

**Village of West Milwaukee**  
**Municipal Separate Storm Sewer System (MS4)**  
**2022 Annual Report**



**WPDES Permit No. WI-S065404-2**  
**Effective April 1, 2020 – March 31, 2025**

# 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**.

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Form 3400-224(R8/2021)

## Reporting Information :

Will you be completing the Annual Report or other submittal type? ☒ Annual Report ☐ Other

**Project Name:** 2022 Annual Report

**County:** Milwaukee

**Municipality:** West Milwaukee, Village

**Permit Number:** S065404

**Facility Number:** 31322

**Reporting Year:** 2022

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

**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** West Milwaukee, Village**Facility ID # or (FIN):** 31322**Updated Information:** ☐ Check to update mailing address information**Mailing Address:** 4755 West Beloit Rd.**Mailing Address 2:****City:** West Milwaukee, Village**State:** WI**Zip Code:** 53214 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:** James**Last Name:** Stenzel☒ Select to **update** current contact information**Title:** Superintendent of DPW**Mailing Address:** 4517 W Burnham St**Mailing Address 2:****City:** West Milwaukee**State:** WI**Zip Code:** 53219 xxxxx or xxxxx-xxxx**Phone Number:** 414-645-6238 **Ext.:** xxx-xxx-xxxx**Email:** james.stenzel@westmilwaukee.gov**Additional Contacts Information (Optional)**



**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:** Riley

**Last Name:** Stone

**Title:** Consultant

**Mailing Address:** 16745 W Bluemound Road

**Mailing Address 2:**

**City:** Brookfield

**State:** WI

**Zip Code:** 53005 xxxxx or xxxxx-xxxx

**Phone Number:** 262-317-3269 Ext: xxx-xxx-xxxx

**Email:** riley.stone@rasmith.com

**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:** Len

**Last Name:** Roecker

**Title:** Village Engineer

**Mailing Address:** 16745 W Bluemound Road

**Mailing Address 2:**

**City:** Brookfield

**State:** WI

**Zip Code:** 53005 xxxxx or xxxxx-xxxx

**Phone Number:** 262-317-3383 Ext: xxx-xxx-xxxx

**Email:** len.roecker@rasmith.com

**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:** 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

**Municipal Billing Contact Person (Authorized Representative for MS4 Permit)**

☒ Select to ***create new*** Billing contact

**First Name:** James

**Last Name:** Stenzel

☒ Select to ***update*** current contact information

**Title:** Superintendent of DPW

**Mailing Address:** 4517 W Burnham Street

**Mailing Address 2:**

**City:** West Milwaukee

**State:** WI

**Zip Code:** 53219 xxxxx or xxxxx-xxxx

**Phone Number:** 414-645-6238 Ext: xxx-xxx-xxxx

**Email:** james.stenzel@westmilwaukee.gov

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

☒ Yes ☐ No

☒ Public Education and Outreach Southern Wisconsin Watersheds Trust, Inc

☒ Public Involvement and Participation Southern Wisconsin Watersheds Trust, Inc

- ☐ Illicit Discharge Detection and Elimination \_\_\_\_\_
- ☐ 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:
- c. The permit requires that both passive and interactive mechanisms are utilized. How many interactive mechanisms were used during the reporting year?

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

- d. Will additional information/summary of 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 for more information about 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

Form 3400-224 (R8/2021)

## Minimum Control Measures - Section 2 : Complete

### 2. Public Involvement and Participation

- a. Permit Activities. Complete the following information on Public Involvement and Participation

Activities related to storm water. Select the Delivery Mechanism that best describes how the permit activities were conveyed to your population. Use the Add Event to add additional entries.

<b>Event Start Date</b>	4/1/2022		
<b>Project/Event Name</b>	Post Annual Report & Stormwater Programs to Website		
<b>Delivery Mechanism</b>	Website		
Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
<input checked="" type="checkbox"/> MS4 Annual Report <input checked="" type="checkbox"/> Storm Water Management Program <input type="checkbox"/> Storm Water related ordinance <input type="checkbox"/> Other: 	<input checked="" type="checkbox"/> General Public <input checked="" type="checkbox"/> Public Employees <input checked="" type="checkbox"/> Residents <input checked="" type="checkbox"/> Businesses <input type="checkbox"/> Contractors <input type="checkbox"/> Developers <input type="checkbox"/> Industries <input checked="" type="checkbox"/> Public Officials <input type="checkbox"/> Other	101 +	<input type="radio"/> Yes <input checked="" type="radio"/> No

<b>Event Start Date</b>	6/20/2022		
<b>Project/Event Name</b>	Removed Green Infrastructure Barriers from Ordinances		
<b>Delivery Mechanism</b>	Government Event (Public Hearing, Council Meeting, etc)		
Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
<input type="checkbox"/> MS4 Annual Report <input type="checkbox"/> Storm Water Management Program <input checked="" type="checkbox"/> Storm Water related ordinance <input type="checkbox"/> Other: 	<input checked="" type="checkbox"/> General Public <input checked="" type="checkbox"/> Public Employees <input type="checkbox"/> Residents <input type="checkbox"/> Businesses <input type="checkbox"/> Contractors <input type="checkbox"/> Developers <input type="checkbox"/> Industries <input checked="" type="checkbox"/> Public Officials <input type="checkbox"/> Other	11-50	<input type="radio"/> Yes <input checked="" type="radio"/> No

**b. Volunteer Activities.** Complete the following information on Public Involvement and Participation Activities related to storm water. Select the Delivery Mechanism that best describes how volunteer activities were conveyed to your population. Use the Add Event to add additional entries.

<b>Event Start Date</b>	1/1/2022 <input type="checkbox"/> NA (Individual Permittee).		
<b>Project/Event Name</b>	Adopt Your Drain		
<b>Delivery Mechanism</b>	Other hands-on event		
Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
Volunteer Opportunity	<input checked="" type="checkbox"/> General Public <input type="checkbox"/> Public Employees <input checked="" type="checkbox"/> Residents <input type="checkbox"/> Businesses	Select...	<input checked="" type="radio"/> Yes <input type="radio"/> No

- ☐ Contractors
- ☐ Developers
- ☐ Industries
- ☐ Public Officials
- ☐ Other

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

See attachment for more information about the Adopt Your Drain Program

## 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 3 : Complete

### 3. Illicit Discharge Detection and Elimination

- |   |                                 |                                 |
|---|---------------------------------|---------------------------------|
| a. How many total outfalls does the municipality have?  | <input type="text" value="18"/> | <input type="checkbox"/> Unsure |
| b. How many outfalls did the municipality evaluate as part of their routine ongoing field screening program?  | <input type="text" value="18"/> | <input type="checkbox"/> Unsure |
| c. From the municipality's routine screening, how many were confirmed illicit discharges?   | <input type="text" value="0"/>  | <input type="checkbox"/> Unsure |
| d. How many illicit discharge complaints did the municipality receive?  | <input type="text" value="0"/>  | <input type="checkbox"/> Unsure |
| e. From the complaints received, how many were confirmed illicit discharges?  | <input type="text" value="0"/>  | <input type="checkbox"/> Unsure |
| f. How many of the identified illicit discharges did the municipality eliminate in the reporting year (from both routine screening and complaints)? | <input type="text" value="0"/>  | <input type="checkbox"/> Unsure |

(If the sum of 3.c. and 3.e. does not equal 3.f., please explain below.)

- g. How many of the following enforcement mechanisms did the municipality use to enforce its illicit discharge ordinance? Check all that apply and enter the number of each used in the reporting year. ☐ Unsure

- |   |                                |
|---|--------------------------------|
| <input checked="" type="checkbox"/> Verbal Warning                    | <input type="text" value="0"/> |
| <input checked="" type="checkbox"/> Written Warning (including email) | <input type="text" value="0"/> |
| <input checked="" type="checkbox"/> Notice of Violation               | <input type="text" value="0"/> |
| <input checked="" type="checkbox"/> Civil Penalty/ Citation           | <input type="text" value="0"/> |

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.

See attached inspection information.

## 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?  ☐ Unsure
- 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?  ☐ Unsure
- 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)?  ☐ Unsure
- d. 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. ☐ Unsure
- |   |                                |
|---|--------------------------------|
| <input type="checkbox"/> No Authority                                 | <input type="text"/>           |
| <input checked="" type="checkbox"/> Verbal Warning                    | <input type="text" value="0"/> |
| <input checked="" type="checkbox"/> Written Warning (including email) | <input type="text" value="4"/> |
| <input checked="" type="checkbox"/> Notice of Violation               | <input type="text" value="0"/> |
| <input checked="" type="checkbox"/> Civil Penalty/ Citation           | <input type="text" value="0"/> |
| <input checked="" type="checkbox"/> Stop Work Order                   | <input type="text" value="0"/> |
| <input checked="" type="checkbox"/> Forfeiture of Deposit             | <input type="text" value="0"/> |
| <input type="checkbox"/> Other - Describe below                       | <input type="text"/>           |
- 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.*

## Missing Information

**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 5 : Complete****5. Post-Construction Storm Water Management**

- a. How many sites with new structural storm water management Best Management Practice (BMP) have received local approval ?  ☐ Unsure

\*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 ☐ Unsure

- c. If Yes, how many privately owned storm water management facilities were inspected in the reporting year ?  ☐ Unsure

Inspections completed by private landowners should be included in the reported number.

- d. Does the municipality utilize privately owned storm water management BMP in its pollutant reduction analysis? ☐ Yes ☒ No ☐ Unsure

- e. If yes, does MS4 have maintenance authority on these privately owned BMPs?  ☐ Unsure

- f. How many municipally owned storm water management BMPs were inspected in the reporting year?  ☐ Unsure

- 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. ☐ Unsure

☐ No Authority

☒ Verbal Warning

☒ Written Warning (including email)

☒ Notice of Violation

☒ Civil Penalty/ Citation

☒ Forfeiture of Deposit

☒ Complete Maintenance

☒ Bill Responsible Party

☐ 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.



## 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 structural storm water management best management practices.  ☐ Unsure
- b. How many new municipally owned storm water management best management practices were installed in the reporting year?  ☐ Unsure
- c. How many municipally owned storm water management best management practices were inspected in the reporting year?  ☐ Unsure
- d. What elements are looked at during inspections (250 character limit)?

Defects such as: overgrown vegetation, erosion, pipe/joint damage, sediment accumulation, soft spots/animal burrows, functionality of BMP

- e. How many of these facilities required maintenance?  ☐ Unsure
- 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.*

Public Works Yards & Other Municipally Owned Properties (SWPPP Plan Review) ☐ Not Applicable

- g. How many municipal properties require a SWPPP?  ☐ Unsure
- h. How many inspections of municipal properties have been conducted in the reporting year?  ☐ Unsure
- i. Have amendments to the SWPPPs been made?  
☐ Yes ☒ No ☐ Unsure
- 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.*

Collection Services - *Street Sweeping / Cleaning Program* ☐ Not Applicable

- l. Did the municipality conduct street sweeping/cleaning during the reporting year?  
☒ Yes ☐ No ☐ Unsure
- m. If known, how many tons of material was removed?  ☐ Unsure
- n. Does the municipality have a low hazard exemption for this material? ☐ Yes ☐ No
- o. If street cleaning 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 Matches the Village's existing sweeping program  
☐ 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 ☐ Unsure
- q. How many catch basin sumps were cleaned in the reporting year?  ☐ Unsure
- r. If known, how many tons of material was collected?  ☐ Unsure
- 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 Cleaned once per year  
☐ No - Explain \_\_\_\_\_  
☐ Not Applicable

Collection Services - *Leaf Collection Program* ☐ Not Applicable

- u. Does the municipality conduct curbside leaf collection? ☒ Yes ☐ No ☐ Unsure
- v. Does the municipality notify homeowners about pickup? ☒ Yes ☐ No ☐ Unsure
- w. Where are the residents directed to store the leaves for collection?  
☒ Pile on terrace ☒ Pile in street ☒ Bags on terrace ☐ Unsure  
☐ Other - Describe \_\_\_\_\_
- x. What is the frequency of collection?  
April through November, twice a week
- y. Is collection followed by street sweeping/cleaning? ☒ Yes ☐ No ☐ Unsure
- z. Brief explanation on Collection Services 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*

## 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.)  ☐ Unsure

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	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="21"/>	<input type="text" value="28"/>	<input type="text" value="51"/>	<input type="text" value="40"/>

Liquids (gallons) (ex. brine)

	Oct	Nov	Dec	Jan	Feb	Mar
Other	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="3150"/>	<input type="text" value="5489"/>	<input type="text" value="5277"/>	<input type="text" value="5000"/>

ac. Was salt applying machinery calibrated in the reporting year? ☒ Yes ☐ No ☐ Unsure

ad. Have municipal personnel attended salt reduction strategy training in the reporting year? ☒ Yes ☐ No ☐ Unsure

Training Date	Training Name	# Attendance
<input type="text" value="8/1/2022"/>	<input type="text" value="Milwaukee Riverkeeper Smart Salt Wor..."/>	<input type="text" value="2"/>
<input type="text" value="11/1/2022"/>	<input type="text" value="APWA Class"/>	<input type="text" value="2"/>

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

## 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 ☐ Unsure

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

When:

How many attended:

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

Municipal Officials

Emails and conversations between the Village's consultant engineer and officials

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

Emails and conversations between the Village's consultant engineer and appropriate staff;

- 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 attachment for more information about 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

Form 3400-224 (R8/2021)

## Minimum Control Measures - Section 7 : Complete

### 7. Storm Sewer System Map

- a. Did the municipality update their storm sewer map this year?
- ☒ Yes ☐ No ☐ Unsure

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.*

## 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
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**Element:** Public Education and Outreach

5048	5048	5553	<u>Storm water utility</u>
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**Element:** Public Involvement and Participation

4589	4589	5048	<u>Storm water utility</u>
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**Element:** Illicit Discharge Detection and Elimination

17450	17450	19195	<u>Storm water utility</u>
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**Element:** Construction Site Pollutant Control

22715	22715	24987	<u>Storm water utility</u>
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**Element:** Post-Construction Storm Water Management

25239	25239	27763	<u>Storm water utility</u>
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**Element:** Pollution Prevention

182764	95464	132592	<u>Storm water utility</u>
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**Other (describe)**

Stormwater Quality Management

25239	25239	27763	<u>Storm water utility</u>
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**Other (describe)**

Storm Sewer System Mapping

4802	4802	5282	<u>Storm water utility</u>
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**Other (describe)**

Capital Projects

143361

0

250000

Storm water utility

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

**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:

S 43rd Street Ditch added to impaired list for chlorides

**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) 17.12

Total phosphorus (TP) 12.93

**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.*

Do not close your work until you SAVE.

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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.

### Storm Sewer System Map

 File Attachment

[StormDrainageSystemTMDLMap2023-03-22.pdf](#)

### Attach - Other Supporting Documents

#### AR BMPInspSum

 File Attachment

[4\\_2022WestMilwaukeeBMPInspectionDocuments.pdf](#)

#### AR EO

 File Attachment

[2\\_AnnualReport-VillageofWestMilwaukeeROWTEAYD.pdf](#)

#### AR IDDE

 File Attachment

[3\\_CY2022IDDESummary.pdf](#)

#### AR MuniFacInsp

 File Attachment

[5\\_PublicWorksFacilityInspections.pdf](#)

#### AR Other

 File Attachment

[M230323LeafManagementBMP.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 TMDLMap

 File Attachment

[StormDrainageSystemTMDLMap2023-03-22.pdf](#)

#### SWQM TMDLModel



 File Attachment

[WinSLAMMMModelingFiles2023-03-22.zip](#)

## SWQM TMDLModel

 File Attachment

[PollutantLoadReductionEvaluationReport2023-03-22.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](#)

## 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 West Milwaukee, Village 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.



## **Public Education & Outreach Information**

# 2022 Sweet Water Public Education Report

February 2023

## Village of West Milwaukee



### **Prepared by:**

Southeastern WI Watersheds Trust Inc (Sweet  
Water)  
Great Lakes Research Facility  
600 E Greenfield Ave  
Milwaukee, WI 53204

### **Prepared for:**

Village of West Milwaukee  
4755 Beloit Rd  
West Milwaukee, WI 53214

# Table of Contents

1. Public Education + Outreach 2022 Programs Summary	2
2. Respect Our Waters (Permit Section II.A)	3
2.A. Website	4
2.B. Outreach Templates	4
2.C. Materials	5
2.D. Fact Sheets	5
2.E. Social Media	6
2.F. Mailing Campaign	7
2.G. Events	7
2.G.1. General Public Events	7
2.G.2. Professional Event	7
2.G.3. Menomonee Group Meeting	8
3. Technical Education Mechanisms (Permit Section II.B)	8
3.A. Meetings	8
3.B. Permit Group Specific	9
4. Adopt Your Drain Mechanisms	9
4.A. Social Media	9
4.B. News Coverage	10
4.C. Adopt Your Drain Dashboard	10
4.D. Quarterly Volunteer Newsletter	11
4.E. Residential Involvement	12
4.F. Final Metrics	12
Appendix A: Outreach Templates and Reports	13
Appendix B: Respect Our Waters Materials	38
Appendix C. Fact Sheets	44
Appendix D. Mailer	47
Appendix E. 2022 Events	48
Appendix F: Menomonee Group Meeting Agenda	53
Appendix G. Adopt Your Drain Instagram Materials	54
Appendix H: Adopt Your Drain Quarterly Newsletters	55

# 1. Public Education + Outreach 2022 Programs Summary

The following document was prepared for the Village of West Milwaukee to include in their 2022 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 a target pollutant of concern, the target audience, delivery mechanism and the entity responsible for implementation (*II.A.1*). In 2022, the program focused on developing materials and implementing mechanisms to educate residents, riparian land owners, those in charge of installation of construction site erosion control, those in charge of stormwater management facilities, developers, and designers in the Village of West Milwaukee about sediment 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 2022 (*II.A.2*) which are outlined in the Respect Our Waters 2022 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 Village of West Milwaukee. Opportunities to meet and discuss relevant topics were provided, including speakers 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 (*II.B.1*) The efficacy of potential activities in the Village of West Milwaukee was evaluated in terms of severity of the problem, target audience, pollutants of concern and the ability to achieve a measurable outcome. This was in preparation for implementing an individual educational activity in 2023-24 (*II.B.2*).

The Adopt Your Drain program provided educational and volunteer opportunities for community members to get actively involved with stormwater pollution prevention. In 2022, the Adopt Your Drain program developed a live dashboard, which visualized the impact volunteers had by displaying their municipality as well as the amount and type of debris removed from the storm drain. This was made available at <https://www.respectourwaters.org/ayd-dashboard>



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

### Respect Our Waters 2022 Completed Plan

Audience		General Permit Topic	Activity Completed
Residents	1	Illicit Discharge Detection & Elimination	<i>Social Media- Section 2.E</i>
	5	Residential Infiltration	<i>Webpage Developed- Section 2.A</i>
			<i>Outreach Templates and Print/Promotional Materials Developed- Section 2.B and 2.C</i>
			<i>Social Media- Section 2.E</i>
	9	Snow and Ice Control	<i>Social Media- Section 2.E</i>
Riparian Land Owners	4	Stream and Shoreline Management	<i>Outreach Templates and Print/Promotional Materials Developed- Section 2.B and 2.C</i>
			<i>Outreach Templates and Print/Promotional Materials Developed- Section 2.B and 2.C</i>
			<i>Fact Page Developed- Section 2.D</i>
			<i>Social Media- Section 2.E</i>
			<i>Mailing Campaign Implemented - Section 2.F</i>
Groups & Individuals responsible for the design & installation of construction site erosion control practices & SW management facilities	6	Construction Sites and Post-Construction SW Management	<i>Webpage Developed- Section 2.A</i>
			<i>Fact Page Developed- Section 2.D</i>
Developers and Designers	8	Green Infrastructure/Low Impact Development	<i>Outreach Templates and Print/Promotional Materials Developed- Section 2.B and 2.C</i>
			<i>Fact Page Developed- Section 2.D</i>

## 2.A. Website

In 2022, Sweet Water staff continued to develop Respect Our Waters website pages for residential, commercial, and construction audiences. This continued campaign intends to raise awareness of stormwater pollution prevention in multiple sectors.

New web pages developed in 2022 include:

- Stream Banks and Shorelines: Erosion Control for a Residential Audience
- Residential Infiltration for a Residential Audience
- Sediment and Erosion Control for Construction Sites for a Construction Audience

Existing web pages for residential audiences include the following topics:

- Illicit Discharge Detection and Elimination
- 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:

- Turf Management and Landscaping Pollution Prevention
- Stormwater BMP Management
- Low Impact Development and Green Infrastructure

In 2022, the Respect Our Waters website had a total of 2,900 visitors and 6,000 page views. The newly developed stream banks and shorelines, residential infiltration, and sediment and erosion control pages had 163, 339, and 88 views respectively.

*Total visitors: Tracked by visit with a browser cookie that expires after 30 minutes. Any hits within that 30-minute browsing session count as one visit.*

*Page views: The total number of views (page requests) across all of your pages.*

## 2.B. Outreach Templates

In 2022, Sweet Water staff used Outreach Templates, standardized in 2021, to develop customizable messaging that spanned a variety of the year's stormwater education priority topics. The intention was to allow the Village of West Milwaukee 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:

- Erosion Control + Sediment Pollution
- Earth and Arbor Day
- Lawn Maintenance + Infiltration



- Residential Infiltration Techniques
- Green Infrastructure
- Riparian Land Management
- Lakeshore and Streamline Erosion

In order to track the usage of these templates, Sweet Water staff created a Google Form to allow MS4 partners to report when and how they used resources in the template, as well as other activities that they performed to educate the public. See Appendix A for examples of the outreach templates and West Milwaukee's submitted reports to Sweet Water of their individual use of the templates.

## 2.C. Materials

In 2022, 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 Village of Grafton 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 2022 and are available on this page include:

- Sediment Pollution Red Flags #1-5 Graphics
- Earth Day Graphics- Research, Storm Drain, Sweep, Downspouts, Native Plant
- Arbor Day Graphics
- Turf Tips Graphics- Native Plants, Long grass, Mowing, Pesticides + Herbicides, Water Use
- Rain Recommendation Graphics- Stormwater Trees, Native Plants, Redirect your downspout, Pavers Permeable Pavement
- Causes of Shoreline Erosion Graphics
- Shoreline Erosion Mitigation Graphic
- Lakeshore Erosion and Sediment Deposition Graphic
- Rivers and Streams Shore Erosion and Sediment Deposition Graphic

See examples of these graphics in Appendix B.

## 2.D. Fact Sheets

In 2022, 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 2022:

- Erosion and Sediment Control

- Green Infrastructure and Low Impact Development
- Riparian Shoreline Erosion and Sediment Pollution

Fact pages are available at [swwtwater.org/request-support](http://swwtwater.org/request-support) and [respectourwater.org](http://respectourwater.org). See examples of the fact sheets in Appendix C.

## 2.E. Social Media

The Respect Our Waters Facebook page is used to directly reach the general public of southeastern Wisconsin municipalities and counties. The Facebook page also serves as a depository of posts for the Village of West Milwaukee and other partners to share directly with their residents. The following posts were published in 2022, by permit topic:

*Table 1: 2022 Respect Our Waters Regional Social Media Campaign Metrics*

<b>Illicit Discharge Detection Elimination</b>				
Date	Subtopic	Link Number	Reach	Engagements
1-Jun	Yard maintenance	5672572942770033	146	19
8-Jun	No Dumping	5735427546484572	2,000	155
15-Jun	Detection	5754048901289103	2,500	239
22-Jun	Prevention	5776140559079937	961	114
<b>Residential Infiltration /Green Infrastructure</b>				
29-Apr	Trees	5618540191506642	63	3
11-May	Permeable pavers/ Native Plants/ Rain Garden/ Rain Barrel/ Trees	5651489448211716	518	18
18-May	Rain Gardens/ Rain Barrels	5671853689508625	7,400	98
25-May	Trees	5693582560669071	6,700	381
6-Jul	Native plants	5756038061090187	14,067	1387
<b>Residential Pollution Prevention/ Snow + Ice Control</b>				
18-Jan	Salt	5311429485551049	47	2
22-Apr	Rain Gardens/ Native Plants/Leaf Management	5598390450188283	68	6
4-May	Sediment Pollution Prevention	5631816403512354	85	16
29-Jun	Pet Waste	5756019634425363	287	24
13-Jul	Native plants, erosion control	5756097041084289	94	8
20-Jul	Native plants, fertilizer	5756134014413925	113	3
<b>Stream and Shoreline Management</b>				

27-Jul	Overview	5874902435870415	44	3
3-Aug	Causes	5894237327270259	488	31
10-Aug	Stream vs shore	5913775758649749	2400	114
17-Aug	Mitigation	5933620603331931	1200	150

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

*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.*

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

## 2.F. Mailing Campaign

Respect Our Waters sent out a direct mailer to 6,426 addresses in October of 2022. These addresses were selected based on their proximity to water, including riparian land owners and adjacent properties. The mailer graphic was about shoreline erosion, focusing on the effects and solutions of sediment pollution. See a copy of this mailer and a breakdown of the community metrics in Appendix D.

## 2.G. Events

### 2.G.1. General Public Events

In 2022, Respect Our Waters attended multiple regional and community events. In 2020 and 2021 the ability of program staff to attend in-person community events was limited by the pandemic. In 2022, we increased the number of events attended which totaled over 10 events reaching 600+ booth visitors. See a list of events attended in 2022 below and more information about reach, topics covered and more in Appendix E.

### 2.G.2. Professional Event

On September 8th, 2022, Sweet Water hosted the Clean Rivers, Clean Lake Virtual Conference at Milwaukee Area Technical College Mequon Campus. Presentations at this event covered the following permit topics- TMDL Implementation Plans, Wetlands for Stormwater Management, Green Infrastructure as Natural Habitat, and Climate Change impacts on Green Infrastructure. Presentations and presenters included:

- Leveraging Stakeholders for Fox River Restoration: Mark O'Learly, Resource Environmental Solutions, LLC
- Using Green Infrastructure to Create Habitat: Neal O'Reilly, University of Wisconsin-Milwaukee and Jennifer Phelps-Vanderberg, Western Great Lakes Bird and Bat Observatory
- TMDL Implementation Planning for Municipal StormWater Permittees: Pete Wood, Wisconsin Department of Natural Resources

- Data Solutions for an Adaptive Management Approach: Brent Brown, Jacobs Engineering
- Streamlining BMP Inspections: Kaley DucOeur, Ruekert & Mielke
- Using Iron-Enhanced Sand Filters to Remove Dissolved Phosphorus from Stormwater: Joe Boxhorn, Southeastern Wisconsin Regional Planning Commission
- Grant Funding for Your Water Quality Improvement Projects: Todd Brieby, Wisconsin Coastal Management Program; Emily Rau, Wisconsin Coastal Management Program, and Casey Eggleston, Fund For Lake Michigan
- Stormwater Wetlands at Ozaukee County Parks: Andrew Struck, Ozaukee County
- Use of Tech Standard 1100 for Large Greenspaces: Dough Soldat, University of Wisconsin-Madison
- Impacts of Residual Road Salt from Groundwater to River Water in Southeastern Wisconsin: Charles Paradis, University of Wisconsin-Milwaukee and Leah Dechant, University of Wisconsin-Milwaukee
- Impacts of Climate Change on Stormwater Infrastructure Design: Rob Montgomery, University of Wisconsin-Madison
- Improving Soil Health to Reduce Nutrient Loadings: Mike Paulus, Clean Farm Families

### *2.G.3. Menomonee Group Meeting*

On October 4, 2022 the Menomonee Permit Group met at the Common Council Chambers in Brookfield, WI. The purpose of the meeting was to bring together the group permittees to talk about updates, upcoming due dates, and permittee progress sharing, the full agenda is included in Appendix F. The following MS4 employee(s) and/or consultants participated:

- Ben High, raSmith

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

### **3.A. Meetings**

Sweet Water hosted meetings for Technical Education partners for the purpose of addressing relevant topics of concern. Ben High from raSmith attended one or more of the following meetings:

- I. MS4 Quarterly Meeting #1- 3/23/22
  - Location: Virtual
  - Topics include: Changes to annual reporting form, Toolbox resources, Preparing for an audit, and Educating elected officials.
- II. MS4 Quarterly Meeting #2- 6/9/22
  - Location: Virtual

- Topics include: Successful use of native plants and flowers in urban and suburban communities, Budgeting for green infrastructure maintenance, and preparing for a permit audit.
- III. MS4 Quarterly Meeting #3- 12/7/22
- Location: Fox Point Village Hall or Virtual
  - Topics include: Clean Watersheds Needs Survey, New Tool to Assist MS4 education, Additions to One-stop-shop, Bacteria testing methods in stormwater, and Winter Road Management methods at Jefferson County.

### 3.B. Permit Group Specific

As a member of the Menomonee Group MS4 consortium, the Village of West Milwaukee submitted their StormWater Education Needs by September 30th, 2021 per *Permit Section II.B.1*. This included a list of prioritized stormwater education needs tailored to their communities. In 2022, Sweet Water staff further developed an activity and mechanism to accomplish targeted education in the community with guidance as necessary from the WDNR. The implementation of the individualized activity will be accomplished by September 30, 2023 per *Permit Section II.B.2*.

## 4. Adopt Your Drain Mechanisms

### 4.A. Social Media

The Respect Our Waters Facebook page is simultaneously used to directly reach the general public of Southeastern Wisconsin and as a depository of posts for the Village of West Milwaukee and other partners to share directly to their residents. This Facebook page promoted the Adopt Your Drain program in 2022, reaching 256 people as shown below.

Recently, an Adopt Your Drain Instagram account was created to further increase awareness of the program and be a one stop shop for Adopt Your Drain related materials. See examples of recent posts in Appendix G.

The following posts were published in 2022 to promote the Adopt Your Drain program:

*Table 2: 2022 Adopt Your Drain Regional Social Media Metrics*

Facebook				
Date	Sub-Topic	Link	Reach	Engagements
09/13/22	TMJ4 News Coverage	<a href="https://www.wisconsinnewscenter.com/2022/09/13/adopt-your-drain-program/">6009856189041705</a>	256	29

Instagram				
11/08/22	Intro to Adopt Your Drain	CktqfGjvZOK	0	0
12/06/22	Proper snow management	Cl1pLLYOB17	17	4
12/13/22	Promotion for reminder service	CmH12qIPDZB	10	4

*Link Number:* The unique post number. Access the post by typing [www.facebook.com/RespectOurWaters/posts/](https://www.facebook.com/RespectOurWaters/posts/) and then the unique post number after the back-slash. Or <https://www.instagram.com/p/> for then the unique post number after the back-slash.

*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 social media analytics, Facebook or Instagram.

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

## 4.B. News Coverage

Sweet Water staff spoke to TMJ4 after record high rainfall in Southeastern Wisconsin to promote residential infiltration and the Adopt Your Drain program. Video news coverage and an article were published on September 12, 2022 and are available at <https://www.tmj4.com/news/local-news/in-depth-look-at-deep-tunnel-overflows-after-flooding-create-health-concerns-in-milwaukee>. Sweet Water staff reached out to reporter Julia Fellow and determined that the reach of the news and article coverage was at least 10,000 residents of Wisconsin.

## 4.C. Adopt Your Drain Dashboard

The Adopt Your Drain Dashboard encourages adopters to report metrics from their drain clean-ups. A proto-type online dashboard was developed and made available on [www.respectourwaters.org/adoptastorm-drain](http://www.respectourwaters.org/adoptastorm-drain) for adopters to report the amount of times they inspected their adopted storm drains.

*Table 3: 2022 Adopt Your Drain Dashboard Metrics*

Municipality	Number of Inspections Reported
Village of Bayside	1
Village of Elm Grove	1
City of Greenfield	1

City of Mequon	1
Village of Slinger	1
Village of Whitefish Bay	6
City of West Allis	1
City of Cudahy	1
Village of Grafton	1
Village of Brown Deer	1
City of Cedarburg	1
City of Wauwatosa	2
Village of Germantown	1
Village of Butler	1
Village of West Milwaukee	1
Village of Menomonee Falls	4
City of Milwaukee	14
Village of Shorewood	3

It is important to note that many other municipalities received drain adoptions in 2022 even though those drain's inspections were not reported on.

#### 4.D. Quarterly Volunteer Newsletter

The Adopt Your Drain volunteer newsletter was sent out four times in 2022 to encourage the submission of these Dashboard reports and continued involvement in the program. See the following table for metrics on the 2022 Quarterly Newsletters and Appendix H for examples of the newsletter:

*Table 4: 2022 Quarterly Newsletter Metrics*

<b>Newsletter</b>	<b>Recipients</b>	<b>Total Opens</b>	<b>Total Clicks</b>
March 2022	100	70	33
June 2022	100	20	6
September 2022	100	20	11

December 2022	101	30	9
---------------	-----	----	---

*Total Opens: The total number of email openings.*

*Total Clicks: The total number of the clicks on the links in the email.*

## 4.E. Residential Involvement

Last spring, efforts to increase awareness of stormwater pollution were conducted through storm drain stenciling. Sweet Water visited schools across southeastern Wisconsin and hosted stenciling events for teachers and students. As a result, 141 residents were reached.

Sweet Water also communicated back and forth with residents across multiple municipalities about the Adopt Your Drain program via email.

*residents reached: stenciling participants + residents who were handed AYD related door hangers*

## 4.F. Final Metrics

The Adopt Your Drain program added 76 new drain adoptions throughout 2022.



# Appendix A: Outreach Templates and Reports

## JANUARY / FEBRUARY 2022 Outreach Template



RESPECT OUR WATERS

### INSTRUCTIONS

- 1) Copy text from the Template
- 2) Paste text and municipal info into a newsletter, social media post, or on a webpage
- 3) Include series of five graphics.
- 4) Send to target audience / the public
- 5) Fill out reporting form at <https://bit.ly/track-22>

**Recommended:** Post links & resources included below on municipal stormwater webpage.



### Template

*Appropriate for websites, newsletters + social media*  
Sediment is loose sand, soil, or other select types of debris that can be carried by runoff into a stream, river, or lake. Too much sediment makes water murkier, which harms wildlife and aquatic plants. It also affects our ability to use the water for recreational activities.

Help [MUNICIPALITY] prevent sediment pollution that may be occurring in our community by keeping your eye out for these *Sediment Pollution Red Flags*.

There are other ways that you can identify and prevent sediment pollution in our community! Visit <https://bit.ly/Sediment-Pollution> to learn more about sediment pollution, its sources, and how to prevent it!



### More Respect Our Waters Resources to Share

**Stormwater Pollution Fact Page:**

<https://www.respectourwaters.org/what-is-stormwater-pollution-swvt> or <https://bit.ly/Sediment-Pollution>

**Download the graphics above at the following link:** [www.swwwater.org/request-support](http://www.swwwater.org/request-support) \*

\*You can also find un-numbered graphics at this link if you wish to use a sub-set of the five.

### Other Resources to Share

January 24<sup>th</sup>–28<sup>th</sup> is Wisconsin SaltWise's Wisconsin Salt Awareness Week. Each day at 12:30 pm they will be broadcasting a 30 minute webinar about the true cost of salt on their YouTube Channel. Topics include:

- Monday, Jan 24<sup>th</sup>: The Environmental Toll of Salt and Deicers
- Tuesday, Jan 25<sup>th</sup>: We're Salting our Drinking Water
- Wednesday, Jan 26<sup>th</sup>: Water Softener Salt Goes Where?
- Thursday, Jan 27<sup>th</sup>: Let's Teach about Salt
- Friday, Jan 28<sup>th</sup>: Salt Reduction Efforts across Wisconsin

**WI Salt Awareness Week Registration Page:** <https://www.wisaltwise.com/Take-Action/Salt-Awareness-Week>

**WI Salt Awareness Week Facebook Posts to Share:** <https://www.facebook.com/WISaltWise/>

**Other SaltWise Public Education Resources:** <https://www.wisaltwise.com/Partner-Resources>

# MARCH / APRIL 2022

## Outreach Template



*This month's template is slightly different than past templates. Resources included can be used to educate construction contractors. Follow the instructions to learn how!*

### INSTRUCTIONS

- 1) Download the Erosion Control + Sediment Pollution Fact Sheet
- 2a) **IF you have an erosion control permit, an erosion control plan application, or a similar document,** insert the Fact Sheet in this document on an existing blank page or as a new page
- 2b) **IF you have a webpage for the erosion control permitting process,** add a section on this page with language from the Web Page Template and the image of the fact sheet
- 2c) **IF you have a newsletter or email list that goes to contractors,** send them an email with language from the Email Template and the fact sheet as an attachment
- 3) Fill out reporting form at <https://bit.ly/track-22>

### Web Page Template

Contractors working in **[MUNICIPALITY]** are responsible for controlling erosion and sediment onsite to prevent sediment pollution. Construction activities can lead to erosion; where possible erosion should be mitigated and where impractical eroded sediment must be managed and contained.

Construction activities that disturb **[ONE ACRE]** or more of land are required to apply for **[AN EROSION CONTROL PERMIT/EROSION CONTROL IMPLEMENTATION PLAN/ETC.]** in **[MUNICIPALITY]**. It is the responsibility of the contractor to properly maintain erosion and sediment control devices that will prevent pollutants from leaving the site.

In addition to a **[FINE/OTHER REPERCUSSION]**, sites with failing or missing erosion and sediment control mechanisms can negatively impact our community. Sediment pollution can lead to water conditions that are unsafe for swimming and fishing, localized flooding, harm to wildlife, and other issues that negatively affect our community's health and quality of life.

To learn more about erosion and sediment control, visit [www.RespectOurWaters.org/erosion-control](http://www.RespectOurWaters.org/erosion-control).

### Email Template

You are receiving this email because you have been or currently are involved in a construction activity that requires an **[EROSION CONTROL PERMIT/EROSION CONTROL IMPLEMENTATION PLAN/ETC.]**. This is a reminder that the work you do to prevent erosion from your construction site is critically important to the health of our community.

Sediment pollution can lead to many types of problems. You are likely aware that you would face repercussions such as **[A FINE/OTHER REPERCUSSION]**, if you were to violate the terms of your **[PERMIT]**. You may not know that our entire community would also suffer the consequences of poorly maintained or inadequate erosion control or sediment control Best Management Practices. Sediment pollution can lead to water conditions that are unsafe for swimming and fishing, localized flooding, harm to wildlife, and other issues that negatively affect our community's health and quality of life.

We thank you for your diligence in choosing, inspecting, and maintaining adequate BMPs to prevent these issues from occurring. Consider printing and posting the following one-pager in your office and at your work sites to help remind you of the importance of the work that you do!

### More Respect Our Waters Resources to Share

**Erosion Control Web Page:** <https://www.respectourwaters.org/erosion-control>

**Erosion/Sediment Control Fact Sheet:** Download at <https://www.swwtwater.org/request-support>



# APRIL 2022

## Outreach Template



Earth Day and Arbor Day are in April! Below are a few options for social media posts, newsletter tidbits, and other forms of outreach that you can share on these days!

### INSTRUCTIONS

- 1) Copy text from one of the Templates
- 2) Paste text and municipal info into a newsletter, social media post, or on a webpage
- 3) Include pictures as appropriate.
- 4) Send to target audience / the public near or on Earth Day / Arbor Day
- 5) Fill out reporting form at <https://bit.ly/track-22>

**Recommended:** Post links & resources included below on municipal stormwater webpage.

### Earth Day Template #1

Happy Earth Day!

Are you looking for an activity to make **[MUNICIPALITY]** more beautiful today? Check out the pictures below for a few Earth Day activities that you can do from home!

*[Include series of pictures linked below.]*



### More Respect Our Waters Resources

**Earth + Arbor Day graphics:** Download these materials at <https://www.swwtwater.org/request-support>

**Stormwater Tree Webpage:**

<https://www.respectourwaters.org/hardworking-trees-swwt>

### Arbor Day Template

Happy Arbor Day!

Did you know that in addition to making our community green, our parks shady, and our air fresh, trees help keep our water clean?

Tree leaves catch rain as it falls, preventing it from hitting the ground at a speed that can break up the soil. The roots also prevent the runoff water from picking up soil and carrying it into a river or stream.

On Arbor Day we thank the trees for their hard work preventing soil erosion in **[MUNICIPALITY]**! Learn more at

[www.respectourwaters.org/hardworking-trees-swwt](http://www.respectourwaters.org/hardworking-trees-swwt)



### Earth Day Template #2

#### Adopt Your Drain Theme

Happy Earth Day!

Are you looking for an activity to make **[MUNICIPALITY]** more beautiful? Look no further from your own front walk- adopt a storm drain on your block!

All you have to do is find a drain like the one pictured here and clear it of debris so that clean rain water can run through it and into a nearby pond, river, or stream. Don't forget to report that you volunteered at [www.adoptyourdrain.com](http://www.adoptyourdrain.com) too!

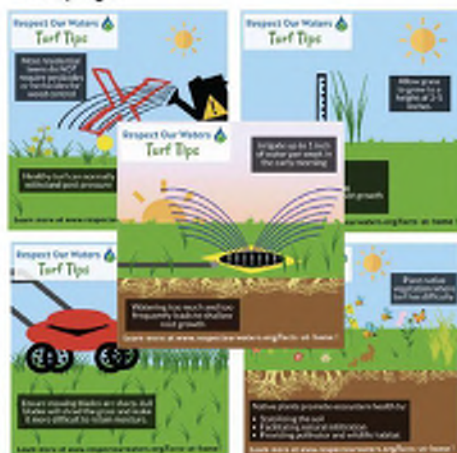
# MAY 2022 Outreach Template



## INSTRUCTIONS

- 1) Copy text from either Template
- 2) Paste text and municipal info into a newsletter, social media post, or on a webpage
- 3) Include series of five graphics.
- 4) Send to target audience / the public
- 5) Fill out reporting form at <https://bit.ly/track-22>

**Recommended:** Post links & resources included below on municipal stormwater webpage.



## More Respect Our Waters Resources to Share

Lawn Care Fact Page:

[www.respectourwaters.org/residential-lawn-care](http://www.respectourwaters.org/residential-lawn-care)

Download the graphics above at the following link:

[www.swwtwater.org/request-support](http://www.swwtwater.org/request-support) \*

## Template Option #1

*Appropriate for websites, newsletters + social media*

This growing season keep your lawn healthy and stormwater-friendly!

While lawns allow more rain to soak into the soil than pavement, they don't absorb as much water as the natural landscape. Fortunately, proper lawn maintenance can help increase its ability to capture rainwater while also reducing your need for herbicides, pesticides, and fertilizers. This helps prevent flooding and runoff pollution!

Check out these Turf Tips and visit [www.respectourwaters.org/residential-lawn-care](http://www.respectourwaters.org/residential-lawn-care) to learn how to maintain a healthy lawn while also protecting [MUNICIPALITY] and your watershed!

## Template Option #2

*Appropriate for websites, newsletters + social media*

Residential lawns need regular maintenance just like cars to extend their longevity and keep them functioning efficiently.

When lawns are poorly maintained, the turf becomes susceptible to pests, diseases, and flooding. It's cheaper and better for water quality if these problems are prevented through maintenance rather than treating problems after they occur with fertilizers, pesticides, or herbicides that could be washed by rain into local lakes and rivers.

Don't wait for a warning light to go off! Check out these Turf Tips and visit [www.respectourwaters.org/residential-lawn-care](http://www.respectourwaters.org/residential-lawn-care) to learn how to maintain a healthy lawn while also protecting [MUNICIPALITY] and your watershed!



# JUNE 2022

## Outreach Template



### INSTRUCTIONS

- 1) Copy text from either Template
- 2) Paste text and municipal info into a newsletter, social media post, or on a webpage
- 3) Include series of five graphics.
- 4) Send to target audience / the public
- 5) Fill out reporting form at <https://bit.ly/track-22>

**Recommended:** Post links & resources included below on municipal stormwater webpage.



### Template Option #1

*Appropriate for newsletters + social media. See final page for gallon estimations and number of Giannis'.*

Did you know that one inch of rainfall across all of [MUNICIPALITY] equals roughly [X] gallons of water? If you poured all that stormwater onto an NBA basketball court, it would take Milwaukee Bucks superstar Giannis Antetokounmpo standing on his own head [Y] times to reach the surface!

Every little bit of that water that you can collect at home helps us to prevent stormwater pollution! Check out these Respect Our Waters Rain Recommendations for ideas! Learn more at [www.respectourwaters.org/facts-at-home](http://www.respectourwaters.org/facts-at-home)!

### Template Option #2

*Appropriate for newsletters + social media*

Summer is finally here! Take advantage of the fair weather and find a way to collect and use rainwater on your property!

There are many benefits to each of the Respect Our Waters Rain Recommendations that you can use at home! Learn more about any of them at [www.respectourwaters.org/facts-at-home](http://www.respectourwaters.org/facts-at-home)!

### More Respect Our Waters Resources to Share

Download the graphics above: [www.swwtwater.org/request-support](http://www.swwtwater.org/request-support)

#### Residential Infiltration Fact Pages:

Stormwater Trees: [www.respectourwaters.org/hardworking-trees-swwt](http://www.respectourwaters.org/hardworking-trees-swwt)

Rain Barrels: [www.respectourwaters.org/rain-barrels-make-a-difference-swwt](http://www.respectourwaters.org/rain-barrels-make-a-difference-swwt)

Rain Gardens: [www.respectourwaters.org/add-a-rain-garden-swwt](http://www.respectourwaters.org/add-a-rain-garden-swwt)

Porous Pavements: [www.respectourwaters.org/porous-pavement](http://www.respectourwaters.org/porous-pavement)

Rain Barrel PSA Link: <https://youtu.be/FcnTgx54rWs>

# JULY 2022

## Outreach Template



### INSTRUCTIONS

- 1) Copy text from either Template
- 2) Paste text and municipal info into a newsletter, social media post, or on a webpage
- 3) Include any images that you have of municipal Green Infrastructure projects (if no images are added, an automatic picture will pop up from our website)
- 4) Send to target audience / the public
- 5) Fill out reporting form at <https://bit.ly/track-22>

**Recommended:** Post links & resources included below on municipal stormwater webpage.\*

### More Respect Our Waters Resources to Share:

**Environmentally Sensitive Design Web Page:** [www.respectourwaters.org/environmentally-sensitive-design](http://www.respectourwaters.org/environmentally-sensitive-design)

**Stormwater BMP Maintenance Web Page:** [www.respectourwaters.org/stormwater-bmp-maintenance](http://www.respectourwaters.org/stormwater-bmp-maintenance)

*\*If you don't have a municipal stormwater webpage, don't forget that we have a new guide to get you started in developing one! See the Respect Our Waters Website Guide for tips on content to include on this page, Respect Our Waters resources to include, and examples of other municipalities' webpages.*

Access this guide at <https://www.swwater.org/municipal-newsletter-archive> (Password: 20ROW22)

### Template Option #1

*Appropriate for social media / newsletters*

Did you know that in a green infrastructure system, native plant and tree roots, special soils, and temporary storage systems allow rainwater to be captured or absorbed on site instead of causing floods or picking up pollution?

You can see green infrastructure at work in [MUNICIPALITY]! [INCLUDE 1-2 SENTENCES ABOUT A GI PROJECT IN THE MUNICIPALITY HERE].

Learn more about different types of green infrastructure by visiting [www.respectourwaters.org/environmentally-sensitive-design](http://www.respectourwaters.org/environmentally-sensitive-design).

### Template Option #2

*Appropriate for social media / newsletters*

Did you know that [MUNICIPALITY] uses more than just drains and pipes to move water? We also [CHOOSE APPLICABLE ACTIONS FROM THE FOLLOWING LIST OR INCLUDE OTHER ACTIVITIES: *Plant trees, Use native plants in our landscaping, Build permeable pavements into street projects, Use rain barrels and cisterns on municipal buildings, etc.*] to move rain water away from buildings and infrastructure and to locations where the water can be treated by natural processes before returning to rivers and lakes.

These types of projects are called green infrastructure, and you can learn more about how they work at [www.respectourwaters.org/environmentally-sensitive-design](http://www.respectourwaters.org/environmentally-sensitive-design).



# AUGUST 2022

## Outreach Template



### INSTRUCTIONS

- 1) Download the Green Infrastructure + Low Impact Development Fact Sheet
- 2a) **IF you have a web page for green infrastructure, low impact development, or related topics**, add a section on the page with language from your chosen template + link to the fact page
- 2b) **IF you have a newsletter or email list that goes to contractors or developers**, send them an email/newsletter with the language from your chosen template + the fact page
- 3) Fill out reporting form at <https://bit.ly/track-22>

### MMSD Service Area Template

In **[MUNICIPALITY]**, any development or re-development with 5,000 square feet or more of new impervious area must have a Green Infrastructure (GI) plan that has been submitted to **[proper municipal department]**. GI absorbs or stores stormwater that is prevented from infiltrating into the soil by the newly-developed area so that it doesn't become polluted runoff or lead to localized flooding.

A Green Infrastructure plan can include many different types of GI strategies chosen to best fit the site. Along with managing stormwater sustainably and providing amenities to those who live and work nearby, GI can provide short and long-term cost savings to developers and property owners.

For examples of Green Infrastructure installations and resources for learning more about how to install and maintain GI, visit [www.respectourwaters.org/environmentally-sensitive-design](http://www.respectourwaters.org/environmentally-sensitive-design).

### Non-MMSD Service Area/Non-Built Out Community Template

**[MUNICIPALITY]** is fortunate to have space to grow our community. Use of on-site stormwater management in new or re-development is key to growing sustainably and mitigating polluted runoff.

Low Impact Design (LID) and Green Infrastructure (GI) strategies can help developers and contractors do their part to maintain ample green space in our community while developing high-quality residential and commercial sites. In many cases, using these strategies can also provide short and long-term cost savings to property owners and developers.

For examples of LID and GI and resources for getting started with these strategies, visit [www.respectourwaters.org/environmentally-sensitive-design](http://www.respectourwaters.org/environmentally-sensitive-design).

### Generic Template

Have you considered or used Green Infrastructure (GI) to prevent stormwater pollution and flooding in a development or re-development project?

The sustainable management of stormwater through the use of GI can provide cost savings to both developers and property owners. Properly chosen, sited, and installed GI can provide community benefits such as green space and reduced flooding, which can boost the prestige of the developer and contractors and improve the community perception of the development.

For examples of Green Infrastructure installations and resources for learning more about how to install and maintain GI, visit [www.respectourwaters.org/environmentally-sensitive-design](http://www.respectourwaters.org/environmentally-sensitive-design).

Download the GI / LID Fact Sheet at: [www.swwtwater.org/request-support](http://www.swwtwater.org/request-support)



# September 2022 Outreach Template



## INSTRUCTIONS

- 1) Download the Fact Sheet
- 2) Choose either Template 1 or Template 2
  - 2a) If you have a webpage for riparian management, add a section on the page with your chosen template language and link to the fact sheet.
  - 2b) If you have a newsletter or email that goes to riparian land workers, send them an email/newsletter with the language from your chosen template and the fact page.
  - 2c) If you have a social media page, share one of the posts with the associated template language and the paired social media graphic.
- 3) Fill out reporting form at <https://bit.ly/track-22>

**Recommended:** Post links & resources included below on municipal stormwater webpage.\*

## More Respect Our Waters Resources to Share:

Stream and Shoreline Web Page: [www.respectourwaters.org/streams-shore/](http://www.respectourwaters.org/streams-shore/)

Stream and Shoreline Fact Sheet: [www.swfwater.org/s/Riparian-Fact-Sheet.pdf](http://www.swfwater.org/s/Riparian-Fact-Sheet.pdf)

*\*If you don't have a municipal stormwater webpage, don't forget that we have a new guide to get you started in developing one! See the Respect Our Waters Website Guide for tips on content to include on this page, Respect Our Waters resources to include, and examples of other municipalities' webpages.*

Access this guide at <https://www.swfwater.org/municipal-newsletter-archive> (Password: 20ROW22)

### Template Option #1

*Appropriate for newsletters/ social media*

Lakes and rivers are an essential part of Southeastern Wisconsin, yet they are at risk due to shoreline erosion. An actively eroding shoreline can lead to infrastructure failure and poor water quality.

Thankfully, there are ways we can reduce the amount of shoreline erosion that's occurring! Help **(MUNICIPALITY)** preserve our shorelines by checking out the causes of shoreline erosion and learn how to mitigate it. Visit <https://www.respectourwaters.org/streams-shore/> to learn more!

*[Include series of pictures linked below]*



### Template Option #2

*Appropriate for newsletters/ webpages*

After a summer full of beaching, kayaking, and boating, it's important to assess the state of our shorelines. Lakeshores and stream banks can be impacted by erosion which can occur through:

- Poor stormwater management- stormwater that lands on impervious surfaces and is channelized in one direction can quickly create gullies and rills that erode the shoreline.
- Exposed soil surfaces- without any surface protection or vegetative roots to hold the soil, sediment is easily dislodged and transported to the nearest waterbody.
- Human activity- areas that have heavy foot traffic, or are under construction, can significantly destabilize shorelines. Activities, such as boating, create continuous waves that bombard the shoreline.

These actions can lead to severe sediment pollution, which detrimentally affects the health of these systems and all those who interact with it. To learn more about shoreline erosion and tips for riparian landowners, visit <https://www.respectourwaters.org/streams-shore/>.

*[Include series of pictures linked to the left]*



# October 2022 Outreach Template



## INSTRUCTIONS

- 1) Choose a topic to share, based on a targeted audience by municipality.
- 1a) If you have a newsletter or email that goes to riparian land workers, send them an email/ newsletter with the language from your chosen template and the fact page.
- 1b) If you have a riparian land management webpage, add a section with language chosen from one or both of the templates and the associated graphics with them.
- 2) Fill out reporting form at <https://bit.ly/track-22>

### Lakeshore Template

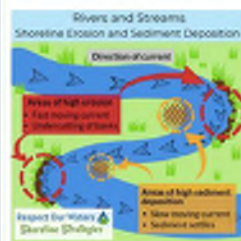
*Appropriate for newsletters/ webpages*

Both lakes and rivers undergo shoreline erosion, however, their processes and system dynamics differ. One of the major differences between lake and river shoreline erosion is the movement and availability of wind and water.

With a surplus of wind and water available, lakeshores are highly susceptible to shoreline erosion. Recreational activities, like boating, create continuous and consistent waves that batter the shore. When winter comes, frozen waters can expand shorelines, damaging infrastructure and pushing shoreline soils.

As a lakeshore erodes, sediment is quickly transported with the current and is deposited downstream. One property can quickly lose a shoreline, while their neighbor downstream begins to experience an expanding shoreline full of loose sediment.

Check out this graphic to learn about lakeshore erosion and sediment deposition. To learn more, visit <https://www.respectourwaters.org/streams-shore/>



### Streambanks Template

*Appropriate for newsletters/ webpages*

Both lakes and rivers undergo shoreline erosion, however, their processes and system dynamics differ. Some of the major factors influencing river shoreline erosion are the volume and speed of the current, and the integrity and composition of the shoreline banks.

Due to the continuous movement of the water, rivers and streams are constantly changing shape. This also means that sediment is stripped from the shoreline continually and is transported downstream. Areas with slow-moving currents experience sediment deposition, well areas with fast-moving currents experience strong erosion.

Bankshores with exposed soil surfaces and little to no vegetation are highly susceptible to undermining, causing major chunks of soil to fall into the stream. Infrastructure close to these areas can easily destabilize. This can lead to clogs in the river, making localized flooding a severe issue during major rain events. An eroding streambank can be a significant source of sediment pollution.

Check out the process of shoreline erosion and sediment deposition in rivers and streams with this graphic! To learn more about riparian land management, visit <https://www.respectourwaters.org/streams-shore/>.

Download the Stream and Shorelines Fact Sheet at: [www.swwtwater.org/request-support](http://www.swwtwater.org/request-support)

Date	Name	Mechanism/ Activity	Topic	Target Audience	Metrics	Respect Our Waters resource used?	Description
1/26/2022	Leah Hofer	Social Media Post	Sediment Pollution	Residents	Currently Unknown.	Respect Our Waters Template	I used the January/February 2022 Outreach Template on our municipality social media (Facebook, Instagram, and LinkedIn.)
8/4/2022	Theresa Caven	MS4 Staff / Contractor Training	Snow and Ice Control	Contractors (10)	Direct Discussions	WI Salt Wise and MN salt control	Discussions and handouts at Pre-con mtg
12/31/2021	Melanie Kollmansberger, Deputy Clerk	The Caboose Newsletter	Preparing for Winter	Village of Butler Residents	Approximately 1,200 newsletters were mailed out to Village Residents.	Respect Our Waters Template	The December 2021 Long Form Template was included in the Village of Butler Caboose Newsletter.
4/22/2022	Mike Wieser	Social Media Post	Residential Infiltration	Homeowners	We received 147 views of the Facebook post.	Respect Our Waters Print Materials or Graphics	I used the "Redirect Downspouts to a rain barrel or rain garden" template from the March/April Outreach and attached it to a Facebook post.

6/8/2022	Rachel Wilde - Utility Clerk	Social Media Post	Pollution Prevention Activities for Commercial / Technical Audiences	Village of Grafton residents	Views & likes - hasn't been posted yet.	Respect Our Waters Print Materials or Graphics, Template Language shared in the Outreach Template (used in a Newsletter, Social Media Post, or other location)	I am using the June 2022 Template Option #1 for a Water Wednesday Facebook post on 6/8/22, and I am using the June 2022 Template Option #2 for a Water Wednesday Facebook post on 6/22/22.
7/6/2022	Rachel Wilde - Utility Clerk	Social Media Post	Green Infrastructure / Low Impact Development	Homeowner s/Village residents	Views & Likes	Template Language shared in the Outreach Template (used in a Newsletter, Social Media Post, or other location)	I used the July 2022 Outreach Template as a Respect Our Waters Watershed Wednesday Facebook post about Green Infrastructure on July 6th.
8/3/2022	Rachel Wilde - Utility Clerk	Social Media Post	Green Infrastructure / Low Impact Development	Homeowner s/Grafton residents	Views & Likes	Respect Our Waters "Watershed Wednesday" Facebook Post, Template Language shared in the Outreach Template (used in a Newsletter, Social Media Post, or other location)	I will use the August 2022 Outreach Template for an 8/3/22 Watershed Wednesday Facebook post.

5/18/2022	Rachel Wilde - Utility Office Assistant	Social Media Post	Yard Waste Management / Pesticide & Fertilizer Application / Lawn Care	Village of Grafton residents	Likes & views - haven't posted yet so unsure of results	Respect Our Waters Print Materials or Graphics, Template Language shared in the Outreach Template (used in a Newsletter, Social Media Post, or other location)	I used May 2022 Template Option #1 for our Water Wednesday Facebook post on 5/18/22; I used May 2022 Template Option #2 for our Water Wednesday Facebook post on 5/25/22
8/11/2021	Renee Rollman	Municipal / County Educationa l Webpage	Residential Infiltration	Homeowner s	We received 8 engagem ents on this post.	Respect Our Waters.org Education Page	Shared education about capturing rainwater where it falls and provided a link to the <a href="https://respectourwaters.org/facts-at-home">respectourwaters.org/facts-at-home</a> page.
8/11/2021	Renee Rollman	Municipal / County Educationa l Webpage	Residential Infiltration	Homeowner s	We received 2 clicks on this website page.	Respect Our Waters.org Education Page, Respect Our Waters YouTube Public Service Announcements	Updated the City's website with latest information on Rain Barrels & Rain Garden resources, including hyperlinks to additional education.
9/13/2021	Renee Rollman	Social Media Post	Yard Waste Management / Pesticide & Fertilizer Application /	Homeowner s	We received 7 engagem ents on this post.	Respect Our Waters.org Education Page	Posted about Fertilizers and soil tests and provided link for more info.

			Lawn Care				
10/7/2021	Renee Rollman	Social Media Post	Yard Waste Management / Pesticide & Fertilizer Application / Lawn Care	Homeowners	This post received 4 engagements.	Respect Our Waters.org Education Page	Posted about phosphorus and ways to better manage leaves. Provided link to additional education.
12/8/2021	Renee Rollman	Social Media Post	Pollution Prevention Activities for Commercial / Technical Audiences, Green Infrastructure / Low Impact Development	Homeowners	We received 1 engagement on this post.	Respect Our Waters.org Education Page	Posted about preparing properties for winter and provided educational link.
12/20/2021	Renee Rollman	Municipal / County Educational Webpage	Pollution Prevention Activities for Commercial / Technical Audiences, Green Infrastructure / Low Impact Development	Homeowners	We received 2 clicks on this post.	Respect Our Waters.org Education Page	Posted about ice and snow control and provided educational link.

1/26/2022	Renee Rollman	Social Media Post	Snow and Ice Control	Homeowners	We received 5 engagements on the post.	<a href="https://saltwise.com">Saltwise.com</a>	Salt Awareness Week post
1/31/2022	Renee Rollman	Social Media Post	Snow and Ice Control	Winter Maintenance Professionals	We received 2 engagements on this post	<a href="https://saltwise.com">saltwise.com</a>	Smart Salting Workshop info post
2/14/2022	Renee Rollman	Municipal / County Educational Webpage	Illicit Discharge Detection & Elimination, Household Hazardous Waste / Pet Waste / Vehicle Washing/Maintenance, Yard Waste Management / Pesticide & Fertilizer Application / Lawn Care, Residential Infiltration,	Homeowners and contractors	The post received 8 engagements.	Respect Our Waters.org Education Page	We provided info on the City website about preventing sediment pollution.

			Construction or Post-Construction Stormwater Management/ Stormwater Management BMPs, Pollution Prevention Activities for Commercial / Technical Audiences				
3/8/2022	Renee Rollman	Social Media Post	Residential Infiltration	Homeowners	We received 10 engagements on this post.	None	Shared RootPikeWIN's rainbarrel fundraiser info

3/15/2022	Renee Rollman	Social Media Post	Illicit Discharge Detection & Elimination, Household Hazardous Waste / Pet Waste / Vehicle Washing/Maintenance, Yard Waste Management / Pesticide & Fertilizer Application / Lawn Care, Stream and Shoreline Management, Residential Infiltration, Construction or Post-Construction Stormwater Management/ Stormwater Management	Homeowners and contractors	We received 3 engagements on this post	Respect Our Waters.org Education Web Page	We created a post about the importance of Erosion Control measures and shared a link to the Respect Our Waters erosion control page.
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			BMPs, Pollution Prevention Activities for Commercial / Technical Audiences				
4/1/2022	Renee Rollman	Social Media Post	Residential Infiltration, Pollution Prevention Activities for Commercial / Technical Audiences, Green Infrastructure / Low Impact Development	Homeown ers	The post had several engagem ent including two "shares"	Respect Our Waters.org Education Web Page	We used info provided from Respect Our Waters to educate about the importance of Arbor Day.
5/10/2022	Renee Rollman	Social Media Post	Yard Waste Management / Pesticide & Fertilizer Application / Lawn Care, Residential Infiltration	Homeowner s	We received 6 engagem ents on the post.	Respect Our Waters.org Education Web Page	We used a Respectourwaters.org page to provide education on stormwater friendly lawns.

6/2/2022	Renee Rollman	Social Media Post	Residential Infiltration, Green Infrastructure / Low Impact Development	Homeowners	We had 12 engagements on this post.	Respect Our Waters Print Materials or Graphics	For this post we used a ROW graphic with a link to the Rain Garden page.
8/8/2022	Renee Rollman	Social Media Post	Green Infrastructure / Low Impact Development	Businesses and developers	We had 2 engagements on this post	Respect Our Waters.org Education Web Page	We used info from the Respect Our Waters site to educate about low impact developments
9/8/2022	Renee Rollman	Social Media Post	Stream and Shoreline Management	Homeowners	This post had 2 engagements	Respect Our Waters.org Education Web Page	We shared the Respect Our Waters Streams/Shores educational webpage.
9/13/2022	Renee Rollman	Municipal / County Educational Webpage	Residential Infiltration, Construction or Post-Construction Stormwater Management/ Stormwater Management BMPs	Homeowners	We received 3 clicks on the webpage post.	None	We shared the Fresh Coast Guardian's rain garden educational webpage on the City's municipal website.
10/21/2022	Renee Rollman	Social Media Post	Stream and Shoreline Management	General public, park/recreation	We had 5 engagements with	Respect Our Waters.org Education Web Page	We posted about stream and river shoreline erosion and provided an educational link

				ion users	this post		on the topic.
7/8/2022	Renee Rollman, Engineering Specialist	Social Media Post	Residential Infiltration, Green Infrastructure / Low Impact Development	Homeowner s	This post had three likes.	Respect Our Waters.org Education Web Page	This post included a photo of the Greenfield City Hall rain garden and provided info and links to green infrastructure education.
7/19/2022	Renee Rollman, Engineering Specialist	Social Media Post	Snow and Ice Control, MS4 Staff / Contractor Stormwater Pollution Prevention Activities	Stow Maintenance Professionals	This post received 5 engagements.	Milwaukee River Keeper Smart Salting Workshops	This post provided links to sign up for Snow and Ice Removal Workshops.
2/28/2022	Matthew Janecke	Social Media Post	MS4 Staff / Contractor Stormwater Pollution Prevention Activities	Homeowner s	Opens and Views	Respect Our Waters Template	I shared the ROW Earth Day Activity on our Village website and social media pages
7/8/2022	Matthew Janecke	Municipal / County Educational Webpage	Green Infrastructure / Low Impact Development	homeowner s and business owners	Just posted, not outreach data yet.	Template Language shared in the Outreach Template (used in a Newsletter, Social Media Post, or other	I used the July 2022 Outreach Template, Option #1 as a news blast on our website.

						location)	
5/3/2022	Matthew Janecke, Asst. Director of Utilities & Public Works	Social Media Post	Yard Waste Management / Pesticide & Fertilizer Application / Lawn Care	Homeowner s	Unknown at this point	Respect Our Waters.org Education Web Page	
1/28/2022	Cole McCraw, Assistant City Engineer	Newsletter Article / Email Blast	Pollution Prevention Activities for Commercial / Technical Audiences	Homeowner s	The email is sent directly to 3,666 subscribe rs and is available to those who access the website	Respect Our Waters Template	I used the January/February 2022 Long Form Outreach Template in our municipal newsletter

12/7/2021	Cole McCraw, Assistant City Engineer	MS4 Staff / Contractor Training	Illicit Discharge Detection & Elimination, Household Hazardous Waste / Pet Waste / Vehicle Washing/Maint enance, Pollution Prevention Activities for Commercial / Technical Audiences, Green Infrastructure / Low Impact Development, Snow and Ice Control, MS4 Staff / Contractor Stormwater Pollution Prevention Activities	Municipal engineering staff	2 municipal staff attended the event	Clean Rivers, Clean Lake Virtual Symposium Event (Non Respect Our Waters Activity)	Attended the 2021 Clean Rivers, Clean Lake Virtual Symposium
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8/22/2022	Cole McCraw, Assistant City Engineer	Newsletter Article / Email Blast	Green Infrastructure / Low Impact Development	Mequon newsletter subscribers	The newsletter is sent to over 3,500 subscribe rs	Template Language shared in the Outreach Template (used in a Newsletter, Social Media Post, or other location)	
9/30/2022	Cole McCraw, Assistant City Engineer	Newsletter Article / Email Blast	Stream and Shoreline Management	Riparian owners, anyone who receives newsletter	The newsletter is sent to over 3,500 subscribe rs	Respect Our Waters.org Education Web Page, Template Language shared in the Outreach Template (used in a Newsletter, Social Media Post, or other location)	September outreach template added to the Mequon weekly bulletin
4/5/2022	Solomon Bekele	Municipal / County Educationa l Webpage	MS4 Staff / Contractor Stormwater Pollution Prevention Activities	Contractors and homeowner s	We have 131 views on the DPW's pollution preventio n page.	Respect Our Waters Print Materials or Graphics	We copied and edited the ROWs' Web Page Template for sediment and erosion control and posted it on the City's DPW stormwater management website under pollution prevention. The Erosion/Sediment Control Fact Sheet is also posted. We also did the same to the Earth Day Template #2,

							encouraging homeowners to adopt a drain.
12/2022	Craig Schroeder, Superintendent Department of Public Works	Mailer/ Distribution of Print Materials	Household Hazardous Waste / Pet Waste / Vehicle Washing/Maintenance, Yard Waste Management / Pesticide & Fertilizer Application / Lawn Care, Residential Infiltration	Residents	We sent 645 fliers to residents in our tax bill	Respect Our Waters Print Materials or Graphics	We sent our 645 fliers to our residents in our tax bills that included information on Household Hazardous Waste / Pet Waste / Vehicle Washing/Maintenance, Yard Waste Management / Pesticide & Fertilizer Application / Lawn Care, and Residential Infiltration.
1/27/2022	Robert Hutter	Social Media Post	Snow and Ice Control	All People who subscribe to the City's Facebook page	Monitoring the amount of "Likes" and "Comments"	Respect Our Waters Template	Copied the Salt Awareness Week Facebook posts to the City of West Allis Facebook Post
1/26/2022	Robert Hutter, Principal Engineer	Newsletter Article / Email Blast	Snow and Ice Control	Homeowners and business	Email went out to all	Respect Our Waters Template	Posted about Salt Awareness Week

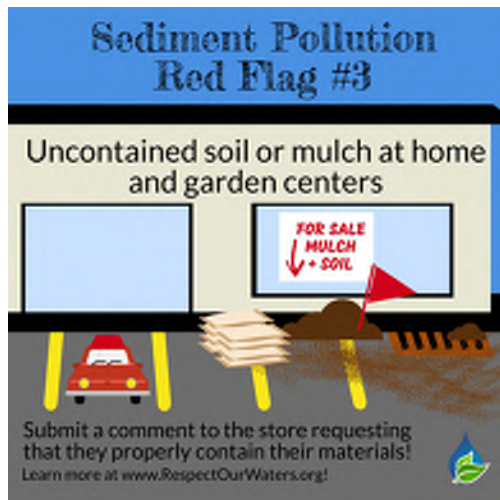
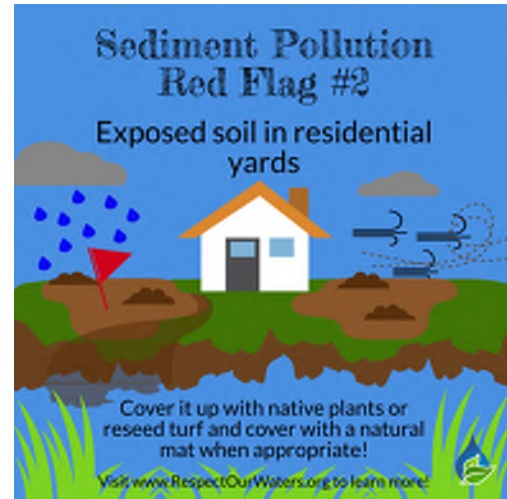
				owners	residents who sign up for the community updates		
1/25/2022	Kayla Fitzgerald, Administrative Assistant	Municipal / County Educational Webpage	Pollution Prevention Activities for Commercial / Technical Audiences, Snow and Ice Control, MS4 Staff / Contractor Stormwater Pollution Prevention Activities	Residents	All residents have access to the municipal website. It was posted on the front page.	Respect Our Waters Template	I used the 2022 January/February Template on our municipal website.
1/25/2022	Kayla Fitzgerald, Administrative Assistant	Newsletter Article / Email Blast	Snow and Ice Control, MS4 Staff / Contractor Stormwater Pollution Prevention Activities	Residents	All residential properties receive a newsletter .	Respect Our Waters Template	I used the 2022 January/February template in our municipal newsletter.



1/21/2022	Kim Egan	Social Media Post	Yard Waste Management / Pesticide & Fertilizer Application / Lawn Care	Village residents	We did not measure the outreach.	Respect Our Waters.org Education Page	Posted information on the front page of our web site
5/25/2022	Kim Egan, Adminsitrator	Newsletter Article / Email Blast	Residential Infiltration	Homeowners	2,516 newsletters are distributed to residents	Template Language shared in the Outreach Template (used in a Newsletter, Social Media Post, or other location)	We used the May June template in our newsletter.
1/31/2022	Tim Blakeslee - Assistant Village Manager	Newsletter Article / Email Blast	Illicit Discharge Detection & Elimination	Village residents	3,336 newsletter opens. 9 clicks on link for this item	Respect Our Waters Template	January/February Respect our waters template for newsletter on January 31, 2022

## Appendix B: Respect Our Waters Materials

### Sediment Pollution Red Flags:

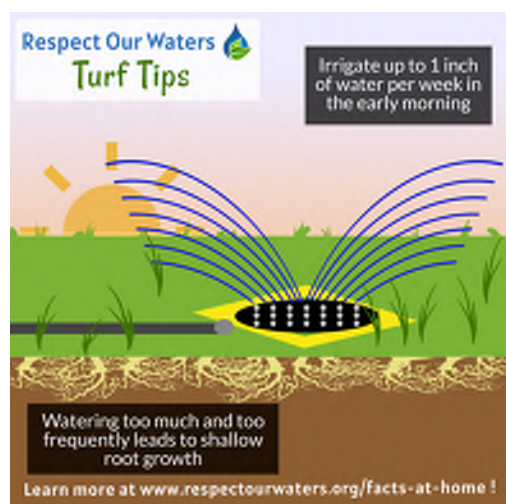


Earth & Arbor Day Graphics:





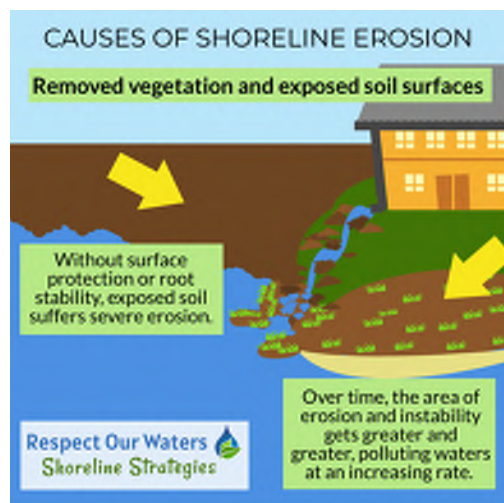
## Turf Tips Graphics:



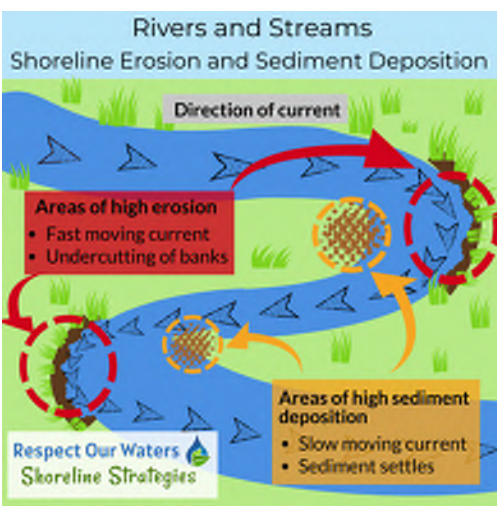
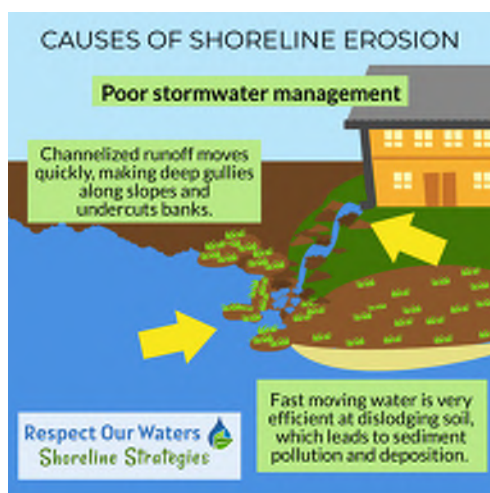
## Rain Recommendations Graphics:



## Stream and Shoreline Graphics:







## Ditches and swales brochure



### About Us

We all live in a watershed. Here in Southeastern Wisconsin, the Greater Milwaukee River Watersheds drain to Lake Michigan. Our goal is to restore these watersheds to conditions that are healthy for swimming and fishing.

Each of us can have a positive impact on the health of our local water, and if we each do our part, all of our individual actions will add up! So, let's start together, in our own homes, and help to protect our rivers and Lake Michigan!



RESPECT OUR WATERS



### What is Stormwater Runoff?

Rain and melting snow that flows off rooftops, streets, lawns, parking lots, and farmland is classified as stormwater runoff.

Stormwater runoff picks up excess fertilizer and pesticides, oil, sand, leaves, grass clippings, and many other pollutants.

Unlike sewage, stormwater does not flow into a treatment plant to be cleaned, so it is critical that we all do our part to prevent pollution from getting into stormwater runoff.

### Ditches and Swales

*Keep them Clean and Clear*

### Contact Us


Email Address: [info@respectourwaters.org](mailto:info@respectourwaters.org)  
 Web: [www.respectourwaters.org](http://www.respectourwaters.org)  
 Phone: 414-382-1756

Stormwater runoff pictures obtained from istock.com

### Ditches and Culverts What are they?


A culvert is a tunnel carrying stormwater under a driveway, road, or railroad. Once the runoff enters these ditches, it either seeps into the ground, or enters directly into a nearby river, stream, or lake—untreated!

The ditch and culvert near your house are a part of a broader neighborhood-wide drainage system that manages stormwater runoff. This reduces flooding, winter icing, erosion, and pollution.



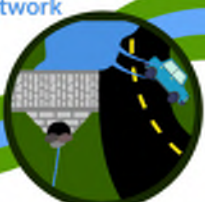
### Keep those Culverts Clean and Clear

For ditches and culverts to function properly, they must remain "clean and clear" so stormwater runoff can flow unobstructed through the drainage system.



Grass-lined ditches are meant to filter and absorb pollutants in the runoff before the water is conveyed to a stormwater pond or nearby surface water.

### The Neighborhood Network









If filled with dirt, plants, or rock, you might affect a neighbor's property, damage the neighborhood, create dangerous roadways, or enable more pollutants to enter waterbodies like the Milwaukee River and Lake Michigan.

### Did you know?

The ditches and culverts you see in your neighborhood are designed to reduce flooding, winter icing, erosion, and pollution.

### Stormwater Tips

 <p><b>Sweep the poop</b> Clean up after your pets, and don't feed the water fowl!</p>	 <p><b>Don't be a drip</b> Inspect your car regularly to stop all oil and fuel leaks.</p>	 <p><b>Disconnect</b> Direct downspouts to rain barrels, yard, or garden instead of the sewer or driveway.</p>
 <p><b>Give your rake a break</b> Leave grass clippings on your lawn or compost them.</p>	 <p><b>Wash carefully</b> Take your car to a car wash, or wash it on your lawn instead of your driveway.</p>	 <p><b>Capture Rainwater</b> Plant a rain garden and trees.</p>



## Appendix C. Fact Sheets

### Respect Our Waters Construction Sediment + Erosion Control Fact Sheet

*According to a joint publication of Wisconsin DNR + UW Extension, for every acre under construction, about a dump truck and a half of soil will erode into a local lake or stream in the absence of erosion controls.*

Sediment pollution can create a slew of problems if control devices and management practices are not put in place and maintained. Stormwater, or water from precipitation, can carry soils and sediments disturbed by construction activities into local lakes, rivers, and streams, potentially causing the following problems:

- Clogged storm drains and storm sewer systems, which can lead to localized flooding
- Changed stream morphology (size and shape)
- Increased water temperature from sediment particles retaining heat from sunlight
- Increased nutrient leaching, especially phosphorus, from sediment particles
- Decreased native aquatic vegetation from lack of sunlight
- Fish kills that result from lack of food sources, sediment clogging gills and covering eggs, and changes in water chemistry

Many of these problems lead to a larger issue of excessive algae growth and decay, which also depletes the amount of oxygen in the water. This leads to a set of public health problems:

**Environmental Health:** Waterbodies once home to fish and native vegetation are suffocated by invasive weeds and toxic algal blooms.

**Human Health:** Higher concentrations of pollutants and suspended sediment lead to longer and more expensive treatment processes. This can also taint the taste of the water, giving it an odd odor.

**Community Health:** Flooded streets and lost recreational activities, like swimming and fishing, can cause a decline in community confidence and overall health.

Sediment and erosion control protects our *shared* water resources and safeguards public health. Wisconsin Department of Natural Resources defines the following points as the basic principles of erosion and sediment control:

- **Planning + Preservation:** Minimize open area by phasing or sequencing construction and preserving existing vegetation where possible.
- **Diversions:** Divert stormwater away from disturbed or exposed areas when possible.
- **Installation:** Install BMPs to control erosion and sediment and manage stormwater.
- **Inspection + Maintenance:** Inspect the site regularly and properly maintain BMPs, especially after rainstorms.
- **Evaluate:** Revise the plan as site conditions change during construction and improve the plans if BMPs are not effectively controlling erosion and sediment.
- **Housekeeping:** Keep the construction site clean by putting trash in trash cans, keeping storage bins covered, and preventing or removing excess sediment on roads and other impervious surfaces.

The proper use and management of sediment and erosion control devices and techniques significantly reduces the risk of stormwater contamination. Visit [www.RespectOurWaters.org/erosion-control](http://www.RespectOurWaters.org/erosion-control) to learn more about the impacts of sediment pollution and to find a list of resources to learn more about implementing and maintaining specific erosion and sediment control best management practices.

This Fact Sheet is brought to you by Respect Our Waters. Last Updated March 2022.

**Sources:** "GW0001 Erosion Control for Home Builders." Cooperative Extension Publications, Madison, & "Erosion Control and Storm Water Management Plans", Wisconsin DNR. ([https://dnr.wisconsin.gov/topic/Stormwater/construction/erosion\\_control.html](https://dnr.wisconsin.gov/topic/Stormwater/construction/erosion_control.html)). Last accessed Mar 3, 2022.



## Respect Our Waters Green Infrastructure + Low Impact Design Fact Sheet

*Green infrastructure uses "plant or soil systems, permeable pavement or other permeable surfaces or substrates, stormwater harvest and reuse, or landscaping to store, infiltrate, or evapotranspire stormwater and reduce flows to sewer systems or to surface waters."<sup>1</sup>*

**Fact 1: 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.**

Within the Milwaukee Metropolitan Sewerage District Service Area, new or re-developments that meet a certain set of criteria must follow rules set by the District for developing and implementing GI plans.<sup>2</sup> In larger developments such as new subdivisions or business parks, **Low Impact Development (LID) takes green infrastructure strategies and merges them with other techniques to also achieve improved stormwater management.** LID may go hand-in-hand with community open space or green space ordinances.

**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 quality of life.**

Benefits can include<sup>3</sup>:

**Reducing the amount of salt** needed for snow & ice control + **Improving localized air & water quality**  
**Improving community aesthetics & cohesion** + **Reducing urban heat island effect & noise pollution**  
**Increasing urban habitat & agriculture opportunities** + **Reducing energy usage** for heating & 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 may be appropriate for new developments or re-developments 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 allows 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 LID, examples in southeastern Wisconsin, and other resources, visit [www.respectourwaters.org/environmentally-sensitive-design](http://www.respectourwaters.org/environmentally-sensitive-design).**

<sup>1</sup> Water Infrastructure Improvement Act of 2019, H.R. 7279, 115<sup>th</sup> Cong. §5(a)(27) (2019).

<sup>2</sup> Milwaukee Metropolitan Sewerage District. (2020, July 27). Chapter 13: Surface Water and Storm Water. [https://www.mmsd.com/application/files/9515/9621/1174/Chapter\\_13\\_July\\_2020.pdf](https://www.mmsd.com/application/files/9515/9621/1174/Chapter_13_July_2020.pdf)

<sup>3</sup> Center for Neighborhood Technology and American Rivers. (2010) *The Value of Green Infrastructure: A Guide to Recognizing its Economic, Environmental and Social Benefits*. [https://cnt.org/sites/default/files/publications/CNT\\_Value-of-Green-Infrastructure.pdf](https://cnt.org/sites/default/files/publications/CNT_Value-of-Green-Infrastructure.pdf)

## Respect Our Waters

### Riparian Shoreline Erosion and Sediment Pollution Fact Sheet

**Riparian Zone:** the area of banks and shores where land and river/lake interact, the junction of terrestrial and aquatic environments.

Lakes and rivers/ streams provide an abundance of enjoyment. Everything from drinking water, to recreational activities like boating and fishing, to purely aesthetic beauty, these grand environments provide endless opportunities. To preserve these sensitive riparian ecosystems, we must manage our land to reduce shoreline erosion and sediment pollution.

#### Problems Associated with Shoreline Erosion

Actively eroding shorelines can: undercut banks and destabilize infrastructure near the waterbody, like bridges and buildings; lead to a loss in shoreline; add significant amounts of sediment that leads to sediment pollution.

Sediment accumulation and deposition can: fill reservoirs and reduce holding capacity; clog rivers and streams that induce localized flooding; extend shorelines and change waterbody shape.

Excessive suspended sediment can: detrimentally affect fisheries and exacerbate algae growth; limit recreational activities like boating and fishing; make the water treatment process longer and more expensive

#### Causes of Shoreline Erosion

**Poor Stormwater Management-** stormwater that lands on impervious surfaces and gets channelized in a single direction can quickly scour the land and transport sediment into the nearest waterbody.

**Exposed soil surfaces-** without a surface cover and no vegetative roots to stabilize the soil, exposed soil surfaces are highly susceptible to erosion from wind, rain, and runoff.

**Human Disturbances-** areas that experience heavy foot traffic or are under construction can easily be dislodged.

As a shoreline destabilizes and erodes, it can quickly escalate in severity over a short period. That is why it is essential to be proactive and continuously monitor the shoreline.

#### Shoreline Erosion Mitigation Strategies

**Proper Stormwater Management-** Collect. Contain. Infiltrate. Use green infrastructure like rain barrels and rain gardens to decrease stormwater runoff volume, and redirect surface runoff from steep slopes to prevent gully formation.

**Armor and Vegetation-** Plant native vegetation over any exposed soil surfaces, they offer surface protection and provide deeper soil stability with their long roots. Riprap can be placed along shorelines to reduce wave impact erosion. However, be mindful of placement for poorly placed riprap can degrade aquatic habitats and cause erosion to occur in other places.

**Reduced Human Activity-** Avoid construction within 100 feet of water bodies. Avoid walking on steep slopes and areas of high foot traffic, less disturbance means less sediment dislodged.

#### Lakeshore vs. Stream/Rivershore Erosion Influencers

The rate of erosion for lakeshores is often influenced by weather conditions and human activity. With a surplus of wind and water available, lakeshores experience shoreline erosion daily. More waves impacting the shoreline means more erosion. When winter comes, ice movement can push shoreline soils and damage nearby infrastructure. Streamshore erosion is often influenced by the quantity and speed of the current, and by exposed soil bankshores. Fast-moving currents with lots of water have a strong ability to strip away sediment and cause the undercutting of banks at curves along the river/ stream. A lack of vegetative support exacerbates this process.

For more information on riparian land management and how to identify serious shoreline erosion, visit [www.respectourwaters.org/streams-shore/](http://www.respectourwaters.org/streams-shore/) to learn more.

This Fact Sheet is brought to you by Respect Our Waters. Last Updated August 2022.

Sources: Causes of Lakeshore and Streambank Erosion Wisconsin DNR, <https://www.wisconsin.gov/topic/Watersheds/shoreline/soils-shoreline.html>. Last accessed August 15, 2022

## Appendix D. Mailer

Zip Code	Number of Post Cards
53005	227
53007	209
53012	273
53022	136
53024	374
53036	386
53051	180
53080	195
53086	381
53090	430
53092	364
53110	377
53122	399
53172	355
53202	135
53209	256
53211	257
53212	62
53214	371
53215	137
53217	254
53220	334
53226	188
53235	146

**PROTECT OUR SHORELINES**  
Whether it's a stream or a freshwater ocean we need to learn about erosion!

Shoreline erosion impacts property owners and those who enjoy aquatic recreation. Erosion can cause sediment pollution, weaken infrastructure, change the shape of waterbody, and limit recreation. It can be reduced by:

- Shoreline stabilization tools (like vegetation)- provides a protective cover
- Reduced disturbance- staying on trails helps protect vegetation
- Stormwater management (rain gardens and barrels)- reduces flood risk on your property!

**sweet water**  
SOUTHEASTERN WISCONSIN WATERSHEDS TRUST, INC.  
Sweet Water helps to improve Wisconsin's lakes and rivers. Visit [www.RespectOurWaters.org](http://www.RespectOurWaters.org) to learn how you can help improve stream and shorelines in your area!  
Then scan the QR code or visit [www.AdoptYourDrain.com](http://www.AdoptYourDrain.com) to "adopt" a drain and remove pollutants before they reach our stream and shores

**Contact Us**  
600 E Greenfield Ave  
Milwaukee, WI 53204  
414-382-1766  
info@swwwater.org

RESPECT OUR WATERS

## Appendix E. 2022 Events

Event	Date	Topics Covered	Materials Provided	Metrics	Other Details
Grafton Storm Drain Stenciling	April 19	<ul style="list-style-type: none"> <li>• Illicit Discharge Detection &amp; Elimination</li> <li>• General</li> </ul>	<ul style="list-style-type: none"> <li>• Drain Door Hangers</li> </ul>	74 stencil notifications were distributed around the village	
Rock the Green	April 23	<ul style="list-style-type: none"> <li>• Illicit Discharge Detection &amp; Elimination</li> <li>• Household Hazardous Waste / Pet Waste / Vehicle Washing/Maintenance</li> <li>• Yard Waste Management / Pesticide &amp; Fertilizer Application / Lawn Care</li> <li>• Residential Infiltratio</li> <li>• Snow and Ice Control</li> <li>• Adopt Your Drain</li> </ul>	<ul style="list-style-type: none"> <li>• Was a Zero Waste Event, QR codes were provided</li> <li>• Interactive booth to write ways to prevent stormwater pollution</li> </ul>	37 booth visitors  1 Drain Adoption  8 Individuals participated in interactive event	
Whitefish Bay Water Run	May 7	<ul style="list-style-type: none"> <li>• Illicit Discharge Detection &amp; Elimination</li> <li>• Household Hazardous Waste / Pet Waste /</li> </ul>	<ul style="list-style-type: none"> <li>• Adopt Your Drain Trifold</li> </ul>	17 booth visitors  1 Drain Adoption	

		Vehicle Washing/Maintenance <ul style="list-style-type: none"> <li>• Residential Infiltration</li> <li>• Adopt Your Drain</li> </ul>		3 Drain Completion	
Shorewood Pollinator Palooza	May 21	<ul style="list-style-type: none"> <li>• Illicit Discharge Detection &amp; Elimination</li> <li>• Household Hazardous Waste / Pet Waste / Vehicle Washing/Maintenance</li> <li>• Green Infrastructure / Low Impact Development</li> <li>• Adopt Your Drain</li> </ul>	<ul style="list-style-type: none"> <li>• Adopt Your Drain Instruction Sheets</li> <li>• Adopt Your Drain Gloves</li> </ul>	34 booth visitors  20 Adopt Your Drain Sheets Taken  12 pairs of Adopt Your Drain Gloves Taken  4 Drain Adoptions	
Fox Point Open House	June 11	<ul style="list-style-type: none"> <li>• Household Hazardous Waste / Pet Waste / Vehicle Washing/Maintenance</li> <li>• Yard Waste Management / Pesticide &amp; Fertilizer Application / Lawn Care</li> <li>• Residential Infiltration</li> <li>• Green Infrastructure / Low Impact Development</li> </ul>	<ul style="list-style-type: none"> <li>• Adopt Your Drain Instruction Sheet</li> <li>• Adopt Your Drain Gloves</li> </ul>	18 booth visitors  11 Adopt Your Drain Instruction sheets taken  3 pairs of Adopt Your Drain Gloves taken	



Washington County Fair	July 26 -31	<ul style="list-style-type: none"> <li>● Illicit Discharge Detection &amp; Prevention</li> <li>● Residential Infiltration</li> <li>● Local Municipal Information about Yard Waste &amp; Hazardous Waste Programs</li> <li>● No wipes down the pipes</li> <li>● Pet Waste Management</li> <li>● Vehicle Maintenance</li> <li>● Salt Reduction Strategies</li> <li>● General Education about Stormwater Management &amp; Watersheds</li> <li>● Stormwater Basin Maintenance (when applicable)</li> </ul>	<ul style="list-style-type: none"> <li>● No Respect Our Waters materials, instead interactive nemo game</li> <li>● Compost Container give away</li> <li>● Rain Barrel giveaway</li> <li>● Koozie giveaway</li> </ul>	<p>363 booth visitors (297 Washington County Residents)</p> <p>280 game participants</p> <p>178 compost container sign ups</p> <p>148 Rain Barrel sign ups</p>	
Green and Healthy Schools Conference	August 5	<ul style="list-style-type: none"> <li>● Household Hazardous Waste / Pet Waste / Vehicle Washing/Maintenance</li> <li>● Yard Waste Management / Pesticide &amp; Fertilizer Application / Lawn Car</li> <li>● Residential Infiltration</li> <li>● Adopt Your Drain</li> </ul>	<ul style="list-style-type: none"> <li>● Adopt Your Drain Instruction Forms</li> <li>● Adopt Your Drain Gloves</li> </ul>	<p>17 booth visitors</p> <p>12 Adopt Your Drain Instructions taken</p> <p>3 Adopt Your Drain Gloves taken</p>	

River Clean up	Sept 15	<ul style="list-style-type: none"> <li>• Stream and Shoreline Management</li> <li>• General Watershed Education</li> </ul>	<ul style="list-style-type: none"> <li>• Door Hangers</li> </ul>	50+ volunteers	<p>50 cubic yards of brush removed from creek</p> <p>10 cubic yards of mulch added to walking path</p> <p>18 trash bags of litter removed from creek</p>
Harbor Fest	Sept 25	<ul style="list-style-type: none"> <li>• Illicit Discharge Detection &amp; Elimination</li> <li>• Household Hazardous Waste / Pet Waste / Vehicle Washing/Maintenance</li> <li>• Yard Waste Management / Pesticide &amp; Fertilizer Application / Lawn Care</li> <li>• Residential Infiltration</li> <li>• Green Infrastructure / Low Impact Development</li> <li>• Snow and Ice Control</li> </ul>	<ul style="list-style-type: none"> <li>• Adopt Your Drain Instruction Forms</li> <li>• Simple Solutions Brochure</li> <li>• Fall To Do List</li> <li>• Adopt Your Drain Door Hanger</li> <li>• Lawn Care Brochure</li> <li>• Native Plant Care Brochure</li> <li>• Tree Care</li> <li>• Tips to Prevent Stormwater Pollution Bookmark</li> <li>• Native Seeds</li> </ul>	56 booth visitors	
Shorewood's Fish & Feather Festival	Oct 8	<ul style="list-style-type: none"> <li>• Household Hazardous Waste / Pet Waste / Vehicle Washing/Maintenance</li> </ul>	<ul style="list-style-type: none"> <li>• No Respect Our Waters or Adopt Your Drain materials, instead interactive sensory table</li> </ul>	59 booth visitors	

		<ul style="list-style-type: none"> <li>• Yard Waste Management / Pesticide &amp; Fertilizer Application / Lawn Care</li> <li>• Residential Infiltration</li> <li>• Construction or Post-Construction Stormwater Management/Stormwater Management BMP</li> <li>• Snow and Ice Control</li> </ul>			
Glen Hills Middle School	Nov 18	<ul style="list-style-type: none"> <li>• General Education about Stormwater Management &amp; Watersheds</li> </ul>	<ul style="list-style-type: none"> <li>• No Respect Our Waters or Adopt Your Drain Materials- talked to class</li> </ul>	Approximately 12 students	



## Appendix F: Menomonee Group Meeting Agenda

### MS4 PERMIT GROUP - FALL 2022 AGENDA

Location: City of Brookfield – Common Council Chambers

Date: Tuesday, October 4th

Time: 1:30 P.M. – 3:00 P.M.

#### Agenda Items

1:30 – 1:35	Welcome & Introductions
1:35 – 1:50	MS4 Program Partners <ol style="list-style-type: none"><li>1. Respect Our Waters – Program Information Updates</li><li>2. Milwaukee Riverkeeper</li></ol>
1:50 – 2:00	Wisconsin DNR – 2023 Due Dates & Updates
2:00 – 2:45	Permit Group Successes, Lessons Learned & Opportunities <ol style="list-style-type: none"><li>1. Brookfield – Phosphorus</li><li>2. Elm Grove – Underwood Creek</li><li>3. Salt Wise Program</li><li>4. Other Projects from the Group</li></ol>
2:45 – 2:55	Misc. & Others Issues
2:55 – 3:00	Set Next Meeting

## Appendix G. Adopt Your Drain Instagram Materials



# Appendix H: Adopt Your Drain Quarterly Newsletters



## Adopt Your Drain Seasonal Newsletter

### Greetings Water Enthusiasts!

Welcome to the Spring Edition of the Adopt Your Drain Seasonal Newsletter!

This newsletter will provide you with program updates and events, seasonal drain management tips and tricks, specialty featured articles, and much more so that you can help keep southeastern Wisconsin's watersheds and waterways clean!

Thanks as always for participating in Adopt Your Drain!

[Visit the Adopt Your Drain Website!](#)

## Adopt Your Drain Spring Cleaning



In the transition from winter to spring, large amounts of stormwater can start entering our storm sewer systems as well as our lakes and rivers due to snow melt and frequent rain events. This makes it crucial to manage stormwater so that our watersheds are protected from stormwater pollution!

Adopt Your Drain volunteers play an important role in preventing stormwater pollution! Here's what you can do to help:

- **Clean Your Storm Drain!**

- Early in the season you may find garbage that was hidden under the snow. Make sure to clear it from your storm drain!

- **Dispose of Debris in Appropriate Receptacles!**

- Early in the spring, throw debris away in the garbage since it was most likely contaminated with road salt.
- Later in the spring you may find vegetative debris that you can compost or put with your yard waste.

- **Stabilize the Soil!**

- Exposed soil around your storm drain can lead to **Sediment Pollution**. If you own the property, consider planting native

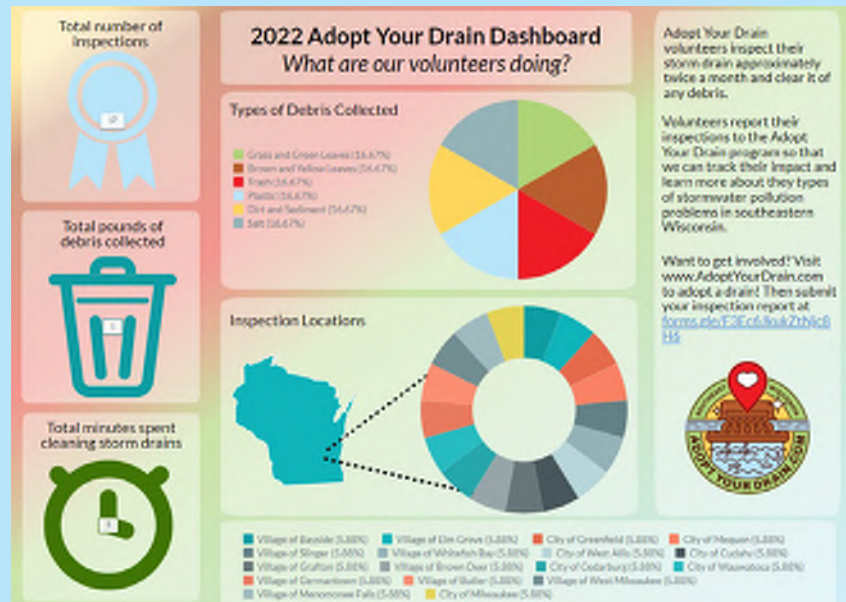
plants to stabilize the soil and prevent future sediment pollution.

- **Report your Findings!**

- Use our new **Storm Drain Inspection Survey** after each storm drain cleaning so we can see the impact of our volunteers grow over time!

Spring-time is in our mirrors and closer than it appears! Now is an important time to adopt, clean, and prepare for rain!

## What's in YOUR Storm Drain?



We want to hear from YOU! What are you finding in your drain when you clean it twice a month?

Complete our four question Storm Drain Inspection Survey after EACH storm drain cleaning to let us know what you are finding!

Once your inspection survey is submitted, our volunteer dashboard will automatically update with the reports you send us, allowing us to visualize the impact that you and other volunteers are making!

Storm Drain Inspection  
Survey

Adopt Your Drain  
Dashboard

## Program and Partner Updates





27TH ANNUAL

## Milwaukee Riverkeeper Spring Cleanup

Saturday, April 23

9:00AM - Noon

### 27th Annual Milwaukee Riverkeeper Spring Cleanup

**Date:** Saturday April 23rd, 9am - Noon

**Location:** 70+ sites throughout Ozaukee, Washington, Milwaukee, and Waukesha Counties

**Description:** This spring, join together in a community-wide effort across Ozaukee, Washington, Milwaukee, and Waukesha counties to remove over 100,000 pounds of trash from our river system during the 27th Annual Milwaukee Riverkeeper Spring Cleanup! Milwaukee Riverkeeper provides the gloves, trash bags and FREE T-SHIRTS, you provide the people power, and together we will restore our waterways!

**Registration is required.** To learn more, click below!

[Learn more here!](#)

### MMSD Native Plant Sale

Looking for gardening inspiration? Check out Milwaukee Metropolitan Sewerage District's Native Plant sale! Learn the importance of native vegetation and see what types of kits, seeds, and plants are available for purchase!



[Learn more here!](#)

### ATTENTION COMMUNITY MEMBERS

Want to organize a storm drain stenciling event for your group or community? Let us know and we'd be more than happy to talk with you!

Storm drain stenciling is a great opportunity to connect with one another and spread awareness about stormwater management. Caring for our water is a community effort and every drain counts! For more information, email us at [americorps@swwtwater.org](mailto:americorps@swwtwater.org)





## Join our Adopter Facebook Group

Follow the link below to visit the Adopt Your Drain Volunteer Group Facebook page and interact with fellow stormwater stewards!

1. Click "Join" and answer the group questions.
2. Once your responses are verified, you will be admitted into the group.
3. Connect, collaborate, and discuss everything storm drain related with like minded individuals!

[Join Us!](#)

*Thank you for your commitment to protect and restore water quality in southeastern Wisconsin! Every drain counts!*

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Trust, Inc.  
600 E Greenfield Ave  
Milwaukee, WI 53204  
[info@respectourwaters.org](mailto:info@respectourwaters.org)



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## Adopt Your Drain Seasonal Newsletter

### Greetings Water Enthusiasts!

Welcome to the Summer Edition of the Adopt Your Drain Seasonal Newsletter!

This newsletter will provide you with program updates and events, seasonal drain management tips and tricks, specialty featured articles, and much more so that you can help keep southeastern Wisconsin's watersheds and waterways clean!

Thanks as always for participating in Adopt Your Drain!

[Visit the Adopt Your Drain Website!](#)

## Adopt Your Drain Summer Tips



Summer is here! Now is the time for outdoor enjoyment in Wisconsin: long dog walks, gardening, hiking, swimming and fishing. This impeccable weather brings some damp tidings as well: summer-time rains.

Be cautious and proactive when clearing your drain of debris. Severe flooding and pollution that result from severe and sudden storms can degrade our water resources and prevent us from enjoying our favorite recreational activities.

Adopt Your Drain volunteers play an important role in managing stormwater for their community! Here's what you can do to help:

### ***Summer Drain Cleaning Tips***

- **Keep it clean-**

- Make sure that the storm drain is ALWAYS clean of debris and there is no material obstructing the drainage path. This is especially important during the summer months because the heavy rains create a high risk of localized flooding.

- **Yard waste management-**

- Avoid blowing grass clippings and leaves into the street where they can easily clog drains and can provide a significant amount of nutrient pollution to the local waterways. Always check your city's website to find information on proper yard waste management and disposal.

- **Stay safe-**

- When possible, clean your drain during the day before it rains; not during a storm. If you clean in full sun light, you will be able to see what you are doing better and passing cars will see you too. Wear high visibility clothes and stay out of the way of traffic!

### Summer Stormwater Tips

- **Pet waste management-**

- As we spend more time outdoors, our furry friends do the same. Make sure to always pick up after your pet to prevent nutrient and biological pollutants from entering our lakes and rivers.

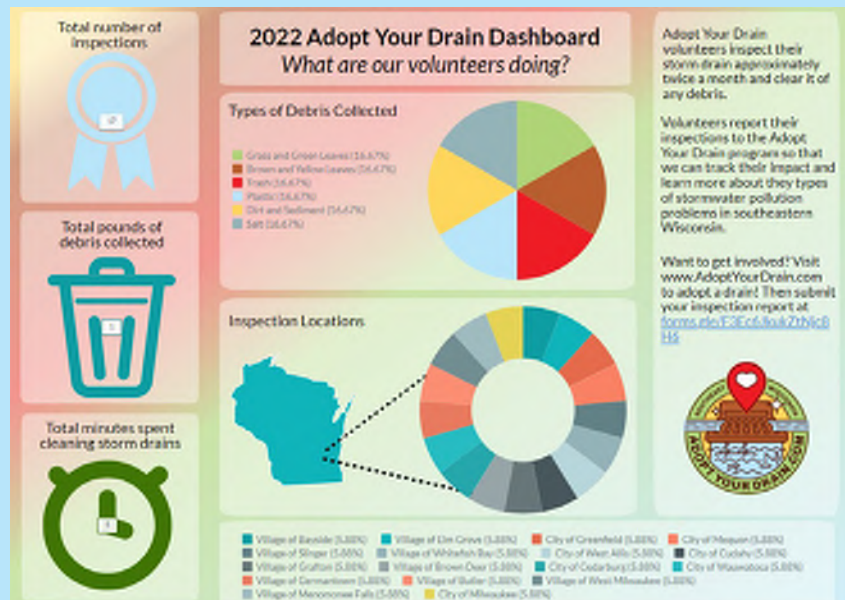
- **Chemical courtesies-**

- Weeds may have invaded parts of the lawn, but try to avoid using pesticides and herbicides during the summer. If applied incorrectly, harmful chemicals can run off your lawn and become stormwater pollution.

- **No need to fertilize-**

- Green lawns are pretty, but when fertilizers enter our lakes and rivers, water pollution occurs. Rapid algae growth leads to rapid organic matter decomposition. Not only does it make our waters mucky and smelly, it limits recreational activities and can be harmful to humans and wildlife.

## What's in YOUR Storm Drain?



We want to hear from YOU! What are you finding in your drain when you clean it twice a month?

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Once your inspection survey is submitted, our volunteer dashboard will automatically update with the reports you send us, allowing us to visualize the impact that you and other volunteers are making!

Storm Drain Inspection

Adopt Your Drain



## Program and Partner Updates



### Riparian Land Management- Shoreline Erosion

Do you own property along a lakeshore or streambank?

Riparian land owners are faced with battling the ever-changing elemental forces of water and wind along their shorelines. An eroding shoreline can quickly get out of hand, causing severe sediment pollution and deposition that negatively affects wildlife and human health and recreation.

To protect these sensitive areas, click below and learn how to identify areas of concern, the causes of shoreline erosion, and how to properly manage an eroding shoreline.

[Learn more here!](#)

### ATTENTION COMMUNITY MEMBERS

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[Join our Adopter Facebook](#)



## Group

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## **Adopt Your Drain Seasonal Newsletter**

### **Greetings Water Enthusiasts!**

Welcome to the Fall Edition of the Adopt Your Drain Seasonal Newsletter!

This newsletter will provide you with program updates and events, seasonal drain management tips and tricks, specialty featured articles, and much more so that you can help keep southeastern Wisconsin's watersheds and waterways clean!

Thanks as always for participating in Adopt Your Drain!

[Visit the Adopt Your Drain Website!](#)

## **Adopt Your Drain Fall Tips**



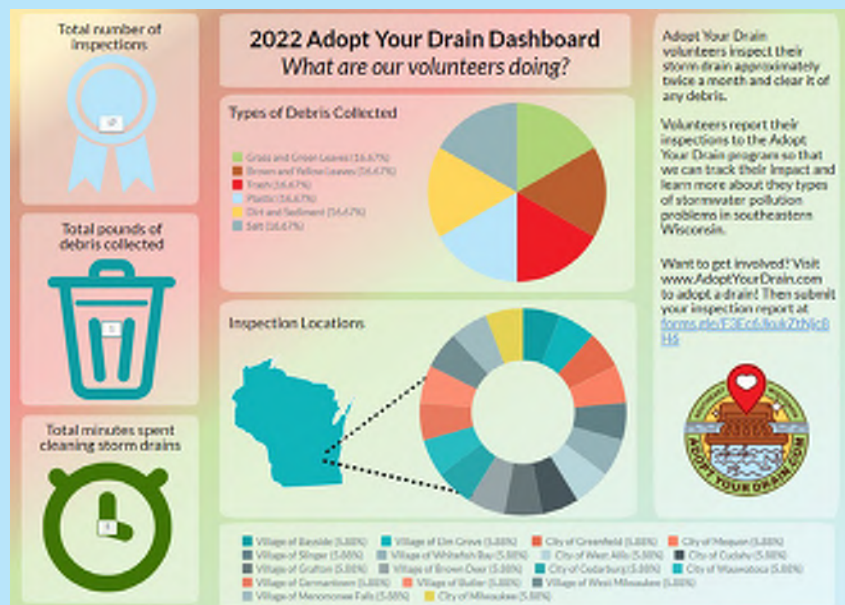
## Featured Article: Leaf it Out of the Water

Now that fall is here, it is important that we manage our leaves properly. When large piles of leaves accumulate in the streets, the risk of nutrient pollution and localized flooding greatly increases.

To learn more about what happens when we leave leaves in the streets, click below!

["Leaf it Out of the Water"](#)

## What's in YOUR Storm ?



We want to hear from YOU! What are you finding in your drain when you clean it twice a month?

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Once your inspection survey is submitted, our volunteer dashboard will automatically update with the reports you send us, allowing us to visualize the impact that you and other volunteers are making!

[Storm Drain Inspection Survey](#)

[Adopt Your Drain Dashboard](#)

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## **Adopt Your Drain Seasonal Newsletter**

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This newsletter will provide you with program updates and events, seasonal drain management tips and tricks, specialty featured articles, and much more so that you can help keep southeastern Wisconsin's watersheds and waterways clean!

Thanks as always for participating in Adopt Your Drain!

[Visit the Adopt Your Drain Website!](#)

## **Featured : Ice and Snow Control**

# Ice and Snow Control



RESPECT OUR WATERS

## Winter tips that make a difference for water quality:

Don't overuse salt and other deicing chemicals!

A good guide to follow is to use a coffee mug full of salt for every 10 sidewalk squares or 20 feet of driveway.



Sweep up excess salt or sand after every storm. Not only will you keep it out of the storm sewers, you'll be able to use it again and save money in the process!



If you hire help for snow removal, please ask your contractor to use salt sparingly, use sand or another alternative, or perform more manual labor to reduce ice formation.

If the temperature dips below 15 degrees Fahrenheit, road salt won't work. Use sand for traction or an alternative ice melt product that is effective at colder temps.



During the winter, salt and sand are used in large quantities to provide some safety for drivers, bikers, pedestrians.

Unfortunately, melting ice and snow carries de-icers into our storm drains and directly out into the watershed. Road salt is also corrosive and can damage vehicles and infrastructure.

Take preventative measures to reduce salt usage. If possible, shovel necessary areas throughout snowfall. This will reduce the amount of salt needed and make it more effective. If the ice is thicker than ½", salting won't be helpful - use a heavy ice chopper instead.



Take your car to the shop to ensure that it is running smoothly and not leaking chemicals that could end up in our waterways. It is easy to miss small leakages in the winter so take a minute to inspect your vehicle regularly.



This information was brought to you by Southeastern Wisconsin Watersheds Trust, Inc. Get more information online at [RespectOurWaters.org](http://RespectOurWaters.org)

To learn more about winter stormwater management, click [here!](#)

**Respect Our Waters - Winter**

**New: Adopt Your Drain Instagram Page!**



2  
Posts

18  
Followers

5  
Following

### Adopt Your Drain

If it's not rain, it doesn't belong in the drain!

Community wide effort in reducing stormwater pollution and keeping neighborhoods clean.

📍 Wisconsin

[www.adoptyourdrain.com](http://www.adoptyourdrain.com)

#### Professional dashboard

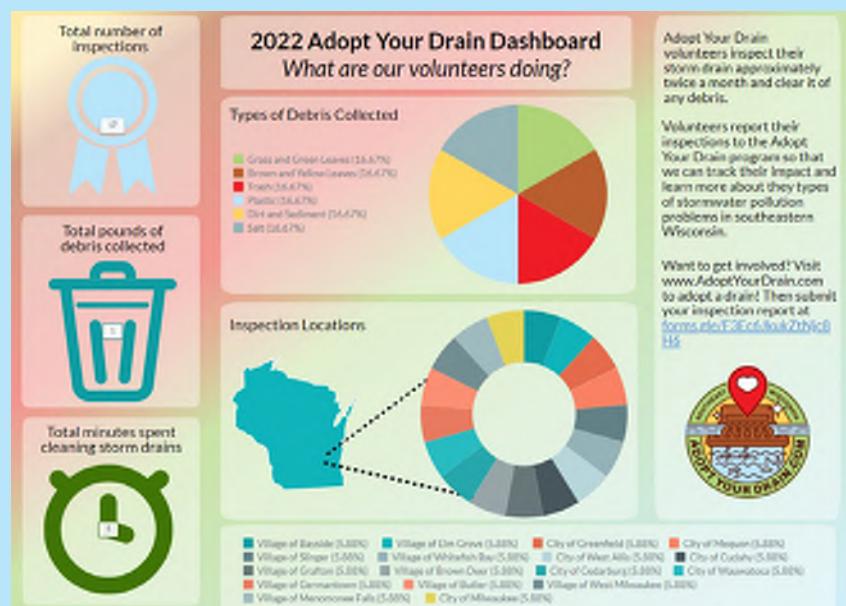
New tools are now available.

Edit profile



Check out the new [Adopt Your Drain Instagram](#), where storm drain reminders, tips, and events will be posted!

## What's in YOUR Storm ?



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[Storm Drain Inspection Survey](#)

[Adopt Your Drain Dashboard](#)

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# **Illicit Discharge Detection & Elimination Inspections**



**VILLAGE OF WEST MILWAUKEE**  
**TABLE 1 - ILLICIT DISCHARGE INSPECTION SUMMARY 8/31/2022**

Outfall #	Subbasin ID	Subwatershed	Pipe Material	Pipe Size	Sampled?	Illicit Discharge?	Follow-up Work Required
1	M-12	Menomonee River	RCP	48"	YES	NO	
2	M-11	Menomonee River	RCP	15"	NO	NO	
3	M-9	Menomonee River	RCP	60"	YES	NO	
4	M-8	Menomonee River	RCP	38" x 60"	YES	NO	
5	M-10	Menomonee River	RCP	24"	YES	NO	
6	M-6	Menomonee River	CMP	30"	YES	NO	
7	K-2	Kinnickinnic River	RCP	4' x 6'	YES	NO	
8	K-1	Kinnickinnic River	RCP	72"	YES	NO	
9	K-15	Kinnickinnic River	RCP	30"	NO	NO	
10	K-14	Kinnickinnic River	RCP	18"	NO	NO	
11	K-11	Kinnickinnic River	RCP	60"	YES	NO	
12	K-3	Kinnickinnic River	RCP	48"	NO	NO	
13	K-4	Kinnickinnic River	RCP	48"	NO	NO	
14	K-10	Kinnickinnic River	RCP	48"	YES	NO	
15	K-9	Kinnickinnic River	RCP	6' x 16'	YES	NO	
16	K-5	Kinnickinnic River	CMP	36"	NO	NO	
17	K-6	Kinnickinnic River	RCP	54"	YES	NO	
18	M-9	Menomonee River	RCP	42"	YES	NO	



**Visual Inspection Form**  
**For Illegal Connection/Illicit Discharge**  
**WPDES Permit No. WI-S065404-2**

<b>Outfall ID</b>	<b>1</b>
Date of Last Rainfall	8/28/22 .47"
Date Inspection Performed	8/31/22
Name of Inspector	KMS RRS
Receiving Water	Menomonee River – M-11
M.H. or Outfall (Circle One)	<u>M.H.</u> Outfall
Pipe Size	48"
Pipe Material (Circle One)	<input checked="" type="radio"/> RCP <input type="radio"/> CMP <input type="radio"/> PVC <input type="radio"/> HDPE <input type="radio"/> Steel <input type="radio"/> DI <input type="radio"/> VCP <input type="radio"/> Other
Color (Circle One)	Clear      Yellow      Gray      Orange Brown      Green      Red      Other
Turbidity (Circle One)	Clear      Slightly Cloudy      Cloudy      Opaque
Surface Sheen (Circle One)	None      Oil      Gasoline Scum      Unknown
Odor (Circle One)	None      Oil      Decaying Vegetation      SO <sub>2</sub> Fuel      Sewage      Methane      Unknown
Pipe Active (Circle One)	No      Trickle      Moderate      Substantial

IF FLOW IS OBSERVED, WATER SAMPLING MUST BE CONDUCTED TO DETERMINE IF AN ILLICIT DISCHARGE IS PRESENT.		
Parameter	Expected Range	Actual Parameter Reading
pH Level*	6.0 – 9.0	8.1
Total Chlorine Level*	< 0.2 mg/L	0.0
Total Copper Level*	< 0.1 mg/L	0.0
Total Phenol Level*	< 0.5 mg/L	0.0
Detergents Level*	< 0.5 mg/L	0.0
Ammonia Level*	< 0.1 mg/L	0.0
Bacteria (E. Coli) Level**	< 235 cfu/100mL	400
Water Temperature	-	62.7 °F

\*Expected ranges represent readings suggested by the March 2012 memo from WDNR titled "Illicit Discharge Detection Elimination"  
 \*\*EPA Standard

NOTES
sample taken (#1)

PHOTO INSET
2 photos

# 2022 IDDE Inspections



Outfall 1





**Visual Inspection Form  
For Illegal Connection/Illicit Discharge  
WPDES Permit No. WI-S065404-2**

<b>Outfall ID</b>	<b>2</b>
Date of Last Rainfall	8/28/22 .47"
Date Inspection Performed	8/31/22
Name of Inspector	KMS RLS
Receiving Water	Menomonee River - M-11
M.H. or Outfall (Circle One)	<u>M.H.</u> Outfall
Pipe Size	15"
Pipe Material (Circle One)	<input checked="" type="radio"/> RCP <input type="radio"/> CMP <input type="radio"/> PVC <input type="radio"/> HDPE Steel      DI      VCP      Other
Color (Circle One)	Clear      Yellow      Gray      Orange Brown      Green      Red      Other
Turbidity (Circle One)	Clear      Slightly Cloudy      Cloudy      Opaque
Surface Sheen (Circle One)	None      Oil      Gasoline Scum      Unknown
Odor (Circle One)	None      Oil      Decaying Vegetation      SO <sub>2</sub> Fuel      Sewage      Methane      Unknown
Pipe Active (Circle One)	<input checked="" type="radio"/> No      Trickle      Moderate      Substantial

**IF FLOW IS OBSERVED, WATER SAMPLING MUST BE CONDUCTED TO DETERMINE IF AN ILLICIT DISCHARGE IS PRESENT.**

Parameter	Expected Range	Actual Parameter Reading
pH Level*	6.0 – 9.0	
Total Chlorine Level*	< 0.2 mg/L	
Total Copper Level*	< 0.1 mg/L	
Total Phenol Level*	< 0.5 mg/L	
Detergents Level*	< 0.5 mg/L	
Ammonia Level*	< 0.1 mg/L	
Bacteria (E. Coli) Level**	< 235 cfu/100mL	
Water Temperature	-	°F

\*Expected ranges represent readings suggested by the March 2012 memo from WDNR titled "Illicit Discharge Detection Elimination"  
 \*\*EPA Standard

NOTES
Water present but
no flow. No
sample taken

PHOTO INSET
2 photos

# 2022 IDDE Inspections



Outfall 2





**Visual Inspection Form  
For Illegal Connection/Illicit Discharge  
WPDES Permit No. WI-S065404-2**

<b>Outfall ID</b>	<b>3</b>			
Date of Last Rainfall	8/28/22 .47"			
Date Inspection Performed	8/31/22			
Name of Inspector	KMJ RRS			
Receiving Water	Menomonee River - M-9			
M.H. or Outfall (Circle One)	<u>M.H.</u> Outfall			
Pipe Size	60"			
Pipe Material (Circle One)	<input checked="" type="radio"/> RCP <input type="radio"/> CMP <input type="radio"/> PVC <input type="radio"/> HDPE <input type="radio"/> Steel <input type="radio"/> DI <input type="radio"/> VCP <input type="radio"/> Other			
Color (Circle One)	<input checked="" type="radio"/> Clear <input type="radio"/> Yellow <input type="radio"/> Gray <input type="radio"/> Orange <input type="radio"/> Brown <input type="radio"/> Green <input type="radio"/> Red <input type="radio"/> Other			
Turbidity (Circle One)	<input checked="" type="radio"/> Clear <input checked="" type="radio"/> Slightly Cloudy <input type="radio"/> Cloudy <input type="radio"/> Opaque			
Surface Sheen (Circle One)	<input checked="" type="radio"/> None <input type="radio"/> Oil <input type="radio"/> Gasoline <input type="radio"/> Scum <input type="radio"/> Unknown			
Odor (Circle One)	<input checked="" type="radio"/> None <input type="radio"/> Oil <input type="radio"/> Decaying Vegetation <input type="radio"/> SO <sub>2</sub> <input type="radio"/> Fuel <input type="radio"/> Sewage <input type="radio"/> Methane <input type="radio"/> Unknown			
Pipe Active (Circle One)	<input type="radio"/> No <input checked="" type="radio"/> Trickle <input type="radio"/> Moderate <input type="radio"/> Substantial			

**IF FLOW IS OBSERVED, WATER SAMPLING MUST BE CONDUCTED TO DETERMINE IF AN ILLICIT DISCHARGE IS PRESENT.**

Parameter	Expected Range	Actual Parameter Reading
pH Level*	6.0 – 9.0	8.0
Total Chlorine Level*	< 0.2 mg/L	0.0
Total Copper Level*	< 0.1 mg/L	0.0
Total Phenol Level*	< 0.5 mg/L	0.0
Detergents Level*	< 0.5 mg/L	0.0
Ammonia Level*	< 0.1 mg/L	0.0
Bacteria (E. Coli) Level**	< 235 cfu/100mL	2200
Water Temperature	-	67.8 °F

\*Expected ranges represent readings suggested by the March 2012 memo from WDNR titled "Illicit Discharge Detection Elimination"

\*\*EPA Standard

<b>NOTES</b>
sample taken (#3)

<b>PHOTO INSET</b>
2 photos

# 2022 IDDE Inspections



Outfall 3





**Visual Inspection Form  
For Illegal Connection/Illicit Discharge  
WPDES Permit No. WI-S065404-2**

<b>Outfall ID</b>	4
Date of Last Rainfall	8/28/22 0.47"
Date Inspection Performed	8/31/22
Name of Inspector	EES KMJ
Receiving Water	Menomonee River - M-8
M.H. or Outfall (Circle One)	<u>M.H.</u> Outfall
Pipe Size	38" x 60"
Pipe Material (Circle One)	<input checked="" type="radio"/> RCP <input type="radio"/> CMP <input type="radio"/> PVC <input type="radio"/> HDPE Steel                      DI                      VCP                      Other
Color (Circle One)	<input checked="" type="radio"/> Clear <input type="radio"/> Yellow <input type="radio"/> Gray <input type="radio"/> Orange Brown                      Green    Red                      Other
Turbidity (Circle One)	<input checked="" type="radio"/> Clear <input checked="" type="radio"/> Slightly Cloudy <input type="radio"/> Cloudy <input type="radio"/> Opaque
Surface Sheen (Circle One)	<input checked="" type="radio"/> None <input type="radio"/> Oil <input type="radio"/> Gasoline Scum                      Unknown
Odor (Circle One)	<input checked="" type="radio"/> None <input type="radio"/> Oil <input type="radio"/> Decaying Vegetation <input type="radio"/> SO <sub>2</sub> Fuel                      Sewage                      Methane                      Unknown
Pipe Active (Circle One)	<input type="radio"/> No <input checked="" type="radio"/> Trickle <input type="radio"/> Moderate <input type="radio"/> Substantial

**IF FLOW IS OBSERVED, WATER SAMPLING MUST BE CONDUCTED TO  
DETERMINE IF AN ILLICIT DISCHARGE IS PRESENT.**

Parameter	Expected Range	Actual Parameter Reading
pH Level*	6.0 – 9.0	8.2
Total Chlorine Level*	< 0.2 mg/L	0.0
Total Copper Level*	< 0.1 mg/L	0.0
Total Phenol Level*	< 0.5 mg/L	0.0
Detergents Level*	< 0.5 mg/L	0.0
Ammonia Level*	< 0.1 mg/L	0.0
Bacteria (E. Coli) Level**	< 235 cfu/100mL	800
Water Temperature	-	69.9 °F

\*Expected ranges represent readings suggested by the March 2012 memo from WDNR titled "Illicit Discharge Detection Elimination"

\*\*EPA Standard

<b>NOTES</b>
sample taken (#4)

<b>PHOTO INSET</b>
2 photo

# 2022 IDDE Inspections



Outfall 4





**Visual Inspection Form  
For Illegal Connection/Illicit Discharge  
WPDES Permit No. WI-S065404-2**

<b>Outfall ID</b>	<b>5</b>			
Date of Last Rainfall	8/28/22 .47"			
Date Inspection Performed	8/31/22			
Name of Inspector	RRS KMJ			
Receiving Water	Menomonee River - M-10			
M.H. or Outfall (Circle One)	(M.H.) Outfall			
Pipe Size	24"			
Pipe Material (Circle One)	(RCP)      CMP      PVC      HDPE Steel      DI      VCP      Other			
Color (Circle One)	(Clear)      Yellow      Gray      Orange Brown      Green      Red      Other			
Turbidity (Circle One)	(Clear)      Slightly Cloudy      Cloudy      Opaque			
Surface Sheen (Circle One)	(None)      Oil      Gasoline			
Odor (Circle One)	(None)      Scum      Unknown Fuel      Sewage      Methane      SO <sub>2</sub> Unknown			
Pipe Active (Circle One)	No      (Trickle)      Moderate      Substantial			

IF FLOW IS OBSERVED, WATER SAMPLING MUST BE CONDUCTED TO DETERMINE IF AN ILLICIT DISCHARGE IS PRESENT.		
Parameter	Expected Range	Actual Parameter Reading
pH Level*	6.0 - 9.0	8.0
Total Chlorine Level*	< 0.2 mg/L	0.0
Total Copper Level*	< 0.1 mg/L	0.0
Total Phenol Level*	< 0.5 mg/L	0.0
Detergents Level*	< 0.5 mg/L	0.0
Ammonia Level*	< 0.1 mg/L	0.0
Bacteria (E. Coli) Level**	< 235 cfu/100mL	0
Water Temperature	-	74.3 °F

\*Expected ranges represent readings suggested by the March 2012 memo from WDNR titled "Illicit Discharge Detection Elimination"

\*\*EPA Standard

NOTES
sample taken (#5)

PHOTO INSET



# 2022 IDDE Inspections



Outfall 5



**Visual Inspection Form  
For Illegal Connection/Illicit Discharge  
WPDES Permit No. WI-S065404-2**

<b>Outfall ID</b>	6
Date of Last Rainfall	8/28/22 .47"
Date Inspection Performed	8/31/22
Name of Inspector	RRS KMT
Receiving Water	Menomonee River - M-6
M.H. or Outfall (Circle One)	M.H. <u>Outfall</u>
Pipe Size	30"
Pipe Material (Circle One)	<input checked="" type="radio"/> RCP <input type="radio"/> CMP <input type="radio"/> PVC <input type="radio"/> HDPE Steel                      DI                      VCP                      Other
Color (Circle One)	Clear                      Yellow                      Gray                      Orange Brown                      Green                      Red                      Other
Turbidity (Circle One)	Clear                      Slightly Cloudy                      Cloudy                      Opaque
Surface Sheen (Circle One)	None                      Oil                      Gasoline Scum                      Unknown
Odor (Circle One)	None                      Oil                      Decaying Vegetation                      SO <sub>2</sub> Fuel                      Sewage                      Methane <u>Unknown</u>
Pipe Active (Circle One)	No                      Trickle                      Moderate <u>Substantial</u>

**IF FLOW IS OBSERVED, WATER SAMPLING MUST BE CONDUCTED TO  
DETERMINE IF AN ILLICIT DISCHARGE IS PRESENT.**

Parameter	Expected Range	Actual Parameter Reading
pH Level*	6.0 – 9.0	8.0
Total Chlorine Level*	< 0.2 mg/L	0.0
Total Copper Level*	< 0.1 mg/L	0.0
Total Phenol Level*	< 0.5 mg/L	0.0
Detergents Level*	< 0.5 mg/L	0.0
Ammonia Level*	< 0.1 mg/L	1.0
Bacteria (E. Coli) Level**	< 235 cfu/100mL	0
Water Temperature	-	80.2 °F

\*Expected ranges represent readings suggested by the March 2012 memo from WDNR titled "Illicit Discharge Detection Elimination"  
\*\*EPA Standard

<b>NOTES</b>
sample taken
Ammonia High due to natural causes as no E. coli was found in sample

<b>PHOTO INSET</b>
1 photo



# 2022 IDDE Inspections



Outfall 6



**Visual Inspection Form**  
**For Illegal Connection/Illicit Discharge**  
**WPDES Permit No. WI-S065404-2**

<b>Outfall ID</b>	7
Date of Last Rainfall	8/28/22 .47"
Date Inspection Performed	8/31/22
Name of Inspector	KMJ RBS
Receiving Water	Kinnickinic River - K-2
M.H. or Outfall (Circle One)	<u>M.H.</u> Outfall
Pipe Size	4' x 6'
Pipe Material (Circle One)	<u>RCP</u> CMP PVC HDPE Steel DI VCP Other
Color (Circle One)	<u>Clear</u> Yellow Gray Orange Brown Green Red Other
Turbidity (Circle One)	<u>Clear</u> Slightly Cloudy Cloudy Opaque
Surface Sheen (Circle One)	<u>None</u> Oil Gasoline Scum Unknown
Odor (Circle One)	<u>None</u> Oil Decaying Vegetation SO <sub>2</sub> Fuel Sewage Methane Unknown
Pipe Active (Circle One)	No <u>Trickle</u> Moderate Substantial

**IF FLOW IS OBSERVED, WATER SAMPLING MUST BE CONDUCTED TO  
 DETERMINE IF AN ILLICIT DISCHARGE IS PRESENT.**

Parameter	Expected Range	Actual Parameter Reading
pH Level*	6.0 - 9.0	8.2
Total Chlorine Level*	< 0.2 mg/L	0.0
Total Copper Level*	< 0.1 mg/L	0.0
Total Phenol Level*	< 0.5 mg/L	0.0
Detergents Level*	< 0.5 mg/L	0.3
Ammonia Level*	< 0.1 mg/L	0.0
Bacteria (E. Coli) Level**	< 235 cfu/100mL	1100
Water Temperature	-	70.2 °F

\*Expected ranges represent readings suggested by the March 2012 memo from WDNR titled "Illicit Discharge Detection Elimination"

\*\*EPA Standard

<b>NOTES</b>
Sample taken

<b>PHOTO INSET</b>
2 photos



# 2022 IDDE Inspections



Outfall 7





**Visual Inspection Form  
For Illegal Connection/Illicit Discharge  
WPDES Permit No. WI-S065404-2**

<b>Outfall ID</b>	8			
Date of Last Rainfall	8/28/22 .47"			
Date Inspection Performed	8/31/22			
Name of Inspector	RJS KMS			
Receiving Water	Kinnickinic River - K-2			
M.H. or Outfall (Circle One)	<u>M.H.</u> Outfall			
Pipe Size	72"			
Pipe Material (Circle One)	<u>RCP</u> CMP      PVC      HDPE Steel      DI      VCP      Other			
Color (Circle One)	<u>Clear</u> Yellow      Gray      Orange Brown      Green      Red      Other			
Turbidity (Circle One)	<u>Clear</u> Slightly Cloudy      Cloudy      Opaque			
Surface Sheen (Circle One)	<u>None</u> Oil      Gasoline Scum      Unknown			
Odor (Circle One)	<u>None</u> Oil      Decaying Vegetation      SO <sub>2</sub> Fuel      Sewage      Methane      Unknown			
Pipe Active (Circle One)	No <u>Trickle</u> Moderate      Substantial			

IF FLOW IS OBSERVED, WATER SAMPLING MUST BE CONDUCTED TO DETERMINE IF AN ILLICIT DISCHARGE IS PRESENT.		
Parameter	Expected Range	Actual Parameter Reading
pH Level*	6.0 - 9.0	8.2
Total Chlorine Level*	< 0.2 mg/L	0.0
Total Copper Level*	< 0.1 mg/L	0.0
Total Phenol Level*	< 0.5 mg/L	0.0
Detergents Level*	< 0.5 mg/L	0.4
Ammonia Level*	< 0.1 mg/L	0.0
Bacteria (E. Coli) Level**	< 235 cfu/100mL	400
Water Temperature	-	69.7 °F

\*Expected ranges represent readings suggested by the March 2012 memo from WDNR titled "Illicit Discharge Detection Elimination"  
\*\*EPA Standard

NOTES
sample taken (#8)

PHOTO INSET
2 photos

# 2022 IDDE Inspections



Outfall 8





**Visual Inspection Form  
For Illegal Connection/Illicit Discharge  
WPDES Permit No. WI-S065404-2**

<b>Outfall ID</b>	9
Date of Last Rainfall	8/28/22 .47"
Date Inspection Performed	8/31/22
Name of Inspector	KMT RES
Receiving Water	Kinnickinnic River -K-15
M.H. or Outfall (Circle One)	<u>M.H.</u> Outfall
Pipe Size	30"
Pipe Material (Circle One)	<input checked="" type="radio"/> RCP <input type="radio"/> CMP <input type="radio"/> PVC <input type="radio"/> HDPE Steel                      DI                      VCP                      Other
Color (Circle One)	Clear      Yellow      Gray      Orange Brown      Green      Red      Other
Turbidity (Circle One)	Clear      Slightly Cloudy      Cloudy      Opaque
Surface Sheen (Circle One)	None      Oil      Gasoline Scum      Unknown
Odor (Circle One)	None      Oil      Decaying Vegetation      SO <sub>2</sub> Fuel      Sewage      Methane      Unknown
Pipe Active (Circle One)	<input checked="" type="radio"/> No      Trickle      Moderate      Substantial

**IF FLOW IS OBSERVED, WATER SAMPLING MUST BE CONDUCTED TO DETERMINE IF AN ILLICIT DISCHARGE IS PRESENT.**

Parameter	Expected Range	Actual Parameter Reading
pH Level*	6.0 – 9.0	
Total Chlorine Level*	< 0.2 mg/L	
Total Copper Level*	< 0.1 mg/L	
Total Phenol Level*	< 0.5 mg/L	
Detergents Level*	< 0.5 mg/L	
Ammonia Level*	< 0.1 mg/L	
Bacteria (E. Coli) Level**	< 235 cfu/100mL	
Water Temperature	-	°F

\*Expected ranges represent readings suggested by the March 2012 memo from WDNR titled "Illicit Discharge Detection Elimination"

\*\*EPA Standard

<b>NOTES</b>
Water present but
not flowing, no
sample taken

<b>PHOTO INSET</b>
2 photos

# 2022 IDDE Inspections



Outfall 9





**Visual Inspection Form  
For Illegal Connection/Illicit Discharge  
WPDES Permit No. WI-S065404-2**

<b>Outfall ID</b>	<b>10</b>
Date of Last Rainfall	8/28/22 .47"
Date Inspection Performed	8/31/22
Name of Inspector	KMJ RRS
Receiving Water	Kinnickinic River - K-14
M.H. or Outfall (Circle One)	<u>M.H.</u> Outfall
Pipe Size	18"
Pipe Material (Circle One)	<input checked="" type="radio"/> RCP <input type="radio"/> CMP <input type="radio"/> PVC <input type="radio"/> HDPE Steel                      DI                      VCP                      Other
Color (Circle One)	Clear                      Yellow                      Gray                      Orange Brown                      Green                      Red                      Other
Turbidity (Circle One)	Clear                      Slightly Cloudy                      Cloudy                      Opaque
Surface Sheen (Circle One)	None                      Oil                      Gasoline Scum                      Unknown
Odor (Circle One)	None                      Oil                      Decaying Vegetation                      SO <sub>2</sub> Fuel                      Sewage                      Methane                      Unknown
Pipe Active (Circle One)	<input checked="" type="radio"/> No                      Trickle                      Moderate                      Substantial

IF FLOW IS OBSERVED, WATER SAMPLING MUST BE CONDUCTED TO DETERMINE IF AN ILLICIT DISCHARGE IS PRESENT.		
Parameter	Expected Range	Actual Parameter Reading
pH Level*	6.0 – 9.0	
Total Chlorine Level*	< 0.2 mg/L	
Total Copper Level*	< 0.1 mg/L	
Total Phenol Level*	< 0.5 mg/L	
Detergents Level*	< 0.5 mg/L	
Ammonia Level*	< 0.1 mg/L	
Bacteria (E. Coli) Level**	< 235 cfu/100mL	
Water Temperature	-	°F

\*Expected ranges represent readings suggested by the March 2012 memo from WDNR titled "Illicit Discharge Detection Elimination"  
 \*\*EPA Standard

NOTES
water present but
not flowing, no
sample taken

PHOTO INSET
2 photos

# 2022 IDDE Inspections



Outfall 10





**Visual Inspection Form**  
**For Illegal Connection/Illicit Discharge**  
**WPDES Permit No. WI-S065404-2**

<b>Outfall ID</b>	<b>11</b>			
Date of Last Rainfall	8/28/22 .47"			
Date Inspection Performed	8/31/22			
Name of Inspector	RJS KMS			
Receiving Water	Kinnickinic River - K-9			
M.H. or Outfall (Circle One)	M.H. <u>Outfall</u>			
Pipe Size	60"			
Pipe Material (Circle One)	<input checked="" type="radio"/> RCP <input type="radio"/> CMP <input type="radio"/> PVC <input type="radio"/> HDPE <input type="radio"/> Steel <input type="radio"/> DI <input type="radio"/> VCP <input type="radio"/> Other			
Color (Circle One)	<input checked="" type="radio"/> Clear <input type="radio"/> Yellow <input type="radio"/> Gray <input type="radio"/> Orange <input type="radio"/> Brown <input type="radio"/> Green <input type="radio"/> Red <input type="radio"/> Other			
Turbidity (Circle One)	<input checked="" type="radio"/> Clear <input type="radio"/> Slightly Cloudy <input type="radio"/> Cloudy <input type="radio"/> Opaque			
Surface Sheen (Circle One)	<input checked="" type="radio"/> None <input type="radio"/> Oil <input type="radio"/> Gasoline <input type="radio"/> Scum <input type="radio"/> Unknown			
Odor (Circle One)	<input checked="" type="radio"/> None <input type="radio"/> Oil <input type="radio"/> Decaying Vegetation <input type="radio"/> SO <sub>2</sub> <input type="radio"/> Fuel <input type="radio"/> Sewage <input type="radio"/> Methane <input type="radio"/> Unknown			
Pipe Active (Circle One)	<input type="radio"/> No <input checked="" type="radio"/> Trickle <input type="radio"/> Moderate <input type="radio"/> Substantial			

IF FLOW IS OBSERVED, WATER SAMPLING MUST BE CONDUCTED TO DETERMINE IF AN ILLICIT DISCHARGE IS PRESENT.		
Parameter	Expected Range	Actual Parameter Reading
pH Level*	6.0 – 9.0	8.0
Total Chlorine Level*	< 0.2 mg/L	0.0
Total Copper Level*	< 0.1 mg/L	0.0
Total Phenol Level*	< 0.5 mg/L	0.0
Detergents Level*	< 0.5 mg/L	0.0
Ammonia Level*	< 0.1 mg/L	0.0
Bacteria (E. Coli) Level**	< 235 cfu/100mL	0
Water Temperature	-	68.1 °F

\*Expected ranges represent readings suggested by the March 2012 memo from WDNR titled "Illicit Discharge Detection Elimination"

\*\*EPA Standard

NOTES
sample taken (11)

PHOTO INSET
2 photo



# 2022 IDDE Inspections



Outfall 11





**Visual Inspection Form  
For Illegal Connection/Illicit Discharge  
WPDES Permit No. WI-S065404-2**

<b>Outfall ID</b>	<b>12</b>			
Date of Last Rainfall	8/28/22 .47"			
Date Inspection Performed	8/31/22			
Name of Inspector	KMS RRS			
Receiving Water	Kinnickinic River - K-3			
M.H. or Outfall (Circle One)	M.H. <u>Outfall</u>			
Pipe Size	48"			
Pipe Material (Circle One)	<input checked="" type="radio"/> RCP <input type="radio"/> CMP <input type="radio"/> PVC <input type="radio"/> HDPE	<input type="radio"/> Steel <input type="radio"/> DI <input type="radio"/> VCP <input type="radio"/> Other		
Color (Circle One)	<input type="radio"/> Clear <input type="radio"/> Yellow <input type="radio"/> Gray <input type="radio"/> Orange	<input type="radio"/> Brown <input type="radio"/> Green <input type="radio"/> Red <input type="radio"/> Other		
Turbidity (Circle One)	<input type="radio"/> Clear <input type="radio"/> Slightly Cloudy <input type="radio"/> Cloudy <input type="radio"/> Opaque			
Surface Sheen (Circle One)	<input type="radio"/> None <input type="radio"/> Oil <input type="radio"/> Gasoline	<input type="radio"/> Scum <input type="radio"/> Unknown		
Odor (Circle One)	<input type="radio"/> None <input type="radio"/> Oil <input type="radio"/> Decaying Vegetation <input type="radio"/> SO <sub>2</sub>	<input type="radio"/> Fuel <input type="radio"/> Sewage <input type="radio"/> Methane <input type="radio"/> Unknown		
Pipe Active (Circle One)	<input checked="" type="radio"/> No <input type="radio"/> Trickle <input type="radio"/> Moderate <input type="radio"/> Substantial			
<b>IF FLOW IS OBSERVED, WATER SAMPLING MUST BE CONDUCTED TO DETERMINE IF AN ILLICIT DISCHARGE IS PRESENT.</b>				
<b>Parameter</b>	<b>Expected Range</b>	<b>Actual Parameter Reading</b>		
pH Level*	6.0 -- 9.0			
Total Chlorine Level*	< 0.2 mg/L			
Total Copper Level*	< 0.1 mg/L			
Total Phenol Level*	< 0.5 mg/L			
Detergents Level*	< 0.5 mg/L			
Ammonia Level*	< 0.1 mg/L			
Bacteria (E. Coli) Level**	< 235 cfu/100mL			
Water Temperature	-	°F		

\*Expected ranges represent readings suggested by the March 2012 memo from WDNR titled "Illicit Discharge Detection Elimination"

\*\*EPA Standard

<b>NOTES</b>
Water present, no
flow. No sample
taken

<b>PHOTO INSET</b>
1 photo

# 2022 IDDE Inspections



Outfall 12





**Visual Inspection Form  
For Illegal Connection/Illicit Discharge  
WPDES Permit No. WI-S065404-2**

<b>Outfall ID</b>	13			
Date of Last Rainfall	8/28/22 0.47"			
Date Inspection Performed	8/31/22			
Name of Inspector	KMS RRS			
Receiving Water	Kinnickinick River - K-4			
M.H. or Outfall (Circle One)	M.H. <u>Outfall</u>			
Pipe Size	48"			
Pipe Material (Circle One)	<u>RCP</u>	CMP	PVC	HDPE
	Steel	DI	VCP	Other
Color (Circle One)	Clear	Yellow	Gray	Orange
	Brown	Green	Red	Other
Turbidity (Circle One)	Clear	Slightly Cloudy	Cloudy	Opaque
Surface Sheen (Circle One)	None	Oil	Gasoline	
	Scum	Unknown		
Odor (Circle One)	None	Oil	Decaying Vegetation	SO <sub>2</sub>
	Fuel	Sewage	Methane	Unknown
Pipe Active (Circle One)	<u>No</u>	Trickle	Moderate	Substantial

IF FLOW IS OBSERVED, WATER SAMPLING MUST BE CONDUCTED TO DETERMINE IF AN ILLICIT DISCHARGE IS PRESENT.		
Parameter	Expected Range	Actual Parameter Reading
pH Level*	6.0 - 9.0	
Total Chlorine Level*	< 0.2 mg/L	
Total Copper Level*	< 0.1 mg/L	
Total Phenol Level*	< 0.5 mg/L	
Detergents Level*	< 0.5 mg/L	
Ammonia Level*	< 0.1 mg/L	
Bacteria (E. Coli) Level**	< 235 cfu/100mL	
Water Temperature	-	°F

\*Expected ranges represent readings suggested by the March 2012 memo from WDNR titled "Illicit Discharge Detection Elimination"

\*\*EPA Standard

NOTES
No water present.
Minor wetness but
no standing water.

PHOTO INSET
1 photo

# 2022 IDDE Inspections



Outfall 13





**Visual Inspection Form**  
**For Illegal Connection/Illicit Discharge**  
**WPDES Permit No. WI-S065404-2**

<b>Outfall ID</b>	<b>14</b>
Date of Last Rainfall	8/28/22 0.47"
Date Inspection Performed	8/31/22
Name of Inspector	KMA + RRS
Receiving Water	Kinnickinic River - K-10
M.H. or Outfall (Circle One)	<u>M.H.</u> Outfall
Pipe Size	48"
Pipe Material (Circle One)	<u>RCP</u> CMP PVC HDPE Steel DI VCP Other
Color (Circle One)	Clear Yellow <u>Gray</u> Orange Brown Green Red Other
Turbidity (Circle One)	Clear Slightly Cloudy <u>Cloudy</u> Opaque
Surface Sheen (Circle One)	<u>None</u> Oil Gasoline Scum Unknown
Odor (Circle One)	<u>None</u> Oil Decaying Vegetation SO <sub>2</sub> Fuel Sewage Methane <u>Unknown</u>
Pipe Active (Circle One)	No Trickle Moderate <u>Substantial</u>

IF FLOW IS OBSERVED, WATER SAMPLING MUST BE CONDUCTED TO DETERMINE IF AN ILLICIT DISCHARGE IS PRESENT.		
Parameter	Expected Range	Actual Parameter Reading
pH Level*	6.0 - 9.0	8.2
Total Chlorine Level*	< 0.2 mg/L	0.7*
Total Copper Level*	< 0.1 mg/L	0.0
Total Phenol Level*	< 0.5 mg/L	0.0
Detergents Level*	< 0.5 mg/L	0.2
Ammonia Level*	< 0.1 mg/L	0.0
Bacteria (E. Coli) Level**	< 235 cfu/100mL	0
Water Temperature	-	68.7 °F

\*Expected ranges represent readings suggested by the March 2012 memo from WDNR titled "Illicit Discharge Detection Elimination"  
 \*\*EPA Standard

NOTES
sample taken (#14)

PHOTO INSET
2 photos

\* PERMITTED DISCHARGE (G.E. HEALTHCARE - 4855 ELECTRA AVE)

# 2022 IDDE Inspections



Outfall 14





**Visual Inspection Form  
For Illegal Connection/Illicit Discharge  
WPDES Permit No. WI-S065404-2**

<b>Outfall ID</b>	<b>15</b>			
Date of Last Rainfall	8/28/22 .47"			
Date Inspection Performed	8/31/22			
Name of Inspector	RRS + VMS			
Receiving Water	Kinnickinic River - K-9			
M.H. or Outfall (Circle One)	(M.H.) Outfall			
Pipe Size	6' x 16'			
Pipe Material (Circle One)	<input checked="" type="radio"/> RCP      CMP      PVC      HDPE <input type="radio"/> Steel      DI      VCP      Other			
Color (Circle One)	<input checked="" type="radio"/> Clear      Yellow      Gray      Orange <input type="radio"/> Brown      Green      Red      Other			
Turbidity (Circle One)	<input checked="" type="radio"/> Clear      Slightly Cloudy      Cloudy      Opaque			
Surface Sheen (Circle One)	<input checked="" type="radio"/> None      Oil      Gasoline <input type="radio"/> Scum      Unknown			
Odor (Circle One)	<input checked="" type="radio"/> None      Oil      Decaying Vegetation      SO <sub>2</sub> <input type="radio"/> Fuel      Sewage      Methane      Unknown			
Pipe Active (Circle One)	No <input checked="" type="radio"/> Trickle      Moderate      Substantial			
<b>IF FLOW IS OBSERVED, WATER SAMPLING MUST BE CONDUCTED TO DETERMINE IF AN ILLICIT DISCHARGE IS PRESENT.</b>				
<b>Parameter</b>	<b>Expected Range</b>	<b>Actual Parameter Reading</b>		
pH Level*	6.0 - 9.0	7.4		
Total Chlorine Level*	< 0.2 mg/L	0.0		
Total Copper Level*	< 0.1 mg/L	0.0		
Total Phenol Level*	< 0.5 mg/L	0.0		
Detergents Level*	< 0.25 mg/L	0.3		
Ammonia Level*	< 0.1 mg/L	0.0		
Bacteria (E. Coli) Level**	< 235 cfu/100mL	0		
Water Temperature	-	71.0 °F		

\*Expected ranges represent maximum readings as used by the City of Milwaukee in their Illicit Discharge Monitoring Program

\*\*EPA Standard

<b>NOTES</b>
sample taken (#15)

<b>PHOTO INSET</b>
2 photos

# 2022 IDDE Inspections



Outfall 15





**Visual Inspection Form  
For Illegal Connection/Illicit Discharge  
WPDES Permit No. WI-S065404-2**

<b>Outfall ID</b>	16			
Date of Last Rainfall	8/28/22 .47"			
Date Inspection Performed	8/31/22			
Name of Inspector	KMJ PPS			
Receiving Water	Kinnickinick River - K-5			
M.H. or Outfall (Circle One)	<u>M.H.</u> Outfall			
Pipe Size	36"			
Pipe Material (Circle One)	<u>RCP</u>	CMP	PVC	HDPE
	Steel	DI	VCP	Other
Color (Circle One)	Clear	Yellow	Gray	Orange
	Brown	Green	Red	Other
Turbidity (Circle One)	Clear	Slightly Cloudy	Cloudy	Opaque
Surface Sheen (Circle One)	None	Oil	Gasoline	
	Seum	Unknown		
Odor (Circle One)	None	Oil	Decaying Vegetation	SO <sub>2</sub>
	Fuel	Sewage	Methane	Unknown
Pipe Active (Circle One)	<u>No</u>	Trickle	Moderate	Substantial

IF FLOW IS OBSERVED, WATER SAMPLING MUST BE CONDUCTED TO DETERMINE IF AN ILLICIT DISCHARGE IS PRESENT.		
Parameter	Expected Range	Actual Parameter Reading
pH Level*	6.0 - 9.0	
Total Chlorine Level*	< 0.2 mg/L	
Total Copper Level*	< 0.1 mg/L	
Total Phenol Level*	< 0.5 mg/L	
Detergents Level*	< 0.25 mg/L	
Ammonia Level*	< 0.1 mg/L	
Bacteria (E. Coli) Level**	< 235 cfu/100mL	
Water Temperature	-	°F

\*Expected ranges represent maximum readings as used by the City of Milwaukee in their Illicit Discharge Monitoring Program

\*\*EPA Standard

NOTES
No sample taken.

PHOTO INSET
2 photos

# 2022 IDDE Inspections



Outfall 16





**Visual Inspection Form  
For Illegal Connection/Illicit Discharge  
WPDES Permit No. WI-S065404-2**

<b>Outfall ID</b>	17			
Date of Last Rainfall	8/28/22 8:21 .47"			
Date Inspection Performed	8/31/22			
Name of Inspector				
Receiving Water	Kinnickinic River - K-6			
M.H. or Outfall (Circle One)	<u>M.H.</u> Outfall			
Pipe Size	54"			
Pipe Material (Circle One)	<u>RCP</u> CMP      PVC      HDPE Steel      DI      VCP      Other			
Color (Circle One)	<u>Clear</u> Yellow      Gray      Orange Brown      Green      Red      Other			
Turbidity (Circle One)	<u>Clear</u> Slightly Cloudy      Cloudy      Opaque <u>None</u> Oil      Gasoline			
Surface Sheen (Circle One)	Scum      Unknown <u>None</u> Oil      Decaying Vegetation      SO <sub>2</sub> Fuel      Sewage      Methane      Unknown			
Pipe Active (Circle One)	No <u>Trickle</u> Moderate      Substantial			
<b>IF FLOW IS OBSERVED, WATER SAMPLING MUST BE CONDUCTED TO DETERMINE IF AN ILLICIT DISCHARGE IS PRESENT.</b>				
<b>Parameter</b>	<b>Expected Range</b>	<b>Actual Parameter Reading</b>		
pH Level*	6.0 - 9.0	8.2		
Total Chlorine Level*	< 0.2 mg/L	0.0		
Total Copper Level*	< 0.1 mg/L	0.0		
Total Phenol Level*	< 0.5 mg/L	0.0		
Detergents Level*	< 0.25 mg/L	0.3		
Ammonia Level*	< 0.1 mg/L	0.0		
Bacteria (E. Coli) Level**	< 235 cfu/100mL	2,500		
Water Temperature	-	72.3 °F		

\*Expected ranges represent maximum readings as used by the City of Milwaukee in their Illicit Discharge Monitoring Program

\*\*EPA Standard

<b>NOTES</b>
sample taken (#17)

<b>PHOTO INSET</b>
2 photos

# 2022 IDDE Inspections



Outfall 17





**Visual Inspection Form  
For Illegal Connection/Illicit Discharge  
WPDES Permit No. WI-S065404-2**

<b>Outfall ID</b>	<b>18</b>			
Date of Last Rainfall	8/27/22 .47"			
Date Inspection Performed	8/31/22			
Name of Inspector	RRS KMJ			
Receiving Water	Menomonee River - M-9			
M.H. or Outfall (Circle One)	<u>M.H.</u> Outfall			
Pipe Size	42"			
Pipe Material (Circle One)	<u>RCP</u> CMP      PVC      HDPE Steel      DI      VCP      Other			
Color (Circle One)	Clear      Yellow <u>Gray</u> Orange Brown      Green      Red      Other			
Turbidity (Circle One)	Clear <u>Slightly Cloudy</u> Cloudy      Opaque Oil			
Surface Sheen (Circle One)	<u>None</u> Scum      Unknown      Gasoline			
Odor (Circle One)	<u>None</u> Oil      Decaying Vegetation      SO <sub>2</sub> Fuel      Sewage      Methane      Unknown			
Pipe Active (Circle One)	No      Trickle <u>Moderate</u> Substantial			

IF FLOW IS OBSERVED, WATER SAMPLING MUST BE CONDUCTED TO DETERMINE IF AN ILLICIT DISCHARGE IS PRESENT.		
Parameter	Expected Range	Actual Parameter Reading
pH Level*	6.0 - 9.0	7.8
Total Chlorine Level*	< 0.2 mg/L	0.0
Total Copper Level*	< 0.1 mg/L	0.0
Total Phenol Level*	< 0.5 mg/L	0.0
Detergents Level*	< 0.25 mg/L	0.0
Ammonia Level*	< 0.1 mg/L	0.0
Bacteria (E. Coli) Level**	< 235 cfu/100mL	2500
Water Temperature	-	68.2 °F

\* Expected ranges represent maximum readings as used by the City of Milwaukee in their Illicit Discharge Monitoring Program  
 \*\*EPA Standard

NOTES
sample taken (#18)

PHOTO INSET
2 photos

# 2022 IDDE Inspections



Outfall 18



# **Post-Construction Storm Water Management Inspections**

**Other BMP Inspection Form**  
**Village of West Milwaukee, WI**

Project Identifier: WPDES Bmp Inspections

Inspection Date: 7-7-2022

BMP Location: In Alley off of 53<sup>rd</sup> St

BMP Identifier: 53<sup>rd</sup> Street – Permeable Pavers

**Code Key**

N/A = Not Applicable

M = Monitor (potential for future problem)

NP = Not a Problem

WN = Work Needed

**BMP DESCRIPTION**

Permeable paver system that has a 6" Dia underdrain that connects to a downstream inlet.

**FEATURES (fill in as needed)**

Assessment	Code	Comments
Paver Condition	NP	PAVERS ARE IN GOOD CONDITION
Debris Buildup on Pavers	WN	CENTER PAVERS ARE BECOMING CLOGGED
Water Ponding on Paver Surface	NP	
Underdrain Condition	NP	

**PHOTOGRAPHS**

*Attach color digital photographs of the site and structural BMPs including a caption describing each photo.*

**ADDITIONAL COMMENTS**

VACUUMING IS RECOMMENDED TO REMOVE SEDIMENT + VEGETATION  
BETWEEN CENTER PAVER BLOCKS



## PHOTOS



*Pervious Pavement Overview*



*Pavers*



*Outlet Structure*



*Pavers Starting to Clog in Center*





*Outer Edges of Pavers (Not clogged)*



*Underdrain Pipe*

**Other BMP Inspection Form**  
**Village of West Milwaukee, WI**

Project Identifier: WPDES Bmp Inspection

Inspection Date: 7-7-2022

BMP Location: 44<sup>th</sup> St & Burnham St

BMP Identifier: Burnham Stormceptor

**Code Key**

N/A = Not Applicable

M = Monitor (potential for future problem)

NP = Not a Problem

WN = Work Needed

**BMP DESCRIPTION**

Stormceptor that collects flow from storm sewer that flows along Burnham Street

**FEATURES (fill in as needed)**

Assessment	Code	Comments
Lid & Frame Condition	NP	
Interior Condition of Structure	NP	
Sediment Accumulation	WN	~24" OF SEDIMENT PRESENT
Inflow Pipe Condition	NP	
Outflow Pipe Condition	NP	

**PHOTOGRAPHS**

SEE NEXT PAGE

**ADDITIONAL COMMENTS**

PER MANUFACTURER RECOMMENDATION, SEDIMENT SHOULD BE REMOVED  
WHEN DEPTH REACHES 15". SINCE STORMCEPTOR WAS CLEANED OUT  
IN THE PAST YEAR, ANNUAL CLEANINGS ARE RECOMMENDED.



## PHOTOS



*Structure Surface*



*Structure – Inside*



*Inlet Pipe*



*Outlet Pipe*

**Underground Detention Inspection Form**  
**Village of West Milwaukee, WI**

Project Identifier: WPDES BMP Inspections

Inspection Date: 7-7-2022

BMP Location: West Milwaukee Wal-mart Parking Lot

BMP Identifier: Wal-mart Underground Storage

**Code Key**

N/A = Not Applicable

M = Monitor (potential for future problem)

NP = Not a Problem

WN = Work Needed

**INLET DEVICE**

Assessment	Code	Comments
Obstruction: vegetation/debris/sediment	NP	
Structural Condition	NP	
Filter Condition	N/A	
Other		

**UNDERGROUND VAULT**

Assessment	Code	Comments
Sediment/ debris accumulation	NP	
Access hatch condition	NP	
Vault structural condition	NP	
Baffles and/or weir condition	N/A	
Access ladder condition	N/A	
Oil Accumulation	NP	
Blocked, damaged, or plugged air vents	NP	
Other		

#### OUTLET DEVICE

Assessment	Code	Comments
Obstruction: vegetation/debris/sediment	NP	
Erosion/undercutting	NP	
Joint failure/loss of joint material	NP	
Leaking device	NP	
Control valve operation	N/A	
Emergency bypass condition	M	MONITOR WOODY VEGETATION
Other		

#### MISCELLANEOUS

Assessment	Code	Comments
Trash/debris	NP	
Access	NP	
Vandalism	NP	
Odors present	NP	
Signage	N/A	
Other		

#### PHOTOGRAPHS

Attach color digital photographs of the site and structural BMPs including a caption describing each photo.

#### ADDITIONAL COMMENTS

INLET NORTH CHAMBER - 1" SEDIMENT

INLET SOUTH CHAMBER - 1" SEDIMENT

OUTLET NORTH CHAMBER - 4" SEDIMENT

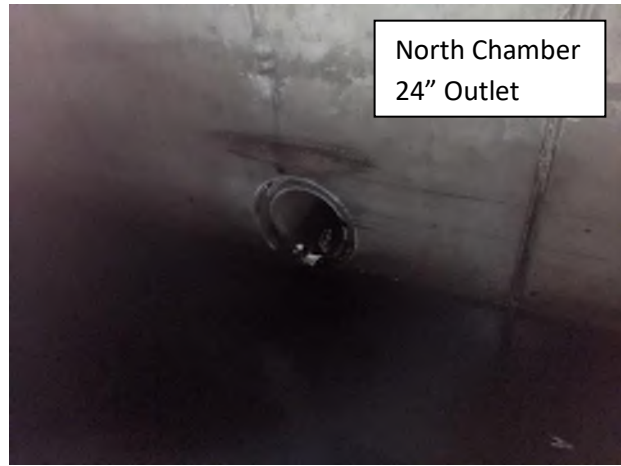
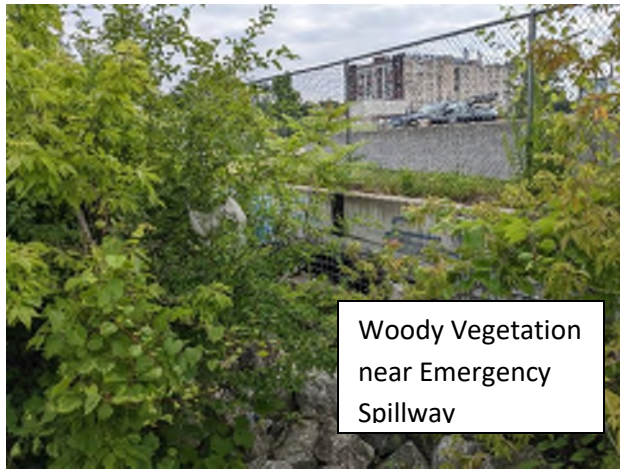
OUTLET SOUTH CHAMBER - NO SEDIMENT

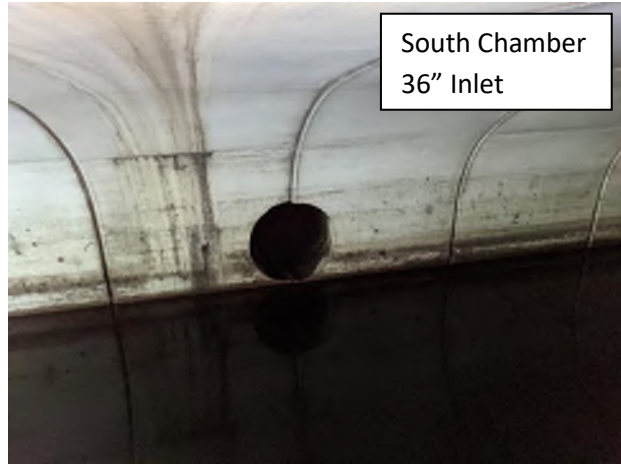
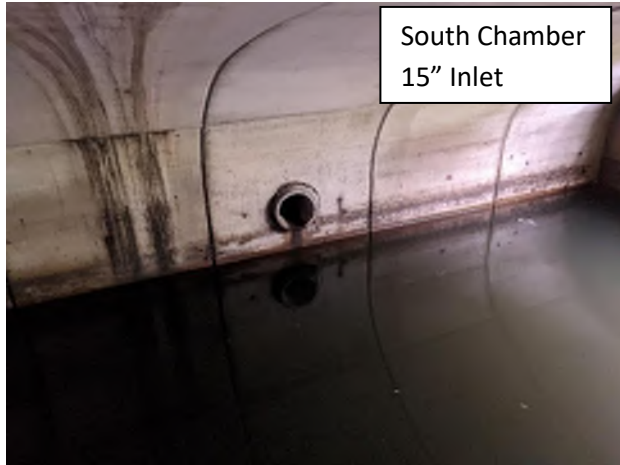
WATER LEVEL IN BOTH CHAMBERS - 46.5"

NO MAINTENANCE IS REQUIRED



## PHOTOS







# **Pollution Prevention Facility Inspections**



**ROUTINE INSPECTION FORM  
VILLAGE OF WEST MILWAUKEE  
PUBLIC WORKS FACILITY**

Inspector: Jason Jordan Date: 1-4-2022

Potential Pollutant Sources	Yes	No	If No, Describe Location & Action Needed	Initial & Date After Action Is Completed
A. Material and waste storage areas are maintained in good condition to minimize discharge of pollutants.	X			
B. Any oil leaks or spills present are properly contained by drip pans or absorbents. Absorbents are picked up and properly disposed of in a timely manner.	X			
C. Containers and above-ground storage tanks are in sound condition (check for corroded or damaged containers, supports, and valves.)	X			
D. Fueling area and underground storage tanks in good condition.		X	N/A	
E. Vehicle and equipment maintenance areas in sound condition.	X			
F. Grounds do not show signs of erosion.	X			
G. Washwater tanks in good working order.		X	N/A	



**ROUTINE INSPECTION FORM  
VILLAGE OF WEST MILWAUKEE  
PUBLIC WORKS FACILITY**

Inspector: Jason Jourdan Date: 4-25-2022

Potential Pollutant Sources	Yes	No	If No, Describe Location & Action Needed	Initial & Date After Action Is Completed
A. Material and waste storage areas are maintained in good condition to minimize discharge of pollutants.	X			
B. Any oil leaks or spills present are properly contained by drip pans or absorbents. Absorbents are picked up and properly disposed of in a timely manner.	X			
C. Containers and above-ground storage tanks are in sound condition (check for corroded or damaged containers, supports, and valves.)	X			
D. Fueling area and underground storage tanks in good condition.		X	N/A	
E. Vehicle and equipment maintenance areas in sound condition.	X			
F. Grounds do not show signs of erosion.	X			
G. Washwater tanks in good working order.		X	N/A	

**ROUTINE INSPECTION FORM  
VILLAGE OF WEST MILWAUKEE  
PUBLIC WORKS FACILITY**

Inspector: Jason Jordan Date: 7-15-2022

Potential Pollutant Sources	Yes	No	If No, Describe Location & Action Needed	Initial & Date After Action Is Completed
A. Material and waste storage areas are maintained in good condition to minimize discharge of pollutants.	X			
B. Any oil leaks or spills present are properly contained by drip pans or absorbents. Absorbents are picked up and properly disposed of in a timely manner.	X			
C. Containers and above-ground storage tanks are in sound condition (check for corroded or damaged containers, supports, and valves.)	X			
D. Fueling area and underground storage tanks in good condition.		X	N/A	
E. Vehicle and equipment maintenance areas in sound condition.	X			
F. Grounds do not show signs of erosion.	X			
G. Washwater tanks in good working order.		X	N/A	

**ROUTINE INSPECTION FORM  
VILLAGE OF WEST MILWAUKEE  
PUBLIC WORKS FACILITY**

Inspector: Jason Jordan Date: 10/14/2022

Potential Pollutant Sources	Yes	No	If No, Describe Location & Action Needed	Initial & Date After Action Is Completed
A. Material and waste storage areas are maintained in good condition to minimize discharge of pollutants.	X			
B. Any oil leaks or spills present are properly contained by drip pans or absorbents. Absorbents are picked up and properly disposed of in a timely manner.	X			
C. Containers and above-ground storage tanks are in sound condition (check for corroded or damaged containers, supports, and valves.)	X			
D. Fueling area and underground storage tanks in good condition.		X	N/A	
E. Vehicle and equipment maintenance areas in sound condition.	X			
F. Grounds do not show signs of erosion.	X			
G. Washwater tanks in good working order.		X	N/A	



# **Erosion Control Inspection Summary**





<b>Project Name:</b>	Greywolf Redevelopment	Copies of inspection reports are filed in the respective project folder on raSmith's network drive.
<b>raSmith Project Number:</b>	1212810, 1212811, 1212812	
<b>Permit Issued:</b>	3/8/2022	
<b>Project Completed:</b>		

## 2022 Erosion Control Inspection Summary

[illegible]



# **Green Infrastructure Ordinance Update**

## ORDINANCE NO. 02-O-22

**AN ORDINANCE TO AMEND/ADD SECTIONS 86 UTILITIES, 90 VEGETATION AND 98 ZONING ORDINANCES TO REMOVE BARRIERS TO GREEN INFRASTRUCTURE**

WHEREAS, the Village of West Milwaukee has enacted Section 86 Utilities, Section 90 Vegetation and Section 98 Zoning Ordinance; and

WHEREAS, from time to time it is necessary to update such regulations; and

WHEREAS, the Village Board desires to amend the following sections of Chapters 86, 90 and 98; and

NOW, THEREFORE, the Village Board of the Village of West Milwaukee, Milwaukee County, Wisconsin does hereby ordain as follows:

**Amended (yellow highlight) or added new definitions and sections:****Sec. 86-83. – Definitions**

*Amended soil area.* A landscaped portion of a site where decomposed organic material has been incorporated into the soil to improve its performance for infiltration and vegetation growth, enabling the area to function as a vegetated stormwater management measure.

*Bioretention area or rain garden.* An excavated area back-filled with a prepared or amended soil mixture, covered with a mulch layer and planted with a diversity of woody or herbaceous vegetation, to which stormwater is directed to promote infiltration and evapotranspiration.

*Cistern.* A system for collecting rooftop runoff that detains water in above-ground or underground storage tanks, ranging in capacity from one hundred to 10,000 gallons.

*Detention facility* means a structure designed to temporarily store stormwater runoff for later release in order to delay and reduce peak flow rates and pollutant concentrations. The most common detention facilities include dry basins, although wet ponds, vehicular parking lots, depressed landscaped areas, rooftops, and underground storage chambers may also be used for detention storage.

*Green roof.* An engineered roofing system that includes vegetation planted in a growing medium above an underlying waterproof membrane material, designed to reduce the volume of stormwater runoff from building roofs.

*Permeable surfacing.* A material or materials and accompanying subsurface treatments designed and installed specifically to allow stormwater to penetrate into the material, thereby reducing the volume of stormwater runoff from the surfaced area. Permeable surfacing may include without limitation paver blocks, 'grasscrete' or similar structural support materials, and permeable concrete or asphalt.

*Pocket wetlands.* A small (typically under 1,000 SF in area) constructed (as opposed to naturally- occurring) wetland designed to reduce peak stormwater flows and runoff volumes and to remove pollutants via settling and bio-uptake.

*Rain barrel.* A structure for the collection of roof runoff in containers typically ranging from 50 to 100 gallons in size, designed for the subsequent release of water to landscaped areas.

*Stormwater management facilities* means a structure or vegetated management measure designed to control or convey stormwater runoff pollutant loads, discharge volumes and peak flow discharge rates.



*Stormwater tree.* A tree selected and installed (either with or without an engineered box or structure) as an integral component of a site-specific stormwater management plan, sited at a point or location where the tree(s) will have the effect of increasing the coverage of tree canopies to provide stormwater interception and evapotranspiration, stormwater uptake, and increased infiltration.

*Vegetated Stormwater Management Measures.* Vegetated swales, bioretention areas, rain gardens, amended soil areas, pocket wetlands, stormwater trees, or similar practices that are designed and intended to provide stormwater treatment and control by promoting evapotranspiration and infiltration of stormwater.

*Vegetated Swales.* Stormwater conveyance systems routing stormwater flows through vegetated areas, natural elongated depressions, or constructed channels. A vegetated infiltration swale differs from a conventional drainage channel or ditch in that it is constructed specifically to promote infiltration

*Wetland* means an area where the groundwater elevation is at, near, or above the land surface, characterized by both hydric soils and the presence of hydrophytic plants. For the purpose of this article, a wetland shall have a minimum area of 2.5 acres. It should be noted that wetlands having a smaller area than 2.5 acres may be regulated for other purposes by the federal, state, county, and municipal governments. "Pocket wetlands" as defined above are not considered "wetlands" for purposes of this definition.

#### **Sec. 86-84. - Stormwater management user system. Impervious area definition**

Impervious area or impervious surface means a horizontal surface which has been compacted or covered with a layer of material so that it is highly resistant to infiltration by rainwater. It includes, but is not limited to, semi-impervious surfaces such as compacted clay, as well as streets, roofs, sidewalks, parking lots and other similar surfaces. Permeable surfacing as defined in Section 86-83 above, if installed and maintained as part of an approved site-specific stormwater management plan, shall not be included in the calculation of impervious area for purposes of determining charges under this Section 86-84.

#### **Sec. 90-80. - Mowing.**

Except as specifically provided herein, it shall be the duty of every person or organization to mow or cause to be mowed upon property so owned or occupied all grasses or weeds exceeding six inches in height.

#### **Sec. 90-81. - Notice.**

The weed commissioner shall investigate concerning properties containing grasses or weeds that are alleged to violate this Section exceed six inches in height. The weed commissioner shall give the person or organization at least five-day notice by posting a door hanger and/or ordinary mail, prior to performing the maintenance to the property.

#### **Sec. 90-84. - Native plants or rain gardens.**

Upon written application to the Property Maintenance, common species of grass and wildflowers native to North America that are purposely cultivated to exceed six (6) inches in height from the ground, or a rain garden as specifically defined in Chapter 98, Article XIV of the Municipal Code, is permitted pursuant to the standards and restrictions that follow. Specifically excluded from these provisions are noxious weeds as defined in Section 90-73 of this Article.

1. Application required. An application to the Property Maintenance shall be submitted identifying the area of the site where the native plants or rain garden are intended to be located, the dimensions and size of the proposed area, a description of the vegetation types proposed, the distance of the perimeter of the area to adjacent property lines, and the type of edging to be used to define the area. In the case of a rain garden,



- provisions for downspout disconnection, use of rain barrels or cisterns, and any proposed modification to grading and drainage also must be identified on the application.
2. Notice to abutting property owner. In the event an area of native plants is proposed exceeding [twenty-five percent of the area of a front or side yard or 100 square feet, whichever is less], a copy of the application submitted to Property Maintenance also shall be provided via ordinary mail to the property owners of parcels abutting the side yard(s) in which the native plants are proposed.
  3. Standards for native plant areas and rain gardens. All areas planted with native plants or rain gardens pursuant to this Section shall be regularly maintained to ensure that the area does not contain litter, debris, or vermin, and to prevent infestation with noxious weeds. Edging consisting of decorative fencing, stone or other suitable landscape treatment shall be used to define the perimeters of the rain garden or native plant area.
  4. Safety precautions for native plant areas. When in the opinion of the Fire Inspectors the presence of a native plant area has come to constitute a fire or safety hazard due to weather or other conditions, the Fire Inspectors may order the cutting of a native plant area to ensure a safe condition. In such case the property owner shall be required to cut the native plant area within five (5) days of receiving written notice and direction from the Fire Inspectors.
  5. Violation of this Section. In the event an approved rain garden or native plant area is not maintained in accordance with this Section, notice shall be given in accordance with Section 90-81. If the property owner has not brought the rain garden or native plant area into compliance with the approved plan within five (5) days of receiving written notice, the village shall take action to mow the native plant area or otherwise bring the property into compliance. Charges for such action shall be assessed in accordance with Section 90-83.

**Sec. 98-3. - Intent. Paragraph 9**

(9) Further the appropriate use of land, protection of water quality, and conservation of natural resources;

**Sec. 98-30. - Site restrictions. Paragraph 5(b)(4)(iii)**

iii. The applicant shall furnish a plan showing a typical cross-section of the proposed slope, rip-rap, or retaining wall; the proposed drainage pattern, including any stormwater management measures proposed; a planting or sodding schedule; and the proposed means of preventing erosion during construction. If a retaining wall is to be constructed, a registered professional engineer shall certify that the wall will not collapse.

**Sec. 98-30. - Site restrictions. Paragraph 6**

(6) A buffer yard shall be created and maintained around all business and manufacturing districts which abut upon residential districts. The Plan Commission may also require a buffer yard around business and industrial districts abutting park and institutional districts. Buffer yards shall be a minimum of 20 feet in width and shall screen business or manufacturing uses from adjoining lands in such a manner that:

- a) If the buffer yard is composed entirely of plant materials, it shall be sufficient initial depth and height and of such varieties as to provide adequate visual screening within no more than two (2) years and during all seasons of the year. Buffer yards are encouraged to incorporate vegetated stormwater management measures such as bioretention areas and stormwater trees.
- e.) Where the land adjacent to the buffer yard is a parking lot, the buffer yard area adjacent to the parking lot is encouraged to be designed to function as a vegetated stormwater management measure. A combination of fencing, walls and plant material utilized in the buffer yard shall be sufficiently opaque to prevent the penetration of headlight glare at the property line. Overhead lighting installed in or adjacent to a buffer yard shall not throw any rays onto adjacent residential properties.



#### **Sec. 98-68. - PUD planned unit development overlay district. Intro**

The PUD Planned Unit Development Overlay District is intended to permit developments that will, over a period of time, be enhanced by coordinated area site planning, diversified location of structures, diversified building types, and/or mixing of compatible uses. Such developments are intended to provide a safe and efficient system for pedestrian and vehicle traffic; to provide attractive recreation and open spaces as integral parts of the developments; to enable economic design in the location of public and private utilities and community facilities; **to facilitate the use of green infrastructure stormwater management practices;** and to ensure adequate standards of construction and planning. The PUD overlay district under this chapter will allow for flexibility of overall development design with benefits from such design flexibility intended to be derived by both the developer and the community, while at the same time maintaining insofar as possible the land use density and other standards or use requirements set forth in the underlying basic zoning district.

#### **Sec. 98-68. - PUD planned unit development overlay district. Paragraph 2(2)(vii)**

~~vii. General-landscape-treatment.~~ The plan for landscaping, grading, and stormwater management, indicating areas where vegetative control measures, preservation or planting of trees, and other landscape-based stormwater treatment is planned.

#### **Sec. 98-68. - PUD planned unit development overlay district. Paragraph 2(2)(xii)**

~~xii. Existing-topography-on-the-site-with-contours-at-no-greater-than-two-foot-intervals.~~

xiii. Anticipated uses of adjoining lands in regard to roads, surface water drainage, **existing topography on the site with contours at no greater than two-foot intervals, stormwater management,** and compatibility with existing adjacent land uses.

#### **Sec. 98-68. - PUD planned unit development overlay district. Paragraph 3(d)(1)**

1. The proposed site shall **incorporate an effective stormwater management plan that integrates stormwater management into the site's landscaped areas, where practical.** ~~be provided with adequate drainage facilities for surface and storm waters.~~

#### **Sec. 98-94. - Parking requirements. Paragraph (1)**

(1) Adequate access to a public street shall be provided for each parking space, and driveways shall be at least ten (10) feet wide for one- and two-family dwellings, and a minimum of ~~24~~ 20 feet wide at the property line for all other uses.

#### **Sec. 98-94. - Parking requirements. Paragraph (5)**

(5) Surfacing. All off-street parking areas shall be surfaced with an asphaltic or portland cement pavement in accordance with Village standards and specifications so as to provide a durable and dust free surface and shall be so graded and drained as to dispose of all surface water. **Permeable surfacing may also be used upon review and approval by the Village Engineer.** Any parking area for more than five (5) vehicles shall have the aisles and spaces clearly marked.

#### **Sec. 98-94. - Parking requirements. Paragraph (7)**

(7) Landscaping. All public off-street parking areas which serve five (5) or more vehicles and are created or redesigned and rebuilt subsequent to the adoption of this chapter shall be provided with accessory landscaped areas totaling not less than five (5) percent of the surfaces area. The minimum size of each landscaped area shall be 100



square feet. Vegetated stormwater management measures designed and sited to receive runoff from parking areas shall be counted towards the minimum landscaped area requirement. Locations of landscaped areas, plant materials, and protection afforded the plantings (which shall include curbing or wheel stops as appropriate to allow stormwater to flow into vegetated management measures), including curbing and provision for maintenance shall be subject to approval by the Plan Commission and, in the case of vegetated stormwater management measures, the Village Engineer. All plans for proposed parking areas shall include a topographic survey and grading plan which shows existing and proposed grades, drainage pathways, and location of improvements. The preservation of existing trees, shrubs, and other natural vegetation in the parking area may be included in the calculation of required minimum landscaped area. Parking areas for five (5) or more vehicles which adjoin residential districts shall be visually screened with a combination of a solid wall, fence, or evergreen planting of equivalent visual density, or other effective means, built and maintained to a minimum height of six (6) feet.

#### **Sec. 98-95. - Driveways. Paragraph 3**

(3) *Surfacing.* All driveways shall be surfaced with an asphaltic or portland cement pavement in accordance with Village standards and specifications so as to provide a durable and dust free surface and shall be so graded and drained as to dispose of all surface water. Permeable surfacing may also be used upon review and approval by the Village Engineer.

#### **Sec. 98-123. - Yards. Paragraph 2**

(2) Architectural projections, such as chimneys, flues, sills, eaves, belt courses, planter boxes for stormwater management, and ornaments, may project into any required yard, but such projection shall not exceed two (2) feet with the exception of planter boxes, which may project up to four (4) feet if part of an approved site-specific stormwater management plan as defined in Article III, Chapter 86 of the Municipal Code.

#### **Sec. 98-123. - Yards. Paragraph 7**

(7) Accessory structures and vegetation may be placed in the required street yard and side yards if, and only if, used for landscaping, rainwater harvesting, rain gardens, and/or decorating. Permitted structures and vegetation include rain barrels with a capacity of 100 gallons or less, rain gardens, flagpoles, ornamental light standards, lawn furniture, sundials, birdbaths, trees, shrubs, and flowers. Structures and vegetation shall comply with the traffic visibility requirements set forth in Section 98-91 of this chapter.

#### **Sec. 98-254. - Building permit required. Paragraph 3**

(3) Plat of survey prepared by a registered land surveyor showing the location, boundaries, dimensions, elevations to Village of West Milwaukee datum, uses, and sizes of the following: subject site; existing and proposed structures; existing and proposed easements, streets, and other public ways; offstreet parking, loading areas and drive-ways; existing highway access restrictions; location and size of existing trees of 24" diameter at breast height or greater, indicating any such trees to be removed and the location and size of proposed replacement trees; existing and proposed drainage and flow pathways; and existing and proposed street, side, and rear yards. In addition, the plat of survey shall show the location, elevation, and use of any abutting lands and their structures within 40 feet of the subject site.

#### **Sec. 98-256. - Conditional use permit. Paragraph 5**

(5) Review and approval. The Village Plan Commission shall review the site, existing and proposed structures, architectural plans, neighboring uses, parking areas, driveway locations, highway access, traffic generation and circulation, tree preservation and planting, drainage and stormwater management measures, sewerage and water systems, and the proposed plan of operation. Conditions regarding landscaping, architectural design, type of



construction, construction commencement and completion dates, sureties, lighting, fencing, planting screens, operational control, hours of operation, improved traffic circulation, deed restrictions, highway access restrictions, increased yards, or parking requirements may be required by the Village Plan Commission upon its finding that these are necessary to fulfill the purpose and intent of this chapter.

**Sec. 98-257. - Temporary uses. Paragraph b**

(b) *Regulations for temporary conditional uses.* No temporary use listed herein shall be conducted within the street right-of-way. All buildings, tents, equipment, supplies, and debris shall be removed from the site within ten days following the temporary activity. All wastes and debris generated shall be properly managed, enclosed and disposed of so as to prevent the discharge of contaminated stormwater runoff into the storm drainage system or surface waters. All other provisions of the Village regulations apply including, but not limited to, signs and special event licenses.

**Sec. 98-258. - Plan review. Introduction**

For the purpose of promoting compatible development, stability of property values, and to prevent impairment of depreciation of property values, no person shall be issued a building permit, conditional use permit, or occupancy permit for any use or shall erect any structure without first obtaining the approval of detailed plans as set forth in this section.

The Village Administrator or his/her designee or other person as authorized by the board of trustees shall review the site plans, existing and proposed structure plans, architectural plans, neighboring uses, parking area plans, driveway location plans, landscaping and open space plans as deemed appropriate for all development in the RS-1, RS-2, and RD-1 residential districts.

The Plan Commission shall review the site plans, existing and proposed structure plans, architectural plans, neighboring uses, parking area plans, driveway location plans, loading and unloading plans, highway access plans, traffic generation and circulation plans, drainage and stormwater management plans, sewerage and water system plans, landscaping and open space plans, and the proposed operation plans in all districts except the RS-1, RS-2, and RD-1 residential districts.

**Sec. 98-258. - Plan review. Paragraph (1)f**

- f. Buildings and uses shall maintain existing topography, drainage patterns, mature trees, and vegetative cover insofar as is practical. The Plan Commission may require that drainage easements be executed.

**Sec. 98-258. - Plan review. Paragraph (1)h**

- h. Appropriate erosion control and stormwater management measures shall be utilized in all new development.

**Sec. 98-258. - Plan review. Paragraph (2)a**

*Materials:*

- The use of green roofs is encouraged as a stormwater management measure.

**Sec. 98-258. - Plan review. Paragraph (2)e**

- If rooftop mechanical or rainwater harvesting structures or equipment is deemed necessary, it must be screened from public view by architectural treatment of the building.



**Sec. 98-258. - Plan review. Paragraph (2)f**

*f. Parking and loading.*

- Parking lots shall be designed to include landscaped islands and perimeters with vegetation providing shade and stormwater management, and aesthetically tying the area into the rest of the site. Screening requirements for parking lots are found below. Islands should be a size and configuration to ensure the viability of the plant materials used and, where designed as stormwater management measures, effectiveness in providing stormwater management.
- All parking areas shall be surfaced with a dustless all-weather material such as bituminous concrete, ~~or~~ asphalt, or a suitable type of permeable surfacing, and shall be of sufficient strength to maintain the surface and support the normal load placed on it.
- All parking areas shall be designed with curbing and/or wheelstops for each parking space, with openings to allow stormwater to flow into vegetated stormwater management measures as designed.

**Sec. 98-258. - Plan review. Paragraph (2)g**

*g. Screening.* Visual screening allows incompatible land uses such as sidewalks and parking lots or commercial businesses and residential homes to co-exist by lessening the visual impact and providing a physical barrier between uses. The use of fencing, walls and other measures that enable the co-location of vegetated stormwater management measures in screening and buffering areas is encouraged. Guidelines for the use of screening in projects are as follows:

- Screening, when required, shall consist of masonry walls, solid wood fences, densely planted hedges, earthen berms, and combinations of the aforementioned where appropriate, particularly where flexibility in design is needed to accommodate the placement of vegetated stormwater management measures. Earth berms, where necessary, shall not exceed a slope of 33 percent (3:1) for lawn areas. Berms planted with ground covers and shrubs shall not exceed a slope of 50 percent (2:1). Berms should be graded to appear as smooth, rounded, naturalistic forms.
- In areas adjacent to residential developments, solid visual screening, such as walls, fences, and berms shall be required with a minimum height of four (4) feet. In addition, a semi-transparent vegetative screen shall create 50 percent opacity of the developed area above the solid man-made screen to a total height of six (6) feet.
- All surface parking is to be visually screened from the roadway and adjacent residential developments. The screen is to be a minimum of four (4) feet above the existing elevation adjacent to residential properties and four (4) feet along road frontages and constructed of materials compatible with any adjacent structure. Acceptable materials include but are not limited to masonry walls and wood fences, which may be used in conjunction with vegetated stormwater management measures. Also acceptable are densely planted hedges and earthen berms, provided these do not interfere with the use of vegetated stormwater management measures to treat parking lot runoff. All walls and fences shall be aligned or set back from the face of the adjacent structure.
- As noted in the previous section, all loading and utility areas, including dumpsters and trash bins, shall be screened from public view with a solid screen. The screen shall be at least one (1) foot higher than the top of the dumpster or similar receptacle. Loading areas shall be screened from view from adjacent properties. The appropriate screening method will depend on the extent and layout of loading areas and shall be approved by the Plan Commission. The grading and drainage plan for all loading and utility areas shall direct runoff into vegetated or pervious areas designed for this purpose, or into the sanitary sewer system, so as to prevent the discharge of contaminated runoff into the storm drain system and surface waters.
- The owners and tenants of affected properties in each zoning district shall be jointly responsible for the maintenance of all landscaping which shall be kept in good condition so as to present a healthy, neat and



orderly appearance. Vegetated stormwater management measures shall be maintained by the owners and tenants in a manner consistent with Wisconsin DNR recommended best practices, or in conformance with the applicable site-specific stormwater management plan. No plant material shall be allowed to encroach on rights-of-way and easements to the extent that motorists' or pedestrians' vision of vehicular traffic is impeded.

- Fences are used for the purpose of screening, security, and pedestrian control. All fences should appear to be an integral component of the site design. Fences shall be made only of masonry, wood or natural plant materials; however, in certain cases, alternative materials may be used with the approval of the Plan Commission. Fences should be aesthetically pleasing while unobtrusively providing the security and control required. "Green wall" treatments incorporating plantings onto fences and walls are encouraged.

#### **Sec. 98-258. - Plan review. Paragraph (2)h**

##### *h. Landscaping and green space.*

- All development shall devote a minimum of ten (10) percent of the area of the site to planted landscape development. Vegetated stormwater management measures shall be counted as landscape development for purposes of evaluating compliance with this guideline. Preservation of trees of over 24" dia. is strongly encouraged. Landscape plans should be presented to the Plan Commission for approval.
- The amount of interior landscaping of off-street parking areas shall amount to no less than ten percent of the total area used for parking and are encouraged to be designed as vegetated stormwater management measures. The minimum size of each landscape area shall not be less than 100 square feet. A minimum of one large canopy tree shall be required for every 1,000 square feet of landscape planting area. Planting around the perimeter of the parking lot shall not be considered as part of the interior landscaping requirements.
- Provide an eight-foot-wide minimum planting buffer between all development and adjacent residential development, which may include vegetated stormwater management measures. Parking areas shall additionally have visual screening between all parking and loading areas and adjacent residential developments. The minimum sizes for plant materials are two-and-one half inch caliper for deciduous trees and six feet in height for evergreen trees at the time of planting. Evergreen shrubs and deciduous shrubs should be a minimum of 24 inches in height when planted.

#### **Sec. 98-362. - Specific words and phrases.**

*Amended soil area.* A landscaped portion of a site where decomposed organic material has been incorporated into the soil to improve its performance for infiltration and vegetation growth, enabling the area to function as a vegetated stormwater management measure.

*Bioretention area or rain garden.* An excavated area backfilled with a prepared or amended soil mixture, covered with a mulch layer and planted with a diversity of woody or herbaceous vegetation, to which stormwater is directed to promote infiltration and evapotranspiration.

*Cistern.* A system for collecting rooftop runoff that detains water in above-ground or underground storage tanks, ranging in capacity from one hundred to 10,000 gallons.

*Green roof.* An engineered roofing system that includes vegetation planted in a growing medium above an underlying waterproof membrane material, designed to reduce the volume of stormwater runoff from building roofs.

*Impervious surface.* Any pavement or structural element that prevents rain, surface water runoff, or melting snow from infiltrating into the ground below, including but not limited to roofs and paved roads, driveways and parking lots.



*Permeable surfacing.* A material or materials and accompanying subsurface treatments designed and installed specifically to allow stormwater to penetrate into the material, thereby reducing the volume of stormwater runoff from the surfaced area. Permeable surfacing may include without limitation paver blocks, 'grasscrete' or similar structural support materials, and permeable concrete or asphalt.

*Pocket wetlands.* A small (typically under 1,000 SF in area) constructed wetland designed to reduce peak stormwater flows and runoff volumes and to remove pollutants via settling and bio-uptake.

*Rain barrel.* A structure for the collection of roof runoff in containers typically ranging from 50 to 100 gallons in size, designed for the subsequent release of water to landscaped areas.

*Stormwater tree.* A tree selected and installed (either with or without an engineered box or structure) as an integral component of a stormwater management plan, sited at a point or location where the tree(s) will have the effect of increasing the coverage of tree canopies to provide stormwater interception and evapotranspiration, stormwater uptake, and increased infiltration.

*Vegetated Stormwater Management Measures.* Vegetated swales, bioretention areas, rain gardens, pocket wetlands, stormwater trees, or similar practices that are designed and intended to provide stormwater treatment and control by promoting evapotranspiration and infiltration of stormwater.

*Vegetated Swales.* Stormwater conveyance systems routing stormwater flows through vegetated areas, natural elongated depressions, or constructed channels. A vegetated infiltration swale differs from a conventional drainage channel or ditch in that it is constructed specifically to promote infiltration.

#### **Sec. 98-389. - Effective date. Appendix A**

#### **APPENDIX A**

As set forth in Section 98-254(3) of the Village of West Milwaukee Zoning Ordinance, the applicant may provide in lieu of a survey, a location sketch drawn to scale showing the location; boundaries; dimensions; elevations where appropriate; uses and sizes of the following: subject site; existing and proposed structures; existing and proposed easements, streets, and other public ways; off-street parking, loading areas, and driveways; existing highway access restrictions; location and size of existing trees of 24" diameter at breast height or greater, indicating any such trees to be removed and the location and size of proposed replacement trees; existing and proposed drainage and flow pathways; and, existing and proposed street, side, and rear yards. In addition, the sketch shall show the location and use of any abutting lands and their structures within forty (40) feet of the subject site.

**SEVERABILITY.** The several sections of this ordinance are declared to be severable. If any section or portion thereof shall be declared by a court of competent jurisdiction to be invalid, unlawful or unenforceable, such decision shall apply only to the specific section or portion thereof directly specified in the decision, and shall not affect the validity of any other provisions, sections or portions thereof of the ordinance. The remainder of the ordinance shall remain in full force and effect. Any other ordinances whose terms are in conflict with the provisions of this ordinance are hereby repealed as to those terms that conflict.

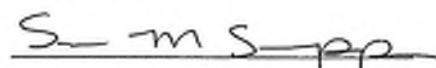
**EFFECTIVE DATE.** This Ordinance shall take effect immediately upon passage and/or posting or publication as provided by law.

**PASSED AND ADOPTED** by the Village Board of the Village of West Milwaukee, this 20<sup>th</sup> day of June, 2022.



John Stalewski, Village President

ATTEST:



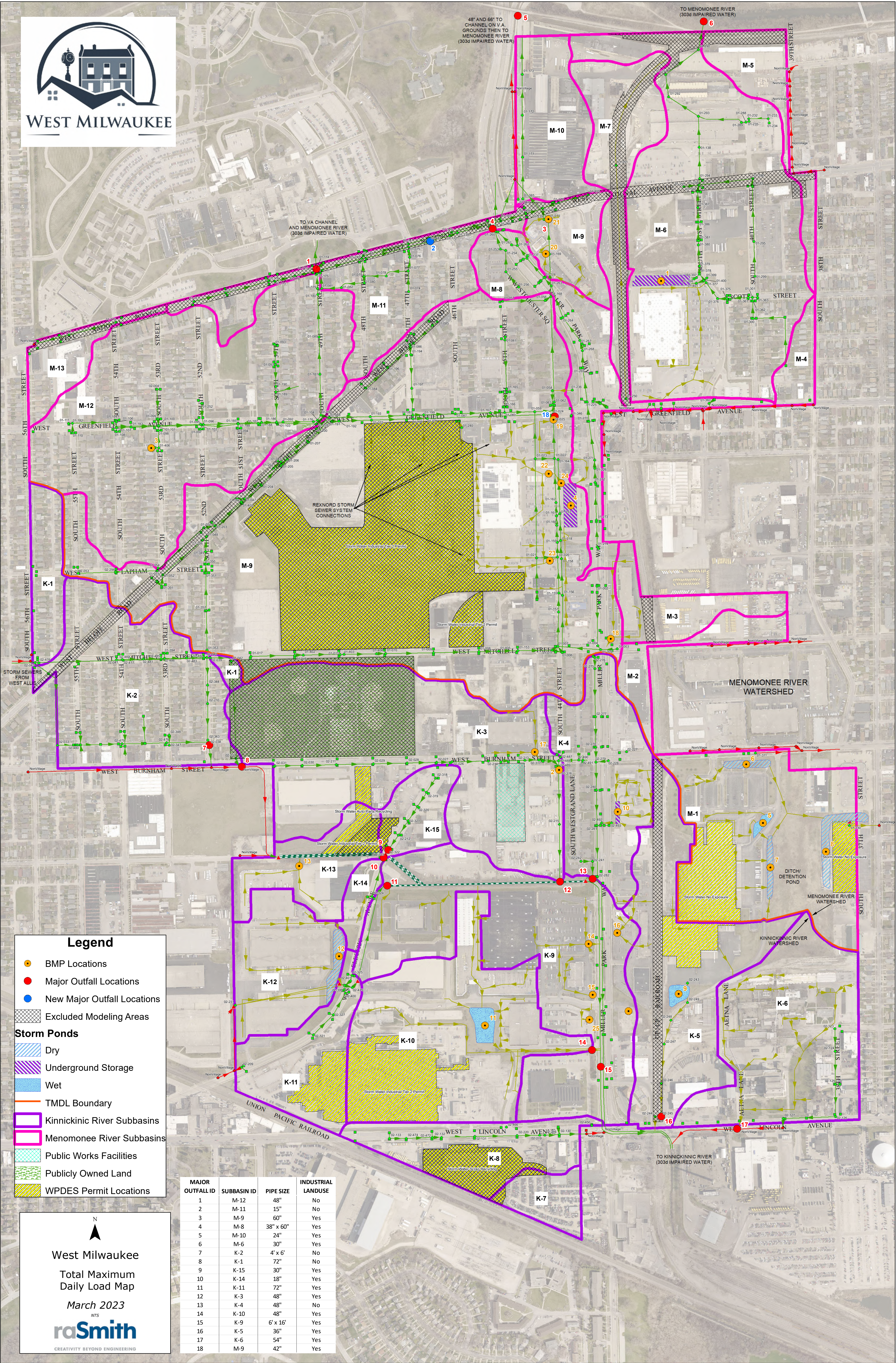
Susan M. Schupp, Village Clerk





## **Total Maximum Daily Load (TMDL) Map**





**Legend**

BMP Locations

Major Outfall Locations

New Major Outfall Locations

Excluded Modeling Areas

**Storm Ponds**

Dry

Underground Storage

Wet

TMDL Boundary

Kinnickinnic River Subbasins

Menomonee River Subbasins

Public Works Facilities

Publicly Owned Land

WPDES Permit Locations

MAJOR OUTFALL ID	SUBBASIN ID	PIPE SIZE	INDUSTRIAL LANDUSE
1	M-12	48"	No
2	M-11	15"	No
3	M-9	60"	Yes
4	M-8	38" x 60"	Yes
5	M-10	24"	Yes
6	M-6	30"	Yes
7	K-2	4' x 6'	No
8	K-1	72"	No
9	K-15	30"	Yes
10	K-14	18"	Yes
11	K-11	72"	Yes
12	K-3	48"	Yes
13	K-4	48"	No
14	K-10	48"	Yes
15	K-9	6' x 16'	Yes
16	K-5	36"	Yes
17	K-6	54"	Yes
18	M-9	42"	Yes

West Milwaukee

Total Maximum  
Daily Load Map

March 2023

NTS

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CREATIVITY BEYOND ENGINEERING





# **Pollutant Load Reduction Evaluation Report**



CREATIVITY BEYOND ENGINEERING

# TMDL POLLUTANT LOAD REDUCTION EVALUATION REPORT



**Village of West Milwaukee, WI**

**March 22, 2023**



# TMDL POLLUTANT LOAD REDUCTION EVALUATION REPORT

## Village of West Milwaukee, WI

Prepared by

Riley Stone, P.E.  
Civil Engineer

Len Roecker, P.E.  
Village Engineer

raSmith  
16745 W Bluemound Road  
Brookfield, WI 53005

Prepared for

Village of West Milwaukee  
4755 Beloit Road  
West Milwaukee, WI 53214

March 22, 2023

## BACKGROUND

As part of the Village's Municipal Separated Storm Sewer System (MS4) permit, the Village must strive to meet set water quality standards. The Village is located in the Milwaukee River Basin which has a Total Maximum Daily Load (TMDL) analysis completed for the Kinnickinnic River, Menomonee River, and Milwaukee River, and all tributary areas. The TMDL analysis is a study completed for impaired waters which details the amount of a pollutant a waterbody can receive and still meet water quality standards. Specifically, the Village is located within the Kinnickinnic River and Menomonee River watersheds.

As part of the MS4 program, municipalities are required to complete a municipal-wide pollutant analysis in order to understand where a municipality stands in regards to the TMDL requirements. An updated analysis was completed in 2023 for the Village. Updates to the model have been made periodically as time and budget allows. The Village's model mainly relies on street cleaning as the primary treatment method of pollutant runoff.

## TMDL REQUIREMENTS

The TMDL analysis for the Kinnickinnic and Menomonee River included multiple subbasins or reachsheds for each river. These subbasins are listed in Section VII of the Village's MS4 permit. Approximately 57% of the 720 acres within the Village drains to the Menomonee River while the remaining area drains to the Kinnickinnic River. Only one TMDL reachshed is present for each watershed within the Village. The Village is tributary to reachshed KK-3 and MN-16. Table 1 displays the required reductions that the Village is required to meet for each reachshed.

**Table 1. Menomonee River TMDL Requirements for the Village of West Milwaukee**

Reachshed	Total Phosphorus (TP) Reduction	Total Suspended Solids (TSS) Reduction
KK-3	78.7%	76.8%
MN-16	49.4%	72.0%

## POLLUTANT LOADING CALCULATIONS

The Village's pollutant loading analysis used WinSLAMM v10.4.1. SEWRPC land use data was used and converted to Standard Land Uses to use in the WinSLAMM model. NRCS soil data was used to determine the soil types throughout the Village. Village storm sewer data along with Milwaukee County LiDAR data was used to delineate drainage boundaries to each storm sewer outfall.

As outlined in the Wisconsin Department of Natural Resource's (WDNR) guidance document dated October 20th, 2014, there are a number of properties that are either prohibited or optional to include in the Village's model. Below is a list of the properties specific to the Village of West Milwaukee that were not included in this analysis:

- Pollutant loadings from an upstream MS4 (City of West Allis)
- State owned and Milwaukee County owned properties (ie. West Milwaukee Park, West National Avenue, and West Beloit Road)
- Industrial facilities subject to a permit under subch. II of ch. NR 216, Wis. Adm. Code
  - Rexnord Industrial – 4701 W. Greenfield Avenue
  - Arrow Tool & Stamping Co., Inc. – 4548 W. Mitchell Street
  - Product Service & Manufacturing Corp. – 4530 W. Burnham Street
  - West Milwaukee Recycling – 4777 W. Lincoln Avenue
- Railroad areas were not included in the analysis.

The excluded properties total to 89.5 acres of the Village's total area of 719.75 acres.

## BEST MANAGEMENT PRACTICES

A number of best management practices (BMPs) that were previously included in the Village-wide model have been removed as a result of WDNR's guidance regarding maintenance authority. As shown in the Appendix A, there are 22 BMPs that the Village does not have maintenance authority over. Tributary areas along with the effectiveness of each BMP are included in the Stormwater Facility Inventory for BMPs in which documentation is available. If maintenance agreements were put into place with those BMPs, they will be added to the Village model at that time.

The BMPs included in the current model consist of:

- Village of West Milwaukee Grass Swales
- Underground Detention at Walmart
- Stormceptor 7200 at Burnham St
- Pervious Pavement at 53<sup>rd</sup> St & Greenfield Ave Alley
- Street Sweeping on all Village roads

Maintenance measures are completed by the Village for all BMPs currently modeled. Streets are swept once per week. The street cleaning practices varies in effectiveness but is shown to achieve between 20-50% TSS reduction for roadway land uses only. All other land uses such as paved parking, sidewalks, or landscape areas were not treated unless they are tributary to a different structural BMP.

## REACHSHED RESULTS & PROGRESS TOWARDS ATTAINMENT

The Village is currently not meeting the TMDL requirements shown in Table 1 of this report. Table 2 below summarizes the detailed breakdown of the pollutant loading reduction achieved in each subbasin throughout the Village provided in Appendix B.

***Table 2. Village of West Milwaukee Pollutant Loading Summary***

Reachshed	Total Phosphorus (TP) Reduction			Total Suspended Solids (TSS) Reduction		
	TMDL Requirement	Current Village Reduction	Difference	TMDL Requirement	Current Village Reduction	Difference
<b>KK-3</b>	78.7%	9.0%	69.7%	76.8%	11.3%	65.5%
<b>MN-16</b>	49.4%	16.0%	33.4%	72.0%	22.7%	49.3%

The Village will continue to work towards implementing BMPs and green infrastructure measures when possible. These BMPs will be added to the Village-wide model once constructed. Additionally, as development occurs, a stormwater maintenance agreement will be required as part of the approval process. Private BMPs will be added to the Village-wide model as development occurs. More information regarding the Village's implementation plan to achieve TMDL limits will be forthcoming.

# **Appendix A**

## **Stormwater Facility Inventory**





**Village of West Milwaukee**

**Stormwater Facility Inventory**

BMP #	Owner	BMP Type	Year Constructed	Maintenance Agreement	Record Drawing Date	Modeled in WinSLAMM?	TMDL Reach	Tributary Area (ac)	TSS Reduction %	TP Reduction %	Notes
-	Village of West Milwaukee	Grass Swales	Varies	N/A	N/A	Yes	Varies	-	-	-	N/A
1	Walmart Real Estate Business Trust	Underground Detention	2012	N/A	Design Plans	Yes	MN-16	16.45	68.08	57.26	4362001000
2	Village of West Milwaukee	Stormceptor 7200	2009	N/A	Design Plans	Yes	N/A	31.34	11.55	8.58	Burnham Street
3	Village of West Milwaukee	Pervious Pavement	2015	N/A	Design Plans	Yes	MN-16	0.80	16.18	12.10	53rd Street
4	Target Corporation	Underground Detention	-	-	-	No	MN-16	-	-	-	4570469009
5	Journal Sentinel, Inc	Wet Detention Pond	-	-	-	No	MN-16	-	-	-	4571008011
6	Journal Sentinel, Inc	Dry Detention Pond	-	-	-	No	MN-16	-	-	-	4571008011
7	Journal Sentinel, Inc	Dry Detention Pond	-	-	-	No	MN-16	-	-	-	4571008011
8	New Holdings, LLC	Dry Detention Pond	-	-	-	No	MN-16	-	-	-	4571008010
9	Journal Sentinel, Inc	Wet Detention Pond	-	-	-	No	N/A	5.34	45.94	33.26	4571008011
10	Speedway, LLC	Underground Detention	-	Need signed copy	-	No	N/A	3.23	67.92	58.00	4571006011
11	GC/BV 1 Industrial, LLC	Wet Detention Pond	-	-	-	No	N/A	14.88	80.1	56.09	4731043000
12	Venturedyne / Hunger Task Force	Dry Detention Pond	-	-	-	No	N/A	14.73	4.76	4.29	4731022006 / 4731022007
13	Venturedyne, LTD	Stormceptor 900	-	-	-	No	N/A	3.31	16.76	11.62	4731022003
14	Menards, INC	Stormceptor 7200	-	-	-	No	N/A	-	-	-	4731039000
15	BC/BV 1 Shops, LLC	Stormceptor 900	-	-	-	No	N/A	-	-	-	4731040000
16	2080 MPW LLC	Baysaver Type 3K	-	-	-	No	N/A	-	-	-	4571006005
17	SBC II LLC	Stormceptor 3600	-	-	-	No	N/A	2.75	21.91	15.20	4361127001
18	SBC LLC	Stormceptor 3600	-	-	-	No	MN-16	1.78	0.00	0.00	4571001003
19	Gulfview 305, LLC	Stormceptor 900	-	-	-	No	MN-16	0.97	24.35	20.59	4570625001
20	McDonald's Corporation	Stormceptor 3600	-	-	-	No	MN-16	3.25	19.63	16.59	4371021005
21	International House of Pancakes	Stormceptor 900	-	-	-	No	MN-16	0.92	34.80	27.50	4371021003
22	Target Corporation	Stormceptor 7200	-	-	-	No	MN-16	-	-	-	4570469009
23	BDB Management	Stormceptor 7200	-	-	-	No	MN-16	-	-	-	4570470000
24	Target Corporation	ADS Water Quality Device	-	-	-	No	MN-16	-	-	-	4570469009
25	N/A	Baysaver Type 5K	-	-	-	No	N/A	-	-	-	4731041000
26	Taco John's	Underground Detention	2022	Yes	-	No	N/A	-	-	-	4739003000
27											
28											
29											
30											

The Village relies on the Village Engineer/consultant staff to inspect all municipal BMP's (or BMP's that the Village takes credit for) annually. Other than seasonal mowing, maintenance items will be completed as directed from inspection reports.

This facility inventory will be updated as information is obtained/located.

## **Appendix B**

### **Pollutant Loading Reduction Results**

**VILLAGE OF WEST MILWAUKEE  
POLLUTANT LOADING REDUCTION ANALYSIS  
March 1, 2023**

SUBBASIN	AREA (Ac)	NO CONTROLS Phosphorus (lbs/yr)	EXISTING Phosphorus (lbs/yr)	PERCENT DIFFERENCE (%)	NO CONTROLS TSS (lbs/yr)	EXISTING TSS (lbs/yr)	PERCENT DIFFERENCE (%)
<b><i>TMDL Reachshed KK-3</i></b>							
K-1	6.70	7.34	5.96	18.76%	2,037	1,440	29.30%
K-2	29.78	32.60	26.26	19.45%	9,751	6,888	29.36%
K-3	34.09	31.26	26.76	14.40%	16,067	12,837	20.10%
K-4	19.79	18.94	16.46	13.07%	8,613	7,137	17.14%
K-5	29.62	23.48	22.56	3.92%	13,156	12,442	5.43%
K-6	29.04	23.38	22.54	3.59%	12,467	12,009	3.67%
K-7	4.23	4.22	3.85	8.73%	2,284	1,992	12.81%
K-8	10.67	9.21	8.57	6.99%	5,254	4,737	9.84%
K-9	44.24	35.86	33.92	5.41%	18,623	17,260	7.32%
K-10	35.85	31.94	31.94	0.00%	18,437	18,437	0.00%
K-11	12.77	11.41	10.29	9.77%	6,578	5,659	13.96%
K-12	14.73	14.34	12.75	11.07%	8,005	6,780	15.30%
K-13	8.80	8.22	7.65	6.93%	4,660	4,167	10.58%
K-14	2.59	2.45	2.16	12.00%	1,353	1,110	18.00%
K-15	5.89	5.27	4.83	8.35%	2,947	2,614	11.28%
<b>KK-3 Total</b>	<b>288.79</b>	<b>259.91</b>	<b>236.50</b>	<b>9.01%</b>	<b>130,230</b>	<b>115,509</b>	<b>11.30%</b>
<b>TMDL Requirement</b>		-	55.36	78.70%	-	30213	76.80%
<b>Difference</b>		-	<b>181.14</b>	<b>69.69%</b>	-	<b>85295</b>	<b>65.50%</b>
<b><i>TMDL Reachshed MN-16</i></b>							
M-1	34.28	25.74	24.10	6.37%	12,503	11,357	9.17%
M-2	5.60	4.48	4.17	6.96%	2,464	2,212	10.24%
M-3	7.18	6.11	5.53	9.50%	3,208	2,794	12.93%
M-4	3.26	3.23	2.73	15.60%	958	726	24.20%
M-5	6.48	5.80	5.28	9.10%	2,891	2,549	11.83%
M-6	58.94	53.88	35.86	33.44%	24,365	12,895	47.08%
M-7	16.42	14.68	13.47	8.22%	8,016	7,075	11.74%
M-8	16.09	16.12	14.05	12.88%	7,431	6,131	17.50%
M-9	100.27	103.76	89.36	13.88%	41,833	33,697	19.45%
M-10	12.56	10.69	10.05	6.02%	6,284	5,725	8.89%
M-11	15.26	16.32	13.62	16.53%	5,367	4,054	24.47%
M-12	61.12	63.66	54.14	14.95%	18,390	14,087	23.40%
M-13	4.22	4.16	3.58	13.76%	1,342	1,062	20.89%
<b>MN-16 Total</b>	<b>341.67</b>	<b>328.64</b>	<b>275.94</b>	<b>16.04%</b>	<b>135,053</b>	<b>104,363</b>	<b>22.72%</b>
<b>TMDL Requirement</b>		-	166.29	49.40%	-	37815	72.00%
<b>Difference</b>		-	<b>109.65</b>	<b>33.36%</b>	-	<b>66548</b>	<b>49.28%</b>
<b>TOTAL</b>	<b>630.5</b>	<b>588.55</b>	<b>512.44</b>	<b>12.93%</b>	<b>265,283</b>	<b>219,872</b>	<b>17.12%</b>

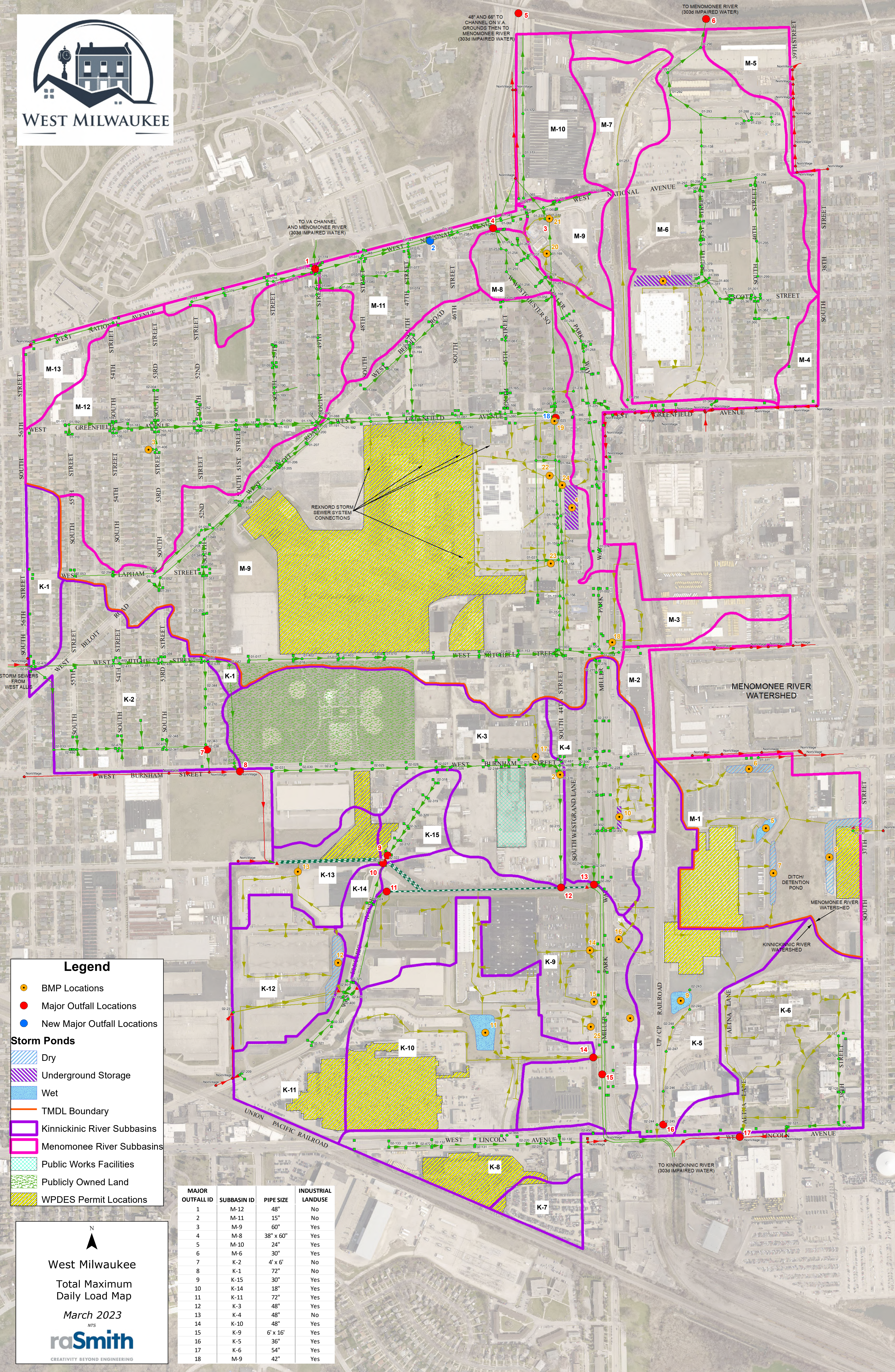




## **Appendix C**

### **TMDL Map**





**Legend**

BMP Locations

Major Outfall Locations

New Major Outfall Locations

**Storm Ponds**

Dry

Underground Storage

Wet

TMDL Boundary

Kinnickinic River Subbasins

Menomonee River Subbasins

Public Works Facilities

Publicly Owned Land

WPDES Permit Locations

West Milwaukee

Total Maximum  
Daily Load Map

March 2023

NTS

CREATIVITY BEYOND ENGINEERING

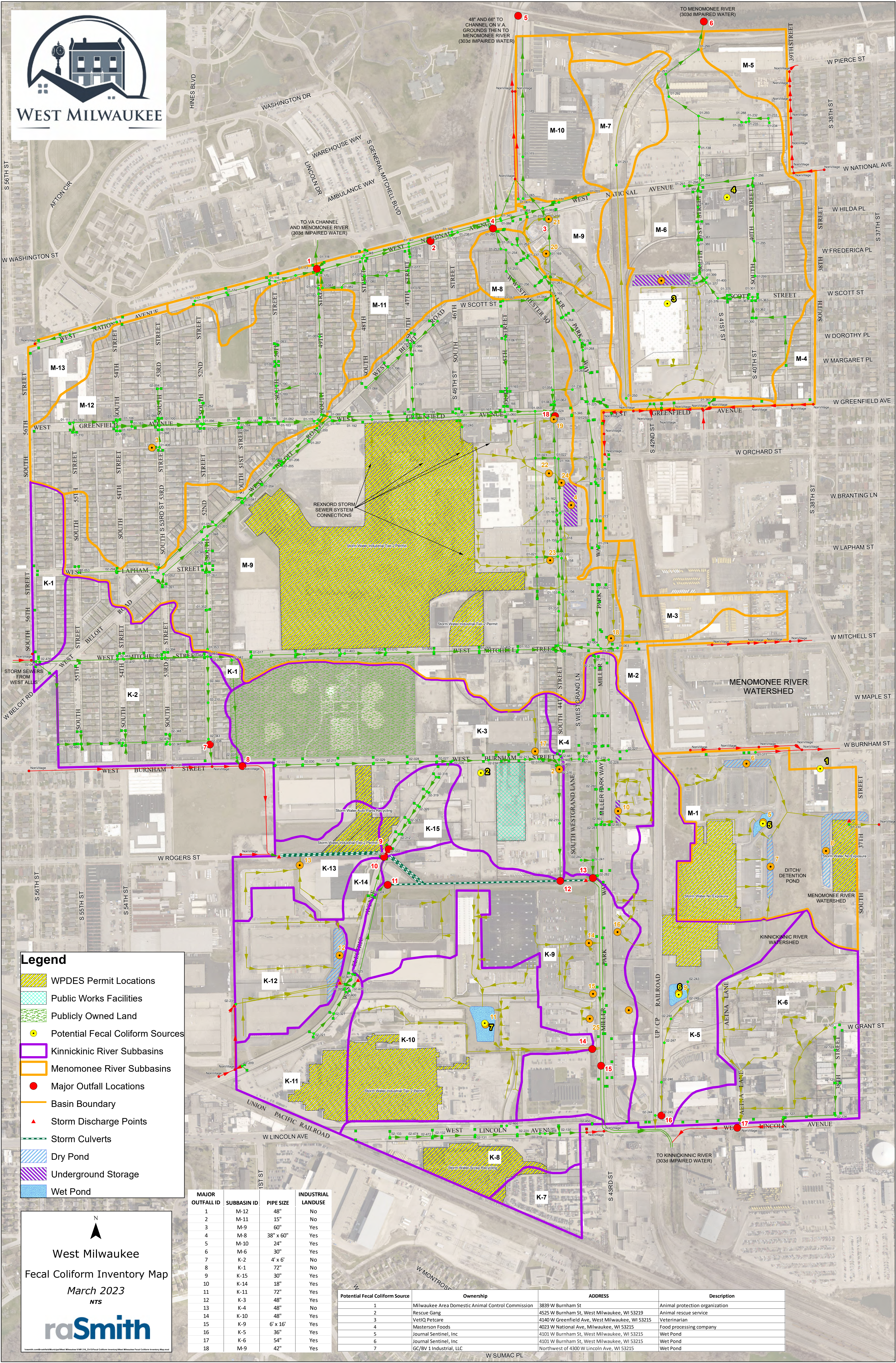
MAJOR OUTFALL ID	SUBBASIN ID	PIPE SIZE	INDUSTRIAL LANDUSE
1	M-12	48"	No
2	M-11	15"	No
3	M-9	60"	Yes
4	M-8	38" x 60"	Yes
5	M-10	24"	Yes
6	M-6	30"	Yes
7	K-2	4' x 6'	No
8	K-1	72"	No
9	K-15	30"	Yes
10	K-14	18"	Yes
11	K-11	72"	Yes
12	K-3	48"	Yes
13	K-4	48"	No
14	K-10	48"	Yes
15	K-9	6' x 16'	Yes
16	K-5	36"	Yes
17	K-6	54"	Yes
18	M-9	42"	Yes





# **Bacteria Source Inventory Map**





**Legend**

- WPDES Permit Locations
- Public Works Facilities
- Publicly Owned Land
- Potential Fecal Coliform Sources
- Kinnickinnic River Subbasins
- Menomonee River Subbasins
- Major Outfall Locations
- Basin Boundary
- Storm Discharge Points
- Storm Culverts
- Dry Pond
- Underground Storage
- Wet Pond

West Milwaukee  
Fecal Coliform Inventory Map  
March 2023  
NTS

**raSmith**

MAJOR OUTFALL ID	SUBBASIN ID	PIPE SIZE	INDUSTRIAL LANDUSE
1	M-12	48"	No
2	M-11	15"	No
3	M-9	60"	Yes
4	M-8	38" x 60"	Yes
5	M-10	24"	Yes
6	M-6	30"	Yes
7	K-2	4' x 6'	No
8	K-1	72"	No
9	K-15	30"	Yes
10	K-14	18"	Yes
11	K-11	72"	Yes
12	K-3	48"	Yes
13	K-4	48"	No
14	K-10	48"	Yes
15	K-9	6' x 16'	Yes
16	K-5	36"	Yes
17	K-6	54"	Yes
18	M-9	42"	Yes

Potential Fecal Coliform Source	Ownership	ADDRESS	Description
1	Milwaukee Area Domestic Animal Control Commission	3839 W Burnham St	Animal protection organization
2	Rescue Gang	4525 W Burnham St, West Milwaukee, WI 53219	Animal rescue service
3	VetIQ Petcare	4140 W Greenfield Ave, West Milwaukee, WI 53215	Veterinarian
4	Masterson Foods	4023 W National Ave, Milwaukee, WI 53215	Food processing company
5	Journal Sentinel, Inc	4101 W Burnham St, West Milwaukee, WI 53215	Wet Pond
6	Journal Sentinel, Inc	4101 W Burnham St, West Milwaukee, WI 53215	Wet Pond
7	GC/BV 1 Industrial, LLC	Northwest of 4300 W Lincoln Ave, WI 53215	Wet Pond





# **Leaf Collection Best Management Practices**



CREATIVITY BEYOND ENGINEERING

## MEMORANDUM

**DATE:** March 23, 2023  
**TO:** Wisconsin Department of Natural Resources (WDNR)  
**FR:** Village of West Milwaukee & raSmith  
**RE:** Leaf Collection Program – Best Management Practice (BMP)

Per Section II.G.4.d of the Village's WPDES Permit, a description of the BMPs which the permittee employs or will employ to its leaf collection program that reduce nutrient loading to the receiving waters shall be submitted by March 31, 2023. The permittee shall consider source, transport and discharge location when considering BMPs for the leaf collection program.

The Village directs residents to either bring their yard waste to the Department of Public Works or to use a garbage can marked as yard waste for pick-up. The Village recommends that residents should not rake yard waste into the street for pick-up. Yard waste is to be collected in a timely manner every 1<sup>st</sup> and 3<sup>rd</sup> Monday of the month between April and November. This collection is then followed by street sweeping to reduce nutrient loading to the any receiving waters. Attached to this document is the flyer for yard waste information which can be found on the Village's website.



## YARD WASTE



### YARD WASTE INFORMATION

When: Every 1<sup>st</sup> and 3<sup>rd</sup> Monday of the month - (April through November)

What: Grass - Leaves - Branches - Garden Waste

Where:

Residents with alley garbage pick-up will have yard waste picked up in their alley. Residents with curb side garbage pick-up will place yard waste between the curb and sidewalk.

- Residents may also bring their yard waste to the Department of Public Works at 4517 West Burnham Street.
- Use a garbage can marked yard waste. If the container holding the yard waste is not properly marked, the yard waste will not be picked up.
- If a plastic bag is used for yard waste, it will not be picked up.
- **You should not put rakings of dead grass in the curb, as heavy rains will wash down the grass and plug up the sewers.**

Additional Recycling Bins may be purchased in the Clerk/Treasurer's Department for \$12.25 + Tax

GARBAGE - SPECIAL PICK-UP - YARD WASTE  
OR OTHER MISCELLANEOUS QUESTIONS RELATED TO THE  
DEPARTMENT OF PUBLIC WORKS  
CALL 645-6238