.00	$30.00
2 Gallon Bucket	2 Each	$15.00	$30.00
7-30 ft Long Telescopic Extension Pole with Utility Hook	1 Each	$120.00	$120.00
Flash lights	2 Each	$20.00	$40.00
Sampling Liquids	1 LS	$50.00	$50.00
Use of Manhole PowerArm Electric Winch to open manhole lids	275 Each	$20.00	$5,500.00
Staff Time			
Wauwatosa Field Staff (8/28/23 - 12/31/24)	350 Hours	$100.00	$35,000.00
Total			**$41,140.00**

CITY OF WAUWATOSA

5 YEAR CAPITAL IMPROVEMENT PROGRAM

2025 PAVEMENT

STREET	FROM	TO	LENGTH LIN. FT.	WIDTH FT.	PROP. WIDTH	PROP. TYPE	CONSTRUCTION COST	ASSESS. FEET	SPECIAL ASSESS.
N. 68TH ST.	AUBURN ST.	MENOMONEE RIVER	190	40	SAME	A -ASPH	$113,430	343	$24,010
N. 115TH ST. @	UNDERWOOD PKWY	WATERTOWN PLANK RD.	1,100	36	SAME	D -ASPH	$356,400	2,005	$70,175
WATERTOWN PLK. RD. #	BRIDGE OVER RR	N. 113TH ST.	750	52	SAME	A -ASPH	$608,438	0	$0
WATERTOWN PLK. RD. #	N. 113TH ST.	N. 115TH ST.	600	52	SAME	D -ASPH	$350,460	1,922	$67,270
WATERTOWN PLK. RD. #	N. 115TH ST.	N. 124TH ST.	2,800	52	SAME	E -ASPH	$1,051,020	4,726	$66,164
WISCONSIN AVE.	N. 68TH ST.	N. 72ND ST.	1,400	40	SAME	D -ASPH	$334,320	2,103	$73,605
						TOTALS	$2,814,068		$301,224

		A-CONC -	0	FEET
DOT STREETS	0	A-ASPH -	940	FEET
LOCAL FEET STREETS	6,840	B-ASPH -	0	FEET
LOCAL MILES STREETS	1.30	C-ASPH -	0	FEET
additional feet needed for 4 miles	14,280	D-ASPH -	3,100	FEET
		E-ASPH -	2,800	FEET
		TOTAL:	6,840	FEET
			1.30	MILES
		TOTAL STREETS AND ALLEYS:	8,450	FEET
			1.6	MILES

@ INCLUDES SIDEWALK ON ONE SIDE AND MULTIUSE PATH OTHER SIDE FROM WATERTOWN PLANK TO UNDERWOOD PKWY

INCLUDES ELIMINATING GAP IN SIDEWALK ON SOUTH SIDE BETWEEN 114TH AND 116TH, INSTALLING NEW SIGNALS AND CROSSWALKS AT 115TH AND 116TH, AND A MULTI-USE TRAIL FROM 124TH TO 113TH ON ONE SIDE

ALLEY / LIMITS (NORTH - SOUTH / EAST - WEST)	LENGTH LIN. FT.	WIDTH FT.	PROP. WIDTH	PROP. TYPE	CONSTRUCTION COST	ASSESS. FEET	SPECIAL ASSESS.
WASHINGTON BLVD-WASH. CIRCLE / WASH. CIRCLE - MARTHA WASH.	975	VARIES	SAME	A-GREEN	$405,000	1,192	$97,744
HARVARD - BLUE MOUND / 109TH -111TH	635	20	SAME	A-CONC	$230,000	1,073	$87,986
	1,610			TOTALS	$635,000		$185,730

Opinion of Probable Cost Summary- 90%

9509 - Wauwatosa 116th St. Park - North Play Spaces
City of Wauwatosa, WI

11/17/2023

							Total SF	$/SF (L)	$/SF (H)
							386,916	$ 8.85	$ 10.68
Line #			**Unit**	**Quantity**	**Unit Cost(L)**	**Unit Cost(H)**	**Total Cost(L)**	**Total Cost(H)**	
	General								
1	Clearing, tree removal, and grubbing.	**A**	ls	1	$ 30,000.00	$ 50,000.00	$ 30,000.00	$ 50,000.00	
2	Miscellaneous site demolition on site as detailed on the plan or as required for proposed construction	**G**	ls	1	$ 25,000.00	$ 35,000.00	$ 25,000.00	$ 35,000.00	
						General Subtotal	**$ 55,000.00**	**$ 85,000.00**	
	Erosion Control								
3	General erosion control including maintenance and removal throughout construction.	**G**	ls	1	$ 5,000.00	$ 7,500.00	$ 5,000.00	$ 7,500.00	
4	Provide, maintain and remove silt fence.	**G**	lf	3,600	$ 5.00	$ 10.00	$ 18,000.00	$ 36,000.00	
5	Provide, install and remove inlet protection.	**G**	each	7	$ 200.00	$ 300.00	$ 1,400.00	$ 2,100.00	
6	Provide and install tracking pad.	**G**	each	2	$ 1,500.00	$ 2,500.00	$ 3,000.00	$ 5,000.00	
7	Erosion Control Matting- Class I Type B	**G**	sf	145,433	$ 0.50	$ 0.60	$ 72,716.27	$ 87,259.52	
8						**Erosion Control Subtotal**	**$ 100,116.27**	**$ 137,859.52**	
	Earthwork								
9	Common grading - excavating, filling, and preparing subgrade across entire site including under play areas.	**G**	ls	1	$ 200,000.00	$ 250,000.00	$ 200,000.00	$ 250,000.00	
10	Topsoil Import and placement (4" Thick Across Site)	**G**	cy	4,500	$ 25.00	$ 35.00	$ 112,500.00	$ 157,500.00	
11	Engineered Soil (2' Thick)	**G**	cy	1,200	$ 40.00	$ 50.00	$ 48,000.00	$ 60,000.00	
12	Clay Below Engineered Wetland (2' Thick)	**G**	sf	16,250	$ 2.00	$ 3.00	$ 32,500.00	$ 48,750.00	
13						**Earthwork**	**$ 393,000.00**	**$ 516,250.00**	
	Utilities								
14	Water Service to Restroom Building	**KN**	ls	1	$ 35,000.00	$ 35,000.00	$ 35,000.00	$ 35,000.00	
15	Sanitary Service to Restroom Building	**KN**	ls	1	$ 35,000.00	$ 30,000.00	$ 35,000.00	$ 30,000.00	
16	12" HDPE storm sewer pipe, including backfill and bedding	**G**	lf	475	$ 90.00	$ 125.00	$ 42,750.00	$ 59,375.00	
17	6" Perforated Underdrain as specified in plans	**G**	lf	1,050	$ 35.00	$ 40.00	$ 36,750.00	$ 42,000.00	
18	12" Flared End Sections	**G**	each	9	$ 700.00	$ 800.00	$ 6,300.00	$ 7,200.00	
19	6" Cleanouts for Underdrains as specified in plans	**G**	each	10	$ 250.00	$ 300.00	$ 2,500.00	$ 3,000.00	
20	48" storm sewer manhole and catch basin with frame and grate including bedding and backfill.	**G**	each	7	$ 4,000.00	$ 4,500.00	$ 28,000.00	$ 31,500.00	
21	**bedding and backfill.**					**Site Utilities Subtotal**	**$ 186,300.00**	**$ 208,075.00**	
	Lighting								
22	OF1 120V Light Fixture, 20' Pole, Concrete Base, hardware, wiring and accessories	**F**	each	4	$ 4,481.00	$ 4,916.00	$ 17,924.00	$ 19,664.00	
23	OP1 Solar Light Fixture, 20' Pole, Concrete Base, hardware and accessories	**F**	each	21	$ 8,680.00	$ 10,434.00	$ 182,280.00	$ 219,114.00	
24	OP2 Solar Light Fixture, 20' Pole, Concrete Base, hardware and accessories	**F**	each	1	$ 8,680.00	$ 10,434.00	$ 8,680.00	$ 10,434.00	
25	OP3 120V Light Fixture, 20' Pole, Concrete Base, hardware, wiring and accessories	**F**	each	2	$ 7,250.00	$ 8,575.00	$ 14,500.00	$ 17,150.00	
26	OP4 Solar Light Fixture, 20' Pole, Concrete Base, hardware and accessories	**F**	each	10	$ 8,680.00	$ 10,434.00	$ 86,800.00	$ 104,340.00	
27	OP5 Solar Light Fixture, 20' Pole, Concrete Base, hardware and accessories	**F**	each	1	$ 8,680.00	$ 10,434.00	$ 8,680.00	$ 10,434.00	
28	Panel A - Sled Hill - Mounting, wiring and necessary support	**F**	each	1	$ 5,000.00	$ 5,500.00	$ 8,680.00	$ 10,434.00	
29	Panel R - RR & Pavilion -Mounting, wiring and necessary support	**F**	each	1	$ 10,000.00	$ 11,000.00	$ 8,680.00	$ 10,434.00	
30	Push Button Control System - Mounting and necessary support for control system and wiring to (2) pushbutton locations	**F**	ls	1	$ 10,000.00	$ 11,000.00	$ 8,680.00	$ 10,434.00	
31	Underground conduit and wiring for branch circuits to sled hill light poles and pushbutton control system	**F**	ls	1	$ 15,000.00	$ 16,000.00	$ 8,680.00	$ 10,434.00	
32						**Park Lighting Subtotal**	**$ 353,584.00**	**$ 422,872.00**	
	Structures								
33	Picnic Shelter: Furnish and Install foundations for Picnic Shelter. Coordinate picnic shelter delivery and installation with owner.	**A**	ls	1	$ 2,500.00	$ 3,000.00	$ 2,500.00	$ 3,000.00	
34	Picnic Shelter: to be furnished by owner and installed by contractor	**A**	ls	1	$ 150,000.00	$ 200,000.00	$ 150,000.00	$ 200,000.00	
34	Restroom Building: Furnish and install 6" dense graded aggregate subbase, 48" deep spread footings, install utility connections and coordinate restroom delivery and installation with owner.	**KN**	ls	1	$ 10,000.00	$ 12,000.00	$ 10,000.00	$ 12,000.00	
35	Restroom Building: furnished and installed by owner	**KN**	ls	1	$ 192,500.00	$ 200,000.00	$ 192,500.00	$ 200,000.00	
36	Bench Swings: furnished by owner	**A**	ea	2	$ 30,000.00	$ 45,000.00	$ 60,000.00	$ 90,000.00	
37	Bench Swings: install and coordinate delivery of equipment and foundations	**A**	ea	2	$ 5,000.00	$ 10,000.00	$ 10,000.00	$ 20,000.00	
38	Playground Equipment: Equipment provided by owner	**A**	ls	1	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	
39	Playground Equipment: install and coordinate delivery of equipment and foundations	**A**	ls	1	$ 35,000.00	$ 50,000.00	$ 35,000.00	$ 50,000.00	
	Advanced Sensory Walk: Furnish and Install Advanced sensory walk and subbase.	**A**	sf	343	$ 65.00	$ 75.00	$ 22,295.00	$ 25,725.00	
	Intermediate Sensory Walk: Furnish and Install intermediate sensory walk and subbase.	**A**	sf	286	$ 60.00	$ 70.00	$ 17,160.00	$ 20,020.00	
	Painted Walk: Furnish and installed painted concrete	**A**	SF	450	$ 3.00	$ 4.00	$ 1,350.00	$ 1,800.00	
	Wooden platforms: Furnish and install Robinia platforms, piers and concrete foundations	**A**	sf	458	$ 75.00	$ 100.00	$ 34,350.00	$ 45,800.00	
	Log Steppers: Furnish and install Robinia log steppers and subbase	**A**	ea	165	$ 30.00	$ 40.00	$ 4,950.00	$ 6,600.00	
39	Balance beam: Furnish and install Robinia log balance beam and subbase	**A**	ea	19	$ 125.00	$ 150.00	$ 2,375.00	$ 2,850.00	
40						**Structures**	**$ 742,480.00**	**$ 877,795.00**	
	Hardscape								
41	3/4" Crushed Aggregate Base (Concrete Pavement)	**A**	Tons	49	$ 30.00	$ 35.00	$ 1,471.20	$ 1,716.41	
42	6" Thick Concrete Pavement (ADA Ramps and path)	**A**	sf	1,911	$ 9.00	$ 12.00	$ 17,199.00	$ 22,932.00	
43	#2 Clear Stone (Porous Pavement)	**G**	Tons	2,587	$ 30.00	$ 45.00	$ 77,614.32	$ 116,421.48	
44	Table 57 Clear Stone (Porous Pavement)	**G**	Tons	862	$ 50.00	$ 45.00	$ 43,119.07	$ 38,807.16	
45	Open Graded Base (Under Bios)	**G**	Tons	795	$ 40.00	$ 45.00	$ 31,816.82	$ 35,793.92	
46	Geotextile Fabric (Porous Pavement)	**G**	sy	5,601	$ 3.00	$ 4.00	$ 16,802.67	$ 22,403.56	
47	Geogrid Liner (Porous Pavement)	**G**	sy	5,601	$ 6.00	$ 8.00	$ 33,605.33	$ 44,807.11	
48	Porous Asphaltic Pavement	**G**	sf	50,408	$ 3.80	$ 4.00	$ 191,550.40	$ 201,632.00	
49	Modular Block MSE Retaining Walls	**A**	sf	503	$ 60.00	$ 75.00	$ 30,180.00	$ 37,725.00	
50	Concrete Pavement: furnish and install 5" thick concrete pavement with reinforcement	**A**	sf	11,000	$ 14.00	$ 16.00	$ 154,000.00	$ 176,000.00	
51	Stabilized Aggregate Paving: furnish and install 4" thick aggregate paving and 6" thick crushed aggregate base	**A**	sf	339	$ 35.00	$ 40.00	$ 11,865.00	$ 13,560.00	
52	Raised Concrete Curb: install and furnish 6" wide, 18" tall raised curb with 6" crushed aggregate subbase	**A**	lf	134	$ 35.00	$ 43.00	$ 4,690.00	$ 5,762.00	

53	Flush Concrete Curb: install and furnish 6" wide, 12" tall flush curb with 6" crushed aggregate subbase	A	lf	43	$ 28.00	$ 30.00	$ 1,204.00	$ 1,290.00
54	Thickened Edge Concrete Pavement: furnish and install 5" thick, 6" wide thickened edge with reinforcement	A	lf	1,350	$ 10.00	$ 14.00	$ 13,500.00	$ 18,900.00
55	Engineered Wood Fiber Surfacing: furnish and install 12" thick engineered wood fiber and 6" crushed aggregate base	A	sf	2,254	$ 3.00	$ 5.00	$ 6,762.00	$ 11,270.00
56	Play Turf Surfacing w/ Aggregate Subbase: furnish and install play turf, impact attenuation layer, aggregate subbase and infill rubber as manufacturer recommended	A	sf	4,689	$ 25.00	$ 30.00	$ 117,225.00	$ 140,670.00
57	Play Turf Surfacing w/ Concrete Subbase: furnish and install play turf, impact attenuation layer, 5" thick concrete subbase and infill rubber as manufacturer recommended	A	sf	856	$ 30.00	$ 38.00	$ 25,680.00	$ 32,528.00
58	Boulders (Retaining and Edging) coordinate and install owner provided boulders	A	ea	109	$ 100.00	$ 200.00	$ 10,900.00	$ 21,800.00
59	Stone Steppers: coordinate and install owner provided boulders	A	ea	15	$ 100.00	$ 200.00	$ 1,500.00	$ 3,000.00
60						**Hardscape Subtotal**	**$ 790,684.81**	**$ 947,018.63**
	Fencing							
61	Access Gate (Swing)	A	each	3	$ 15,000.00	$ 18,000.00	$ 45,000.00	$ 54,000.00
62	8' HT Chain Link - Black Vinyl Coating	A	lf	450	$ 80.00	$ 100.00	$ 36,000.00	$ 45,000.00
63	Handrail: furnish and install stainless steel pipe rail, 36" high, 1.5" diameter and concrete foundations	A	lf	63	$ 95.00	$ 125.00	$ 5,985.00	$ 7,875.00
64						**Fencing Subtotal**	**$ 86,985.00**	**$ 106,875.00**
	Site Furnishings							
65	Mesh Trash Receptacles: furnished and installed by owner	A	ea	10	$ 400.00	$ 400.00	$ 4,000.00	$ 4,000.00
66	Trash Receptacle, Type 1: furnished and installed by owner	A	ea	7	$ 1,000.00	$ 1,000.00	$ 7,000.00	$ 7,000.00
67	Recycling Receptacle: furnished and installed by owner	A	ea	3	$ 1,000.00	$ 1,000.00	$ 3,000.00	$ 3,000.00
68	Hot Coal Receptacle: furnished and installed by owner	A	ea	1	$ 800.00	$ 800.00	$ 800.00	$ 800.00
69	Bench type 2: furnished and installed by owner	A	ea	13	$ 1,800.00	$ 1,800.00	$ 23,400.00	$ 23,400.00
70	Bench type 3: furnished by owner	A	ea	6	$ 1,000.00	$ 1,000.00	$ 6,000.00	$ 6,000.00
71	Bench type 3: install bench and foundations	A	ea	6	$ 250.00	$ 350.00	$ 1,500.00	$ 2,100.00
72	Bench type 1: furnished by owner	A	ea	5	$ 1,000.00	$ 1,000.00	$ 5,000.00	$ 5,000.00
73	Bench type 1: install bench and foundations	A	ea	5	$ 250.00	$ 350.00	$ 1,250.00	$ 1,750.00
74	Picnic Table, Type 1: furnished and installed by owner	A	ea	1	$ 1,500.00	$ 1,500.00	$ 1,500.00	$ 1,500.00
75	Picnic Table, Type 2: furnished and installed by owner	A	ea	1	$ 1,500.00	$ 1,500.00	$ 1,500.00	$ 1,500.00
76	Picnic Table, Type 3: furnished and installed by owner	A	ea	6	$ 1,400.00	$ 1,400.00	$ 8,400.00	$ 8,400.00
77	game table: furnished and installed by owner	A	ea	2	$ 1,500.00	$ 1,500.00	$ 3,000.00	$ 3,000.00
78	Bike Racks: furnished and installed by owner	A	ea	2	$ 600.00	$ 600.00	$ 1,200.00	$ 1,200.00
79						**Site Furnishings Subtotal**	**$ 67,550.00**	**$ 68,650.00**
	Signage							
80	Wayfinding and Rules Signage (Single-Post Panel Sign)	A	ls	1	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00
81	Provide and install signs where shown on plans including ADA sign posts, digging post holes, setting posts, mounting signs, sign hardware.	A	each	4	$ 750.00	$ 800.00	$ 3,000.00	$ 3,200.00
82	ADA Detectable Warning Field (2' x 5')	A	each	6	$ 200.00	$ 225.00	$ 1,200.00	$ 1,350.00
83	Entry Park Identifier Sign (Custom/Monument)	T	ea	1	$ 20,000.00	$ 30,000.00	$ 20,000.00	$ 30,000.00
84						**Signage Subtotal**	**$ 74,200.00**	**$ 84,550.00**
	Landscape							
85	Seed mix - lawn: furnish and install	G	acre	1.0	$ 2,500.00	$ 3,500.00	$ 2,500.00	$ 3,500.00
86	Seed mix - No Mow Lawn - furnish and install	G	acre	1.5	$ 2,500.00	$ 3,500.00	$ 3,750.00	$ 5,250.00
87	Seed mix-low prairie: Furnish and install seed mix with straw blanket	G	acre	2.3	$ 5,000.00	$ 7,500.00	$ 11,500.00	$ 17,250.00
88	Seed mix-Basin : Furnish and install seed mix with straw blanket	G	acre	0.3	$ 5,000.00	$ 7,500.00	$ 1,500.00	$ 2,250.00
89	Seed mix-Emergent Slope : Furnish and install seed mix with straw blanket	G	acre	1.0	$ 7,000.00	$ 9,000.00	$ 7,000.00	$ 9,000.00
90	Deciduous Tree - furnished and installed by owner	G	ls	1	$ 30,000.00	$ 35,000.00	$ 30,000.00	$ 35,000.00
91	Evergreen tree - furnished and installed by owner	G	ls	1	$ 20,000.00	$ 23,000.00	$ 20,000.00	$ 23,000.00
92	Shrubs	G	ls	1	$ 8,000.00	$ 10,000.00	$ 8,000.00	$ 10,000.00
93	Perennials	G	ls	1	$ 6,000.00	$ 8,000.00	$ 6,000.00	$ 8,000.00
94	Ornamental grasses	G	ls	1	$ 4,000.00	$ 5,000.00	$ 4,000.00	$ 5,000.00
95	shredded hardwood bark mulch	G	sy	1,175	$ 12.00	$ 15.00	$ 14,100.00	$ 17,625.00
96	irrigation: design, furnish and install irrigation system	G	ls	1	$ 100,000.00	$ 100,000.00	$ 100,000.00	$ 100,000.00
						Landscape Subtotal	**$ 208,350.00**	**$ 235,875.00**

	SUBTOTAL	**$ 3,058,250.07**	**$ 3,690,820.15**
	GENERAL CONDITIONS & CONSTRUCTION MANAGEMENT (5%)	$ 305,825.01	$ 369,082.01
	PERMITS, BONDS & INSURANCE (2%)	$ 61,165.00	$ 73,816.40
	PARK TOTAL	**$ 3,425,240.08**	**$ 4,133,718.57**

Notes: (L) (H)

Grants/Funding Sources	ARPA [A]		MMSD (FCGC and Green Solutions) [G]		TOURISM [T]		POTENTIAL KNOWLES NELSON (KN)		Fund for Lake Michigan (F)	
Amount:	**$ 1,700,000.00**		**$ 1,300,000.00**		**$ 250,000.00**		**$ 250,000.00**			
	(L)	**(H)**	**(L)**	**(H)**	**(L)**	**(H)**	**(L)**	**(H)**	**(L)**	**(H)**
Subtotal:	$ 1,174,891.20	$ 1,433,023.41	$ 1,237,274.87	$ 1,527,924.74	$ 20,000.00	$ 30,000.00	$ 272,500.00	$ 277,000.00	$ 353,584.00	$ 422,872.00

Total Check	$	3,058,250.07	$	3,690,820.15

Proposal to Monitor Municipal Stormwater Outfalls for Bacteria
Submitted to the City of Wauwatosa Department of Public Works
April 15, 2021

Background

The second Menomonee River Watershed Stormwater Permit (effective April 2020) requires that municipalities determine their own monitoring procedures to test for bacteria in stormwater and implement that procedure within the 5 year permit term, responsive to the Total Maximum Daily Load (TMDL) for bacteria approved by US EPA in 2018. This requirement applies to all municipalities and geographic areas within the Milwaukee River Basin. This requirement is also responsive to the illicit discharge detection and elimination minimum measure as defined under State (NR216) and Federal stormwater regulations. This permit requirement builds upon research and priority projects/policies identified in past watershed plans, including: The Menomonee River Watershed Restoration Plan and associated Implementation Plan (2010), Menomonee River Nine Key Element Plan (Draft), and the SEWPRC Regional Water Quality Management Plan Update (2008).

The first Menomonee River Watershed Stormwater Permit (2012) required municipalities to create an illicit discharge protocol for human bacteria to respond to research showing significant bacteria loading in the watershed coming from municipal stormwater systems. Municipalities crafted and conducted a desktop analysis to identify stormwater outfalls and drainage areas with a high likelihood of human bacteria contamination. The desktop analysis included considerations such as pipe crossings (or joint trenching of sanitary and stormwater pipes), historic land use, past issues, NAASCO scores, etc. Starting to conduct monitoring of stormwater outfalls with a high likelihood of discharging human sewage is the next step in this process.

Scope of Work

Milwaukee Riverkeeper proposes to test all major stormwater outfalls (around 40) as well as a selection of minor stormwater outfalls and "upstream" manholes (20+), as identified by the City of Wauwatosa to not exceed contracted funding. Stormwater outfalls will be tested for *E. coli* bacteria in dry weather conditions. *E. coli* bacteria are a better indicator of potential human sewage than fecal coliform and total coliform, which both include a wider variety of animal-based and natural bacteria sources.

Milwaukee Riverkeeper is well suited to conduct this work for several reasons. We conducted significant testing of stormwater outfalls in hot spots of high bacteria in the Menomonee River between Burleigh Ave and Hawley Ave, as well as sections of Honey and Underwood Creeks, within the City of Wauwatosa from 2008-2016 as part of a joint project with Dr. Sandra McLellan's lab at University of Wisconsin-Milwaukee School of Freshwater Sciences. This testing included both dry and wet weather testing. All stormwater outfalls were tested if running during dry weather and at least 3 times during wet weather conditions. We used a tiered approach, where initial samples were analyzed using traditional plating of bacteria, and outfalls with high results of *E. coli* after a 24-hour incubation period were subsequently reanalyzed using qPCR for human strains of Bacteroides and Lachnospiraceae. These results were shared with the City of Wauwatosa to help prioritize

problem stormwater outfalls for additional diagnostic testing and repair work. We also currently monitor bacteria (using 3M Petrifilm) as part of our Citizen-Based Water Quality Monitoring Program to test bacteria levels in streams within the Milwaukee River Basin. Our most recent Milwaukee River Basin Report Card can be found here: https://www.milwaukeeriverkeeper.org/2019-milwaukee-river-basin-report-card/

For this proposed work, Milwaukee Riverkeeper proposes to use 3M Petrifilm Plates to test stormwater outfall water samples using a protocol documented in our Milwaukee Riverkeeper Bacteria Monitoring Training Manual (attached). Milwaukee Riverkeeper will collect water samples at stormwater outfalls or from manholes identified by the City, plate those samples on 3M Petrifilm, incubate them, and count *E. coli* colonies. We will provide the City with our data, as well as make recommendations for future research and outfalls to prioritize for other diagnostic tests. Based on the data from this pilot study, we may be able to make a recommendation as to an appropriate bacteria level for Wauwatosa that could help "flag" or prioritize stormwater outfalls for additional study based on initial analysis. Additional study could include more rigorous scientific analysis of stormwater outfalls with high bacteria levels (e.g., water sample sent to certified lab, water sample analyzed with qPCR, etc.), more "up the pipe" analysis to better define bacteria sources in the tributary storm sewers, and/or more engineering studies to define pipe condition and identify problem areas for smoke testing, dye testing, etc.

If Wauwatosa would like us to help test stormwater quality from street manholes "up the pipe" from problem stormwater outfalls or to follow up on past testing of outfalls that has been done by Riverkeeper and partners the past, then we would require some assistance from City staff to safely shut down or divert traffic in work areas. If desired by the City, we could also conduct quality assurance testing of 10-20% of our water samples analyzed with 3M Petrifilm against traditional bacteria plating methods, as tested by UWM-School of Freshwater Sciences or the Wisconsin State Lab of Hygiene. Prior to Milwaukee Riverkeeper using the 3M products for our citizen science program, we participated in a larger state study of several different types of bacteria monitoring products, and the 3M products were found to be the most effective, cheapest, and easiest to use (see attached article: Stepenuck et al. 2010).

Timeline

Upon contract approval, Milwaukee Riverkeeper could begin sampling starting in April of 2021, depending on stream water levels and weather conditions. Many outfalls are inundated or under water during high river flows, which generally correspond with early spring, and that could delay sampling of some stormwater outfalls (assuming there is not an opportunity to grab a sample at a "terminal" manhole). In addition, testing from street manholes may not always be possible during dry weather if there is not enough flow or if flow is too laminar. Stormwater can be pooled using sandbags, but this may make sample collection very slow depending on the pitch of the sewer and amount of flow. Depending on the City's needs and availability for any street/manhole testing, we would be able to have most outfall samples tested by end of June 2021, with some additional "up the pipe" testing in the summer as city resources permit.

Budget

Materials:

$250 for 50+ 3M Petrifilms

$50 for pipettes, gloves, and other supplies

Staffing:

We are estimating 2 Riverkeeper staff working on this project for 2 weeks. But depending on how much time it takes to geo-locate these sites, accessibility of outfalls/manholes, and how often we have to visit sites to obtain samples, *it could be significantly less time* if conditions are good or *significantly more time* if sampling is not possible during dry weather, and wet weather samples are required. We propose to complete this work based on our hourly rate, with a not to exceed cap of $15,000. We will test all 40 major outfalls and as many additional minor outfalls and manholes as possible up to this contract limit.

One Senior Staff person at $65/hr x 120 hours = $7,800

One Field Staff person at $50/hr x 120 hours = $6,000

Mileage:

$250 (estimate)

Quality Assurance Testing (Optional):

These water samples would be analyzed for *E. coli* using traditional bacteria plating methods by UWM-School of Freshwater Sciences OR the Wisconsin State Lab of Hygiene. We recommend testing at least 15% of samples (estimated at 60) with traditional plating techniques.

9 samples (10%) x $30 = $270

Total Estimated Budget: $14,620

TOTAL NOT TO EXCEED BUDGET: $15,000

CITY OF WAUWATOSA
ENGINEERING SERVICES
7725 WEST NORTH AVENUE
WAUWATOSA, WI 53213
Telephone: (414) 479-8927
www.wauwatosa.net

William T. Wehrley, P.E.
City Engineer
wwehrley@wauwatosa.net

CITY OF WAUWATOSA
BACTERIA SOURCE INVENTORY

As a part of the City's WPDES Permit (WI-S065404-2) the City of Wauwatosa shall develop and submit an inventory of fecal coliform sources and a map indicating the location of the potential sources. The following is a list of potential sources investigated:

1. Known or suspected leaking or failing septic systems.
    a. There are no known septic systems within the City of Wauwatosa

2. Sanitary sewer overflow locations
    a. WA3012-189A
    b. WA3012-187A
    c. WA3040-124A
    d. WA3008-255A
    e. WA3032-227
    f. WA3032-238
    g. WA3037-503A

3. Livestock and domesticated animals housed or raised within the MS4 permitted area and discharging into the MS4, but not including household pets.
    a. There are no known livestock housed/raised within the City of Wauwatosa

4. Zoos, kennels, animal breeders, pet stores, and dog training facilities.
    a. 2929 N 114th St
    b. 6228 W State St

5. Waste hauling, storage, and transfer facilities.
    a. Department of Public Works at 11100 W Walnut Rd. No onsite transfer facilities. Waste is hauled directly to landfills.

6. Areas that attract congregations of nuisance urban birds and wildlife.
    a. The City is not aware of any congregations of nuisance wildlife. We will continue to monitor water bodies for this.

7. Known or suspected properties with inadequate food or organic waste handling or storage.
    a. No known or suspected properties within the city.

8. Composting sites or facilities.
    a. 3rd party collection of residential compost is completed within the City. The composting is done off site. The City holds a permit for some on site composing at the Department of Public Works.

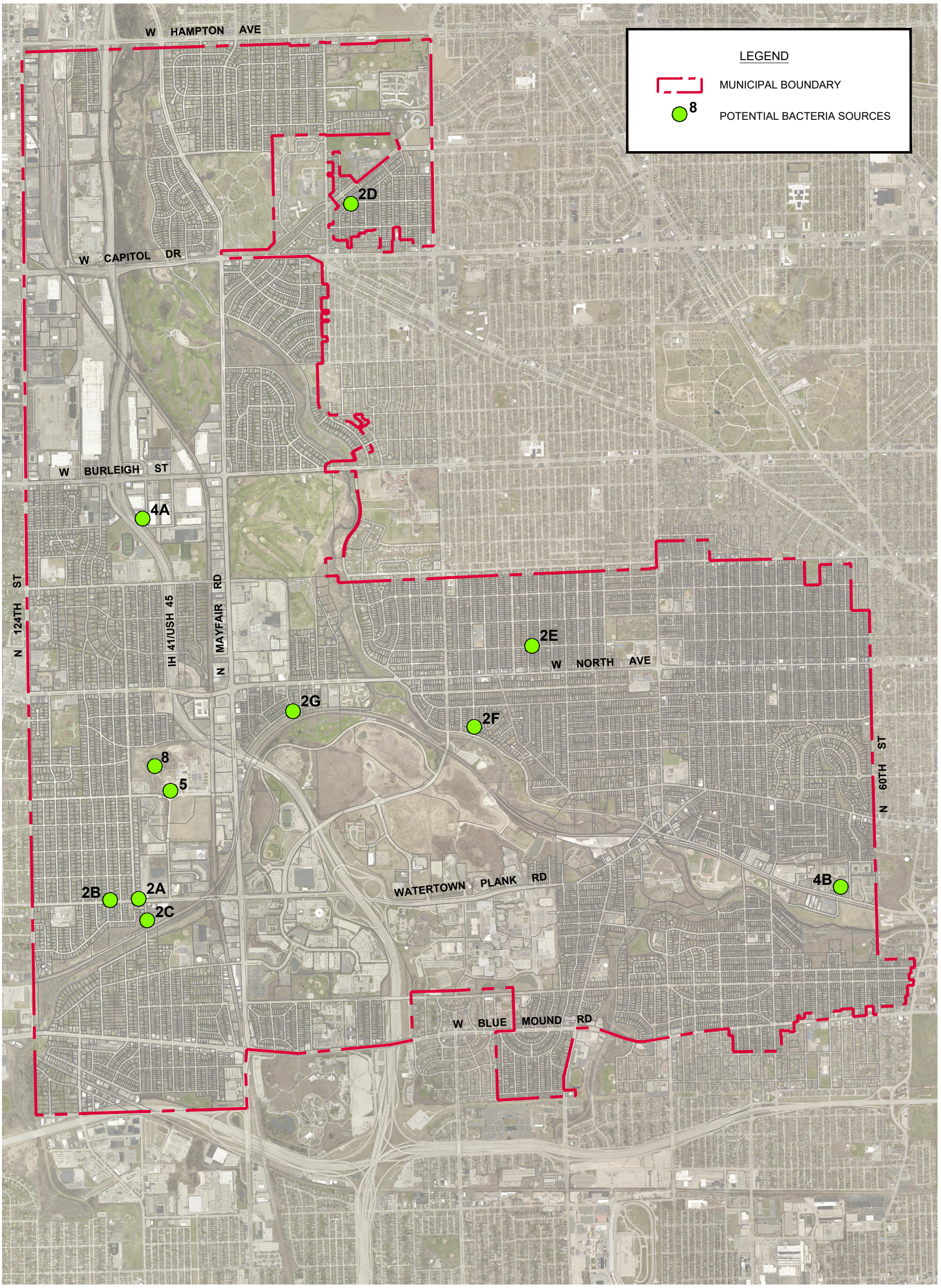
9. Known or suspected areas with improper human sanitation use.
    a. No known or suspected areas.

10. Any other source that the permittee identifies as discharging to the MS4.
    a. No other sources were identified.

BACTERIA SOURCE IDENTIFICATION MAP

CITY OF WAUWATOSA
MARCH, 2023

SCALE
0 2400 4800
FEET



FILE NAME : S:\DEPARTMENT FOLDERS\ENGINEERING\WDNR ANNUAL REPORTS\2022\BACTERIA SOURCE MAP\WAUWATOSA BACTERIA SOURCE MAP.DWG PLOT DATE : 3/9/2023 3:00 PM PLOT BY : WTREU

CITY OF WAUWATOSA
ENGINEERING SERVICES
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WAUWATOSA, WI 53213
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William T. Wehrley, P.E.
City Engineer
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CITY OF WAUWATOSA
ILLICIT DISCHARGE DETECTION & ELIMINATION
ENFORCEMENT RESPONSE PLAN

Introduction:

As a part of the City's WPDES Permit (WI-S065404-2) all major outfalls are inspected on an annual basis for the presence of illicit discharges. This information is recorded and maintained within the City's ArcGIS online platform.

Authorized Enforcement Agency:

The City's municipal code Chapter 24-13.040.O, "Illicit Connections and Discharges" outlines the compliance procedures when responding to an illicit discharge. Whenever the City of Wauwatosa finds a person has failed to meet a requirement of this section, the City of Wauwatosa may order compliance by written notice of violation to the responsible person.

Procedures for Responding to Known or Suspected Illicit Discharges:

If dry weather field screening efforts reveal discharges with color, odor, turbidity, oil sheen, or surface scum, a field analysis shall be conducted that includes testing of the discharge for detergents and ammonia. This testing shall be completed to determine whether the flow is contaminated with sanitary or wastewater, and whether the source is tap water or a natural source of water.

The ~~City~~ Operations Superintendent will notify the Wisconsin Department of Natural Resources (DNR), in accordance with NR 706 of the Wisconsin Administrative Code, immediately upon discovering a spill or hazardous substance which may result in discharge of pollutants to waters of the state. The DNR can be notified at **1-800-943-0003**. The City will cooperate with the DNR in efforts to investigate and prevent such discharges from polluting waters of the state.

City of Wauwatosa Response Procedures:

1.) If a call is received at the City with a report of an illicit discharge concern, the call should be forwarded to the Operations Superintendent for review within 48 hours. Public works will direct the appropriate City staff to field investigate the concern. Initial field investigation will consist of visual inspection of the surface waters and storm sewer manholes for evidence of discharge in the highlighted area. Results of this field investigation will be reported to the Engineering Division for further action.

2.) Drainage Area Investigations:

If the Operations Superintendent determines that there is reasonable evidence of an illicit discharge, the next step will be a drainage area investigation. This process can be performed by a number of City staff, such as the Director of Public Works, the

Senior Civil Engineer, or the City Engineer. This investigation consists of a parcel by parcel analysis of potential generating sites within the drainage area of a problem outfall. Techniques used to investigate the drainage area include:

a. Land Use Investigations
b. Building Permit review
c. As-built construction plan review
d. Property ownership research through County Tax Inquiry

The results of the drainage area investigation will be reported to the Senior Civil Engineer and they will determine whether further Storm Sewer Network Investigations are necessary or if the Operations Superintendent ~~City~~ can proceed directly to On-Site Discharge Investigations.

3.) Storm Drain Network Investigations

When a drainage area is identified, storm drain investigations can narrow the source of a discharge problem to a single segment of a storm sewer. The investigation should start at the outfall and work progressively up the trunk sewer. If necessary, the Operations Superintendent will coordinate with the City Engineer and any outside contractors, to perform the following tasks:

a. Smoke Testing
b. Video Taping
c. Dye Testing
d. Water Sampling

The results of the Storm Drain Network Investigation will be reported to the Senior Civil Engineer and it will be determined whether On-Site Discharge Investigations will be necessary.

4.) On-Site Discharge Investigations

Once the illicit discharge has been isolated to a specific section of storm sewer, an on-site investigation can be performed. On-site investigations are typically performed by observation, water sampling and/or dye testing the plumbing systems of households and buildings. The Operations Superintendents employees shall perform the on-site investigations and report finding to them for enforcement action.

5.) Correction and Enforcement

Whenever the City finds a person has violated a prohibition or failed to meet a requirement of the Illicit Connections & Discharges Ordinance as determined through the procedures above, the City may order compliance by written notice of violation to the responsible person. Such notice may require without limitation the actions listed in the Illicit Connections & Discharges Ordinance, Section 24.13.040(O). Language from this section is included below for reference.

O. Illicit Connections and Discharges.

1. The following definitions shall be applicable in this subsection:

   a. "Illicit connection" means any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including, but not limited to any conveyances which allow any non-stormwater discharge including sewage, process wastewater, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been allowed, permitted, or approved by a government agency, prior to the adoption of this chapter.

   b. "Person" means any individual, association, organization, partnership, firm, corporation or other entity recognized by law and acting as either the owner or as the owner's agent.

   c. "Storm drain system" means publicly-owned facilities by which stormwater is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and humanmade or altered drainage channels, reservoirs, and other drainage structures.

2. Illicit Connections and Discharges Prohibited.

   a. No person shall discharge, spill or dump substances or materials which are not entirely composed stormwater into receiving bodies of water or onto driveways, sidewalks, parking lots or other areas that drain into the storm drainage system.

   b. The construction, use, maintenance or continued existence of illicit connections to the storm drainage system is prohibited. This prohibition expressly includes, without limitation, illicit connections made prior to the adoption of this chapter, regardless of whether the connections was permissible under law or practice applicable or prevailing at the time of connection.

   c. The following activities are exempt from the provisions of this section unless found to have an adverse impact on the stormwater:

      (1) Discharges authorized by a permit issued by the Wisconsin Department of Natural Resources.

      (2) Discharges resulting from firefighting activities.

      (3) Discharges from uncontaminated ground water, potable water source, roof drains, foundation drain and sump pump, air conditioning condensation, springs, lawn watering, individual residential car washing, water main and hydrant flushing and swimming pools if the water has been dechlorinated.

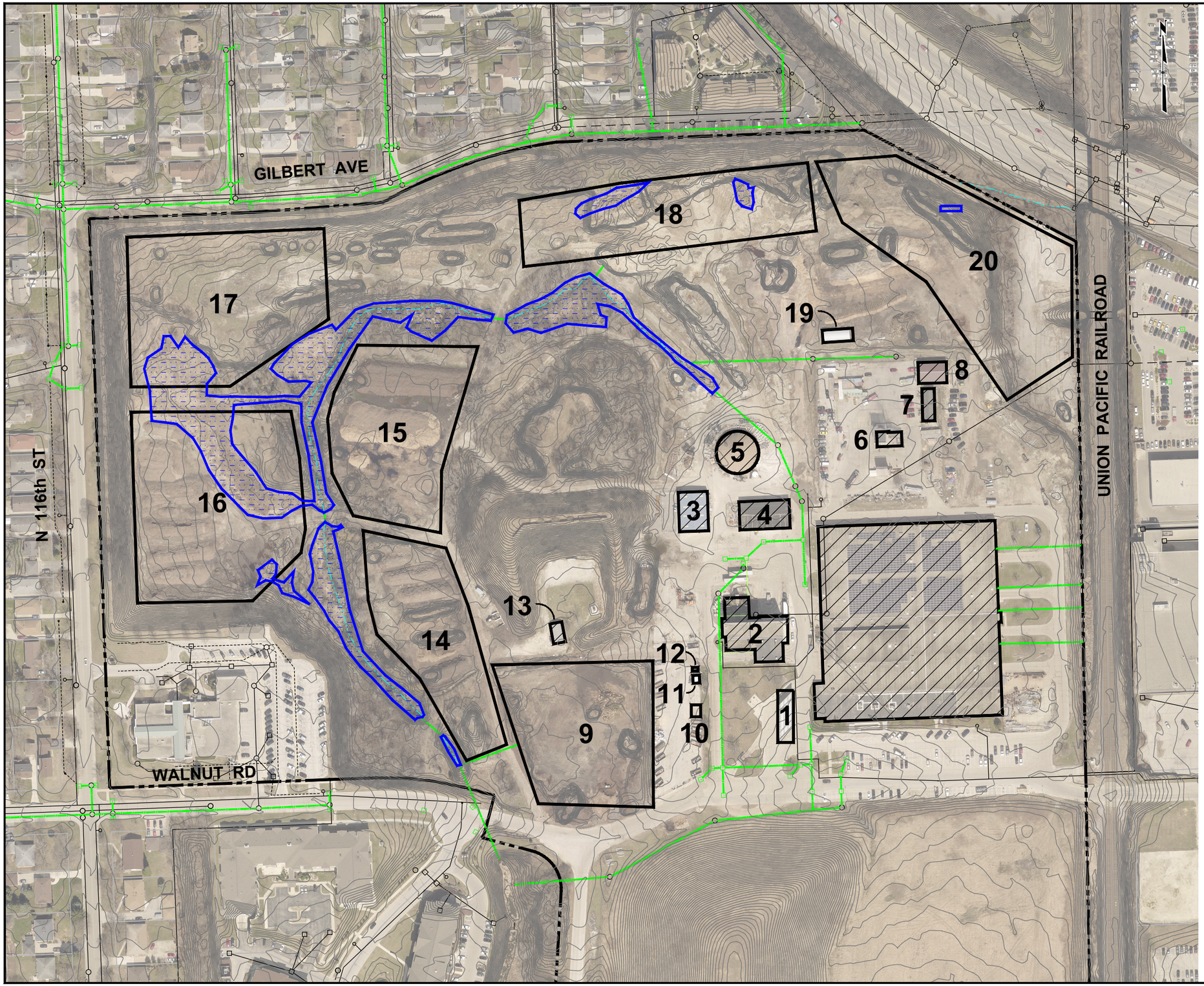
   d. Whenever the City of Wauwatosa finds a person has violated a prohibition or failed to meet a requirement of this section, the City of Wauwatosa may order compliance by written notice of violation to the responsible person. Such notice may require without limitation:

      (1) The elimination of illicit connections or discharges;

      (2) That violating discharges, practices, or operations shall cease and desist;

      (3) The abatement or remediation of stormwater pollution or contaminated hazards and the restoration of any affected property;

      (4) In the event the person fails to eliminate the illicit connects or discharge, fails to cease and desist in discharge, practices or operations in violation of this section or fails to abate or remediate the stormwater pollution or contamination hazards, that person may be subject to a forfeiture of not less than fifty dollars nor more than five hundred dollars for each offense, together with the costs of prosecution. Each day that the violation exists shall constitute a separate offense.



CITY OF WAUWATOSA
PUBLIC WORKS YARD

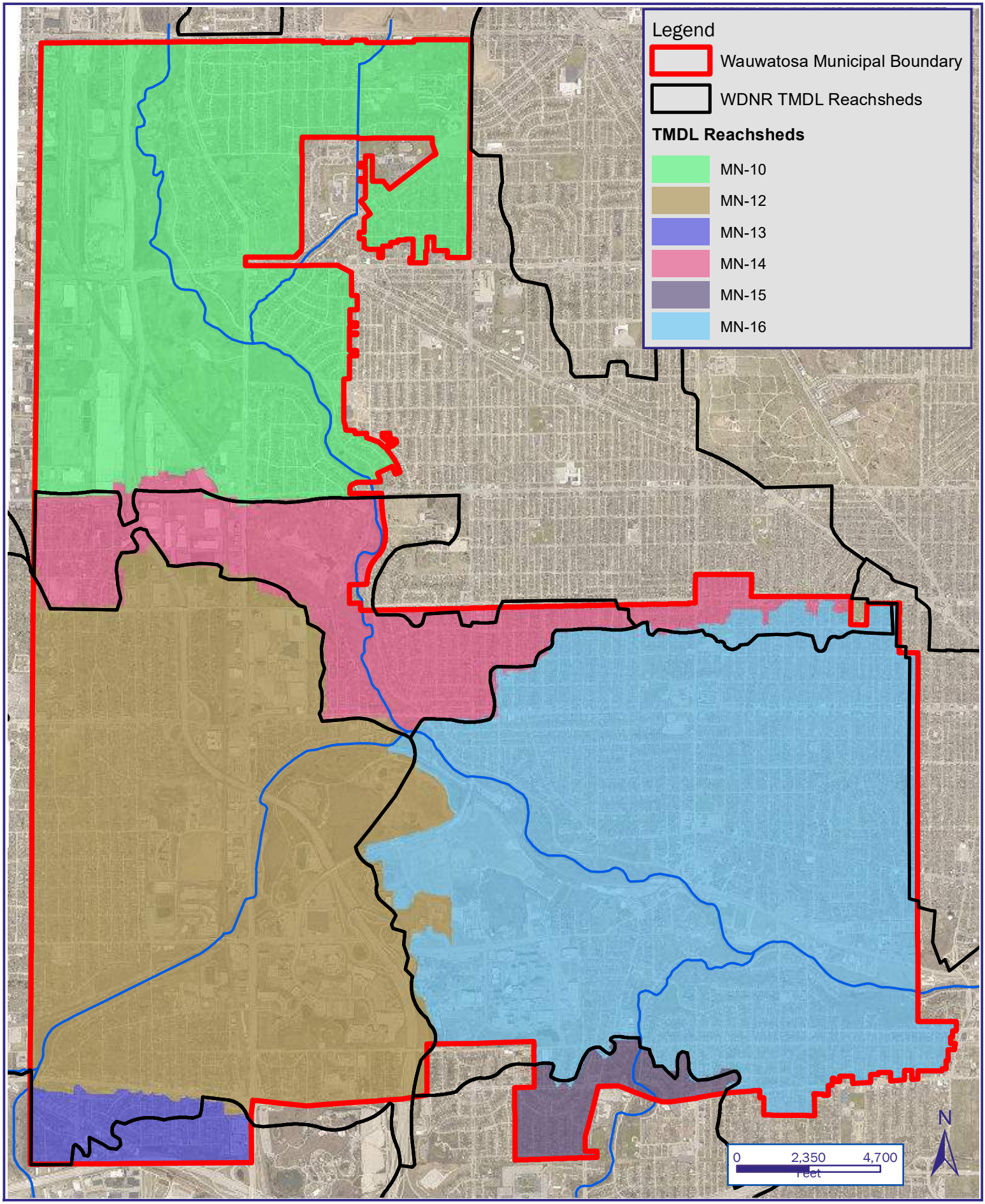
SWPP SITE INVESTIGATIONS

KEY

1. FUEL PUMPS
2. TRANSFER STATION
3. POLICE BUILDING
4. COVERED GRAVEL
5. SALT DOME
6. FD TOWER
7. FD BUILDING
8. FD BUILDING
9. RESIDENTIAL AREA FOR YARD WASTE
10. RESIDENTIAL DROP OFF SHED
11. ELECTRICAL SUB-STATION
12. STORAGE SHED
13. PD SHOOTING RANGE BUILDING
14. COMPOST SITE #1
15. COMPOST SITE #2
16. SNOW DUMP
17. FORESTRY DUMP
18. ROAD SPOILS DUMP
19. FORESTRY TOP SOIL BUILDING
20. DOT PROJECT SITE

SCALE: 1" = 200', SEPT. 2022

S:\Engineering\WDNR ANNUAL REPORTS\2022\SWPP\DPW Site.dwg



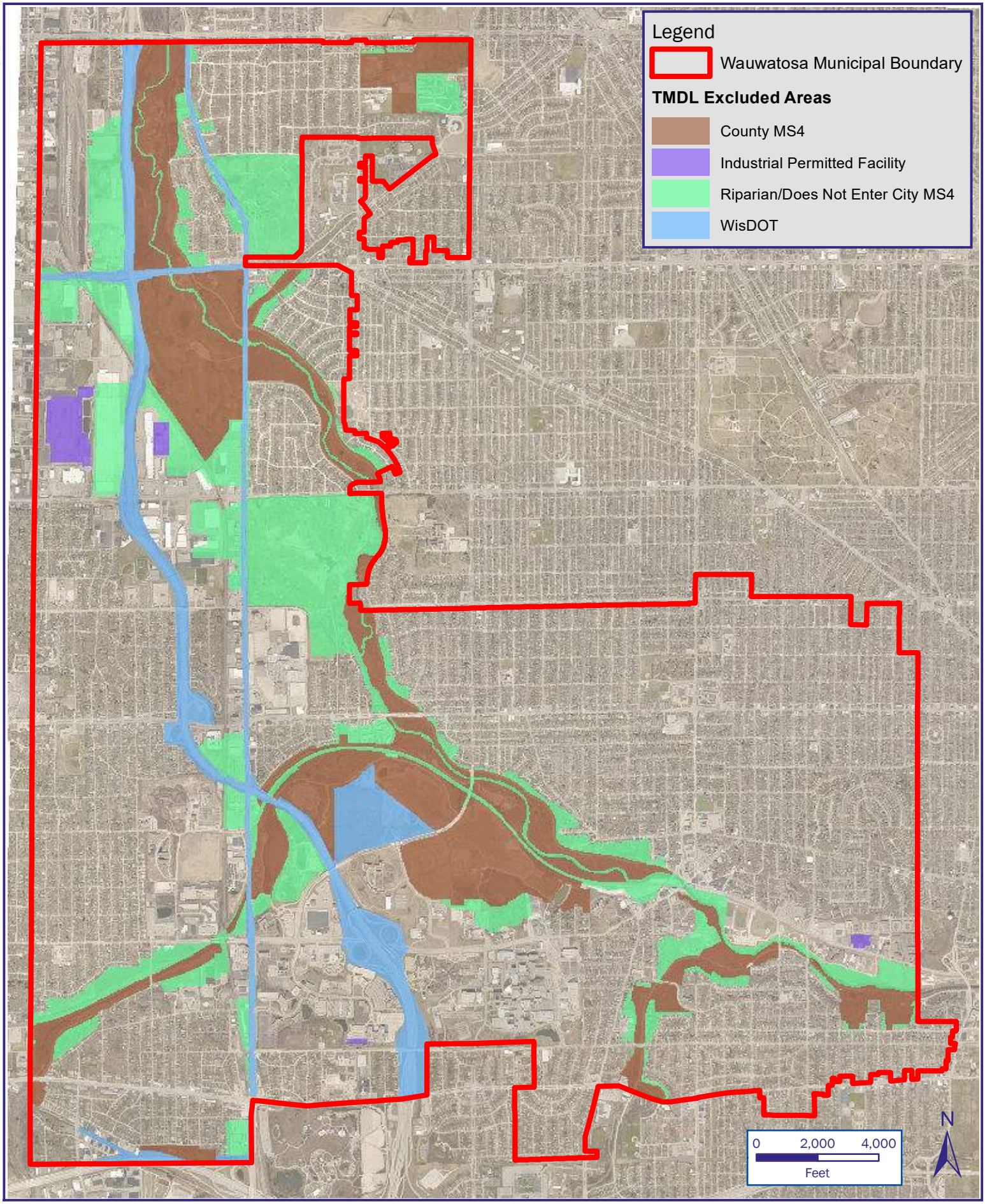
4/14/2022

Path: V:\157925 - Wauwatosa Stormwater Mgmt Plan\GIS\MXDs\Figures\Figure 1-1 TMDL Reachsheds.mxd

Author: Fill out Map Document Properties

Brown AND Caldwell

Figure 1-1
TMDL Reachsheds
City of Wauwatosa
Stormwater Quality Management Plan



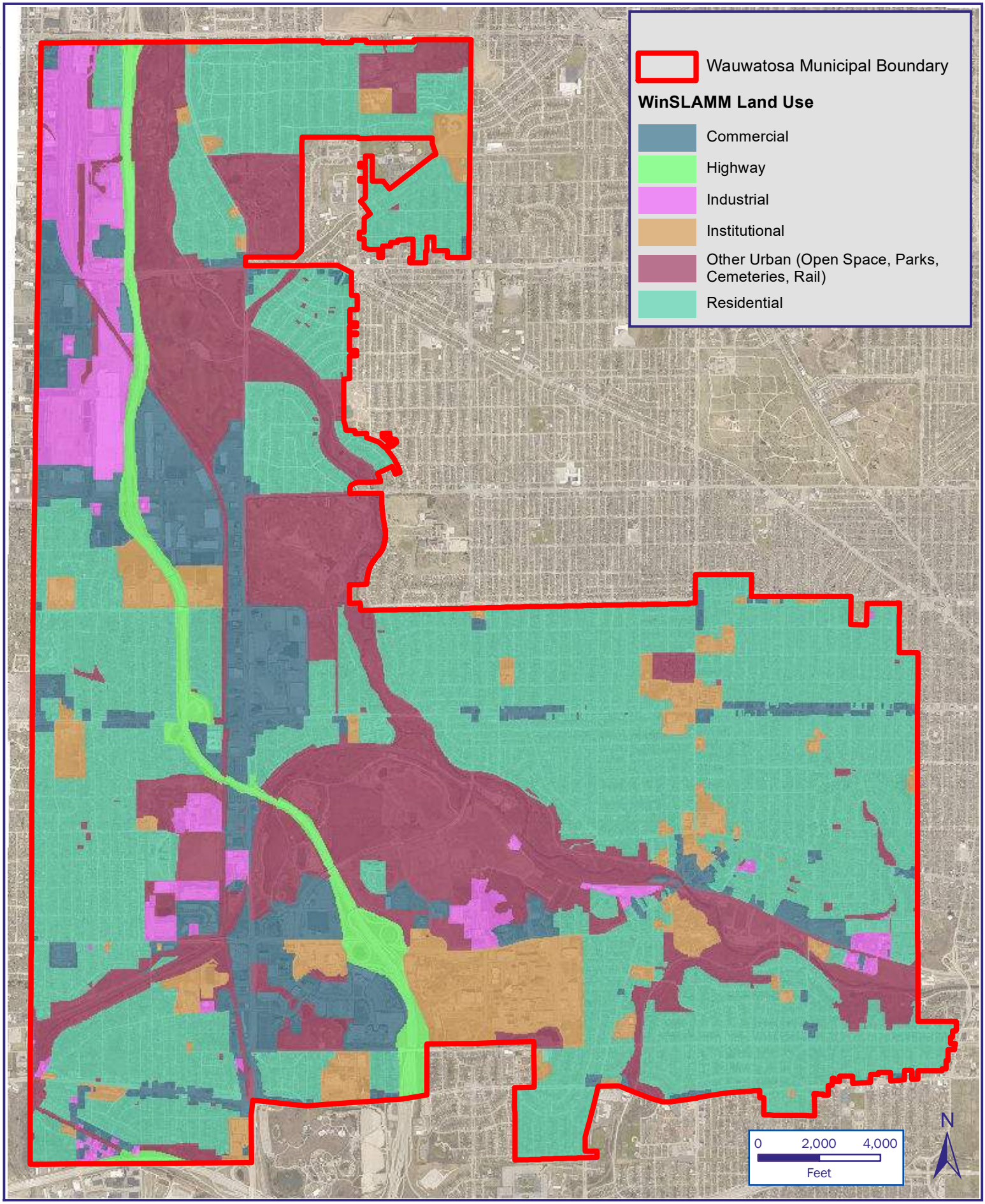
9/29/2022

Path: V:\157925 - Wauwatosa Stormwater Mgmt Plan\GIS\MXDs\Figures\Figure 2-1 Excluded Areas.mxd

Author: Fill out Map Document Properties

Brown AND Caldwell

Figure 2-1
TMDL Excluded Areas
City of Wauwatosa
Stormwater Quality Management Plan



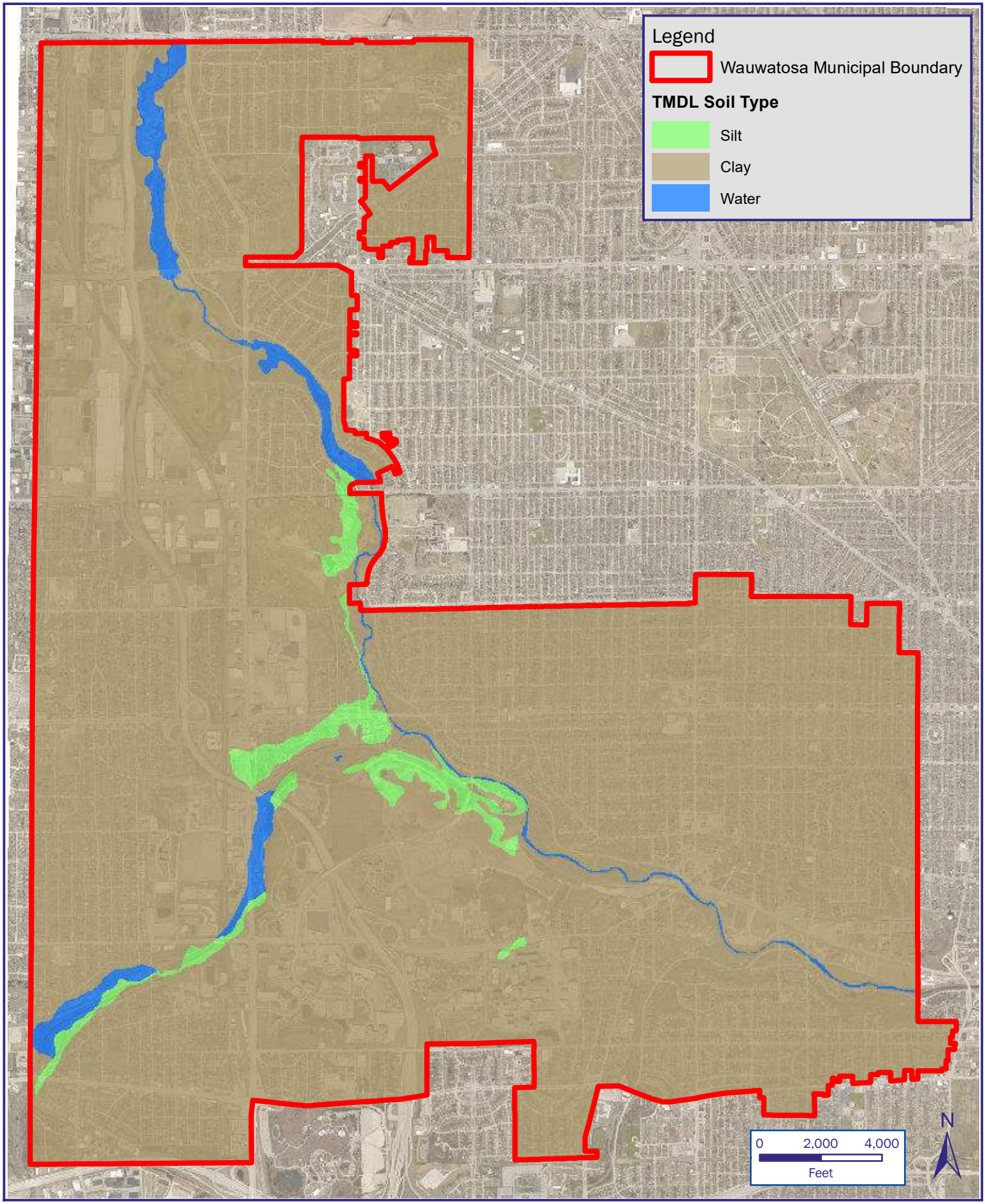
9/29/2022

Path: V:\157925 - Wauwatosa Stormwater Mgmt Plan\GIS\MXDs\Figures\Figure 2-2 Land Use.mxd

Author: Fill out Map Document Properties

Brown AND Caldwell

Figure 2-2
WinSLAMM Land Use Areas
City of Wauwatosa
Stormwater Quality Management Plan



4/14/2022

Path: V:\157925 - Wauwatosa Stormwater Mgmt Plan\GIS\MXDs\Figures\Figure 2-3 Soils.mxd

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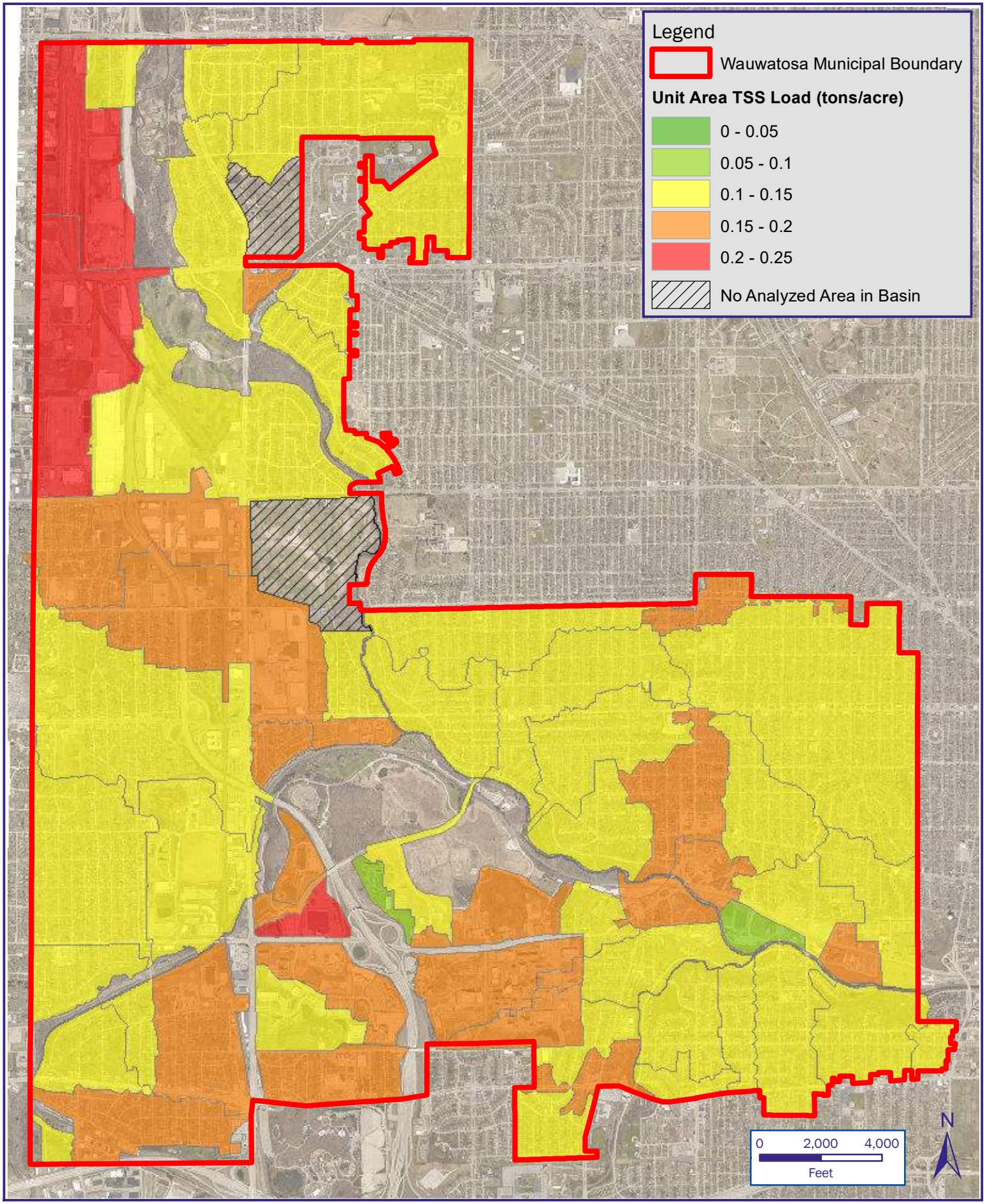
Figure 2-3
WinSLAMM Soil Designation
City of Wauwatosa
Stormwater Quality Management Plan



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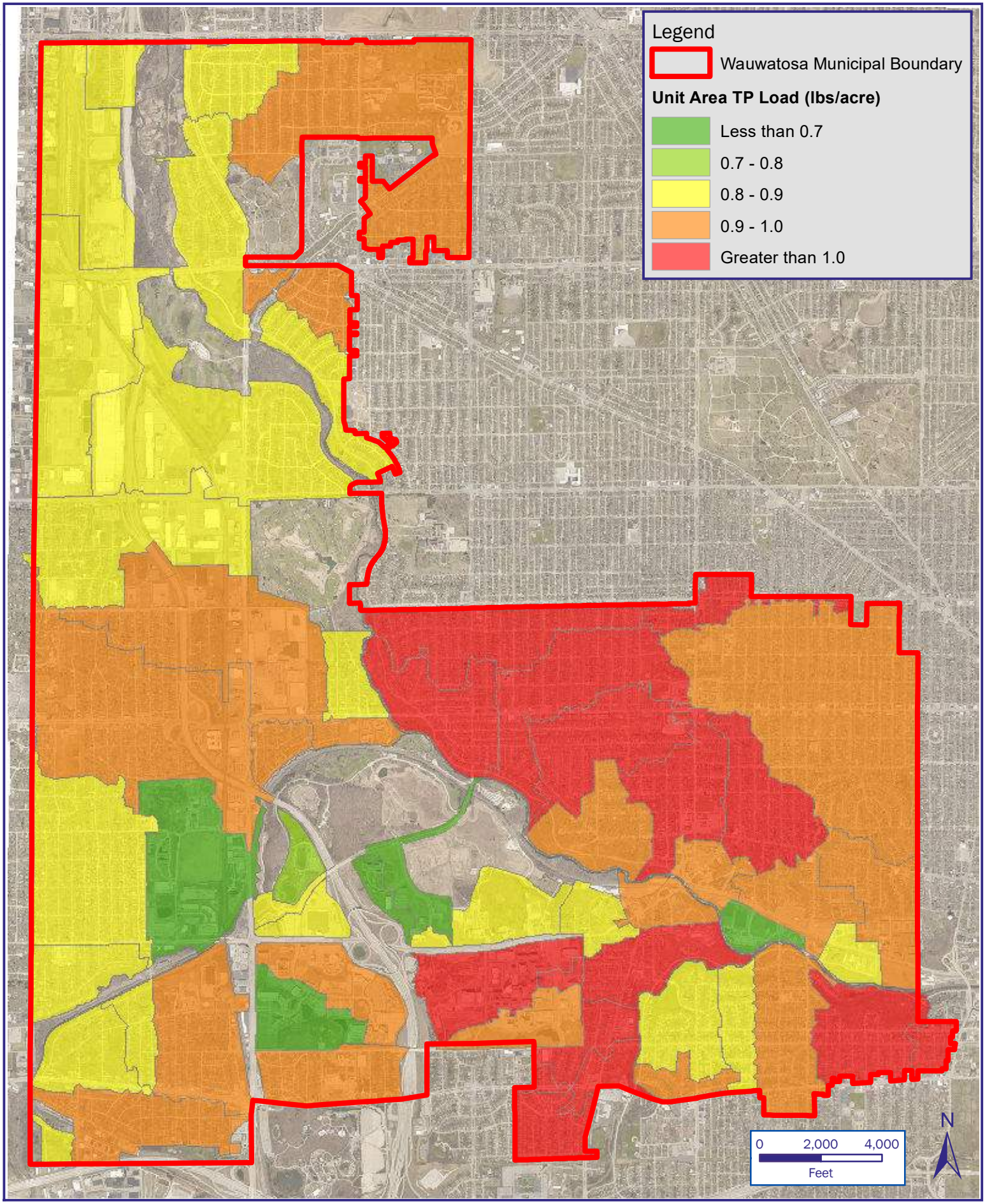
Path: V:\157925 - Wauwatosa Stormwater Mgmt Plan\GIS\MXDs\Figures\Figure 3-1 No Controls TSS Loads by City Basin.mxd

Author: Fill out Map Document Properties

Brown AND Caldwell

Figure 3-1
No Controls TSS Load Per Acre
City of Wauwatosa
Stormwater Quality Management Plan



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Path: V:\157925 - Wauwatosa Stormwater Mgmt Plan\GIS\MXDs\Figures\Figure 3-2 No Controls TP Loads by City Basin.mxd

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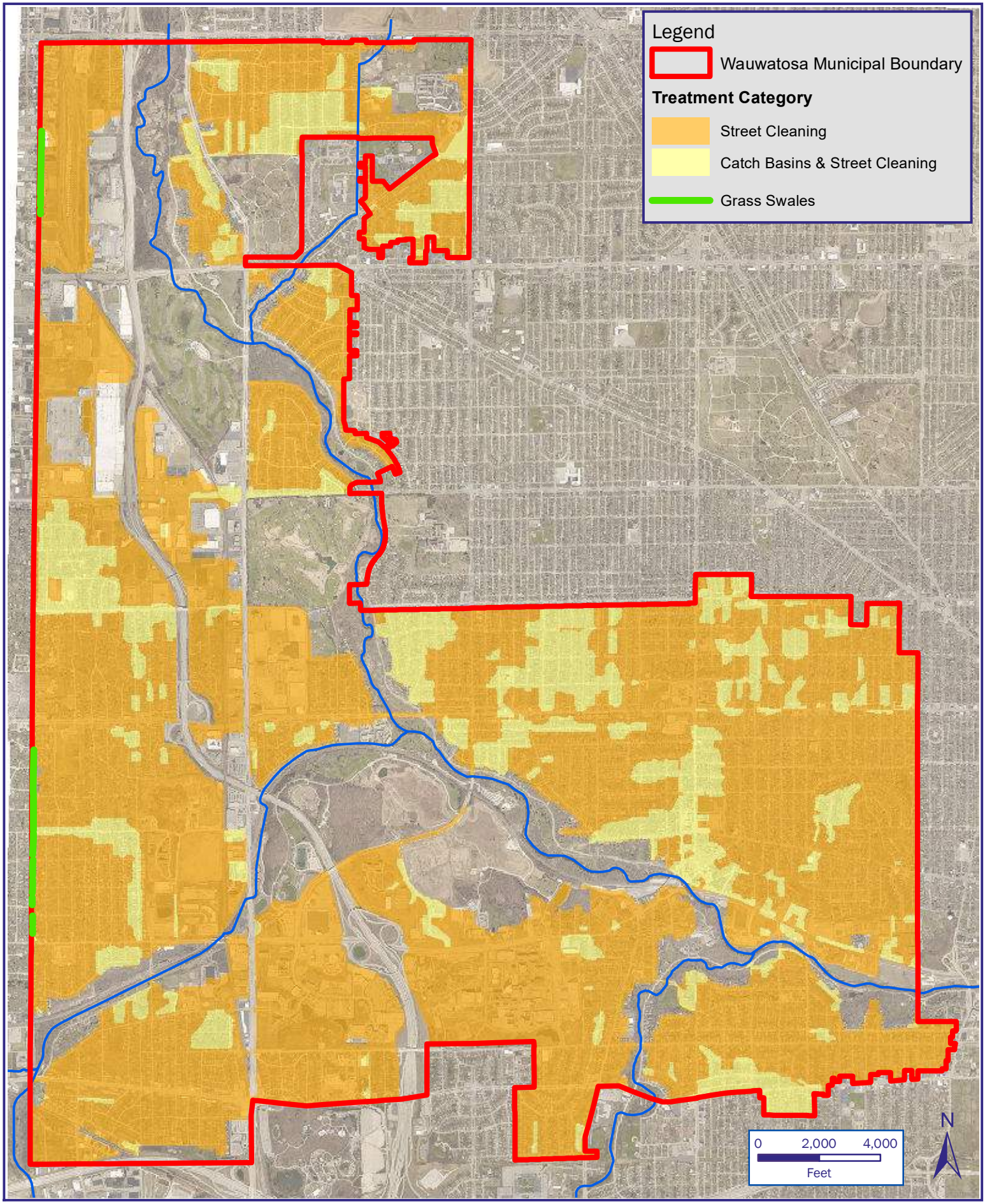
Brown AND Caldwell

Figure 3-2
No Controls TP Load Per Acre
City of Wauwatosa
Stormwater Quality Management Plan



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Path: V:\157925 - Wauwatosa Stormwater Mgmt Plan\GIS\MXDs\Figures\Figure 3-3 SC GS CBs.mxd

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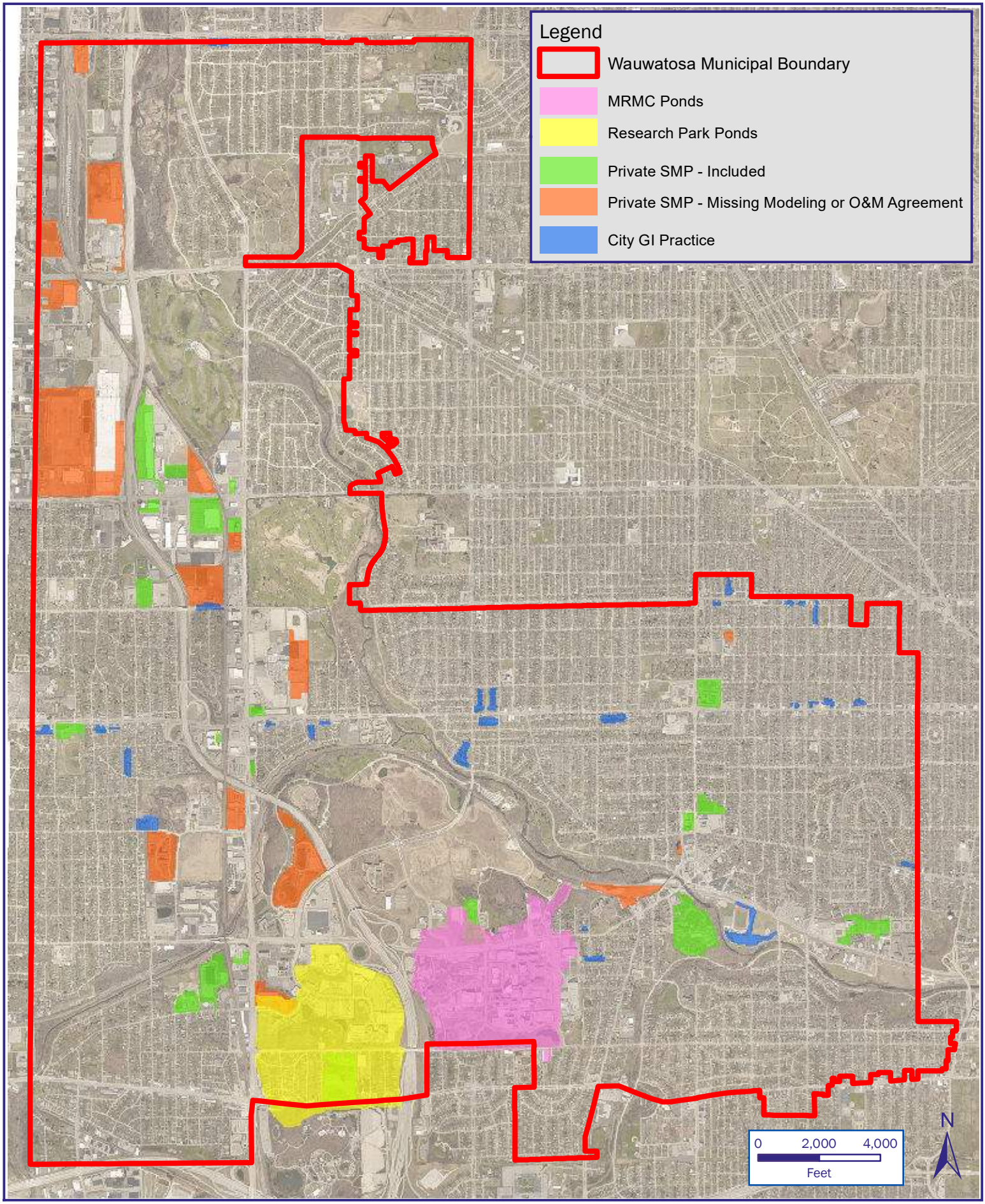
Figure 3-3
Street Cleaning, Catch Basin and Grassed Swale Treatment Areas
City of Wauwatosa
Stormwater Quality Management Plan



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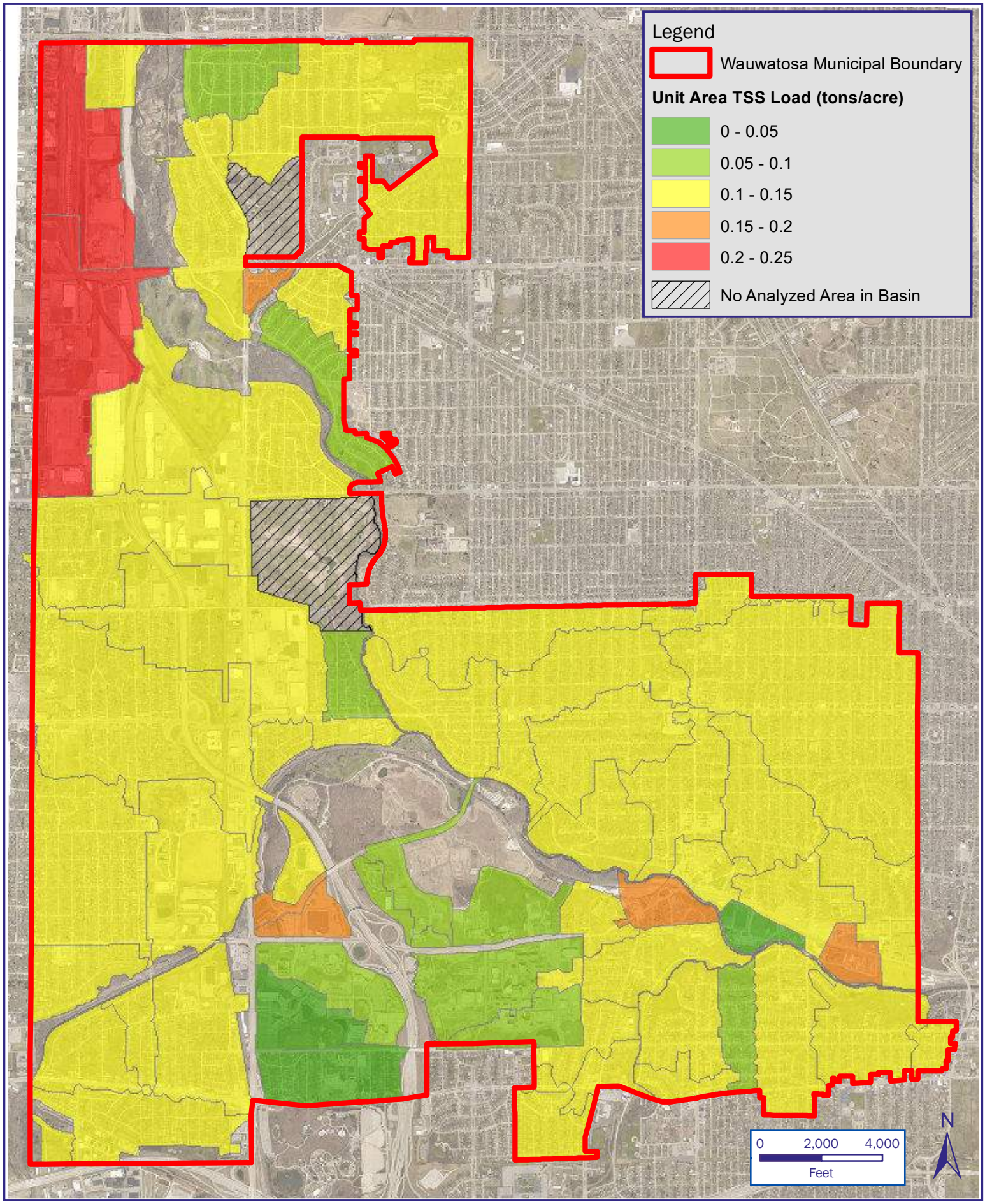
Path: V:\157925 - Wauwatosa Stormwater Mgmt Plan\GIS\MXDs\Figures\Figure 3-4 Other BMPs.mxd

Author: Fill out Map Document Properties

Figure 3-4
City Green Infrastructure and Private Practice Treatment Areas
City of Wauwatosa
Stormwater Quality Management Plan



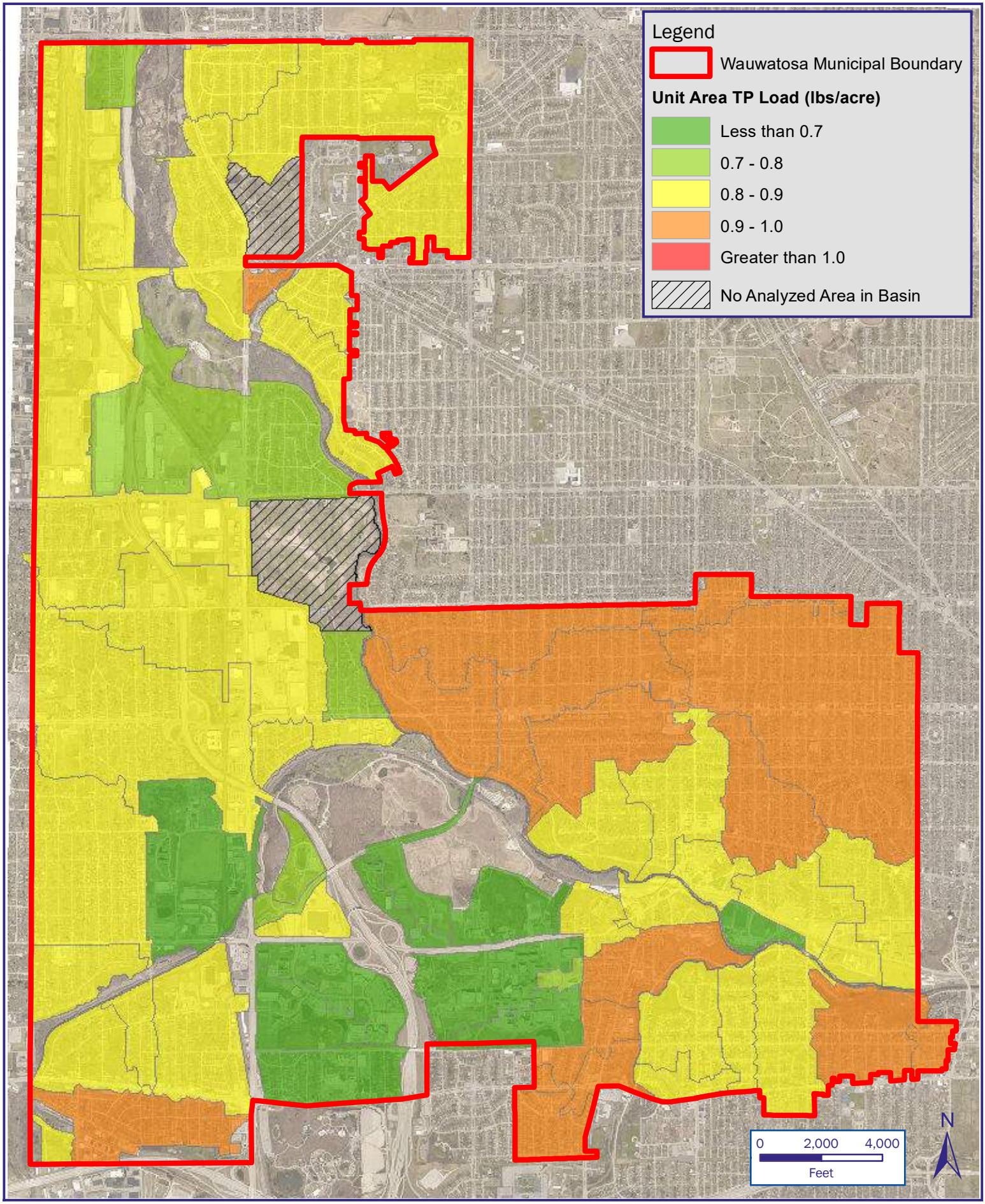
3/9/2023

Path: V:\157925 - Wauwatosa Stormwater Mgmt Plan\GIS\MXDs\Figures\Figure 3-5 Existing Conditions TSS Loads by City Basin.mxd

Author: Fill out Map Document Properties

Brown AND Caldwell

Figure 3-5
With Controls TSS Load Per Acre
City of Wauwatosa
Stormwater Quality Management Plan

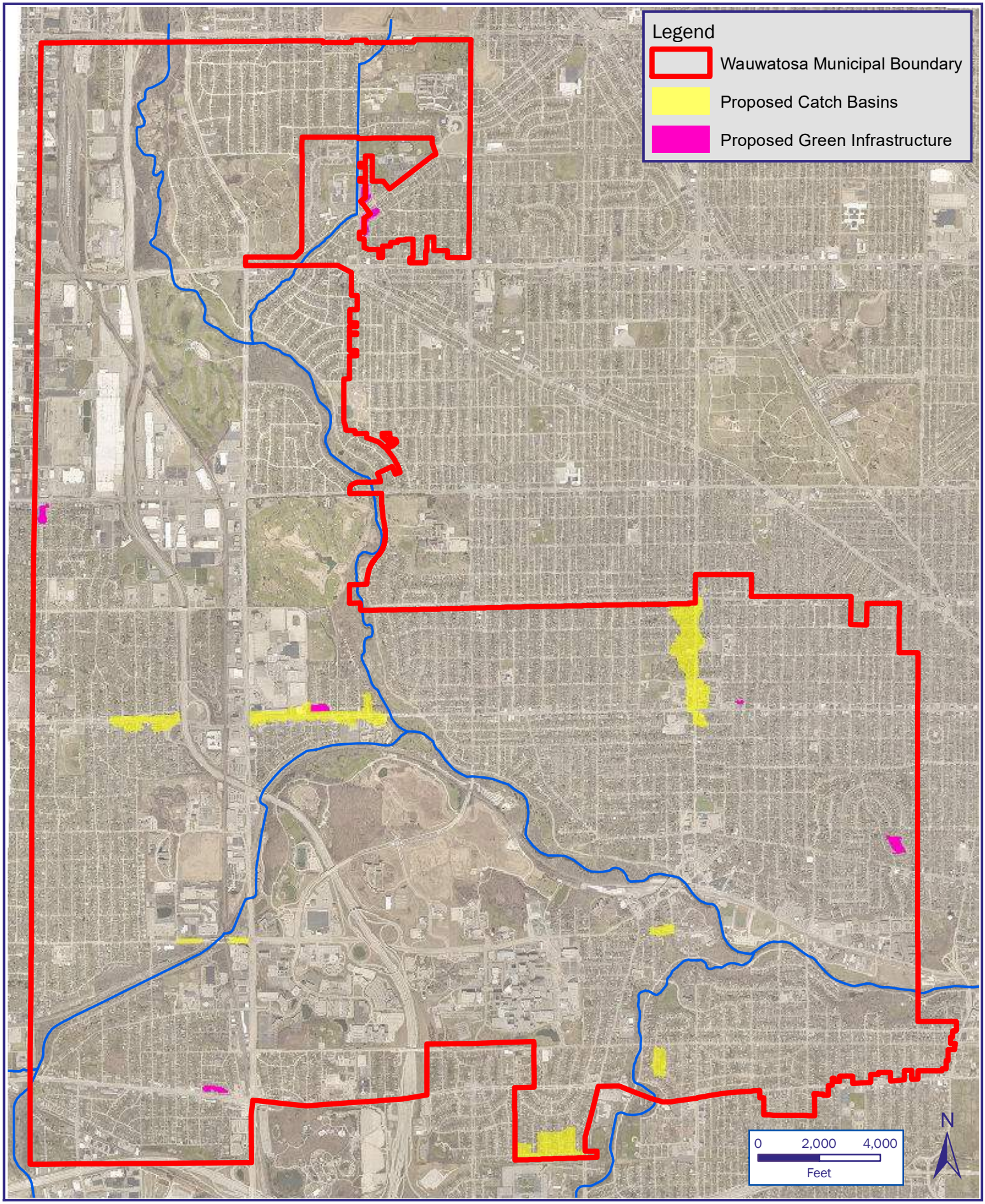


3/9/2023

Path: V:\157925 - Wauwatosa Stormwater Mgmt Plan\GIS\MXDs\Figures\Figure 3-6 Existing Conditions TP Loads by City Basin.mxd

Author: Fill out Map Document Properties

Figure 3-6
With Controls TP Load Per Acre
City of Wauwatosa
Stormwater Quality Management Plan



3/9/2023

Path: V:\157925 - Wauwatosa Stormwater Mgmt Plan\GIS\MXDs\Figures\Figure 4-1 Proposed Catch Basins and City Green Infrastructure.mxd

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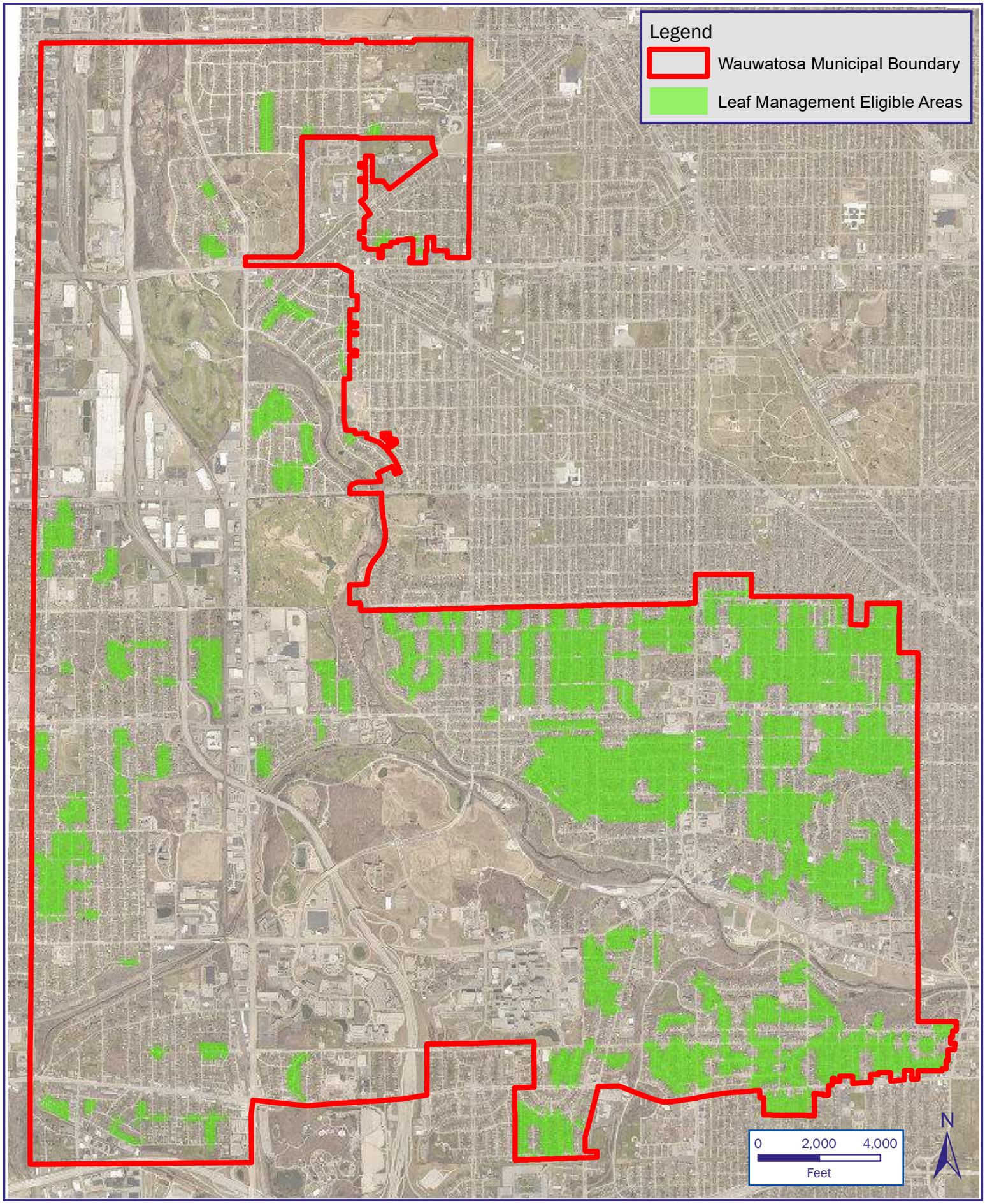
Figure 4-1
2022-26 Catch Basin and City GI Project Treatment Areas
City of Wauwatosa
Stormwater Quality Management Plan



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Path: V:\157925 - Wauwatosa Stormwater Mgmt Plan\GIS\MXDs\Figures\Figure 4-2 Proposed Leaf Management.mxd

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Brown AND Caldwell

Figure 4-2
Areas Eligible for Leaf Management TP Credit
City of Wauwatosa
Stormwater Quality Management Plan

Legend

- City of Wauwatosa Municipal Boundary
- City of Wauwatosa MS4 Conveyance
- Other MS4/Private Conveyance
- Wauwatosa Municipal Garage
- Industrial Facility with WPDES Permit

Wauwatosa MS4 Outfall

- Major
- Minor
- Impaired Receiving Waters
- City-Owned Storm Water Control Drainage Area
- Privately-Owned Storm Water Control Drainage Area
- City of Wauwatosa MS4 Drainage Basin
- Street Centerlines
- Publicly Owned Parks and Open Lands
- City of Wauwatosa TMDL Planning Area
- Industrial Facility with WPDES Permit
- Riparian/Other Excluded Area
- State MS4 Area
- County MS4 Area from Milwaukee County

0 1,200 2,400
Feet

N

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Brown AND Caldwell

Figure 5-1
MS4 Map
City of Wauwatosa
Stormwater Quality Management Plan

WAUWATOSA IN GOD WE TRUST

ponds) associated with Federal Aviation Administration requirements due to the proximity of Timmerman field.

Potential future regional practices that are being considered by the City include the new 116th Street Park, which is currently in the planning stages by the City and has secured a consultant to assist with evaluating options for the drainage areas tributary to the new park project, and an area near the western limits of Chippewa Park on the City's south side. Options for stormwater treatment associated with the 116th Street Park will be further evaluated by a consultant in 2023, but the Chippewa Park area was evaluated as part of this project. The project in consideration would divert the storm sewer on W. Mt Vernon Avenue to the south along 116th Street along with the W. Park Hill Avenue storm sewer, discharging at Chippewa Park, creating a 39-acre drainage area. WinSLAMM modeling suggests that a wet detention pond with a surface area of 0.5 acres situated in the western limits of Chippewa Park would remove 63.3 percent TSS (2.46 tons) and 46.4 percent TP (18.5 lbs). The pond footprint includes a 20-foot buffer from roadways.

Challenges with implementing this alternative include the presence of potential wetlands in the identified wet pond area based on a review of the WDNR Surface Water Data Viewer. An endangered resources preliminary assessment was conducted and indicated that an Endangered Resources (ER) Review by the WDNR would be necessary to comply with Wisconsin's Endangered Species Law and the Federal Endangered Species Act. A wetland delineation would be required as well as discussion with the WDNR on permitting the project and the potential increased cost to purchase wetland mitigation credits if wetlands are impacted. The cost of this potential project was not estimated at this time due to uncertainty related to features that would impact the cost effectiveness such as wetland mitigation measures.

While the City has not given up on the potential to implement regional practices, it is recognized that they will be more challenging and/or expensive. The City will look to potential projects to partner with other Menomonee River Watershed permittees as well as developers if opportunities arise and can also consider alternatives to traditional wet pond surface detention, such as underground wet detention facilities. Additionally, the WDNR is in the process of developing a guidance document (anticipated to be completed in 2023) to using sand filters based on research conducted by the University of Minnesota. These practices would typically contain a sediment forebay or chamber to trap heavier particles, a dry detention basin to temporarily store water and allow it to run through a sand filter area that can have additives incorporated into the sand such as iron filings or slag to improve total phosphorus removal. The facility would be designed to drain down within approximately a 48-hour period so would not contain long-standing ponded water and are anticipated to have high TSS and TP removals when constructed according to the guidance document.

4.5 Leaf Management

The City of Wauwatosa operates a bulk leaf collection program as a service to the public. The WDNR has recognized that there may be beneficial changes in municipal leaf management programs that can reduce phosphorus discharges to waters of the state. Based on research conducted by the WDNR and USGS, the WDNR developed guidance ("Municipal Phosphorus Reduction Credit for Leaf Management Programs", effective February 17, 2022) to provide criteria for numeric credit for leaf collection programs outside of the WinSLAMM modeling tool. The existing City of Wauwatosa bulk leaf management program was evaluated and compared against the WDNR guidance as summarized in the following sections.

4.5.1 Existing City Bulk Leaf Management Program

The existing City leaf collection program currently starts in early October and goes until late November. Specific information on the City's annual program (schedule and interactive map) are posted on the City's website. Leaves are collected throughout the City up to four times during the season (three passes and one final collection after the final posted rake out deadline). Currently, like many communities, the City asks residents to rake their leaves in the fall into the gutter of the roadway for pickup by the City.

The City utilizes several pieces of equipment in this operation including:

- 7 – Mt Trackless Units
- 5 – Rear Loader Refuse Trucks
- 1 – Freightliner FL80 Buncher Truck
- 1 – John Deer Loader
- 1 – Leaf Vacuum Trailer
- 1 – Freightliner, Elgin Megawind (street cleaner)
- 1 – Elgin Pelican NP (street cleaner)

City DPW Operations Staff push the leaves together, bunches them to reduce the leaf volume and then take them to the public works yard for composting. The streets are swept following the bulk pickup operation. On average the City collected about 4,000 tons of leaves annually however the total tonnage is quite variable, ranging from 3,205 tons in 2021 to 5,436 tons in 2019 (information based on "2011-2021 Fall Leaf Collection Comparison" document provided by the City).

The City currently receives no specific stormwater quality credit or reduction for their leaf collection program. The WDNR has developed a guidance document that allows a municipality to take credit for a bulk leaf collection program that meets the criteria in residential land use areas as outlined in their 2022 guidance. Future research may allow credit in additional land use areas or applications but are not considered in the current guidance document. The City can only take credit for increased numeric stormwater pollution reduction as allowed under WDNR guidance when the conditions outlined in the guidance are met by the City. Non-numeric credit can be taken for other land uses that are not currently outlined for numeric credit and can be a component of the City's implementation plan and evidence of working towards TMDL pollutant reduction goals. The current and potential WDNR leaf collection program modification options and the City's evaluation of potential changes are discussed in the following sections.

4.5.2 Eligible Areas for Numeric Credit from Leaf Management

Under WDNR guidance, there are conditions that define the area that is eligible for leaf management credit. To be eligible, the area must have a residential land use, curb and gutter streets, a high level of tree canopy, and not be treated by a downstream structural SMP (such as a pond).

To determine whether there is a high level of tree canopy, there are two options provided by the WDNR as follows:

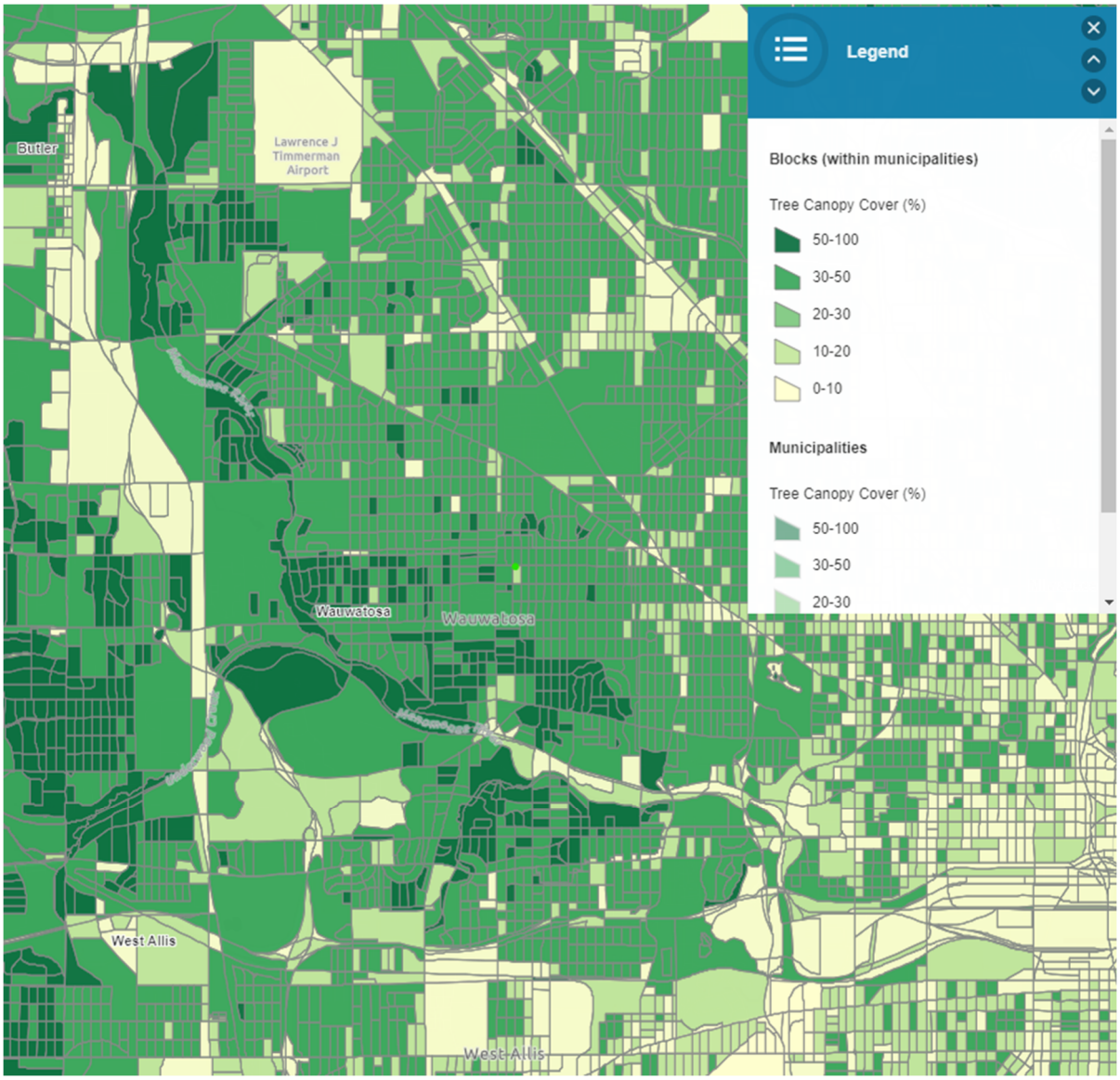
- Option A: An average of one or more medium to large canopy trees located between the sidewalk and the curb for every 80 linear feet of curb.
- Option B: An average of 40 percent or greater leaf canopy over the pavement, or 45 percent tree canopy or greater over the right-of-way determined using leaf-on aerial photography.

The analysis was conducted using Option A, utilizing the City of Wauwatosa GIS tree dataset. This dataset represents trees within City property which includes the right-of-way and parks. The dataset includes various attributes regarding trees, including the tree diameter. It was assumed that a

diameter at breast height of 12-inches or greater equated to a medium to large trees. In conjunction with the tree data, the City's street centerline GIS file was utilized. The street centerline file was clipped to areas meeting the land use and street section criteria. The number of medium or large trees along each segment (intersection to intersection) was then counted. The length of the street segment was then multiplied by two to account for curb and gutter on both sides of the street. This length was divided by the count of trees along each segment to calculate the average medium or large tree spacing. If the tree spacing was less than 80-feet the segment was identified as eligible. Figure 4-2 shows the areas within the City that meet these criteria.

The resulting areas were compared to other available sources to see if the identified areas were reasonable. The following items were considered:

1. Google street view was utilized to spot check residential areas throughout the City. It was generally observed that the images in street view correlated with the tree dataset.
2. The WDNR community tree canopy mapping application (https://dnr.wisconsin.gov/topic/urbanforests/ufia/plan-treecanopy) was reviewed. This mapping data showed a city-wide tree canopy of 37.9 percent. The data could be further reviewed at a detailed level. At the "Block" level (see tree canopy image), most blocks in the City are in the upper two tree canopy designations (between 30 and 100 percent tree coverage).



City of Wauwatosa Tree Canopy

Image Courtesy of WDNR Tree Canopy Mapping Application

4.5.3 Existing Leaf Management Program and WDNR Guidance Criteria

In addition to the criteria regarding areas that are eligible for leaf management credit, the WDNR guidance document established leaf management programmatic criteria. The following section describes the requirements of the WDNR guidance document and how the City's program compares:

1. WDNR Criteria #1: The municipality has an ordinance prohibiting residents from placement of leaves in the street.
   a. The City's Municipal Code currently does not include a provision that prohibit the placement of leaves in the street.
   b. To comply with this criteria, the City would need to make a code change.
2. WDNR Criteria #2: The municipality has a policy that leaves are placed by residents on the street terrace and collected at a specified frequency and timing. As part of the collection, the leaves are collected by loading them into an enclosed vehicle without being left in the street overnight.

   a. Per the "Fall Leaf Collection" guidance on the City's website, residents are directed to place leaves in the gutter of the street for City pickup.
   b. To comply with this criteria, the City would need to change their leaf collection operation and guidance. Further complicating this potential practice is the narrow terraces in many areas of the City.
3. WDNR Criteria #3: If on street parking densities are greater than "light", there is an ordinance or enforceable policy to restrict parking during leaf collection and street cleaning.
   a. Within residential areas of the City, the parking densities are light.
4. WDNR Criteria #4: The leaf collection program starts no later than October 7 each year. The guidance document should be consulted for further information regarding when street cleaning and bulk collection activities associated with street cleaning begins.
   a. The "Fall Leaf Collection" guidance on the City's website identifies a start date of October 10, 2022, for the leaf collection program.
   b. This date is close to the October 7 date indicated by WDNR and no major program change is anticipated; however, based on the WDNR guidance, the leaf accumulation conditions in the street will need to be monitored, and collection and street cleaning activities may need to begin earlier.
5. WDNR Criteria #5: The leaf collection program occurs three to four times throughout October and November.
   a. Per the "Fall Leaf Collection" guidance on the City's website, the City generally makes three passes through the City with one final collection occurring after the final rake out deadline (November 20, 2022).
   b. It is believed that the City complies with this criteria as the adequate number of collection cycles is completed. It is possible that the City's program may need to be extended to the end of November to meet the requirements. The WDNR should be consulted to verify how long collection activities should occur.

With meeting the criteria above, there are two levels of TP reduction that can be achieved by leaf management activities under the current guidance document. These levels are described below:

1. Numeric Credit Option #1: Within 24-hours of leaf collection the streets within the collection area are cleaned with either a mechanical or high-efficiency street cleaner. A 17 percent TP reduction credit is achieved under this option.
   a. Currently the City is not believed to be complying with this requirement due to resource limitations.
2. Numeric Credit Option #2: Weekly street cleaning occurs with high efficiency street cleaners in addition to the loose-leaf collection. A 25 percent TP reduction credit is achieved under this option.
   a. Currently, the City does not feel it has the resources to implement a weekly street cleaning program and therefore would not be eligible for Credit Option #2 at this time.

4.5.4 Leaf Management Program Potential Modification Considerations and Costs

Based on Section 4.5.3, the City's current leaf management program would not qualify for any additional leaf management credit. However, the City has explored the possibility of modifying its program and conducted a small leaf collection pilot study in 2019. For this project, an analysis of the potential phosphorus reduction and cost associated with modifying the City's program to meet the WDNR Credit Option #1 was calculated. The "with controls" database was utilized to calculate the TP

pollutant loads from eligible areas and the associated numeric credit was applied for the identified eligible land use areas as summarized in Table 4-10.

Table 4-10. Potential Leaf Management Total Phosphorus Load Reduction Results

TMDL Reachshed	Total Potential Eligible Area (ac)	No Controls TP Load (lbs/year)	With Controls TP Load (lbs/year)	With Controls TP Reduction % (compared to no-controls total load)	Potential TP Reduction Increase Due to Leaf Collection (lbs/year)	Potential TP Reduction % Increase Due to Leaf Collection
MN-10	74.5	66.4	61.0	8.1%	5.9	8.9%
MN-12	143.3	130.9	122.4	6.5%	13.7	10.5%
MN-13	22.6	21.9	20.6	5.5%	2.5	11.5%
MN-14	141.2	135.4	120.0	11.4%	7.6	5.6%
MN-15	52.6	51.2	48.4	5.6%	5.9	11.4%
MN-16	901.3	900.1	832.0	7.6%	84.9	9.4%
Totals	**1,335.5**	**1,306.0**	**1,204.5**		**120.5**	

The impact of a potential leaf management program to reduce TP on a Citywide basis is shown in Table 4-11. There is no credit for TSS in this program, so TSS loads and reductions would remain unchanged.

Table 4-11. Proposed Leaf Management Pollutant Loading Results

TMDL Reachshed	Analyzed Area (ac)	With Controls TP Load Reduction (lbs/year)	Potential TP Load Reduction (lbs/year)	Potential TP Load Reduction %
MN-10	1,046	72	78	8.3%
MN-12	1,775	217	230	14.8%
MN-13	152	8	11	7.5%
MN-14	509	47	56	11.6%
MN-15	133	8	14	10.5%
MN-16	2,307	301	390	17.4%
Totals	**5,921**	**654**	**780**	**14.2%**

As noted previously, the City conducted a pilot test in 2019 to compare the effort and cost of modifying the City's leaf collection activities to be more aligned with the WDNR's criteria in order to be eligible to obtain the additional phosphorus reductions. The pilot consisted of modifying the leaf collection process for a portion of the leaf collection operation that year. Table 4-9 summarizes a comparison of the two programs based on this relatively small pilot project.

Table 4-12. Program Cost Comparison		
Comparative Element	Current Leaf Collection Method	Modified Leaf Collection Program
Leaves Collected (tons)	5,572	149
Labor Cost	127,842	8,272
Labor Cost Per Ton	23	56
Equipment Cost	57,859	8,411
Equipment Cost Per Ton	10	56
Total Cost	185,701	16,683
Total Cost Per Ton	33	112

Based on the pilot, the results suggest that a modified leaf collection program sufficient to meet the WDNR's criteria could be almost 3.4 times the cost of the current program. However, it could be suggested that the staff's limited experience with this approach of leaf management resulted in inefficiencies and over time the program could increase in efficiency. It was also initially assumed that the City has the staff resources and equipment to be able to implement a program change.

In 2021, labor and equipment costs over the 49 days of the leaf management operation, were $131,301 and $93,444.90 respectively for a total of $224,745.90. Total program costs have generally risen and estimating an inflation of 5 percent from 2021 costs, the current program costs are estimated at approximately $235,000. If one were to assume that a modified leaf management program cost increase was only 3 times that of the current program, then using the estimated 2022 program cost, the incremental increase in cost for the program would be approximately $470,000.

Applying this cost to the potential phosphorus reduction credit of 120.5 lbs/year under Alternative 1 would result in a cost of over $3,900/lb of TP. To implement Alternative 2 would require adding in the annual street cleaning Alternative 2 costs of approximately $380,000/yr (for incremental staff needs only), resulting in a much higher annual program increase but a slightly better cost effectiveness of $3,800/lb of TP. However, based on feedback from the City on the feasibility of implementing a weekly street cleaning program, this alternative is also not considered feasible at this time.

Additionally, in discussion with the City as part of the alternatives evaluation workshop, there was a consensus that additional costs and challenges exist to implementing the program. The City has not conducted an equipment needs evaluation but anticipates additional equipment would be needed to collect leaves based on the pilot program and also to meet the street cleaning requirements. Additionally, as discussed as part of the street cleaning alternatives evaluation, additional staff time would be needed for the program but in a very focused timeframe during the year. It is possible, and reasonable, that staff could be shared between the leaf management and street cleaning program efforts. Finally, the City is concerned with the physical constraint that exist to implement a program of this nature. Terraces on the majority of City streets are very narrow and with the density of trees in the City, are likely unable to contain the leaf matter. This could result in overflow into the street (a violation of program credit requirements) or into sidewalks (a safety concern).

The City does have some areas of wider terraces on the west side and will continue to look into the potential to create a focused implementation of a leaf management program change in the future, especially if these areas are in reachsheds with higher TP reduction goals. In the meantime, the City will make an effort to limit the amount of time that leaves are in the street and in addition to

evaluating terrace sizes in areas of the City, will also utilize their extensive GIS tree inventory to see if, based on tree type, other modifications to their leaf management program may be possible to make incremental progress to improve stormwater quality.

4.6 Impacts of Redevelopment

As part of this Citywide water quality plan, it was desired to understand the impacts that future redevelopment of existing areas will have on water quality pollutant loadings. As the City redevelops, there will be an incremental positive impact on the City's overall level of pollutant reduction. A few Wisconsin municipalities are changing their ordinances to require higher levels of pollution control/reduction to place more of the burden on new development and redevelopment sites, such as in the Fox Valley area, but as of the time of this report, no municipalities in the Menomonee River Permit group have done so. These changes can provide increased incremental improvements in water quality but are also impactful to developers and can be challenging to convince development stakeholders (internal and external) to accept such a change.

4.6.1 Redevelopment Impact Potential

The impact of future redevelopment areas on the City's ability to make progress towards meeting the various TMDL reachshed goals was evaluated under two scenarios. The first scenario considered the impact of redevelopment under the City's current ordinance and the second scenario considered the impact of modifying the City's ordinance to require development to achieve the various TMDL reduction targets.

The City's current post-construction stormwater management ordinance requires sites of one acre and larger to reduce TSS by 40 percent for parking lot and road/driveway source areas. This would have an approximate impact of 27 percent reduction in TP following a common rule of thumb used by the WDNR.

Because different land uses and developments have differing source areas and sizes, for the first scenario analysis it was assumed that the resulting impact on a parcel wide basis of the ordinance was a TSS reduction of 30 percent and a TP reduction of 20 percent. From data provided by the City for permit requests, the average number of redevelopment acres per year from 2014 to 2021 was approximately 30 acres. Estimating the impact of redevelopment over 10-, 20-, and 30-years would mean that a corresponding total land area of 300, 600, and 900 acres would redevelop.

To understand the impact this would have on a reachshed basis, the amount of land available to be redeveloped first needs to be estimated. This was accomplished by identifying parcels of one acre or larger in the City that had land uses corresponding to commercial, industrial, institutional, parks, open space, and multifamily residential. The current no-controls for each parcel was then checked based on the evaluations conducted in Section 3 of this report. Those areas that are already achieving a parcel based TSS reduction of 40 percent or greater were removed from consideration as those parcels would need to provide TSS reduction equal to or greater than the current parcel wide performance. Parcels with less than a 40 percent TSS reduction were aggregated on a reachshed basis and the no controls and with controls loads were summed. Potential reachshed loads were then calculated for the available areas by assuming a 30 percent reduction for TSS and 20 percent reduction for TP were achieved. Based on the nearly 2,000 acres of available redevelopment acreage, the percentage of available land area estimated to redevelop over the 10-, 20-, and 30-year time periods is approximately 15, 30, and 45 percent. These reductions were then compared to the reachshed existing reductions with controls, to calculate the potential incremental TSS and TP reductions. The redevelopment acreage was then prorated equally among all reachsheds for 10-, 20-, and 30-year increments to estimate the TSS and TP reductions for each of the