



# City of Appleton

100 North Appleton Street  
Appleton, WI 54911-4799  
[www.appleton.org](http://www.appleton.org)

## Meeting Agenda - Final Common Council

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Wednesday, September 7, 2022

7:00 PM

Council Chambers

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- A. CALL TO ORDER
- B. INVOCATION
- C. PLEDGE OF ALLEGIANCE TO THE FLAG
- D. ROLL CALL OF ALDERPERSONS
- E. ROLL CALL OF OFFICERS AND DEPARTMENT HEADS
- F. APPROVAL OF PREVIOUS COUNCIL MEETING MINUTES

[22-1103](#) Common Council Meeting Minutes of August 17, 2022

**Attachments:** [CC Minutes 8-17-22.pdf](#)

- G. BUSINESS PRESENTED BY THE MAYOR

[22-1124](#) Proclamations  
- Childhood Cancer Awareness Month  
- Hispanic Heritage Month  
- Rail Safety Week  
- Senior Center Month

**Attachments:** [Childhood Cancer Awareness Month Proclamation.pdf](#)

[Hispanic Heritage Month Proclamation.pdf](#)

[Rail Safety Week Proclamation.pdf](#)

[Senior Center Month Proclamation.pdf](#)

- H. PUBLIC PARTICIPATION
- I. PUBLIC HEARINGS
- J. SPECIAL RESOLUTIONS

K. ESTABLISH ORDER OF THE DAY

L. COMMITTEE REPORTS

1. **MINUTES OF THE MUNICIPAL SERVICES COMMITTEE**

[22-1077](#) Request from Ryan Morse, 828 N. Badger Avenue, to waive the administrative fee for high weeds.

**Attachments:** [828 N Badger Ave-Weed Assessment.pdf](#)

**Legislative History**

8/22/22          Municipal Services          recommended for denial  
   Committee

[22-1076](#) Approve Six Month Trial Period to Remove the Existing Two-Hour Parking Restriction (7 a.m. to 5 p.m. except Sat/Sun/Hol) on both sides of Arnold Street (from Lawe Street to Meade Street).

**Attachments:** [Approve 6 month trial Arnold St.pdf](#)

**Legislative History**

8/22/22          Municipal Services          recommended for approval  
   Committee

[22-1078](#) Approve modifications to the City of Appleton Street Terrace Policy.

**Attachments:** [Street Terrace Policy Update.pdf](#)  
[Resolution 7-R-22-Street Terrace Policy \(1\).pdf](#)

**Legislative History**

8/22/22          Municipal Services          recommended for approval  
   Committee

[22-1081](#) Request from Appleton Downtown Inc. for a street occupancy permit to install permanent Edison bulb style LED light strands at the College Avenue intersections of Superior, Appleton, Oneida and Morrison.

**Attachments:** [Light request letter.pdf](#)

**Legislative History**

8/22/22          Municipal Services          recommended for approval  
   Committee

**2. MINUTES OF THE SAFETY AND LICENSING COMMITTEE**

[22-0984](#) Secondhand Article License application for Left Behind LLC, Michael Day, Applicant, located at 205 W Wisconsin Ave.

**Attachments:** [Left Behind LLC S&L.pdf](#)

[22-1063](#) Class "B" Beer and "Class C" Wine License application for All Tied Up Floral Cafe LLC d/b/a All Tied Up Floral Cafe, Aaron Phillipson, Agent, located at 324 E College Ave, contingent upon approval from the Inspections department.

**Attachments:** [All Tied Up Floral Cafe-1.pdf](#)

[22-1114](#) Class "A" Beer and "Class A" Liquor Change of Agent application for Ultimate Mart LLC d/b/a Pick N Save #8123, Andrew Rosenberg, New Agent, located at 2700 N Ballard Rd.

**Attachments:** [Andrew Rosenberg S&L.pdf](#)

**3. MINUTES OF THE CITY PLAN COMMISSION**

[22-1058](#) Request to approve Special Use Permit #9-22 to remove an existing car wash and construct a new car wash use located at 1920 E. Longview Drive (Tax Id #31-1-6550-08), as shown on the attached materials and per attached plan of operation, to run with the land subject to the conditions in the attached staff report and approve attached Resolution (2/3 vote of Common Council required for approval)

**Attachments:** [StaffReport\\_1920ELongviewDr\\_SUP\\_For08-24-22.pdf](#)

**Legislative History**

8/24/22 City Plan Commission recommended for approval

[22-1061](#) **\*\*CRITICAL TIMING\*\*** Annual review and request to approve the Downtown Appleton Business Improvement District (BID) 2023 Operating Plan

**Attachments:** [StaffReport\\_2023BIDOperatingPlan\\_For08-24-22.pdf](#)

[2023 BID Operational Plan.pdf](#)

[2021 BID Annual Report.pdf](#)

[2021 BID Audit - Financial Statements.pdf](#)

**Legislative History**

8/24/22 City Plan Commission recommended for approval

**4. MINUTES OF THE PARKS AND RECREATION COMMITTEE****5. MINUTES OF THE FINANCE COMMITTEE**

[22-1067](#) Request to reject bids from Cardinal Construction Co, Inc and Frank O Zeise Construction Co, Inc for the 2022 Telulah Pavilion Renovation Project

**Attachments:** [2022 Telulah Pavilion Project \(Reject Bids\).pdf](#)

**Legislative History**

8/22/22 Finance Committee recommended for approval

[22-1068](#) Request to reject bid from Cardinal Construction, Inc in the amount of \$631,600 for the Appleton Wastewater Treatment Plant F1-Building Remodeling Project

**Attachments:** [2022 F1-Building Remodeling Project \(Reject Bids\).pdf](#)

**Legislative History**

8/22/22 Finance Committee recommended for approval

[22-1069](#) Request to reject bids from Otis Elevator Company and Frank O Zeise Construction Co, Inc for the 2022 Appleton Red Ramp Elevator Upgrades Project

**Attachments:** [2022 Red Ramp Elevator Project \(Reject Bids\).pdf](#)

**Legislative History**

8/22/22 Finance Committee recommended for approval

[22-1070](#) Request to reject bid from the Wilson Group, Inc in the amount of \$173,086 for the Appleton Wastewater Treatment Plant 2022 Asbestos Remediation Project

**Attachments:** [2022 AWWTP Asbestos Remediation Project \(Reject Bids\).pdf](#)

**Legislative History**

8/22/22 Finance Committee recommended for approval

[22-1073](#) Request to approve the Wastewater Treatment Plant's F-1 Building Remodeling Project Engineering Services Amendment #1 increasing the McMahon's total contract amount by \$20,000 from \$24,500 to \$44,500

**Attachments:** [2022 AWWTP F-1 Building Design Contract Amendment.pdf](#)

**Legislative History**

8/22/22 Finance Committee recommended for approval

[22-1082](#) Request to reject bids from B & P Mechanical, Inc, Great Lakes Mechanical, Inc, Rohde Brothers, Inc, August Winter and Sons, Inc and Belonger Corporation, Inc for the 2022 Appleton Wastewater Treatment Plant H & J Buildings HVAC Upgrades Project

**Attachments:** [2022 AWWTP H J Buildings HVAC Upgrades Project \(Reject Bids\).pdf](#)

**Legislative History**

8/22/22 Finance Committee recommended for approval

[22-1083](#) Request to award the ARPA Grant Administration contract to Booth Management Consulting, LLC for a project total not to exceed \$150,000

**Attachments:** [ARPA Grant Administration.pdf](#)

**Legislative History**

8/22/22 Finance Committee recommended for approval

[22-1100](#) Request to approve the allocation of excess General Fund balance at December 31, 2021 and the following related 2022 Budget amendments:

**General Fund**

Transfer Out - IT Capital Projects Fund	+\$ 550,000
Public Works Department	+\$ 150,000
General Administration	+\$ 50,000
Public Works and Park & Recreation Departments	+\$ 150,000
General Fund Balance - Reserve for Contingencies	+\$ 275,000
General Fund Balance	- \$1,175,000

**IT Capital Projects Fund**

Transfer In - General Fund	+\$ 550,000
Machinery & Equipment	+\$ 550,000

to allocate excess general fund balance at 12/31/21 per City Fund Balance Policy (2/3 vote of Council required)

**Attachments:** [2022 Excess Fund Balance Memo.pdf](#)

**Legislative History**

8/22/22 Finance Committee recommended for approval

[22-1123](#) Request to approve the following 2022 Budget amendment:

**General Fund - Fire**

Federal Grant	+\$192,088
Overtime Wages	+\$142,984
Training/Conferences	+\$ 49,104

to record the acceptance of the Assistance to Firefighters Grant for the paramedic training program (2/3 vote of Council required)

**Attachments:** [AFG Paramedic Training Grant.pdf](#)

**6. MINUTES OF THE COMMUNITY AND ECONOMIC DEVELOPMENT COMMITTEE**

**7. MINUTES OF THE UTILITIES COMMITTEE**

[22-1004](#) Adopt the City of Appleton Stormwater Quality Management Plan, prepared by Brown and Caldwell, dated March 2022.

**Attachments:** [Appleton SWMP Final Report Combined NoFigs 20220303.pdf](#)  
[AppendixA-Figures.pdf](#)

**Legislative History**

8/23/22 Utilities Committee recommended for approval

[22-1005](#) Approve updates to Municipal Code Chapter 4, Article V, Plumbing

**Attachments:** [Utilities Committee Memo - Municipal Code changes - Plumbing.pdf](#)  
[Clean Version Plumbing Code Revision.pdf](#)  
[Redlined Version plumbing Code Revision.pdf](#)

**Legislative History**

8/23/22 Utilities Committee recommended for approval

[22-1020](#) Award contract to Fiberglass Solutions Inc. for Hypochlorite Fiberglass Reinforced Plastic Tank Relining Services in the amount of \$45,824 plus a 10% contingency of \$4,582 for a total not to exceed of \$50,406.

**Attachments:** [utilities memo - Sodium Hypochlorite Relining 08-02-22.pdf](#)

**Legislative History**

8/23/22 Utilities Committee recommended for approval

[22-1027](#) Approve Sole Source Compost Screening Contractor Services contract to Vandenberg Transportation LLC for a three-year term ending December 31, 2024 in the amount not to exceed \$82,100.

**Attachments:** [220803 UCM Vandenberg Compost Screening 2022-24.pdf](#)

**Legislative History**

8/23/22 Utilities Committee recommended for approval

**8. MINUTES OF THE HUMAN RESOURCES & INFORMATION TECHNOLOGY COMMITTEE**

**9. MINUTES OF THE FOX CITIES TRANSIT COMMISSION**

**10. MINUTES OF THE BOARD OF HEALTH**

**M. CONSOLIDATED ACTION ITEMS**

**N. ITEMS HELD**

**O. ORDINANCES**

**P. LICENSE APPLICATIONS AND COMMUNICATIONS REFERRED TO COMMITTEES OF JURISDICTION**

**Q. RESOLUTIONS SUBMITTED BY ALDERPERSONS REFERRED TO COMMITTEES OF JURISDICTION**

**R. OTHER COUNCIL BUSINESS**

**S. ADJOURN**

Kami Lynch, City Clerk

*Reasonable accommodations for persons with disabilities will be made upon request and if feasible.*

*Remote meeting attendance may be permitted pursuant to Section 2-29 of the Appleton Municipal Code and Rules of Council.*



# City of Appleton

100 North Appleton Street  
Appleton, WI 54911-4799  
www.appleton.org

## Meeting Minutes - Final-revised Common Council

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Wednesday, August 17, 2022

7:00 PM

Council Chambers

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A. CALL TO ORDER

*The meeting was called to order by Mayor Woodford at 7:00 p.m.*

B. INVOCATION

*The Invocation was offered by Alderperson Fenton.*

C. PLEDGE OF ALLEGIANCE TO THE FLAG

D. ROLL CALL OF ALDERPERSONS

**Present:** 13 - Alderperson William Siebers, Alderperson Vered Meltzer, Alderperson Brad Firkus, Alderperson Katie Van Zeeland, Alderperson Denise Fenton, Alderperson Maiyoua Thao, Alderperson Joss Thyssen, Alderperson Alex Schultz, Alderperson Vaya Jones, Alderperson Kristin Alfheim, Alderperson Nate Wolff, Alderperson Sheri Hartzheim and Mayor Jake Woodford

**Excused:** 3 - Alderperson Israel Del Toro, Alderperson Christopher Croatt and Alderperson Chad Doran

E. ROLL CALL OF OFFICERS AND DEPARTMENT HEADS

*All departments were represented.*

F. APPROVAL OF PREVIOUS COUNCIL MEETING MINUTES

[22-1052](#)

Common Council Meeting Minutes of August 3, 2022

**Attachments:** [CC Minutes 8-3-22.pdf](#)

**Alderperson Hartzheim moved, seconded by Alderperson Thyssen, that the Minutes be approved. Roll Call. Motion carried by the following vote:**

**Aye:** 12 - Alderperson William Siebers, Alderperson Vered Meltzer, Alderperson Brad Firkus, Alderperson Katie Van Zeeland, Alderperson Denise Fenton, Alderperson Maiyoua Thao, Alderperson Joss Thyssen, Alderperson Alex Schultz, Alderperson Vaya Jones, Alderperson Kristin Alfheim, Alderperson Nate Wolff and Alderperson Sheri Hartzheim

**Excused:** 3 - Alderperson Israel Del Toro, Alderperson Christopher Croatt and Alderperson Chad Doran

**Abstained:** 1 - Mayor Jake Woodford



G. BUSINESS PRESENTED BY THE MAYOR

[22-1054](#)

Appleton Public Arts Committee Appointment

**Attachments:** [Appleton Public Arts Committee Appointment.pdf](#)

**Aldersperson Hartzheim moved, seconded by Aldersperson Firkus, that the appointment be approved. Roll Call. Motion carried by the following vote:**

**Aye:** 12 - Aldersperson William Siebers, Aldersperson Vered Meltzer, Aldersperson Brad Firkus, Aldersperson Katie Van Zeeland, Aldersperson Denise Fenton, Aldersperson Maiyoua Thao, Aldersperson Joss Thyssen, Aldersperson Alex Schultz, Aldersperson Vaya Jones, Aldersperson Kristin Alfheim, Aldersperson Nate Wolff and Aldersperson Sheri Hartzheim

**Excused:** 3 - Aldersperson Israel Del Toro, Aldersperson Christopher Croatt and Aldersperson Chad Doran

**Abstained:** 1 - Mayor Jake Woodford

H. PUBLIC PARTICIPATION

*The following spoke regarding Item 22-1036 Resolution 9-R-22 Sustainability:*

*Kathleen Gribble, 318 E Mitchell Ave*

*Terry Dawson, 1131 S Oneida St*

*Elizabeth Stevens, 401 E Wentworth Ln*

*Ronna Swift, 230 W Seymour St - also read a prepared statement on behalf of Cathy Thompson*

I. PUBLIC HEARINGS

J. SPECIAL RESOLUTIONS

K. ESTABLISH ORDER OF THE DAY

[22-0954](#)

R/B-Request from Michael Rumans, 725 W. Packard Street, for a variance to Municipal Code Section 19-91 (f) for a driveway widened more than 4 feet into the front yard.

**Attachments:** [725 W Packard St-variance.pdf](#)

**This Item was referred to the Municipal Services Committee by Aldersperson Siebers, due back on 8/22/2022.**

[22-1036](#)

Resolution #9-R-22 Sustainability

**Attachments:** [#9-R-22 Sustainability Panel Resolution.pdf](#)

**Aldersperson Firkus moved, seconded by Aldersperson Jones, that the Resolution be approved. Roll Call. Motion carried by the following vote:**

**Aye:** 11 - Alderperson William Siebers, Alderperson Vered Meltzer, Alderperson Brad Firkus, Alderperson Katie Van Zeeland, Alderperson Denise Fenton, Alderperson Maiyoua Thao, Alderperson Joss Thyssen, Alderperson Alex Schultz, Alderperson Vaya Jones, Alderperson Kristin Alfheim and Alderperson Nate Wolff

**Nay:** 1 - Alderperson Sheri Hartzheim

**Excused:** 3 - Alderperson Israel Del Toro, Alderperson Christopher Croatt and Alderperson Chad Doran

**Abstained:** 1 - Mayor Jake Woodford

[22-1000](#)

Request to approve Special Use Permit #8-22 for a car wash use located at 1000 W. Northland Avenue (Tax Id #31-5-9494-06), as shown on the attached materials and per attached plan of operation, to run with the land subject to the conditions in the attached staff report and approve attached Resolution (2/3 vote of Common Council required for approval)

**Attachments:** [StaffReport\\_Zips Car Wash\\_SUP\\_For08-10-22.pdf](#)  
[Ron & Cindy Dercks Email 8-8-22.pdf](#)

**Alderperson Hartzheim moved, seconded by Alderperson Fenton, that the Special Use Permit be approved. Roll Call. Motion carried by the following vote:**

**Aye:** 8 - Alderperson Brad Firkus, Alderperson Katie Van Zeeland, Alderperson Denise Fenton, Alderperson Maiyoua Thao, Alderperson Joss Thyssen, Alderperson Vaya Jones, Alderperson Kristin Alfheim and Alderperson Sheri Hartzheim

**Nay:** 4 - Alderperson William Siebers, Alderperson Vered Meltzer, Alderperson Alex Schultz and Alderperson Nate Wolff

**Excused:** 3 - Alderperson Israel Del Toro, Alderperson Christopher Croatt and Alderperson Chad Doran

**Abstained:** 1 - Mayor Jake Woodford

## L. COMMITTEE REPORTS

### Balance of the action items on the agenda.

**Alderperson Hartzheim moved, Alderperson Meltzer seconded, to approve the balance of the agenda. The motion carried by the following vote:**

**Aye:** 12 - Alderperson William Siebers, Alderperson Vered Meltzer, Alderperson Brad Firkus, Alderperson Katie Van Zeeland, Alderperson Denise Fenton, Alderperson Maiyoua Thao, Alderperson Joss Thyssen, Alderperson Alex Schultz, Alderperson Vaya Jones, Alderperson Kristin Alfheim, Alderperson Nate Wolff and Alderperson Sheri Hartzheim

**Excused:** 3 - Alderperson Israel Del Toro, Alderperson Christopher Croatt and Alderperson Chad Doran

**Abstained:** 1 - Mayor Jake Woodford

**1. MINUTES OF THE MUNICIPAL SERVICES COMMITTEE**[22-1033](#)

Approve Contract Amendment / Change Order No. 1 to Olde Oneida Street Bridge over the power canal Design Services Contract with the WI Department of Transportation for additional environmental requirements related to geotechnical sampling in the amount of \$20,000.00 resulting in no change to contract contingency. Overall contract increases from \$87,673.00 to \$107,673.00.

**Attachments:** [Olde Oneida St Bridge.pdf](#)

This Report Action Item was approved.

**2. MINUTES OF THE SAFETY AND LICENSING COMMITTEE****3. MINUTES OF THE CITY PLAN COMMISSION**[22-1001](#)

Request to approve Certified Survey Map #23-22, which crosses a plat boundary, to eliminate a parcel located on E. John Street (Tax Id #31-4-5269-00) and attach its land area to 2 parcels, 1730 S. Matthias Street (Tax Id #31-4-4699-00) and 2616 E. John Street (Tax Id #31-4-5268-00) as shown on the attached map and subject to the conditions in the attached staff report

**Attachments:** [StaffReport\\_JohnStMatthiasSt\\_CrossingPlatBoundary\\_For08-10-22.pdf](#)

This Report Action Item was approved.

[22-1002](#)

Request to approve Resolution #2022-06 to update the land use applications fee schedule for the Community and Economic Development Department as described in the attached documents

**Attachments:** [Land Use Application Fees Memo to PC\\_8-10-22.pdf](#)  
[Land Use Apps Fee Study\\_Proposed Fees For 2023.pdf](#)  
[Resolution #2022-06\\_Land Use Application Fees 2023.pdf](#)

This Report Action Item was approved.

**4. MINUTES OF THE PARKS AND RECREATION COMMITTEE**

[22-1022](#)

Action: Award the 2022 Lutz Park Shoreline Development and Trail Design Project Contract to AECOM in the Amount of \$50,000

**Attachments:** [Lutz Park Shoreline Development and Trail Design Project Memo .docx](#)

This Report Action Item was approved.

## 5. MINUTES OF THE FINANCE COMMITTEE

[22-1012](#)

Request to Approve the Permanent Sanitary Sewer Easement and Temporary Construction Easement Agreement with the Chris J. Hartwig Revocable Trust

**Attachments:** [0115 - Finance Committee - Hartwig Easement Memo 08-01-2022 \(Final\).pdf](#)

This Report Action Item was approved.

[22-1013](#)

Request to Approve Change Order #3 to Sabel Mechanical contract as part of the 2021 Secondary Clarifier Drive Removal, Rebuild, and Reinstallation Project totaling \$27,174 resulting in a decrease in contingency from \$88,421 to \$61,227

**Attachments:** [220725\\_UC Memo SecondaryClariferDrive\\_Sabel\\_Change Orders No3.pdf](#)

This Report Action Item was approved.

[22-1014](#)

RIVERSIDE CEMETERY ASSOCIATION submitting a request for payment for maintenance of Veteran's graves

**Attachments:** [Riverside Cemetery - 2022 Veteran Grave Care Reimbursement.pdf](#)  
[Riverside Cemetery - Military Report 07-06-2022 - by death date.xlsx](#)  
[Riverside Cemetery - Veterans July 2021 to June 2022.pdf](#)

This Report Action Item was approved.

[22-1028](#)

Request to Approve Contract Amendment / Change Order No. 1 to contract 44-22, Unit Z-22 Sewer and Water Reconstruction No. 3 for addition of Oneida Street sanitary sewer relay to serve new Urbane 115 development in the amount of \$42,805 resulting in no change to contract contingency. Overall contract increases from \$1,483,695 to \$1,526,500.

**Attachments:** [Unit Z-22 Change Order No. 1.pdf](#)

This Report Action Item was approved.

**6. MINUTES OF THE COMMUNITY AND ECONOMIC DEVELOPMENT COMMITTEE**

**7. MINUTES OF THE UTILITIES COMMITTEE**

[22-1006](#)

Award Engineering Contract to McMahon Associates for the Water Treatment Facility Optimized Corrosion Control Treatment (OCCT) Phosphoric Acid System Design in the amount of \$35,200 with a contingency of \$5,280.

**Attachments:** [OCCT Project 08-01-22.pdf](#)

This Report Action Item was approved.

**8. MINUTES OF THE HUMAN RESOURCES & INFORMATION TECHNOLOGY COMMITTEE**

**9. MINUTES OF THE FOX CITIES TRANSIT COMMISSION**

**10. MINUTES OF THE BOARD OF HEALTH**

[22-1030](#)

Request to Approve Weights and Measures Fee Schedule.

**Attachments:** [FEE PROPOSALS 2023.pdf](#)

This Report Action Item was approved.

**M. CONSOLIDATED ACTION ITEMS**

**N. ITEMS HELD**

**O. ORDINANCES**

[22-1053](#)

Ordinances #53-22 & #54-22

**Attachments:** [Ordinances to Council 8-17-22.pdf](#)

**Aldersperson Hartzheim moved, seconded by Aldersperson Firkus, that the Ordinances be approved. Roll Call. Motion carried by the following vote:**

**Aye:** 12 - Aldersperson William Siebers, Aldersperson Vered Meltzer, Aldersperson Brad Firkus, Aldersperson Katie Van Zeeland, Aldersperson Denise Fenton, Aldersperson Maiyoua Thao, Aldersperson Joss Thyssen, Aldersperson Alex Schultz, Aldersperson Vaya Jones, Aldersperson Kristin Alfheim, Aldersperson Nate Wolff and Aldersperson Sheri Hartzheim

**Excused:** 3 - Alderperson Israel Del Toro, Alderperson Christopher Croatt and Alderperson Chad Doran

**Abstained:** 1 - Mayor Jake Woodford

P. LICENSE APPLICATIONS AND COMMUNICATIONS REFERRED TO COMMITTEES OF JURISDICTION

Q. RESOLUTIONS SUBMITTED BY ALDERPERSONS REFERRED TO COMMITTEES OF JURISDICTION

R. OTHER COUNCIL BUSINESS

S. ADJOURN

**Alderperson Hartzheim moved, seconded by Alderperson Fenton, that the meeting be adjourned at 7:41 p.m. Roll Call. Motion carried by the following vote:**

**Aye:** 12 - Alderperson William Siebers, Alderperson Vered Meltzer, Alderperson Brad Firkus, Alderperson Katie Van Zeeland, Alderperson Denise Fenton, Alderperson Maiyoua Thao, Alderperson Joss Thyssen, Alderperson Alex Schultz, Alderperson Vaya Jones, Alderperson Kristin Alfheim, Alderperson Nate Wolff and Alderperson Sheri Hartzheim

**Excused:** 3 - Alderperson Israel Del Toro, Alderperson Christopher Croatt and Alderperson Chad Doran

**Abstained:** 1 - Mayor Jake Woodford

Kami Lynch, City Clerk

# PROCLAMATION



## Office of the Mayor

**WHEREAS**, childhood cancer remains the leading cause of death by disease in children and too many children are affected by this deadly disease and more must be done to raise awareness and find a cure; and

**WHEREAS**, 1 in 285 children in the United States will be diagnosed by their 20<sup>th</sup> birthday, the average age of diagnosis is 8 years old, and 10,470 children in the United States will be diagnosed with cancer this year; and

**WHEREAS**, 80% of childhood cancer patients are diagnosed late and with metastatic disease and there are approximately 40,000 children on active treatment at any given time; and

**WHEREAS**, although incidence rates have been rising slightly over the past few decades, death rates have declined by 71% since 1970 due to improved treatment and clinical trials; and

**WHEREAS**, the National Cancer Institute recognizes the unique research needs of childhood cancer and the associated need for increased funding to carry this out; and

**WHEREAS**, researchers and healthcare professionals work diligently dedicating their expertise to treat and cure children with cancer and hundreds of non-profit organizations at the local and national level including the American Childhood Cancer Organization are helping children with cancer and their families cope through education, emotional, and financial support.

**NOW, THEREFORE, BE IT RESOLVED, THAT I, JACOB A. WOODFORD**, Mayor of the City of Appleton, Wisconsin, do hereby proclaim September as

## Childhood Cancer Awareness Month

in Appleton and encourage all citizens to observe Childhood Cancer Awareness Month and support research to cure this disease that so deeply impacts families in every community.

Signed and sealed this 15<sup>th</sup> day of September 2022.



**JACOB A. WOODFORD**  
MAYOR OF APPLETON

# PROCLAMATION



## Office of the Mayor

**WHEREAS**, the Hispanic community makes up the largest ethnic minority group in the United States and is the fastest-growing constituency within Wisconsin; and

**WHEREAS**, Hispanic Heritage Month has been celebrated across the United States for more than 30 years; and

**WHEREAS**, recognizing Hispanic Heritage Month provides us with the opportunity to recognize the contributions of our Hispanic community that add to the diversity and vitality of the Fox Cities by fueling our culture and economy through entrepreneurship and industry, the arts, agriculture, education, healthcare services, and beyond; and

**WHEREAS**, our Hispanic neighbors make a tremendous impact on Appleton, our state, and our county, and are valued members of our community.

**NOW, THEREFORE, BE IT RESOLVED, THAT I, JACOB A. WOODFORD**, Mayor of the City of Appleton, do hereby proclaim September 15 through October 15 as

## Hispanic Heritage Month

in Appleton and call upon residents to reflect on and honor the traditions and countless artistic, scientific, political, and cultural contributions of all Hispanic residents.



Signed and sealed this 15<sup>th</sup> day of September 2022.

**JACOB A. WOODFORD**  
MAYOR OF APPLETON



# PROCLAMATION



## Office of the Mayor

**WHEREAS**, 2,148 rail grade crossing collisions resulted in 658 personal injuries and were responsible for 238 fatalities in the United States during 2021; and

**WHEREAS**, 1,151 trespassing incidents have occurred in the United States resulting in 529 pedestrians being killed and another 623 injured while trespassing on railroad property rights of way during 2021; and

**WHEREAS**, educating and informing the public about rail safety, reminding the public that railroad right of ways are private property, enhancing public awareness of the dangers associated with highway rail grade crossings, ensuring pedestrians and motorists are looking and listening while near railways, and obeying established traffic laws will reduce the number of fatalities and injuries; and

**WHEREAS**, the International Association of Chiefs of Police, National Operation Lifesaver, United States Department of Transportation, and all local, state, county, and railroad law enforcement officers, first responders, and railroad corporations commit to partnering together to educate at a national level all aspects of railroad safety, to enforce applicable laws in support of National Rail Safety Week.

**NOW, THEREFORE, BE IT RESOLVED, THAT I, JACOB A. WOODFORD**, Mayor of the City of Appleton, Wisconsin, do hereby proclaim September 19-25, 2022 as

## Rail Safety Week

in Appleton and encourage all residents to recognize the importance of rail safety education.

Signed and sealed this 1<sup>st</sup> day of September 2022.



**JACOB A. WOODFORD**  
MAYOR OF APPLETON

# PROCLAMATION



## Office of the Mayor

**WHEREAS**, senior centers are a vital resource for healthy aging, and for communities to properly support older adults; and

**WHEREAS**, over the past two and a half years senior centers across the country adapted and transformed into virtual spaces to provide continued social engagement, activities, support, encouragement, and countless meals to our aging community members; and

**WHEREAS**, during the COVID-19 pandemic, senior centers delivered guidance, vaccine education, and vaccinations in conjunction with resources from the National Council on Aging; and

**WHEREAS**, the Fox Cities' Thompson Center on Lourdes is a senior center organization dedicated to the mental, physical, and emotional well-being for those over 50 focusing on fighting the effects of loneliness, isolation, and depression by offering opportunities for education, socialization, and wellness; and

**WHEREAS**, the Thompson Center on Lourdes provides relevant and important programs to change the perception of aging and enhance the social, physical, emotional, and intellectual well-being in our community; and

**WHEREAS**, Thompson Center on Lourdes needs our community's support as they work to restore their operations following a fire in the building where they are based.

**NOW, THEREFORE, BE IT RESOLVED, THAT I, JACOB A. WOODFORD**, Mayor of the City of Appleton, Wisconsin, do hereby proclaim September as

## Senior Center Month

and encourage all citizens to recognize the important contributions of senior centers in the Fox Cities, and to support the efforts of senior centers through philanthropy and volunteerism.

Signed and sealed this 1<sup>st</sup> day of September 2022.



**JACOB A. WOODFORD**  
MAYOR OF APPLETON



**DEPARTMENT OF PUBLIC WORKS**  
 Inspection Division  
 100 North Appleton Street  
 Appleton, WI 54911  
 Phone (920) 832-6411

No. 221812  
 Date Rec'd: 08/10/22

**Neighborhood Service Form**

RYAN MORSE  
 828 N BADGER AVE  
 APPLETON WI 54914

Tax Key Number(s) 31-5-0135-00		Location of Complaint 828 N BADGER AVE APPLETON WI
Map Number O51	Lot Size 5292 sq ft	

**Complaint:**

High grass and weeds

**Inspection Report:**

This complaint was investigated on August 11, 2022 by KELSY SALDIVAR and was found to be:

- in violation letter sent
- in violation hang tag left
- in violation letter and hang tag

YOU ARE HEREBY ORDERED to abate the above confirmed violation(s) of the nuisance ordinance by the following corrective action:

Cut all high grass and weeds around lot

Such correction is to be completed no later than 4:00 pm on August 18, 2022

Assessment charged: There is a minimum \$50 assessment charged for all owners who received this weed notice. Should the owner fail or refuse to complete corrective action by the time given, the City may enter upon subject property and abate the nuisance. The additional cost of such abatement will be charged to the property owner.

\*\*\*\*\*Office Use Only\*\*\*\*\*

Date Notice Mailed: August 11, 2022      Re-inspection Date: \_\_\_\_\_      Result: Uncut  
 Warrant Served: \_\_\_\_\_      Return of Officer: \_\_\_\_\_  
 Called Contractor: \_\_\_\_\_      Contractor Cut: \_\_\_\_\_





City of Appleton  
Department of Public Works  
Inspections Division (920) 832-6411

### Grass and Weed Violation Notice

City of Appleton has found this property to have the following violation(s):

- Grass/weeds in excess of 8 inches in length
- Brush to be rank or offensive
- Other

You (Property Owner) are in violation of Municipal Code Section 12-58; therefore, you will be charged a minimum \$50.00 fee.

Yes  
 No  
Comments

City of Appleton hereby orders you to abate the above confirmed violation(s) by the following corrective actions:

- Cut grass/weeds in excess of 8 inches in length
- Trim rank or offensive brush

Comments

Such correction(s) are to be completed no later than 4:00 p.m. on 8/11/11 or additional action may be taken.

**Note:** Should the property owner fail or refuse to complete the corrective action, the City of Appleton may enter upon subject property and abate the nuisance. All costs of such abatement will be charged to the property owner.

**Property owner will receive a bill from the City of Appleton Finance Department.**

If you have further questions please call The City of Appleton Department of Public Works - Inspections Division (920) 832-6411.

The City of Appleton would like to thank you for your cooperation.  
Inspector: ADA S Date: 8/11/11 Phone: 832-5974

Aug 11, 2022 at 9:41:51 AM

328 N Badger Ave

Appleton WI 54914

United States



Aug 11, 2022 at 9:41:55 AM

328 N Badger Ave

Appleton WI 54914

United States





© 2010 iStockphoto.com





"... meeting community needs ... enhancing quality of life."

DEPARTMENT OF PUBLIC WORKS  
Engineering Division – Traffic Section  
2625 E. Glendale Avenue  
Appleton, WI 54911  
TEL (920) 832-5580  
FAX (920) 832-5570

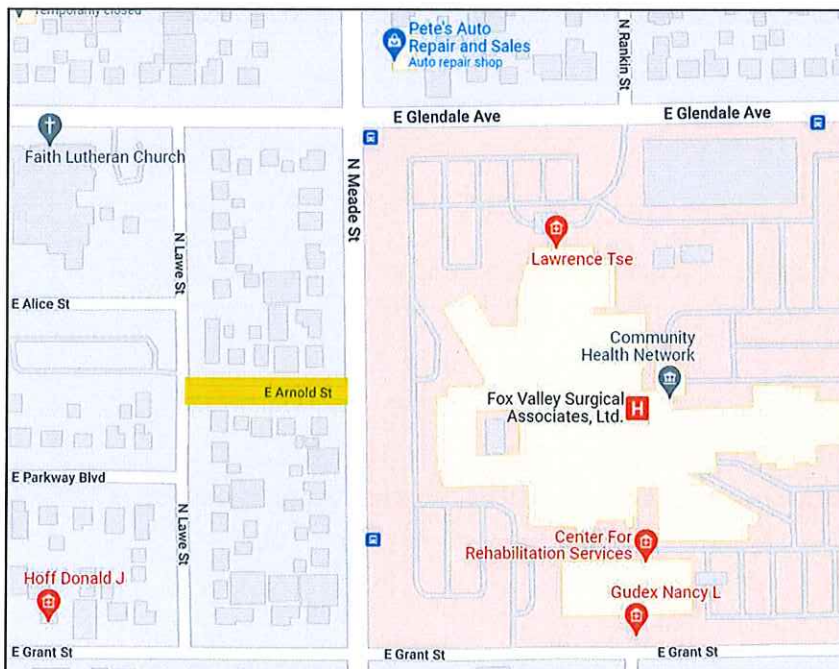
**To:** Municipal Services Committee  
**From:** Eric Lom, City Traffic Engineer  
**Date:** August 17, 2022  
**Re:** Proposed parking restriction removal on Arnold Street  
*Proposed Six-Month Trial Period*

At the request of Alderperson Croatt and residents in the area, the City's Traffic Section recently assessed the possibility of removing the existing two-hour parking restriction (7 a.m. to 5 p.m. except Sat/Sun/Hol) on both sides of Arnold Street (from Lawe Street to Meade Street). Many of the Arnold Street residents are of the opinion that the restriction is no longer needed.

The existing restriction was enacted in 2002 at the request of the neighborhood in an attempt to eliminate long-term on-street parking that was occurring. It was assumed at that time that the long-term parkers were employees from the nearby hospital. Since 2002, the hospital has constructed a parking ramp and an additional employee-only parking lot. For this reason, we believe it is reasonable to assume that the demand for long-term parking on Arnold Street may no longer exist.

Property owners on this block were surveyed by mail. We received five responses, which equates to a 62% response rate. All respondents supported the idea of removing the restriction for a six-month trial period. Based on this, we recommend moving forward with such a trial.

If approved, the signs would be removed in early September. At the end of the trial period, a recommendation would be made to the Municipal Services Committee as to whether or not the changes should be made permanent.





"...meeting community needs...enhancing quality of life."

DEPARTMENT OF PUBLIC WORKS

Engineering Division  
100 North Appleton Street  
Appleton, WI 54911  
TEL (920) 832-6474  
FAX (920) 832-6489

DRAFT For Committee approval 8/22/22

CITY OF APPLETON  
STREET TERRACE POLICY

The following conditions are **not** acceptable uses of street terraces **unless a terrace occupancy permit request is approved** by the Municipal Services Committee and Common Council:

1. Plants in excess of 3 feet in height.
2. Hedges or woody plantings.
3. Traffic hazards such as rocks, railroad ties, fencing, etc.
4. Loose stone, ~~mulch~~, or sand surfaces.
5. Non-native or invasive species of vegetation with the exception of home vegetable gardens.
6. Private trees
7. Plants within 3 feet of a fire hydrant or other city/private utility surface infrastructure.

All Council approved exceptions to this policy require a certificate of insurance and a \$40 annual terrace occupancy permit which shall be valid until December 31<sup>st</sup> of the year of it is issued.

~~All~~ Other uses of street terraces are acceptable contingent upon the following and, when necessary, subject to the review and discretion of the Public Works Director:

1. Compliant with Weed Control Ordinance.
2. Ground elevation flush with sidewalk.
3. City's restoration cost to work in the terrace limited to cost of typical terrace.
4. Any private plantings or mulch in the terrace shall be fully confined within the terrace area without the aid of structural supports or fencing.
5. All private plantings shall be cut down to ground level and removed from the terrace prior to October 5th, to accommodate the City's fall leaf collection process.
6. Each property shall maintain sufficient unobstructed terrace area to accommodate fall leaf storage/collection and placement of refuse/recycling containers.



"...meeting community needs...enhancing quality of life."

**DEPARTMENT OF PUBLIC WORKS**

**Engineering Division**  
100 North Appleton Street  
Appleton, WI 54911  
TEL (920) 832-6474  
FAX (920) 832-6489

**MEMO**

TO: Municipal Services Committee

FROM: Ross Buetow, Deputy Director of Public Works

SUBJECT: Status Update – Resolution #7-R-22 – Modifications to Street Terrace Policy

DATE: June 29, 2022

---

Department of Public Works staff is currently reviewing and discussing various elements included in Resolution #7-R-22 submitted by Alderperson Del Toro, District 4.

As part of our review, we will explore the potential benefits as well as any possible unintended consequences of the proposed changes. Part of our review will also include any potential safety or maintenance concerns or conflicts with City use of, and operations within the terrace area. We will also include other appropriate City departments in our review process.

We also want to provide Director of Public Works Danielle Block an opportunity to participate in the process upon her arrival to the City.

We will report out at a future meeting with our findings and recommendations.

Thank you.

**#7-R-22**

**Street Terrace Policy Modifications**

*Submitted By:* Alderperson Del Toro, District 4

*Date:* June 15, 2022

*Referred To:* Department of Public Works

Whereas the city's current Street Terrace Policy prohibits planting: Plants in excess of 3 ft, Hedges, Vegetable gardens, plants within three feet of a hydrant, traffic hazards like loose stone, railroad ties, mulch and sand surfaces; and

Whereas the city's current Street Terrace Policy requires, that property owners comply with the city's weed ordinance, maintain an elevation flush with the sidewalk and that the city's restoration cost to the terrace is limited to the cost of a typical terrace; and

Whereas the city's current Street Terrace Policy requires, a \$40 annual permit and proof of insurance. And;

Whereas Street Terraces are currently occupied throughout the city without requesting formal permission, and;

Whereas Appleton's street terraces provide opportunities for communities to build gardens, beautify our streets, provide fresh food to homes in need, help control and reduce storm water runoff and provide good environmental resources for our city's biodiversity.

Therefore be it resolved that home owners who wish to develop these terraces may do so by registering the use of their terrace free of charge with the municipal department on a yearly basis. And must still be adhering to safety standards which include:

- Prohibiting planting any vegetation in excess of 48 inches in non-corner lots and 36 inches in corner lots,
- Prohibiting plants within three feet of fire hydrants
- Prohibiting traffic hazards like loose stone, or railroad ties.
- Prohibiting the planting of trees not approved by the Forestry Department,
- Prohibiting the planting of invasive and non-native species
- If terraces remain unoccupied they must continue to adhere to the city's weed ordinance and registration is not required.

Acceptable uses of terrace include the use of these spaces for

- vegetable gardens,
- the use of mulch to maintain weeds in control,
- planting native flora

Failure to register the occupied terrace may result in a city fine. The city will first issue a warning to any reported terraces that are delinquent and the property manager will have 2

weeks from the date of issue of the notice to resolve or appeal. Fines will be strictly enforced every two weeks until the problem terrace is restored to acceptable conditions. Fines will be \$40 every two weeks until the problem is resolved. If the terrace is not remediated within 6 weeks the city will mow the terrace and restore it at the expense of the property owner.

August 3, 2022

Dear Danielle Block, Director of Public Works:

Please accept this letter of request for permission to install Edison bulb style LED light strands on the existing guidewires used for the holiday trumpeters at the College Ave intersections of Superior, Appleton, Oneida, and Morrison under the following conditions:

1. All light strands will be purchased by Creative Downtown Appleton Inc. with no cost to the City of Appleton.
2. Installation would be donated by Boldt Construction or approved contractor as deemed necessary by the City of Appleton with no cost to the City of Appleton.
3. All light strands would be powered by light poles. As the strands would be LED, this would present a minimal expense to the City of Appleton.

Our goal would be to have the lights installed by September 30, 2022 in celebration of the momentous night 140 years ago when Henry Rogers walked out on the veranda of his newly built home and proclaimed the dawn of a new era as the first home anywhere in the world was lit by hydroelectricity and the central Edison system (at 6:36pm). What a wonderful way to honor Appleton's Hearthstone Historic House Museum and the birth of green energy!

We are requesting the opportunity to present this request to the Municipal Services committee on August 22, 2022. If additional information is required, please let us know and we will provide prior to the meeting.

Thank you for your consideration.



Jennifer Stephany  
Executive Director Appleton Downtown Inc. and Creative Downtown Appleton Inc.  
[jennifer@appletondowntown.org](mailto:jennifer@appletondowntown.org)  
920-954-9112



# LICENSE APPLICATION

for  
**PAWNBROKER**  
**SECONDHAND ARTICLE DEALER**  
**SECONDHAND JEWELRY DEALER**  
**SECONDHAND ARTICLE DEALER MALL/FLEA MARKET**

<b>FEES ARE NON-REFUNDABLE</b>		Date Recv'd <u>7/27/22</u>
<input type="checkbox"/> Pawnbroker	\$217.00	Acct. <b>CLLPWN</b>
<input checked="" type="checkbox"/> Secondhand Article	\$97.00 /\$82.00	orig/rnw (see below)
<input type="checkbox"/> Secondhand Jewelry	\$97.00 /\$82.00	orig/rnw (see below)
<input type="checkbox"/> Secondhand Mall/Flea	\$172.00	Acct. <b>CLLSMF</b>
Receipt # <u>3872-4</u>		

<input checked="" type="checkbox"/> Original Application	Acct Code: <b>CLLSJW</b>
<input type="checkbox"/> Renewal	Acct Code: <b>CLLSJR</b>

**\*Please allow 4 weeks for processing\***

Instructions: Individual license – Complete Sections 1, 2, 3 and 6  
 Partnership license – Complete Sections 1, 2, 3, 4, and 6  
 Corporate license – Complete Sections 1, 2, 3, 5, and 6

Return application and required fees to:  
**OFFICE OF THE CITY CLERK, 100 N. APPLETON STREET**  
**APPLETON, WI 54911**

SECTION 1 – APPLICANT INFORMATION					
Applicant Name ( Last, First, MI)		Sex	Race	Date of Birth	Place of Birth (City & State)
Day, Michael J		M	White	●●●●●	Appleton, WI
Street Address	City	State	Zip	Home Telephone Number	
1115 N Oneida St.	Appleton	WI	54911	●●●●●●●●	
SECTION 2 – CONVICTION RECORD					
Have you, or any other person listed on this application, been convicted of any of the following:					
A felony within the last ten (10) years? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
Within the last ten (10) years of:					
A misdemeanor? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
A statutory violation punishable by forfeiture? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
A county or municipal ordinance violation? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
For each "YES" response provide the date of arrest, the nature of the offense and conviction information: _____					
_____					
_____					
_____					
SECTION 3 – BUSINESS INFORMATION					
Business Name	Street Address	City	State	Zip	Telephone Number
Left Behind LLC	205 W Wisconsin Ave.	Appleton	WI	54911	920.202.3202
Owner's Name	Street Address	City	State	Zip	Telephone Number
Michael Day	1115 N Oneida St.	Appleton	WI	54911	●●●●●●●●
Business Manager's name	Street Address	City	State	Zip	Telephone Number
Jamie Gurrath	601 5th St.	Menasha	WI	54952	●●●●●●●●
Building Owner's Name	Street Address	City	State	Zip	Telephone Number
Day Property Management LLC	509 N Superior St.	Appleton	WI	54911	●●●●●●●●

(OVER)

**SECTION 4 – PARTNERSHIP INFORMATION**

Partnership Name:

List name, address, sex, race and date of birth of all partners. Attach additional sheets, if necessary

Name (Last, First, MI)	Sex	Race	DOB	Street Address	City	State	Zip

**SECTION 5 – CORPORATE INFORMATION**

Corporation Name:

State of Incorp.

List name, address, sex, race and date of birth of all partners. Attach additional sheets, if necessary

Name (Last, First, MI)	Sex	Race	DOB	Street Address	City	State	Zip

**SECTION 6 – PENALTY NOTICE**

I understand that this license may be denied or revoked for fraud, misrepresentation or false statements contained in the application or for any violation of Wis. Stats. §§ 134.71, 943.34, 948.62 or 948.63.

Under penalty of law, I swear that the information provided in this application is true and correct to the best of my knowledge. I agree to inform the clerk within ten (10) days of any change in the information supplied in this application.

Signature of Applicant: Michael Day Date 07 / 19 / 2022

**FOR OFFICE USE ONLY**

Dept	Approve	Deny	By	Reason
POLICE				
FIRE				
COM DEVELOPMENT				
CITY SEALER				

Safety and Licensing	Common Council	Date Issued	Expiration Date	License Number
<u>8 / 10 / 22</u>	<u>8 / 17 / 22</u>	___ / ___ / ___	___ / ___ / ___	



# Original Alcohol Beverage Retail License Application

(Submit to municipal clerk.)

For the license period beginning: 07/01/2022 ending: 06/30/2023  
(mm dd yyyy) (mm dd yyyy)

To the Governing Body of the:  Town of } Appleton  
 Village of }  
 City of }

County of Outagamie Aldermanic Dist. No. \_\_\_\_\_  
(if required by ordinance)

Check one:  Individual  Limited Liability Company  
 Partnership  Corporation/Nonprofit Organization

Applicant's Wisconsin Seller's Permit Number <u>[REDACTED]</u>	
FEIN Number <u>[REDACTED]</u>	
TYPE OF LICENSE REQUESTED	FEE
<input type="checkbox"/> Class A beer	\$
<input checked="" type="checkbox"/> Class B beer	\$ 100
<input checked="" type="checkbox"/> Class C wine	\$ 100
<input type="checkbox"/> Class A liquor	\$
<input type="checkbox"/> Class A liquor (cider only)	\$ N/A
<input type="checkbox"/> Class B liquor	\$
<input type="checkbox"/> Reserve Class B liquor	\$
<input type="checkbox"/> Class B (wine only) winery	\$
Publication fee	\$ 60
<b>TOTAL FEE</b>	<b>\$ 260</b>

Name (individual / partners give last name, first, middle; corporations / limited liability companies give registered name)  
All Tied Up Floral Cafe, LLC

An "Auxiliary Questionnaire," Form AT-103, must be completed and attached to this application by each individual applicant, by each member of a partnership, and by each officer, director and agent of a corporation or nonprofit organization, and by each member/manager and agent of a limited liability company. List the full name and place of residence of each person.

President / Member Last Name <u>Phillipson</u>	(First) <u>Aaron</u>	(Middle Name) <u>Paul</u>	Home Address (Street, City or Post Office, & Zip Code) <u>10 Hycrest Ct. Appleton 54914</u>
Vice President / Member Last Name	(First)	(Middle Name)	Home Address (Street, City or Post Office, & Zip Code)
Secretary / Member Last Name	(First)	(Middle Name)	Home Address (Street, City or Post Office, & Zip Code)
Treasurer / Member Last Name	(First)	(Middle Name)	Home Address (Street, City or Post Office, & Zip Code)
Agent Last Name <u>Phillipson</u>	(First) <u>Aaron</u>	(Middle Name) <u>Paul</u>	Home Address (Street, City or Post Office, & Zip Code) <u>10 Hycrest Ct Appleton 54914</u>
Directors / Managers Last Name	(First)	(Middle Name)	Home Address (Street, City or Post Office, & Zip Code)

1. Trade Name All Tied up floral cafe Business Phone Number 920-257-4667  
 2. Address of Premises 324 E College Ave Post Office & Zip Code Appleton 54911

3. Premises description: Describe building or buildings where alcohol beverages are to be sold and stored. The applicant must include all rooms including living quarters, if used, for the sales, service, consumption, and/or storage of alcohol beverages and records. (Alcohol beverages may be sold and stored only on the premises described.)  
1st floor space of building. Approx 1385 sqft. Alcoholic beverages will be stored in kitchen - approx 192 sqft and in floral storage approx 156 sqft. Alcoholic beverages will be sold/served in dining area of business.

4. Legal description (omit if street address is given above): \_\_\_\_\_  
 5. (a) Was this premises licensed for the sale of liquor or beer during the past license year? .....  Yes  No  
 (b) If yes, under what name was license issued? \_\_\_\_\_

6. Is individual, partners or agent of corporation/limited liability company subject to completion of the responsible beverage server training course for this license period? **If yes, explain** .....  Yes  No  
*currently taking online responsible server course.*
7. Is the applicant an employe or agent of, or acting on behalf of anyone except the named applicant? .....  Yes  No  
**If yes, explain.**
8. Does any other alcohol beverage retail licensee or wholesale permittee have any interest in or control of this business? **If yes, explain** .....  Yes  No
9. (a) **Corporate/limited liability company applicants only:** Insert state WI and date 5/7/2017 of registration.
- (b) Is applicant corporation/limited liability company a subsidiary of any other corporation or limited liability company? **If yes, explain** .....  Yes  No
- (c) Does the corporation, or any officer, director, stockholder or agent or limited liability company, or any member/manager or agent hold any interest in any other alcohol beverage license or permit in Wisconsin? **If yes, explain.**  Yes  No
10. Does the applicant understand they must register as a Retail Beverage Alcohol Dealer with the federal government, Alcohol and Tobacco Tax and Trade Bureau (TTB) by filing (TTB form 5630.5d) before beginning business? [phone 1-877-882-3277] .....  Yes  No
11. Does the applicant understand they must hold a Wisconsin Seller's Permit? [phone (608) 266-2776] .....  Yes  No
12. Does the applicant understand that they must purchase alcohol beverages only from Wisconsin wholesalers, breweries and brewpubs? .....  Yes  No

**READ CAREFULLY BEFORE SIGNING:** Under penalty provided by law, the applicant states that each of the above questions has been truthfully answered to the best of the knowledge of the signer. Any person who knowingly provides materially false information on this application may be required to forfeit not more than \$1,000. Signer agrees to operate this business according to law and that the rights and responsibilities conferred by the license(s), if granted, will not be assigned to another. (Individual applicants, or one member of a partnership applicant must sign; one corporate officer, one member/manager of Limited Liability Companies must sign.) Any lack of access to any portion of a licensed premises during inspection will be deemed a refusal to permit inspection. Such refusal is a misdemeanor and grounds for revocation of this license.

Contact Person's Name (Last, First, M.I.) <i>Phillipson, Aaron P</i>	Title/Member <i>President</i>	Date <i>2/14/2022</i>
Signature <i>[Signature]</i>	Phone Number [REDACTED]	Email Address [REDACTED]

**TO BE COMPLETED BY CLERK**

Date received and filed with municipal clerk <i>2/10/22</i>	Date reported to council / board	Date provisional license issued	Signature of Clerk / Deputy Clerk
Date license granted	Date license issued	License number issued	



# City of Appleton Alcohol License Questionnaire

1. Name of Applicant: Aaron Phillipson

2. Name of Business: All Tied Up Floral Cafe

(Check Applicable Box(s) to identify primary business activity)

- Restaurant
- Tavern/Night Club/Wine Bar
- Microbrewery/Brewpub
- Painting/Craft Studio
- Other (describe) Florist/Cafe

3. Address of Business: 324 E College Ave. Appleton WI 54911

4. Have you or any member of your organization ever been convicted of a misdemeanor or ordinance violation? Yes \_\_\_\_\_ No X

AND/OR been convicted of a felony? Yes \_\_\_\_\_ No X

If yes to either question, please explain in detail below:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. List all partners, shareholders or investors of your business. Include full name, middle initial and date of birth. Please use additional sheets if necessary.

<u>Aaron</u>	<u>P</u>	<u>Phillipson</u>	<u>          </u>
First name	M.I.	Last name	Date of Birth
			/ /
			/ /
			/ /
			/ /

6. Name of person/corporation you are buying the premise and equipment from?

Name: N/A New Construction  
First name Middle Initial Last name

Address: \_\_\_\_\_  
City State ZIP

7. What was the previous name and primary nature of the business operating at this location?

Name: N/A NEW construction

(Check Applicable Box(s) to identify primary business activity)

- Restaurant
- Tavern/Night Club/Wine Bar
- Microbrewery/Brewpub
- Painting/Craft Studio
- Other (describe) \_\_\_\_\_

8. Was this premise licensed for alcohol sales/consumption during the past license year?

Yes  If yes, please contact the Community and Economic Development Department at 832-6468 about obtaining a copy of an existing Special Use Permit and related requirements that may run with property.

No \_\_\_\_\_ If no, please contact the Community and Economic Development Department at 832-6468 about obtaining a Special Use Permit. A Special Use Permit may be required for your business activity prior to the issuance of a Liquor License, pursuant to the City of Appleton Zoning Ordinance.

9. If alcohol sales were a previous use in this building, when did the operation cease?

N/A months ago.

10. Seating capacity: Inside approx 16-25 Outside approx 6-8

11. Operating hours (Inside the building): M-F 10am-8pm Fri-Sat 10am-11pm Sun 9-2  
Operating hours (Outdoor seating areas): M-F 8am-5pm Fri-Sat 8am-5pm Sun 9-2

12. Employees/Staff

Number of floor personnel 4-6 Number of door checkers 0

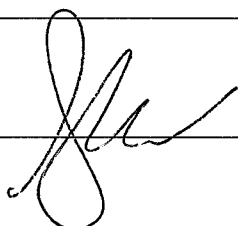
13. In general, state the size and operational details of the proposed establishment:

a. Gross floor building area of the premises to be licensed: 1385 square feet.

b. Gross outdoor seating areas of the premises to be licensed: 48 square feet.

c. Below, identify the operational details of the proposed establishment:

Full service florist, cafe, coffee house, gift and retail sales,  
and evening food ~~and~~ wine and beer sales.

Signature 

Date 2/21/2022

# Schedule for Appointment of Agent by Corporation / Nonprofit Organization or Limited Liability Company

Submit to municipal clerk.

All corporations/organizations or limited liability companies applying for a license to sell fermented malt beverages and/or intoxicating liquor must appoint an agent. The following questions must be answered by the agent. The appointment must be signed by an officer of the corporation/organization or one member/manager of a limited liability company and the recommendation made by the proper local official.

To the governing body of:  Town  Village of APPLETON County of Douglas  
 City

The undersigned duly authorized officer/member/manager of All Tied Up Floral Cafe LLC  
(Registered Name of Corporation / Organization or Limited Liability Company)

a corporation/organization or limited liability company making application for an alcohol beverage license for a premises known as

All Tied Up

located at 324 E College Ave Appleton, WI 54911  
(Trade Name)

appoints Avon Phillipson  
(Name of Appointed Agent)

10 Hycrest St. Appleton, WI 54914  
(Home Address of Appointed Agent)

to act for the corporation/organization/limited liability company with full authority and control of the premises and of all business relative to alcohol beverages conducted therein. Is applicant agent presently acting in that capacity or requesting approval for any corporation/organization/limited liability company having or applying for a beer and/or liquor license for any other location in Wisconsin?

Yes  No If so, indicate the corporate name(s)/limited liability company(ies) and municipality(ies).  
All Tied Up Floral Cafe - Town of Buchanan

Is applicant agent subject to completion of the responsible beverage server training course?  Yes  No

How long immediately prior to making this application has the applicant agent resided continuously in Wisconsin? 42 years

Place of residence last year 10 Hycrest St. Appleton, WI 54914

For: All Tied Up Floral Cafe  
(Name of Corporation / Organization / Limited Liability Company)

By: [Signature]  
(Signature of Officer / Member / Manager)

Any person who knowingly provides materially false information in an application for a license may be required to forfeit not more than \$1,000.

### ACCEPTANCE BY AGENT

I, Avon Phillipson, hereby accept this appointment as agent for the  
(Print / Type Agent's Name)

corporation/organization/limited liability company and assume full responsibility for the conduct of all business relative to alcohol beverages conducted on the premises for the corporation/organization/limited liability company.

[Signature] 2/21/22  
(Signature of Agent) (Date)

10 Hycrest St. Appleton, WI 54914  
(Home Address of Agent) Agent's age 42  
 Date of birth 01/01/80

### APPROVAL OF AGENT BY MUNICIPAL AUTHORITY (Clerk cannot sign on behalf of Municipal Official)

I hereby certify that I have checked municipal and state criminal records. To the best of my knowledge, with the available information, the character, record and reputation are satisfactory and I have no objection to the agent appointed.

Approved on \_\_\_\_\_ by \_\_\_\_\_ Title \_\_\_\_\_  
(Date) (Signature of Proper Local Official) (Town Chair, Village President, Police Chief)

# Schedule for Appointment of Agent by Corporation / Nonprofit Organization or Limited Liability Company

Submit to municipal clerk.

All corporations/organizations or limited liability companies applying for a license to sell fermented malt beverages and/or intoxicating liquor must appoint an agent. The following questions must be answered by the agent. The appointment must be signed by an officer of the corporation/organization or one member/manager of a limited liability company and the recommendation made by the proper local official.

To the governing body of:  Town  
 Village of Appleton County of Outagamie  
 City

The undersigned duly authorized officer/member/manager of Ultimate Mart, LLC  
(Registered Name of Corporation / Organization or Limited Liability Company)

a corporation/organization or limited liability company making application for an alcohol beverage license for a premises known as Pick 'n Save #123  
(Trade Name)

located at 2700 N Ballard Rd Appleton, WI 54911

appoints Andrew Rosenberg  
(Name of Appointed Agent)  
W2983 Farmstead Dr Appleton, WI 54915  
(Home Address of Appointed Agent)

to act for the corporation/organization/limited liability company with full authority and control of the premises and of all business relative to alcohol beverages conducted therein. Is applicant agent presently acting in that capacity or requesting approval for any corporation/organization/limited liability company having or applying for a beer and/or liquor license for any other location in Wisconsin?

Yes  No If so, indicate the corporate name(s)/limited liability company(ies) and municipality(ies).

Is applicant agent subject to completion of the responsible beverage server training course?  Yes  No  
How long immediately prior to making this application has the applicant agent resided continuously in Wisconsin? 36 years  
Place of residence last year Same as Above

For: Ultimate Mart, LLC  
(Name of Corporation / Organization / Limited Liability Company)  
By: [Signature] 8/23/22  
(Signature of Officer / Member / Manager)

Any person who knowingly provides materially false information in an application for a license may be required to forfeit not more than \$1,000.

### ACCEPTANCE BY AGENT

I, Andrew Rosenberg, hereby accept this appointment as agent for the corporation/organization/limited liability company and assume full responsibility for the conduct of all business relative to alcohol beverages conducted on the premises for the corporation/organization/limited liability company.  
[Signature] 8/22/22 Agent's age       
(Signature of Agent) (Date)  
W2983 Farmstead Dr Appleton, WI 54915 Date of birth     /    /      
(Home Address of Agent)

### APPROVAL OF AGENT BY MUNICIPAL AUTHORITY (Clerk cannot sign on behalf of Municipal Official)

I hereby certify that I have checked municipal and state criminal records. To the best of my knowledge, with the available information, the character, record and reputation are satisfactory and I have no objection to the agent appointed.

Approved on      by      Title       
(Date) (Signature of Proper Local Official) (Town Chair, Village President, Police Chief)

# Auxiliary Questionnaire Alcohol Beverage License Application

Submit to municipal clerk.

Individual's Full Name (please print) (last name)		(first name)		(middle name)	
Rosenberg		Andrew		D	
Home Address (street/route)		Post Office	City	State	Zip Code
W2983 Farmstead Dr		Appleton	Appleton	WI	54915
Home Phone Number			Age	Date of Birth	Place of Birth
●●●●●●●●			●	●●●●●●	

The above named individual provides the following information as a person who is (check one):

- Applying for an alcohol beverage license as an individual.
- A member of a partnership which is making application for an alcohol beverage license.
- Agent of Ultimate Mart, LLC  
(Officer / Director / Member / Manager / Agent) (Name of Corporation, Limited Liability Company or Nonprofit Organization)

which is making application for an alcohol beverage license.

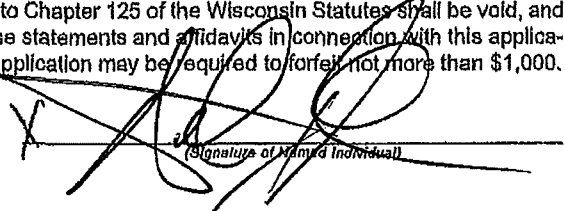
The above named individual provides the following information to the licensing authority:

1. How long have you continuously resided in Wisconsin prior to this date? 36 years
2. Have you ever been convicted of any offenses (other than traffic unrelated to alcohol beverages) for violation of any federal laws, any Wisconsin laws, any laws of any other states or ordinances of any county or municipality?  Yes  No  
 If yes, give law or ordinance violated, trial court, trial date and penalty imposed, and/or date, description and status of charges pending. (If more room is needed, continue on reverse side of this form.)
3. Are charges for any offenses presently pending against you (other than traffic unrelated to alcohol beverages) for violation of any federal laws, any Wisconsin laws, any laws of other states or ordinances of any county or municipality?  Yes  No  
 If yes, describe status of charges pending.
4. Do you hold, are you making application for or are you an officer, director or agent of a corporation/nonprofit organization or member/manager/agent of a limited liability company holding or applying for any other alcohol beverage license or permit?  Yes  No  
 If yes, identify. (Name, Location and Type of License/Permit)
5. Do you hold and/or are you an officer, director, stockholder, agent or employe of any person or corporation or member/manager/agent of a limited liability company holding or applying for a wholesale beer permit, brewery/winery permit or wholesale liquor, manufacturer or rectifier permit in the State of Wisconsin?  Yes  No  
 If yes, identify. (Name of Wholesale Licensee or Permittee) (Address By City and County)

6. Named individual must list in chronological order last two employers.

Employer's Name	Employer's Address	Employed From	To
Roundys Supermarkets	875 E Wisconsin Ave MKE WI	7/2002	Present
Employer's Name	Employer's Address	Employed From	To

**READ CAREFULLY BEFORE SIGNING:** Under penalty provided by law, the undersigned states that each of the above questions has been truthfully answered to the best of the knowledge of the signer. The signer agrees that he/she is the person named in the foregoing application; that the applicant has read and made a complete answer to each question, and that the answers in each instance are true and correct. The undersigned further understands that any license issued contrary to Chapter 125 of the Wisconsin Statutes shall be void, and under penalty of state law, the applicant may be prosecuted for submitting false statements and affidavits in connection with this application. Any person who knowingly provides materially false information on this application may be required to forfeit not more than \$1,000.

  
(Signature of Named Individual)



## REPORT TO CITY PLAN COMMISSION

**Plan Commission Public Hearing Date:** August 24, 2022

**Common Council Meeting Date:** September 7, 2022

**Item:** Special Use Permit #9-22 for a car wash

**Case Manager:** Don Harp, Principal Planner

### **GENERAL INFORMATION**

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**Owner:** Best Ventures, LLC – Ryan Schaumberg

**Applicant:** Michael Leidig – Robert E. Lee & Associates

**Address/Parcel #:** 1920 East Longview Drive (Tax Id #31-1-6550-08)

**Petitioner's Request:** The applicant is requesting a Special Use Permit to demolish an existing car wash (3,692 square foot building) and construct a new, larger car wash (6,044 square foot building) which will include an outdoor area with self-service vacuums.

### **BACKGROUND**

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The subject parcel is developed with a car wash (Special Use Permit #2-87) known as Best Car Wash which is currently in operation. Special Use Permit #2-87 was amended to allow for an 832 square foot car wash addition by the Plan Commission on October 11, 1999. The current car wash building is 3,692 square feet.

The 832 square foot car wash addition was constructed pursuant to Site Plan #99-50 approved by staff on November 10, 1999.

The subject parcel was rezoned from C-2 General Commercial District to PD/C-2 Planned Development General Commercial District pursuant to PD Rezoning #14-06 for a Walgreen's store with a drive-thru pharmacy. This development did not occur.

The subject parcel was rezoned from PD/C-2 Planned Development General Commercial District #14-06 to C-2 General Commercial District pursuant to Rezoning #7-08.

The original lot area of the subject site was 30,261.50 square feet. The subject parcel increased in size to 44,900 square feet pursuant to Lot Line Adjustment #1-16.

### **STAFF ANALYSIS**

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**Project Summary:** The applicant proposes to demolish the existing car wash (Best Car Wash) and construct a car wash with an outdoor area with self-service vacuums on the subject site called Club Car Wash as shown on the attached development plans. The proposed development includes the following:

- The existing building will be demolished.



## Special Use Permit #9-22

August 24, 2022

Page 2

- A 6,044 square foot automated car wash building with a single service bay.
- The car wash stacking spaces for 16 vehicles are located along the south side of the proposed building extending from the driveway entrance along East Longview Drive to cashiers' station by the proposed canopy.
- Two existing driveway entrances along East Longview Drive that are closet to Ballard Road will be closed.
- 12 proposed outdoor self-service vacuum stations.
- Energy efficient LED light fixtures for all exterior lighting.
- Indoor bicycle parking.
- Green space/landscaping areas equaling 25.1%.
- Utilizing a water reclamation system.
- Drying system located on the west side of the building.
- Proposed hours of operation are from 7:00 a.m. to 7:00 p.m./8:00 p.m. Monday thru Saturday and 8:00 a.m. to 7:00 p.m./8:00 p.m. on Sunday.

**Operational Information:** A plan of operation is attached to the staff report.

**Existing Site Conditions:** See background section.

**Surrounding Zoning and Land Uses:** The surrounding area is under the jurisdiction of the City of Appleton (north, south, east, and west). The site is adjacent on all sides by existing commercial development. The nearest residential use is a Treyton Oaks Apartments which is approximately 315 feet south of the car wash site.

North: C-2 General Commercial District. The adjacent land use to the north is a mix of commercial uses (professional services and office).

South: C-2 General Commercial District. The adjacent land use to the south is Community First Credit Union.

East: R-1B Single-family District and C-2 General Commercial District. The adjacent land uses to the east are a drainage corridor and Pick-N-Save grocery store.

West: C-2 General Commercial District. The adjacent land use to the west is MJI Building Services.

**Appleton Comprehensive Plan 2010-2030:** Community and Economic Development staff has reviewed this proposal and determined it is compatible with the Commercial designation shown on the City's *Comprehensive Plan 2010-2030* Future Land Use Map. Listed below are related excerpts from the City's *Comprehensive Plan 2010-2030*.

### *Goal 1 – Community Growth*

*Appleton will continue to provide opportunities for residential, commercial, and industrial growth, including appropriate redevelopment sites within the downtown and existing neighborhoods, and greenfield development sites at the City's edge.*

**Special Use Permit #9-22**  
**August 24, 2022**  
**Page 3**

*Goal 8 – Economic Development*

*Appleton will pursue economic development that retains and attracts talented people, brings good jobs to the area, and supports the vitality of its industrial areas, downtown, and neighborhood business districts.*

*OBJECTIVE 9.4 Economic Development:*

*Ensure the continued vitality of downtown and the City's neighborhood commercial districts.*

**Current Zoning and Procedural Findings:** The subject property has a zoning designation of C-2 General Commercial District. Per Section 23-113(e) of the Municipal Code, a car wash requires a Special Use Permit in the C-2 District. The Plan Commission makes a recommendation to the Common Council who will make the final decision on the Special Use Permit. A two-thirds vote of the Common Council is required for approval.

**Zoning Ordinance Requirements and Substantial Evidence:** When reviewing an application for a Special Use Permit, the City must determine if the applicant's proposal satisfies Municipal Code requirements and conditions. Pursuant to Section 23-66(c)(5) of the Municipal Code, the Plan Commission and Common Council must provide substantial evidence supporting their decision to approve, approve with conditions, or deny the Special Use Permit. Substantial evidence means "facts and information, other than merely personal preferences or speculation, directly pertaining to the requirements and conditions an applicant must meet to obtain a Special Use Permit and that reasonable persons would accept in support of a conclusion." Any requirements and conditions listed for approval must be reasonable, and to the extent practicable, measurable.

**Finding of Fact:** This request was reviewed in accordance with the standards for granting a Special Use Permit under Section 23-66(e)(1-8) of the Municipal Code: (1. *proper zoning district:* C-2 zoning allows car washes as a special use permit, 2. *zoning district regulations:* all applicable requirements will be verified as part of the site plan review and approval process, see condition #2, 3. *special regulations:* not applicable to car washes, 4. *consistent with comprehensive plan and other plans:* yes, see above analysis, 5. *traffic:* the car wash will be served by two existing driveway entrances to allow vehicles to enter and leave the site, no concerns submitted by traffic engineer, 6. *landscaping and screening:* the proposed project proposes landscaping enhancements consistent with zoning ordinance standards and will be verified as part of the site plan review approval process, see condition #2, 7. *neighborhood compatibility:* the proposed use provides service and is located in proximity to existing commercial and two/multi-family uses, and 8. *impact on services:* the City has existing utilities, services and equipment in place to serve this proposed use). These standards were found in the affirmative, as long as all stipulations are satisfied.

**Technical Review Group (TRG) Report:** This item appeared on the August 2, 2022 TRG agenda. No negative comments were received from participating departments.

**RECOMMENDATION**

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Staff recommends, based on the above, that Special Use Permit #9-22 for a car wash located at 1920 East Longview Drive (Tax Id #31-1-6550-08), as shown on the attached materials and per attached plan of operation, along with the attached resolution, **BE APPROVED** to run with the land, subject to the following conditions:

1. The owner shall have twelve (12) months from the issuance of the Special Use Permit to obtain a building permit and/or occupancy permit for the proposed carwash or Special Use Permit #9-22 will expire pursuant to Sections 23-66 (f)(1) b. and c. of the Zoning Ordinance.

*Substantial Evidence: Standardized condition to ensure the use is established in a timely manner. This condition will not be applicable when the building permit and/or occupancy permit is issued.*

2. Prior to the construction of the carwash and building permits being issued, site plan review and approval is required, pursuant to Section 23-570 of the Municipal Code.

*Substantial Evidence: This condition provides notice to the owner and applicant that they are required to receive site plan approval from the Community and Economic Development Department prior to receiving building permits from the Inspection Division for the project pursuant to Section 23-570(e)4) of the Zoning Ordinance.*

3. All Zoning, Building, Fire, Engineering, Utility, Noise and other Municipal Codes, and all applicable State and Federal laws shall be complied with.

*Substantial Evidence: This condition assures the applicant understands they must follow the City's Municipal Code and all applicable State and Federal laws which they are required to follow while conducting business in the City; failure to follow City, State and Federal regulations may result in enforcement action pursuant to Sections 1-16, 1-17, 23-66(f)(5) and 23-69 of the Municipal Ordinance.*

4. Any future expansions of the carwash, changes to the development plans, plan of operation or any conditions of approval may require a major or minor amendment request to this Special Use Permit pursuant to Section 23-66(g) of the Zoning Ordinance. Contact the Community and Economic Development Department to discuss any proposed changes.

*Substantial Evidence: Standardized condition that establishes parameters for the current application and identifies the process for review of any future changes to the special use.*

**CITY OF APPLETON  
RESOLUTION FOR SPECIAL USE PERMIT #9-22  
CAR WASH  
1920 EAST LONGVIEW DRIVE**

**WHEREAS**, Michael Leidig – Robert E. Lee & Associates, on behalf of Club Car Wash has applied for a Special Use Permit for a car wash located at 1920 East Longview Drive, also identified as Parcel Number 31-1-6550-08; and

**WHEREAS**, the location for the proposed car wash is located in the C-2 General Commercial District, and the proposed use may be permitted by Special Use Permit within this zoning district pursuant to Chapter 23 of the Municipal Code; and

**WHEREAS**, the City of Appleton Plan Commission held a public hearing on August 24, 2022 on Special Use Permit #9-22, at which all those wishing to be heard were allowed to speak or present written comments and other materials at the public hearing; and

**WHEREAS**, the City of Appleton Plan Commission has reviewed and considered the Community and Economic Development Department’s staff report and recommendation, as well as other spoken and written evidence and testimony presented at the public hearing; and

**WHEREAS**, the City of Appleton Plan Commission reviewed the standards for granting a Special Use Permit under Sections 23-66(e)(1-8) of the Municipal Code; and

**WHEREAS**, the City of Appleton Plan Commission reviewed the standards for imposing conditions on the Special Use Permit under Section 23-66(c)(5) of the Municipal Code, and forwarded Special Use Permit #9-22 to the City of Appleton Common Council with a favorable conditional or not favorable (CIRCLE ONE) recommendation; and

**WHEREAS**, the City of Appleton Common Council has reviewed the report and recommendation of the City of Appleton Plan Commission at their meeting on September 7, 2022.

**NOW, THEREFORE, BE IT RESOLVED, DETERMINED AND ORDERED** by the Common Council, based on Community and Economic Development Department’s staff report and recommendation, as well as other spoken and written evidence and testimony presented at the public hearing and Common Council meeting, and having considered the recommendation of the City Plan Commission, that the Common Council:

1. Determines all standards listed under Sections 23-66(e)(1-8) of the Municipal Code are found in the affirmative YES or NO (CIRCLE ONE)
2. If NO, the City of Appleton Common Council hereby denies Special Use Permit #9-22 for a car wash located at 1920 East Longview Drive, also identified as Parcel Number 31-1-6550-08, based upon the following standards and determinations: (List reason(s) why the Special Use Permit was denied)
3. If YES, the City of Appleton Common Council hereby approves Special Use Permit #9-22 for a car wash located at 1920 East Longview Drive, also identified as Parcel Number 31-1-6550-08, subject to the

following conditions as they are related to the purpose of the City of Appleton Municipal Code and based on substantial evidence:

**CONDITIONS OF APPROVAL FOR SPECIAL USE PERMIT #9-22**

- A. The owner shall have twelve (12) months from the issuance of the Special Use Permit to obtain a building permit and/or occupancy permit for the proposed carwash or Special Use Permit #9-22 will expire pursuant to Sections 23-66 (f)(1) b. and c. of the Zoning Ordinance.
  - B. Prior to the construction of the carwash and building permits being issued, site plan review and approval is required, pursuant to Section 23-570 of the Municipal Code.
  - C. All Zoning, Building, Fire, Engineering, Utility, Noise and other Municipal Codes, and all applicable State and Federal laws shall be complied with.
  - D. Any future expansions of the carwash, changes to the development plans, plan of operation or any conditions of approval may require a major or minor amendment request to this Special Use Permit pursuant to Section 23-66(g) of the Zoning Ordinance. Contact the Community and Economic Development Department to discuss any proposed changes.
4. The City Clerk’s Office is hereby directed to give a copy of this resolution to the owner/applicant, Community and Economic Development Department, Inspections Division, and any other interested party.

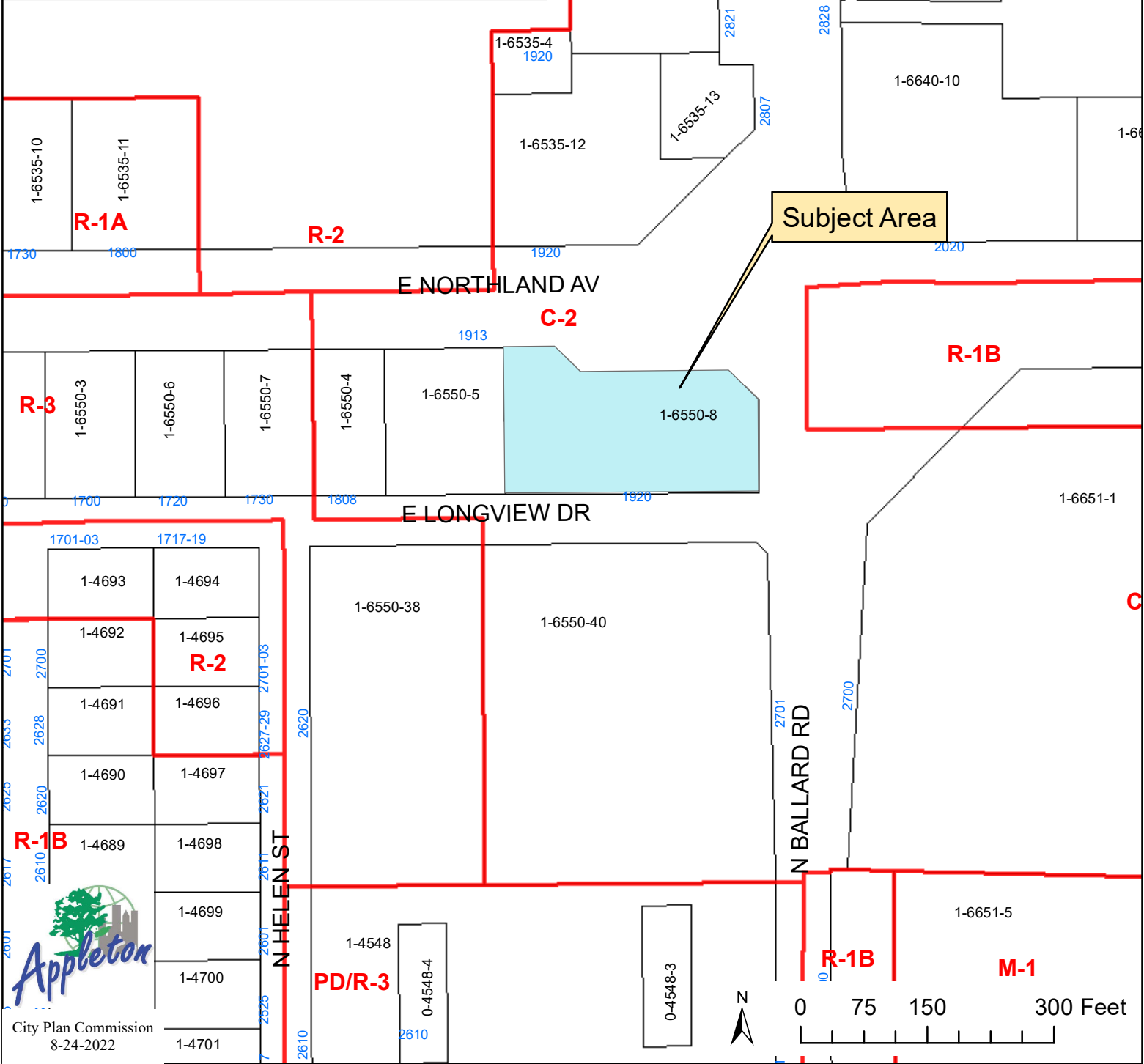
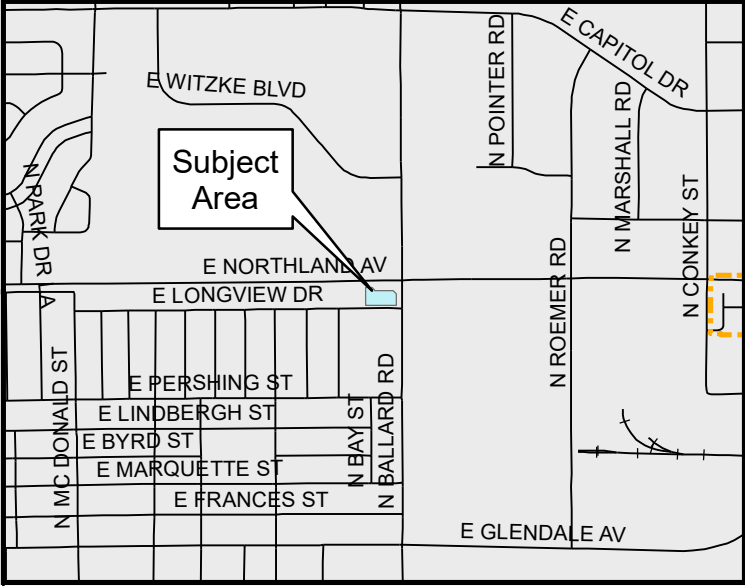
Adopted this \_\_\_\_\_ day of \_\_\_\_\_, 2022.

\_\_\_\_\_  
Jacob A. Woodford, Mayor

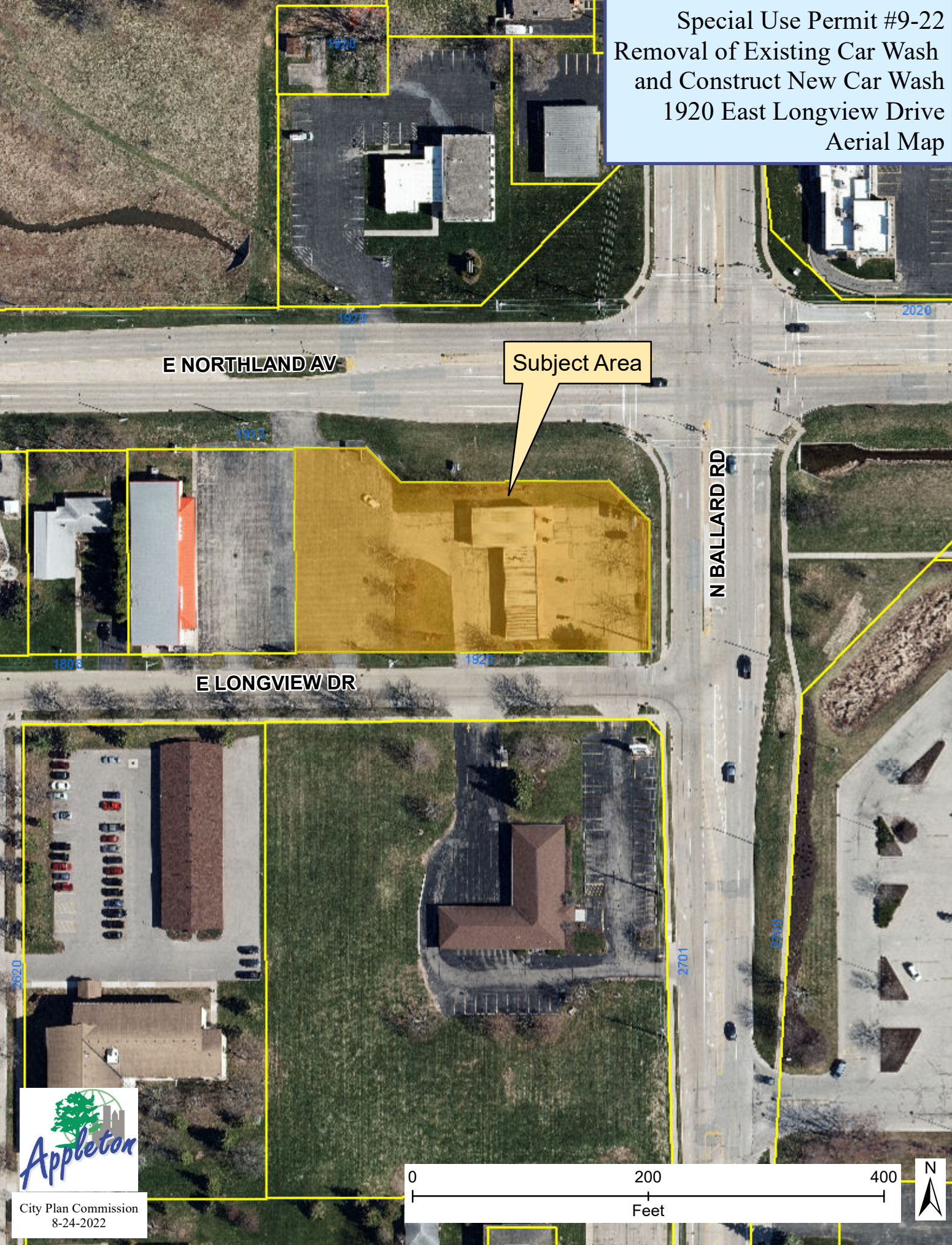
ATTEST:

\_\_\_\_\_  
Kami Lynch, City Clerk

**Special Use Permit #9-22  
Removal of Existing Car Wash  
and Construct New Car Wash  
1920 East Longview Drive  
Zoning Map**



Special Use Permit #9-22  
Removal of Existing Car Wash  
and Construct New Car Wash  
1920 East Longview Drive  
Aerial Map



Subject Area

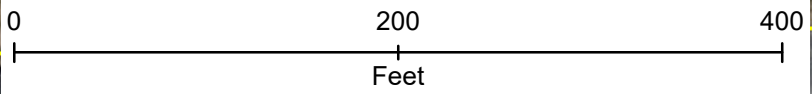
E NORTHLAND AV

E LONGVIEW DR

N BALLARD RD



City Plan Commission  
8-24-2022



## PLAN OF OPERATION AND LOCATIONAL INFORMATION

### Business Information:

Name of business: CLUB CAR WASH

Years in operation: 15 YEARS

Type of proposed establishment (detailed explanation of business):

The proposed project includes the construction of a 6,044 square foot car wash building and the associated paved parking lot, driveways, and outdoor vacuum stations. The proposed car wash will be open Monday to Saturday from 7:00 AM to 8:00 PM during the summer and 7:00 AM to 7:00 PM during daylight savings. The car wash will only be open 8:00 AM to 8:00 PM or 8:00 AM to 7:00 PM on Sundays. The car wash will have 3 employees on site during all hours of operation. The vacuum stalls will be self-serve but the car wash will be staffed at all times.

### Proposed Hours of Operation of Car Wash:

Day	From	To
Monday thru Thursday	7:00 AM	7:00 PM/8:00 PM
Friday	7:00 AM	7:00 PM/8:00 PM
Saturday	7:00 AM	7:00 PM/8:00 PM
Sunday	8:00 AM	7:00 PM/8:00 PM

### Building Capacity, Operations, and Storage Areas:

Maximum number of persons permitted to occupy the building or tenant space as determined by the International Building Code (IBC) or the International Fire Code (IFC), whichever is more restrictive: 825 persons

Gross floor area of the existing building(s): 4,397 SF.

Gross floor area of the proposed building(s): 6,044 SF.

(Check applicable response)

Water reclamation system:  YES  NO

Anticipated water use: 3 MILLION average gallons per year.

Anticipated noise readings at the car wash entrance: 72 dBA.

Air Drying System:  YES  NO

If yes, describe the location of the air drying system: \_\_\_\_\_

DRYING SYSTEM WILL BE LOCATED ON THE WEST SIDE OF THE CAR WASH

If yes, identify the anticipated noise levels at the car wash tunnel exit: 80 dBA.



How will the noise be controlled?

Sound attenuating landscaping will be implemented. Expected adequate distance from property boundaries to meet Appleton noise ordinance levels at property / adjacent property boundaries. Building and vacuums are positioned so vacuums / tunnel exit blowers are on the opposite end from street and away from residential zoning.

Identify location, number, capacity and type of flammable and non-flammable liquid materials stored in storage tanks or containers:

There are (3) total products that are classified as Corrosive. These products are the carwash's Prep Soap, Regular Soap, and Wheel Cleaner. There will be (2) 55-gallon barrels of each of these products stored in the Equipment Room along the interior wall at any given time, for a total volume of 330 gallons of Corrosive material. Each of these 55-gallon barrels are individually labeled with Hazardous/Corrosive warnings.

**Odor:**

Describe any odors emanating from the proposed use and plans to control them:

There will be no smoke emanating from the proposed use and no significant odor.

**Outdoor Lighting:**

Type (LED): LED light pole fixtures and LED exterior wall packs on building

Location: See attached lighting plan.

**Off-Street Parking/Stacking Spaces:**

Number of spaces existing on-site: 0.

Number of spaces proposed on-site: 4.

Number of existing stacking spaces on-site: 0.

Number of proposed stacking spaces on-site: 19.

**Bicycle Parking Spaces:** Type and Location: 1 BIKE SPACE WILL BE PROVIDED IN THE INTERIOR OF THE BUILDING.

\*Bicycle Parking Spaces are required per Municipal Code Section 23-172(l)(1)a., b. and c.

**Street Access:**

Is street access to the subject property adequate or are any street improvements, such as a new turning lane, necessary to minimize impacts on traffic flow?

ACCESS IS ADEQUATE

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**Outdoor Uses:**

(Check applicable response)

Vacuum Stations:  YES     NO

If yes, identify the number of vacuum stations proposed: 12.

If yes, identify the anticipated noise levels at the vacuum stations: 80 dBA.

**Proposed Hours of Operation of the Vacuum Stations:**

Day	From	To
Monday thru Thursday	7:00 AM	7:00 PM/8:00 PM
Friday	7:00 AM	7:00 PM/8:00 PM
Saturday	7:00 AM	7:00 PM/8:00 PM
Sunday	8:00 AM	7:00 PM/8:00 PM

If applicable, describe other outdoor services provided: NONE

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**Landscaping:**

Type and height of screening of plantings/fencing/gating for outdoor storage area(s):

SEE LANDSCAPING PLAN

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**Outdoor Display:**

Type, location, size of outdoor display area(s) of merchandise for sale or other business property:

NONE

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**Number of Employees:**

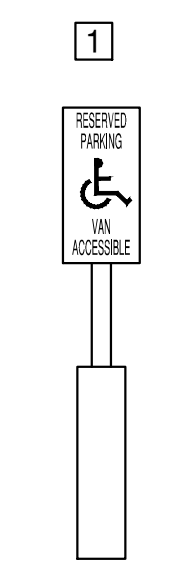
Number of existing employees: UNKNOWN.

Number of proposed employees: 3.

Number of employees scheduled to work on the largest shift: 3.

- LEGEND**
- CONCRETE SIDEWALK
  - CONCRETE PAVEMENT (LIGHT) (24,731 S.F.)
  - CONCRETE PAVEMENT (HEAVY) (S.F.)
  - GREEN SPACE
  - PROPOSED 18" MOUNTABLE CURB AND GUTTER
  - PROPOSED 18" MOUNTABLE SHEDDING CURB AND GUTTER
  - TRAFFIC FLOW ARROW
  - HANDICAPPED PARKING
  - INDICATES NUMBER OF PARKING STALLS

**NOTE:** ALL DIMENSIONS ARE TO THE FACE OF CURB, UNLESS NOTED OTHERWISE



**NOTE**

ALL DISTURBED AREAS SHALL BE TOPSOILED TO A DEPTH OF 6 INCHES, SEEDED AND MULCHED. AREA TO BE RAKED FREE OF STONES AND CLUMPS.

**PARKING DATA**

TOTAL PARKING STALLS PROVIDED = 4  
 HANDICAP ACCESSIBLE PARKING STALLS = 1  
 TOTAL PARKING STALLS REQUIRED = 4  
 NOTE: ONE BICYCLE PARKING SPACE TO BE PROVIDED INDOORS

**SITE DATA**

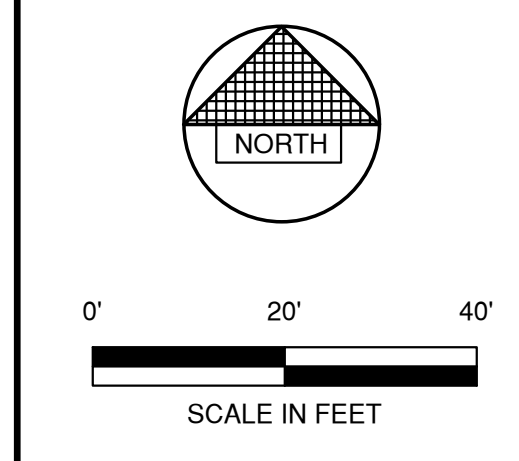
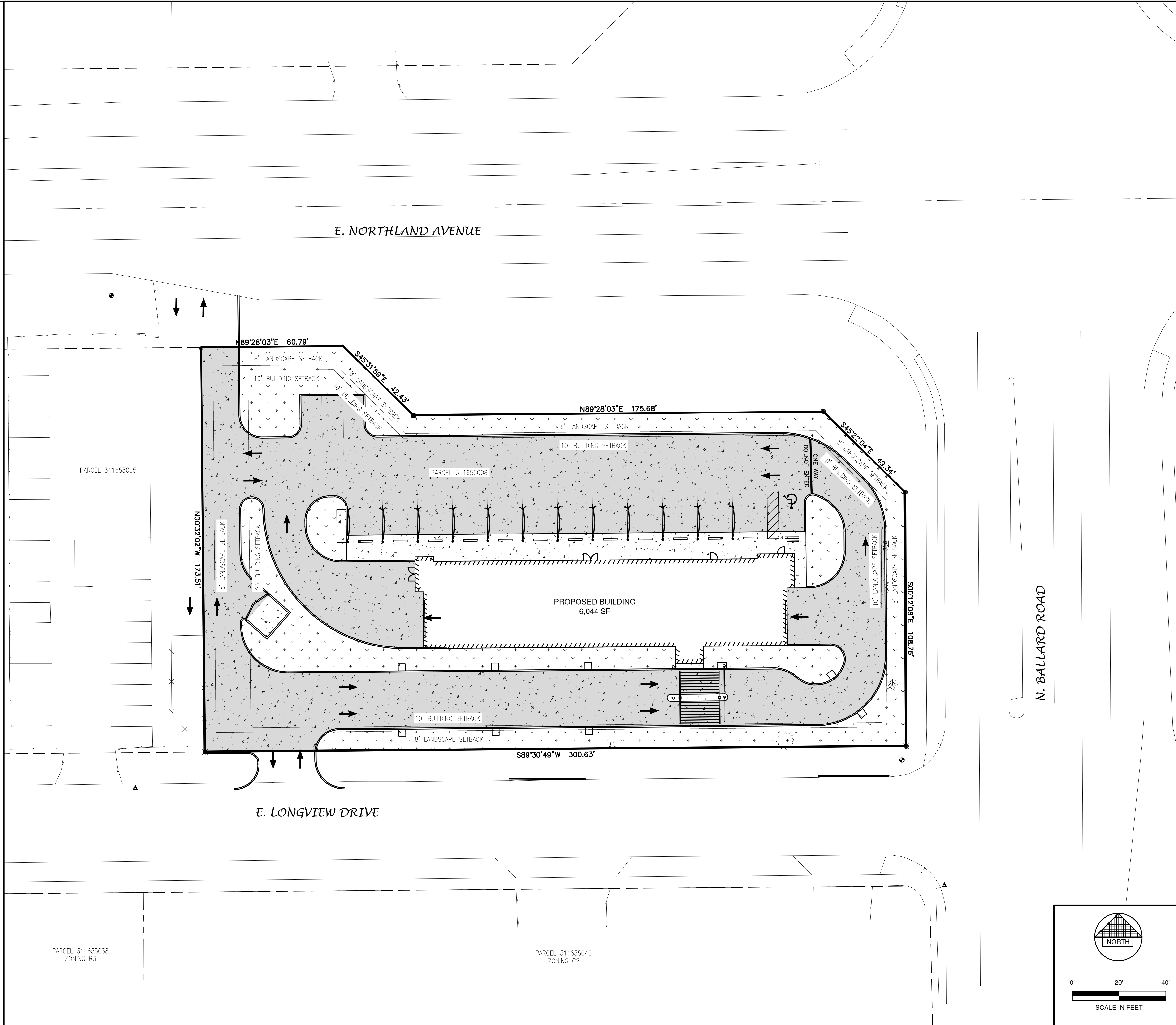
TOTAL AREA = 1.03 ACRES, 44,818 S.F.  
 BUILDING AREA = 0.14 ACRES, 6,044 S.F. (13.5%)  
 SIDEWALK/PARKING LOT AREA = 0.63 ACRES, 27,496 S.F. (61.4%)  
 GREEN SPACE = 0.26 ACRES, 11,278 S.F. (25.1%)

**ZONING**

COMMERCIAL - C2

**PARCEL NO.**

31-1-6550-08



FILE: P:\A\2020\62589\62589121.dwg DATE: 07/20/22 11:22:22 AM

NO.	DATE	APPROV.	REVISION	NO.	DATE	APPROV.	REVISION

CLUB CAR WASH  
 1920 E. LONGVIEW DRIVE  
 CITY OF APPLETON  
 OUTAGAMIE COUNTY, WISCONSIN

SITE PLAN

DATE	07/20/22
FILE	6258912D
JOB NO.	6258912

**Robert E. Lee & Associates, Inc.**  
 ENGINEERING, SURVEYING, ENVIRONMENTAL SERVICES  
 1250 CENTENNIAL CENTRE BOULEVARD HOBART, WI 54155  
 920-662-9641 www.releeinc.com

SHEET NO.  
**1**

## EXTERIOR COLOR PALETTE

- ARCHITECTURAL 8" CMU SMOOTH FACE BLOCK  
COLOR: Ivory
- ARCHITECTURAL 8" CMU SPLIT FACE BLOCK  
COLOR: Slate
- METAL AWNINGS  
COLOR: Red

- EXTERIOR INSULATED FINISH SYSTEM  
COLOR: Ivory
- EXTERIOR INSULATED FINISH SYSTEM  
COLOR: Slate

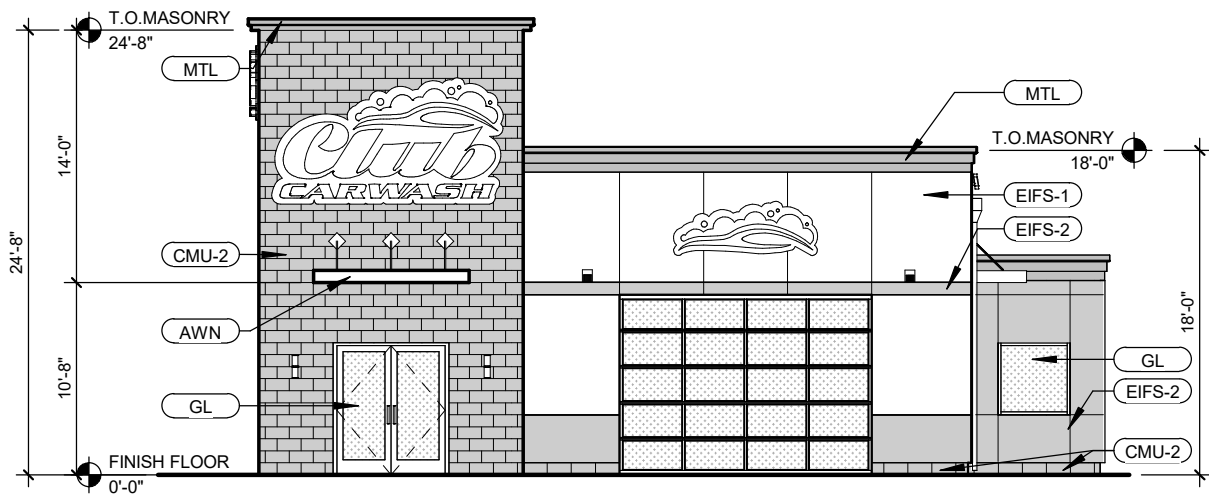
- STOREFRONT  
COLOR: Black Painted
- SCUPPERS, DOWNSPOUTS, AND METAL COPINGS  
COLOR: Kynar Finish Matte Black



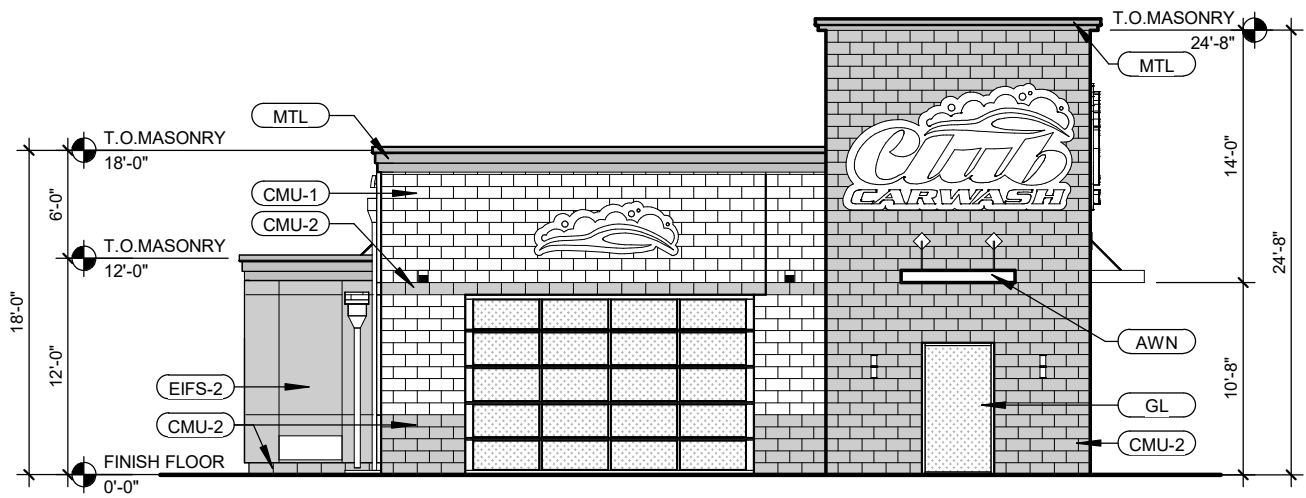
CLUB CAR WASH RENDERING



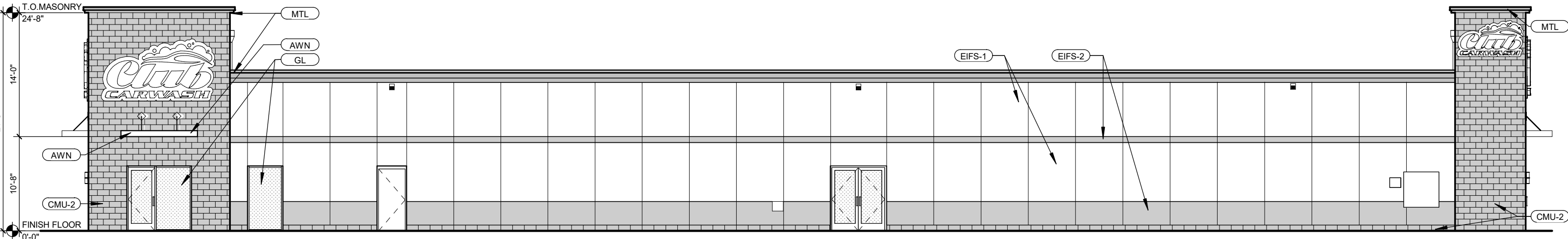
EXTERIOR MATERIAL LEGEND	
CMU-1	ARCHITECTURAL 8" CMU SMOOTH FACE BLOCK (COLOR: Ivory)
CMU-2	ARCHITECTURAL 8" CMU SPLIT FACE BLOCK (COLOR: Slate)
EIFS-1	EXTERIOR INSULATED FINISH SYSTEM (COLOR: Ivory)
EIFS-2	EXTERIOR INSULATED FINISH SYSTEM (COLOR: Slate)
GL	ALUMINUM STOREFRONT GLAZING SYSTEM 2"x4 1/2" Thermal Storefront Framing in Black Painted Aluminum, w/ 1" Insulated LOW-E Tinted Glazing Unit
AWN	PREFABRICATED PAINTED FLAT METAL AWNING (COLOR: Red)
S/DS	PREFINISHED KYNAR-COATED SHEET METAL SCUPPER AND DOWNSPOUTS (COLOR: Matte Black)
MTL	PREFINISHED KYNAR COATED METAL COPING (COLOR: Matte Black)
ROOF	SINGLE PLY EPDM OVER TAPERED INSULATION (COLOR: White)



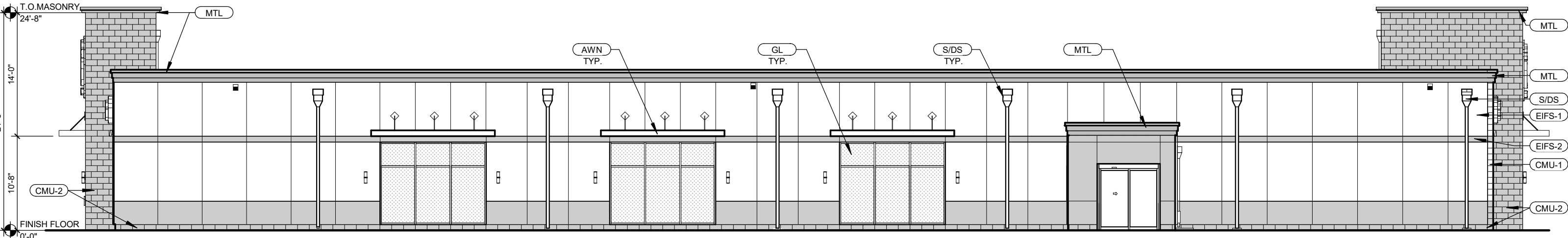
WEST ELEVATION | 3/32" = 1'-0"



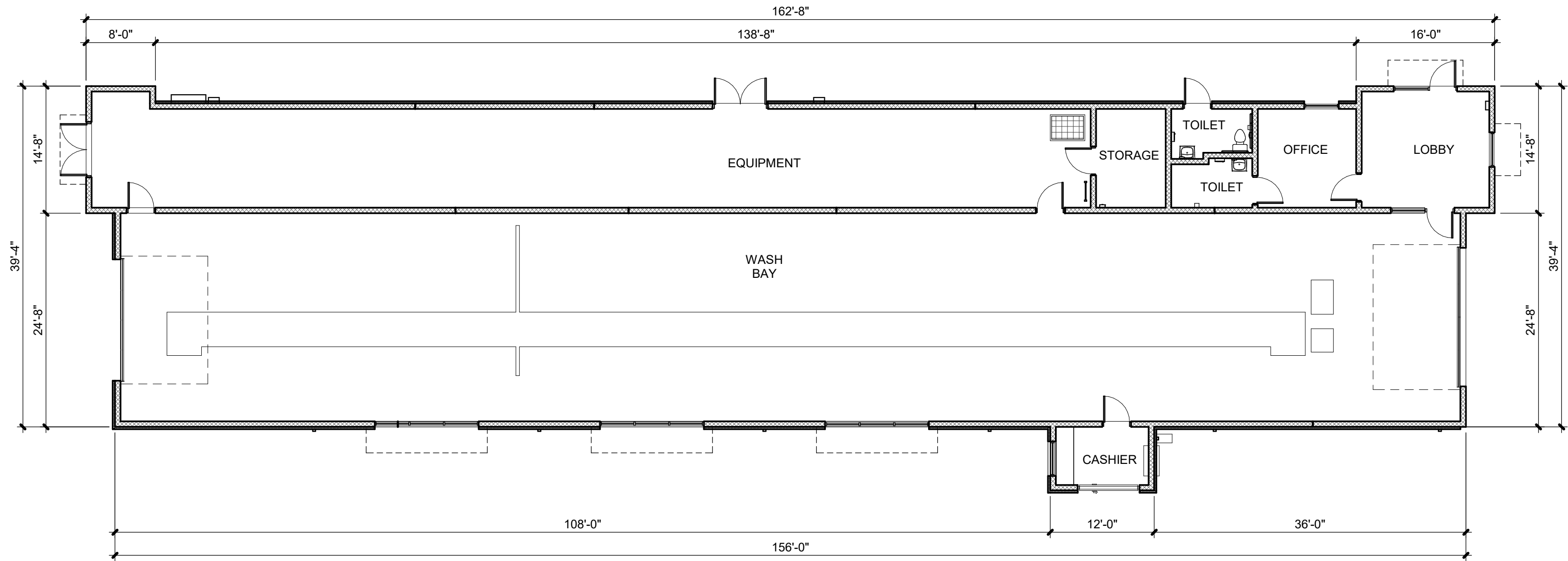
EAST ELEVATION | 3/32" = 1'-0"



NORTH ELEVATION | 3/32" = 1'-0"



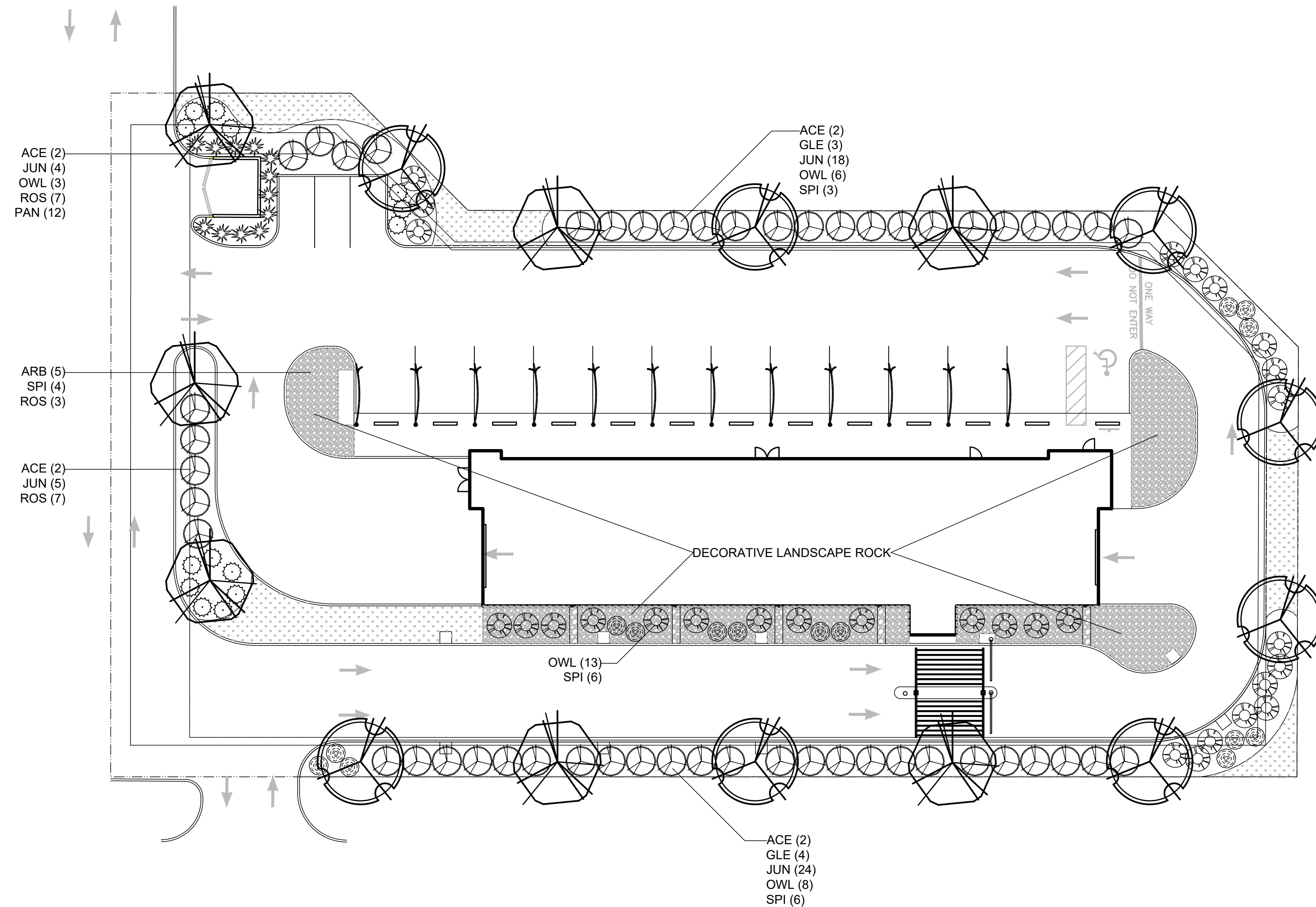
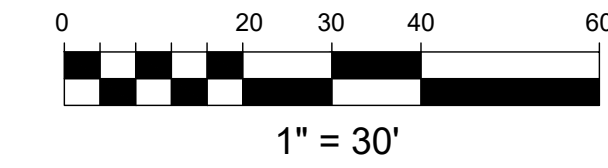
SOUTH ELEVATION | 3/32" = 1'-0"



FLOOR PLAN



# LANDSCAPE PLAN

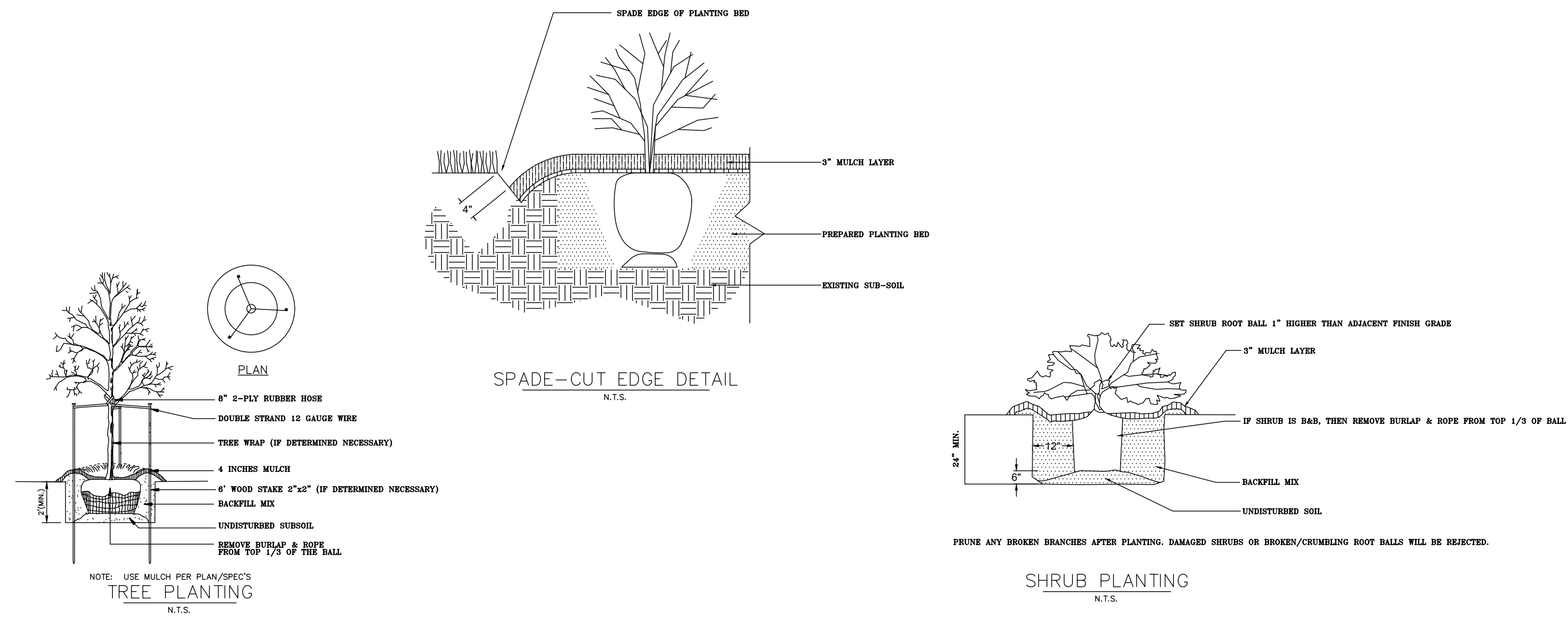


## LANDSCAPE INSTALLATION NOTES:

- GENERAL:**
- Landscape contractor is responsible for coordinating work with general contractor to ensure the landscape scope of work doesn't interfere with existing or built conditions. They should note any discrepancies to the general contractor.
  - Landscape contractor is responsible for verifying the location of underground utilities by calling their local utility marking service.
  - All plant material should be inspected by Landscape Contractor prior to installation to determine overall appearance and condition. Plant material that is damaged or has clear signs of stress should be rejected.
  - Quantities of material shown on plan take precedence over the specification list or legend.
  - If plant substitutions are required, Landscape Contractor is responsible for submitting recommendations to the client or client's representative.
- PLANTING:**
- When excavating for plant pits, any excess rock or building material should be removed and replaced with specified soil mix backfill.
  - All plant tags should be removed from material by landscape contractor.
  - All planting beds should receive a minimum 3" deep layer of shredded hardwood mulch, unless otherwise noted.
  - Edge all beds with a spade cut edge unless otherwise noted.
  - All backfill around plant material rootballs should receive a soil mix of 4 parts (pulverized) topsoil to 1 part fine, organic compost.
  - All wire baskets and stakes should be removed during planting.
  - Cut and remove top half of burlap around rootballs and cut and remove any twine around trunk or root flare.
  - All stakes and guy wires and tree wrap are to be removed no more than 1 year after installation.

## PLANT SCHEDULE

TREES	QTY	COMMON NAME / BOTANICAL NAME	SIZE
ACE	8	Acer rubrum 'October Glory'	2.5"
GLE	7	Gleditsia triacanthos f. inermis 'Skycole' SKYLINE	2.5"
ARB	5	Thuja occidentalis 'Smaragd' Emerald Green	6"
SHRUBS	QTY	COMMON NAME / BOTANICAL NAME	SIZE
JUN	52	Juniperus x pfitzeriana 'Sea Green'	24"
OWL	29	Juniperus virginiana 'Grey Owl'	24"
SPI	19	Spirea japonica	24"
ROS	17	Rosa 'Meigalpio' PP #17,877	#5
PAN	12	Panicum virgatum 'Heavy Metal'	#5



**PLANT LEGEND:**

- MAPLE 'OCTOBER GLORY'
- HONEYLOCUST 'SKYLINE'
- ARBORVITAE 'EMERALD GREEN'
- JUNIPER 'SEA GREEN'
- JUNIPER 'GREY OWL'
- SPIREA, JAPONICA
- ROSE 'RED DRIFT'
- SWITCH GRASS 'HEAVY METAL'

- LANDSCAPE REQUIREMENTS:**
- ONE (1) DECIDUOUS SHADE TREE OR ORNAMENTAL TREE SHALL BE PLANTED FIFTY (50) FEET ON CENTER.
  - A TWO (3) TO THREE (3) FOOT HIGH EVERGREEN ROW SHALL BE PROVIDED ACROSS 80% OF THE FRONTAGE OF THE PARKING LOT EXCLUDING DRIVEWAYS TO PROVIDE AN OPAQUE SCREEN

**Club Car Wash**  
 1920 E. Longview Drive  
 Appleton, Wisconsin 54911

This drawing is conceptual and is only to be used as a guide for construction. The completed project may differ from this plan in appearance and dimension.

This drawing is the instrument of service and the intellectual property of Elevate Outdoor. This plan is not to be reproduced, changed, or copied in any manner, nor is it to be assigned to any third party. Use of this plan or any of its elements without written permission and consent of Elevate Outdoor is expressly prohibited.

**Drawing Completed:**

7-18-2022
7-21-2022

Landscape Plan





**Specifications**

EPA: 1.01 ft (0.31m)

Length: 33" (0.84m)

Width: 13" (0.33m)

Height H1: 21.12" (0.53m)

Height H2: 3.12" (0.08m)

Weight (max): 27 lbs (12.3kg)

**Introduction**

The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment. The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

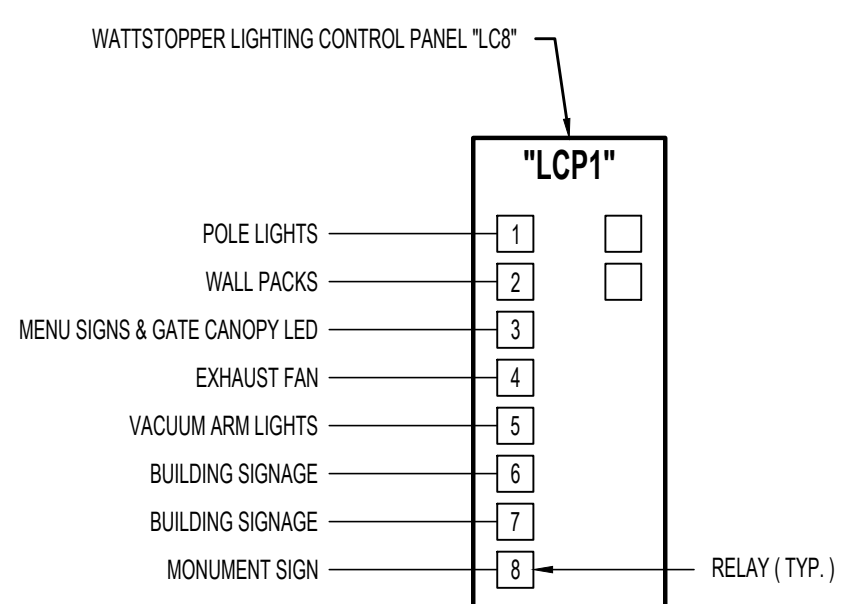
The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing up to 750W metal halide in pedestrian and area lighting applications with typical energy savings of 65% and expected service life of over 100,000 hours.

EXTERIOR LIGHT FIXTURE SCHEDULE												
MARK	MANUFACTURER*	MODEL NO.*	TYPE	VOLTS	AMPS	WATTS	LUMENS	CCT (°K)	CRI	LAMPS	MOUNTING	REMARKS
F1	LITHONIA	DSX1 LED P2 40K T3M MVOLT DBLXD	POLE LIGHT	277	0.25	70	9,235	4000	70	LED	POLE	WITH BLACK 20'-0" SQUARE STRAIGHT STEEL POLE
F2	LITHONIA	DSX1 LED P3 40K BLC MVOLT DBLXD	POLE LIGHT	277	0.37	102	10,309	4000	70	LED	POLE	WITH BLACK 20'-0" SQUARE STRAIGHT STEEL POLE
WP1	LITHONIA	DSXW1 LED 20C 1000 40K T2M MVOLT DBLXD	WALL PACK	277	0.26	73	7,373	4000	70	LED	WALL	
WP2	LITHONIA	DSXW1 LED 20C 1000 40K T1M MVOLT DBLXD	WALL PACK	277	0.26	73	7,711	4000	70	LED	WALL	

\* OR EQUAL

**Ordering Information** EXAMPLE: DSX1 LED P7 40K T3M MVOLT SPA NLTAR2 PIRHN DBDXD

Series	LEDs	Color temperature	Distribution	Voltage	Mounting	Control Options
DSX1 LED	Forward optics P1 P4 P7 P2 P5 P8 P3 P6 P9	30K 3000K 40K 4000K 50K 5000K	T15 Type-I short T25 Type-II short T2M Type-I medium T3M Type-II medium T3S Type-III short T3M Type-I medium T3TM Forward throw medium	T15 Type-I very short T25 Type-II short T2M Type-I medium T3M Type-II medium T3S Type-III short T3M Type-I medium T3TM Forward throw medium	MVOLT 120V 400V 120V 208V 277V 347V 480V	Shipped included SPA Square pole mounting RWA Round pole mounting WBA Wall bracket SPUMA Square universal mounting adaptor RPUWA Round pole universal mounting adaptor KWAR DBDXD Mount arm mounting/bracket adaptor (specify finish)



LIGHTING CONTROL PANEL SCHEDULE			PANEL NO. - LCP1
RELAY #	VERRIDE SWITCH	OPERATIONAL SCHEDULE	
1	NO	SET TO ON DURING NIGHT HOURS w/ ASTRONOMICAL CLOCK	
2	NO	SET TO ON DURING NIGHT HOURS w/ ASTRONOMICAL CLOCK	
3	NO	SET TO RUN DURING OCCUPIED HOURS	
4	NO	SET TO RUN DURING OCCUPIED HOURS	
5	NO	SET TO ON DURING NIGHT HOURS w/ ASTRONOMICAL CLOCK & SET TO TURN OFF 1 HR. AFTER CLOSING	
6	NO	SET TO ON DURING NIGHT HOURS w/ ASTRONOMICAL CLOCK	
7	NO	SET TO ON DURING NIGHT HOURS w/ ASTRONOMICAL CLOCK	
8	NO	SET TO ON DURING NIGHT HOURS w/ ASTRONOMICAL CLOCK	

NOTE: VERIFY LIGHTING OPERATION SCHEDULE WITH OWNER.

**LIGHTING CONTROL PANEL DETAIL**

**SITE LIGHTING GENERAL NOTES**

- MAX / MIN RATIOS CALCULATED PER LIGHTING ORDINANCES, BASED ON 95% OF POINTS, LOWER & UPPER 2.5% EXCLUDED.
- POLE LOCATIONS, LIGHT FIXTURES AND FIXTURE MOUNTING HEIGHTS HAVE BEEN CAREFULLY SELECTED IN ORDER TO MEET REQUIRED LIGHTING LEVELS. ANY REQUESTED CHANGES MUST BE IN WRITING TO THE ENGINEER AND ACCOMPANIED BY A PHOTOMETRIC PLAN INDICATING THE COMPLIANCE WITH THE OWNERS AND THE LOCAL ORDINANCE LIGHTING REQUIREMENTS. CHANGES MUST BE APPROVED IN WRITING BY THE ENGINEER. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY RESULT IN THE CONTRACTOR REPLACING OR RELOCATING FIXTURES AND/OR POLES AT THEIR EXPENSE.



**Specifications**

Width: 13-3/4" (0.34m)

Depth: 10" (0.25m)

Height: 6-3/8" (0.16m)

Weight: 12 lbs (5.4kg)

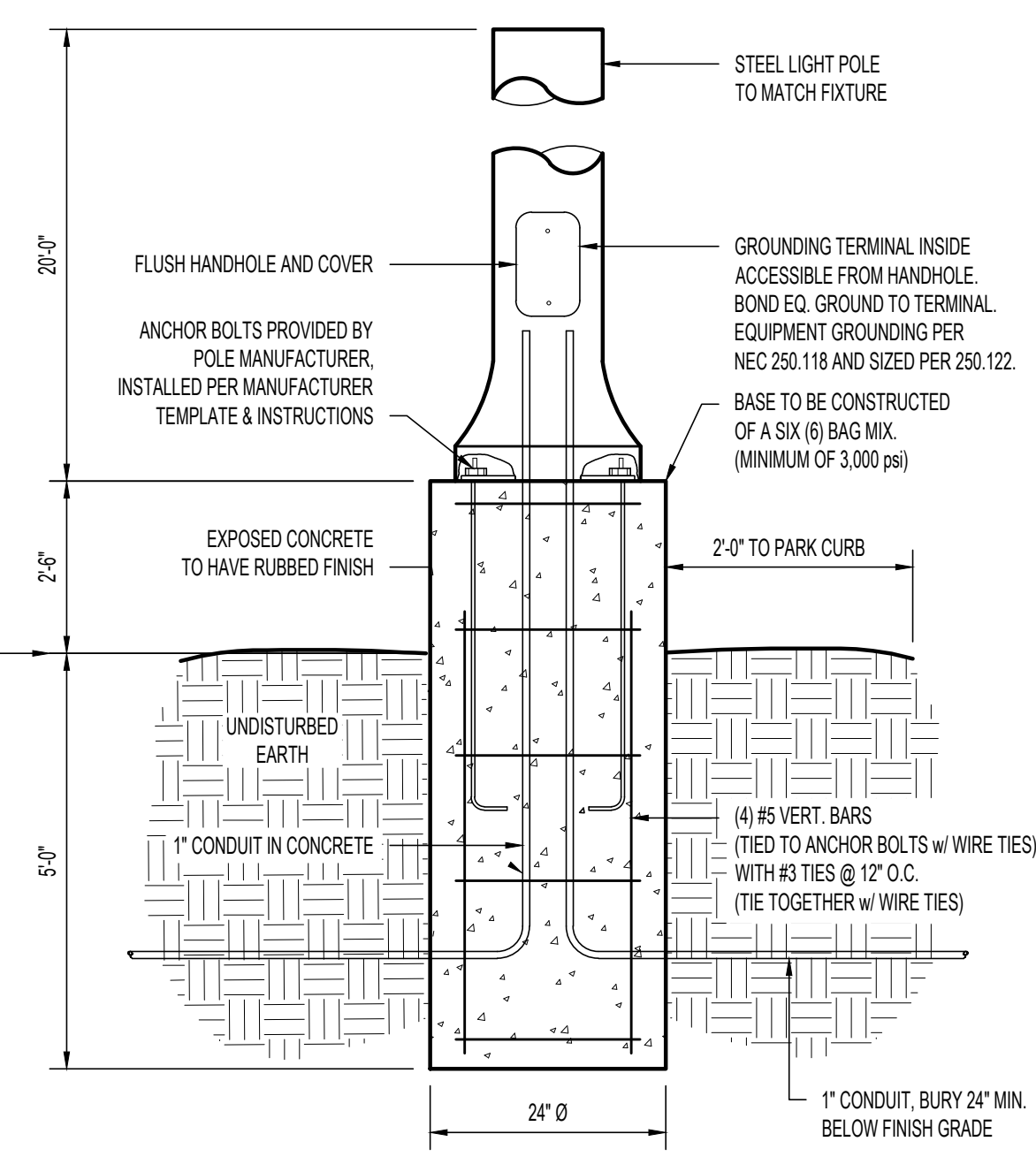
**Introduction**

The D-Series Wall luminaire is a sleek, fully integrated LED solution for building-mount applications. It features a sleek, modern design and is carefully engineered to provide long-lasting, energy-efficient lighting with a variety of optical and control options for customized performance.

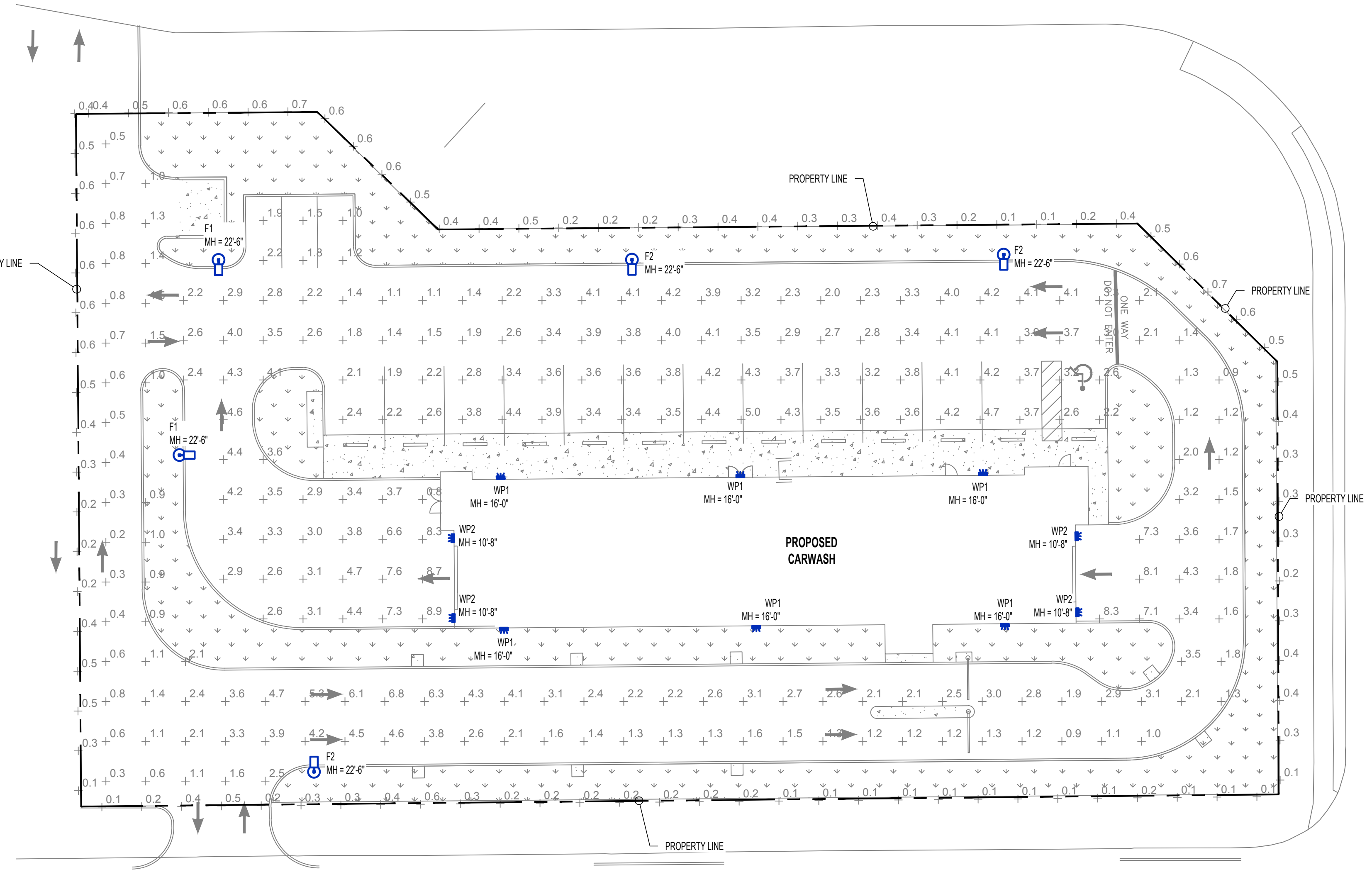
With an expected service life of over 20 years of nighttime use and up to 74% in energy savings over comparable 250W metal halide luminaires, the D-Series Wall is a reliable, low-maintenance lighting solution that produces sites that are exceptionally illuminated.

**Ordering Information** EXAMPLE: DSXW1 LED 20C 1000 40K T3M MVOLT DBDXD

Series	LEDs	Drive Current	Color temperature	Distribution	Voltage	Mounting	Control Options
DSXW1 LED	10C 10 LEDs (0.1W) 20C 20 LEDs (0.2W) 30C 30 LEDs (0.3W)	350 350 mA 700 700 mA 1050 1050 mA (1 A)	30K 3000K 40K 4000K 50K 5000K	T25 Type-I short T3M Type-I medium T3S Type-III short T3M Type-I medium T3TM Forward throw medium	120V 208V 277V 347V 480V	Shipped included PE Phosco-enclosed, button top DAG 0-10V dimming w/ pull-out outside fixture (for use with external control system separately) LWS Left recessed optic RWS Right recessed optic PIRHFCV Motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 16.7" EDWC Emergency battery backup (includes external component enclosure, 6.5 hrs @ 200% complete)	Shipped installed SF Single face (120, 277 or 347V) HS House-side mount RWA Round pole mounting SPF Separate surge protection



TYP. LIGHT POLE DETAIL

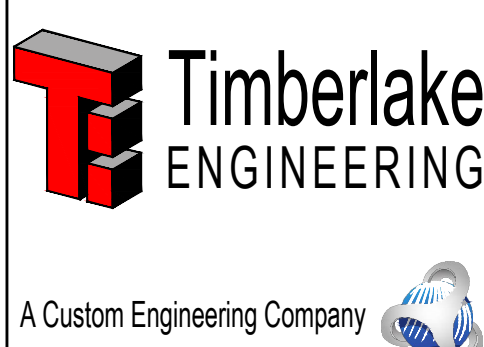


SITE PHOTOMETRIC PLAN SCALE: 1" = 20'

THE PROFESSIONAL ENGINEER'S SEAL ON THIS DRAWING HAS BEEN AFFIXED. IN AFFIXING THIS SEAL, THE ENGINEER TAKES RESPONSIBILITY FOR THE WORK SHOWN ON THIS DRAWING ONLY, AND HEREBY DISCLAIMS ANY AND ALL RESPONSIBILITY FOR OTHER PROJECT DRAWINGS NOT DIRECTLY BEARING THIS SEAL.

**PRELIMINARY NOT INTENDED FOR CONSTRUCTION**

SARAH N. KRIETE, P.E. XXX XX, 2022 48756-6 WI Certificate of Authority #4931



912 Oak 63 South • Columbia, MO 65201 PH: 672.875.4365

PROJECT NO: COL21122 DESIGNED BY: SNK  
DRAWN BY: SNK CHECKED BY: SLF

PROJECT: CLUB CARWASH

LONGVIEW RD APPLETON, WI

SHEET TITLE: SITE PHOTOMETRIC PLAN

SHEET NUMBER

MEP3



## REPORT TO CITY PLAN COMMISSION

**Plan Commission Meeting Date:** August 24, 2022 **\*Critical Timing\***

**Common Council Meeting Date:** September 7, 2022

**Item:** Annual Review of the Business Improvement District (BID) 2023 Operating Plan

**Case Manager:** David Kress, Principal Planner

### GENERAL INFORMATION

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On behalf of Jennifer Stephany, Executive Director of Appleton Downtown Inc., please find the attached 2023 Business Improvement District (BID) Operating Plan for your review and recommendation.

Staff has reviewed the Operating Plan, and there are two BID boundary changes proposed. As explained on page 5 of the Operating Plan, annual adjustments are made based on parcel combinations and divisions along the BID boundary. For this review period, impacted parcels include #31-5-1232-00 and #31-2-0159-00. The language included on pages 5, 7, and 8 is meant to clarify past/ongoing practice for creating the annual BID map, which is included in Appendix F.

Page 9 of the Operating Plan identifies the parcels that are removed from or added to the schedule of assessments. Only BID contributing parcels are listed in the schedule of assessments (Appendix E). The language on pages 7 and 8 clarifies how contributing versus non-contributing status is determined.

Business Improvement Districts are regulated by Section 66.1109 of the Wisconsin State Statutes. These Statutes require that a BID Operating Plan be reviewed and approved by the local legislative body on an annual basis. The Plan Commission is being asked to review and make recommendation to the Common Council in regard to the submitted 2023 Operating Plan.



**2023**  
**Downtown Appleton Business  
Improvement District Operating Plan**

## **Downtown Appleton Business Improvement District Operating Plan 2023**

### **I. Preface - no change has been made to this section from the previous year.**

Wisconsin Act 184, signed into law in 1984, gives Wisconsin municipalities the power to establish business improvement districts (BIDs) within their communities upon petition of at least one property owner within the proposed district. The State Legislature created 66.1109 of the Wisconsin Statutes (the “BID Law”) to provide a mechanism by which business properties within an established district could voluntarily assess themselves to pay for programs aimed at promoting, developing, redeveloping, managing and maintaining the district. In many instances, BIDs are established in downtowns so property owners can jointly attract tenants and increase the value of their properties.

Business improvement district assessments are quite similar to traditional special assessments wherein property owners are assessed for improvements or services that benefit them. Unlike traditional special assessments, however, business improvement district assessments can be used to finance a wide range of activities, services, and improvements. Business improvement districts in Wisconsin have been used to fund a broad scope of activity including business retention and recruitment programs, marketing and promotional activities, environmental enhancement and maintenance programs, and crime prevention and security activities.

Pursuant to the BID Law, this shall be, when adopted, the 2023 Operating Plan for the Downtown Appleton Business Improvement District. This Operating Plan has been prepared by Appleton Downtown Incorporated (ADI) in partnership with the Business Improvement District Board of Directors and Appleton Downtown Board of Directors.

As used herein, BID shall refer to the business improvement district’s operating and governance mechanism, and “District” shall refer to the property located within the physical boundaries of the business improvement district, as provided herein.

Further development of the District through establishment of the BID is proposed because:

1. The BID law provides a mechanism whereby private property owners can work together in conjunction with the City to develop the district.
2. Existing public funding sources used to maintain and promote the district may not be sufficient. Unified development efforts will have to be financed with new private resources as well as existing public dollars.
3. The District is dynamic, including properties of varying types and sizes. Some form of cost sharing is necessary because it is not feasible for a small group alone or the City of Appleton to support District development efforts. The BID Plan provides a fair and equitable mechanism for cost sharing which will benefit all businesses and properties within the district.
4. Use of the BID mechanism helps to ensure that the entire District will be promoted, programmed and developed as expeditiously as possible.

The property owners advocating the continuation of the BID view it as a method to build on work previously done in the community to improve the downtown. These property owners and the board of directors of Appleton Downtown Inc. have pledged to work cooperatively with other organizations and the City of Appleton to enhance the vibrancy and overall health of downtown Appleton.

This Plan, when adopted by the City Council of the City of Appleton, after public hearing and recommendation of the Plan Commission in the manner required by the BID Law, shall govern the BID for the calendar year of 2023 which shall be the Twentieth “Plan Year”. However, it is

anticipated that the BID shall continue to be so successful that it will be renewed, upon essentially the same terms and conditions for subsequent years, each of which shall be the “Plan Year”. In the manner allowed under Section 66.1109 (3)(b) of the BID Law, although with changes to the budget, work plans and assessment Appendices.

## II. Plan Development

This shall be the Business Improvement District Operating Plan for the Downtown Appleton Business Improvement District, for the year 2023.

### A. Plan of Action

The Plan of Action Work Plan was developed by the BID Board of Directors and Standing Committees with approval from the BID and ADI Board of Directors. Those participating in this process were ever conscious of the need to represent the full membership of the BID and of ADI. The following initiatives identified in the Work Plan align with the City of Appleton Comprehensive plan Chapter 14. (**Appendix A**)

### B. Goals and Objectives

The BID seeks to protect public and private investments in downtown Appleton and to attract new investment to the district. The BID exists to promote the orderly development of the district in cooperation with the City of Appleton, including implementation of the Downtown Plan (Chapter 14 of the Comprehensive Plan) and to develop, redevelop, maintain, operate, and promote the district. The BID shall work to preserve and improve economic, cultural, and social conditions within the district by facilitating partnerships of people and organizations to achieve mutual goals. The BID provides the necessary funding to plan, evaluate, facilitate and implement district development projects, planning activities, and promotional activities that fit within the identified mixed-use strategy for developing viable and sustainable markets that the district in downtown Appleton can serve.

### C. Benefits

Money collected by the BID under this plan will be spent within the district or for the benefit of the district, and used to help property owners attract and retain tenants, keep downtown clean, safe and attractive, increase the value of property downtown and expand on a strong brand and marketing campaign for downtown. **Appendix A** outlines the initiatives, strategies and tasks for the plan year as they align with Chapter 14 Downtown Plan of the City of Appleton Comprehensive Plan.

### D. 2021 Annual Report

The 2021 annual report is attached.

The total assessed value of properties for the district for 2021 was \$137,653,700 a 1.33% increase over previous year.

The total assessed value of the district properties for 2022 increased by 1.45% \$139,643,700

Also included as **Appendix B** is the 2022 Midyear update report

### E. 2023 Budget

All of the estimated expenditures of the BID are shown on **Appendix C**, the Budget. All of the expected expenditures will be financed by the collection of BID assessments and with other revenues generated by Appleton Downtown Incorporated (ADI) and Creative Downtown Appleton Inc. (CDA) including but not limited to sponsorships and donations, ADI memberships, and by revenues of events and promotional activities. Ownership of all activities, programs, promotions, and events, along with any related revenues shall remain with ADI or CDA respectively but shall be applied to programs and services that further goals of the BID.

It is anticipated that the BID will contract with ADI to carry out the BID's Operational Plan, and that the BID will have no paid staff of its own. Funds collected through BID assessments shall be used to pay for this contracted and approved expenditures with ADI, and are expected to pay for about 30 percent of the projected annual budget to implement a full downtown management and event program. Additional funds will be raised by ADI from public and private sources to cover the remaining 70 percent, and any other projects not identified herein.

Except as identified herein, all expenditures will be incurred during the Plan Year. Any funds remaining on any line item above may be moved to another budget line item, as determined by the Board of the BID. Any unused funds remaining at the end of the year shall be deposited into a contingency fund for the following Plan Year. If any additional funds are received by the BID, whether from gifts, grants, government programs, or other sources, they shall be expended for the purposes identified herein, and in the manner required by the source of such funds, or, if the funds have no restrictions, in the manner determined by the Board of the BID, in keeping with the objectives of this BID Plan. All physical improvements made with these funds shall be made in the BID District. The location of other expenditures shall be determined by the BID Board, but for the benefit of the District.

### F. Powers

The BID, and the Board managing the BID shall have all the powers authorized by law, and by this Plan, and shall have all powers necessary or convenient, to implement the Operating Plan, including, but not limited to, the following powers:

1. To manage the affairs of the District.
2. To promote new investment and appreciation in value of existing investments in the District.
3. To contract with Appleton Downtown Incorporated on behalf of the BID to implement the Operational Plan.
4. To develop, advertise and promote the existing and potential benefits of the District.
5. To acquire, improve, lease and sell properties within the District, and otherwise deal in real estate.
6. To undertake on its own account, public improvements and/or to assist in development, underwriting or guaranteeing public improvements within the District.
7. To apply for, accept, and use grants and gifts for these purposes.
8. To elect officers, and contract out work as necessary to carry out these goals.
9. To add to the security of the district.

10. To elect Officers to carry out the day to day work authorized by the BID Board, including signing checks and contracts on behalf of the Board, and to adopt, if the Board wishes, By-Laws governing the conduct of the Board and its Officers, not inconsistent with this Operating Plan.
11. To adopt by-laws related to the day to day operation of the Board and Board meetings.

G. Relationship to Plans for the Orderly Development of the City

Creation of a business improvement district to facilitate District development is consistent with the City of Appleton’s Downtown Plan and will promote the orderly development of the City in general and downtown in particular.

H. Public Review Process

The BID Law establishes a specific process for reviewing and approving the proposed Operating Plan, and the boundaries of the proposed District. All statutory requirements to create the BID were followed.

**III. District Boundaries** – no change has been made to this section from the previous year.

The District is defined as those tax key parcels, which are outlined in red and indicated by property in dark green on **Appendix F**, attached hereto and incorporated herein by this reference, reflecting the parcels as they existed in the City of Appleton Assessor’s records as of June 2022.

The District is generally bounded on the south by the south right of way line of Lawrence Street, on the north by the north right of way line of Franklin Street, on the east by the right of way line of Drew Street and on the west by the west right of way line of Richmond Street/Memorial Drive, with additional corridors extending north on Richmond Street to Packard Street and west along college Avenue to Badger Avenue. Properties on both sides of boundary streets are included in the District. The District includes 205 contributing parcels and units. Notwithstanding the parcels of property which are not subject to general real estate taxes, shall be excluded from the District by definition, even though they lie within the boundaries of the BID as in the map in **Appendix F**.

See Section: VI. *Method of Assessment, Item A. Parcels Assessed*: For identification of parcels that are assessed for the BID as contributing parcels based on their use and parcels that are non-contributing. Annual adjustments to contributing and non-contributing parcels in the BID are made based on parcel combinations and parcel divisions.

**IV. Organization** no change has been made to this section from the previous year.

A. Operating Board

The BID Board (“Board”) as defined below, shall be appointed by the Mayor of the City of Appleton, with substantial input from ADI and the property owners in the District. Appointments by the Mayor must be confirmed by the City Council and voted in by the BID Board. The appointments and confirmation shall be made before the commencement of the Plan Year for which the Operating Plan was adopted.

This Board’s primary responsibility shall be to implement the current year’s Operating Plan, to contract for the carrying out of the Operating Plan, contracting for preparation of an annual report and audit on the District, annually considering and making changes to the Operating Plan including suggestions made by Appleton Downtown Incorporated and submitting the Operating Plan for the following Plan Year to the Common Council of the City of Appleton for approval, and other powers granted in this Plan. This requires the Board to negotiate with providers of service and materials to carry out the Plan; to enter into various contracts; to monitor development activity; and to ensure District compliance with provisions of applicable statutes and regulations.

**The BID Board shall be structured as follows:**

1. Board size maximum of 9
  2. Composition – A majority (at least 5) members shall be owners or occupants of the property within the District. Any non-owner, non-occupant appointee to the Board shall be a resident of the City of Appleton. At least 2 members shall be representative of each of the 3 identified market sectors, service/retail, hospitality, and office. One member shall be a representative of the Mayor or City Council. Any Board member who because of transfer of ownership of property is no longer eligible to act as a representative for a particular sector, or where such transfer of property shall cause the make-up of the Board to fall out of compliance with this Operational Plan shall be replaced. The Board shall make a recommendation for replacement to the Mayor who shall appoint a new Board member within 30 days of the recommendation.
  3. Term – Appointments to the Board shall be for a period of 3 years-for staggered terms, each ending on December 31 of the applicable year. The Board may remove by majority vote, any BID Board member who is absent for more than 3 meetings, without a valid excuse, and may recommend to the Mayor replacement members, which the Mayor shall act upon within 30 days of the recommendation.
  4. Compensation – None.
  5. Meetings – all Meetings of the Board shall be governed by Wisconsin Open Meetings Law. Minutes will be recorded and submitted to the City and the Board. The Board shall adopt rules of order to govern the conduct of its meetings and meet regularly, at least annually.
  6. Record keeping – Files and records of the Board’s affairs shall be kept pursuant to public records requirements.
  7. Staffing – The Board may employ staff and/or contract for staffing services pursuant to this Plan and subsequent modifications thereof. Unless requested otherwise by the Board, and any staff members or employees of contractors may attend all meetings of the Board, but will not have voting authority.
  8. Officers – The Board shall appoint a Chairman, Treasurer and Secretary, any two of the three of which shall have the authority to execute documents on behalf of the full Board, for the purposes authorized by the full Board, including the writing of checks. Attached Board list
- Appendix D**
9. For purposes of this section “person” means an individual owner of a parcel, or a representative of an entity owner of such parcel. No one individual, and no more than one representative of any entity, may hold more than one Board position. If, during the course of a term, a Board member’s situation changes, so that they no longer fit the definition for that seat, such as by selling their parcel, they shall resign within 10 days of selling their parcel.

B. Amendments



This Operating Plan, when adopted, shall be the governing plan for the Plan Year. However, section 66.1109 (3) (b) of the BID Law requires the Board of the city to annually review and make changes as appropriate to the district Plan, when adopting a new Operating Plan for later Plan Years. Approval by the City's Common Council of such Plan updates shall be conclusive evidence of compliance of such Plan with the BID Law.

The BID Law allows the BID to annually present amendments to its Plan. The following process for approval of the amended Plan will be followed.

1. A joint strategy session of the BID Board and the ADI Board of Directors will develop the objectives of the Operational Plan for the next Plan Year. Hosted 6/15/2022
2. The proposed Goals and Objectives for the Plan Year will be drafted by Appleton downtown Incorporated Staff and submitted to the ADI and BID Board for review and input.
3. ADI Staff will submit the plan draft it to the ADI Board for review. Hosted 7/26/2022
4. The BID Board will review the proposed BID Plan and submit to Planning Commission for approval. Hosted 7/27/2022
5. The proposed plan will be submitted to the Community Development Department. Submitted on 8/3/2022
6. The Planning Commission and Common Council will act on the proposed BID Operational Plan as scheduled.
7. The Mayor of Appleton will appoint new members to the BID Board at least 30 days prior to the expiration of outgoing Board members' terms.

It is anticipated that the BID will continue to revise and develop the master Operating Plan for later Plan Years, in response to changing development needs and opportunities in the District, within the purpose and objectives defined herein and therein.

Included in these changes for later Plan years will be changes in the BID budget and assessments.

**V. Finance Method** no change has been made to this section from the previous year.

The proposed expenditures contained in Section II (D) above, will be financed with moneys collected from the BID assessment, and will be made, from time to time, throughout the year, in accordance with the BID Budget, attached hereto as **Appendix C**.

Moneys collected from BID assessments by the City will be used to pay Appleton Downtown Incorporated in accordance with the implementation contract between the BID and ADI

**VI. Method of Assessment** no change has been made to this section from the previous year.

**A. Parcels Assessed – Appendix E**

All tax parcels within the District required to pay real estate taxes, including those taxed by the State as manufacturing, will be assessed with the exception of those parcels used solely for parking and those parcels subject to a recorded condominium declaration, and parcels classified as commercial use as shown on the City of Appleton Assessors records. Commercial Condominiums shall be assessed as if the entire building in which the Commercial Condominiums are located were not subject to the Condominium act and instead were assessed as one building, and the assessment

for that entire building shall be levied against each Commercial Condominium unit in such proportion as the condominium assessments of that condominium are prorated, as defined in the Declaration of Condominium for that building.

Real property used exclusively for residential purposes may not be assessed, as required by the BID Law. Property exempt from paying real estate taxes, parcels classified as ‘vacant’ use by the City of Appleton Assessors records or owned by government agencies will not be assessed.

For identification of parcels that are assessed for the BID as contributing parcels based on their use and parcels that are non-contributing. Annual adjustments to contributing and non-contributing parcels in the BID are made based on parcel combinations and parcel divisions.

The Business Improvement District reassessment was completed by the City of Appleton Assessor’s Office. The current property assessment list was generated by the Assessor’s office and reviewed by the Finance Department and BID Board.

B. Levy of Assessments

Special assessments under this Operating Plan are hereby levied, by the adoption of this Operating Plan by the City Council against each tax parcel of property within the District which has a separate tax key number, in the amount shown on the assessment schedule which is attached hereto as **Appendix E**.

The BID Board of Directors approved BID rate for the 2023 plan year is \$2.75 per \$1000 of assessed value, minimum \$275 and maximum \$5500.

The 2023 plan year assessment list **Appendix E** shows the calculation with the current rate at \$2.75 for each \$1000 of assessed value for each parcel in the District with no parcel assessed more than \$5,500 and no parcel assessed less than \$275, with parcels used solely for parking excluded, with parcels solely used for residences excluded, and with the adjustments for the Commercial Condominiums and adjustments for relocation of the caps and minimums. The assessment was based on the assessed value of that parcel (land and improvements) as shown in the records of the City Assessor’s Office except as otherwise identified below. It is understood that some properties within the BID may be re-assessed. The changes in the tax assessment may impact the BID assessment for these properties.

The principal behind the assessment methodology is that each non-exempt parcel’s owner should pay for District development in proportion to the benefit derived. Obviously, not every parcel in the District will benefit equally, nor should each parcel, regardless of size or value contribute in exact ration of property value. It is assumed that a minimum and maximum benefit can be achieved for each parcel, thus, minimum and maximum BID assessments have been established.

For those parcels identified as Commercial Condominiums, the minimum and maximum assessments shall be established for the entire building of which the Commercial Condominium is a part, in the ratios identified above.

C. Schedule of Assessments – updated to reflect assessment adjustments presented by the City Assessor

The final form of this 2023 Operating Plan has attached as **Appendix E** are schedules of all the tax key numbers within the BID which are being assessed, and their assessment using this formula.

- The 2023 BID assessment current rate of \$2.75/\$1000 with a maximum assessment of \$5500 and a minimum assessment of \$275
- The 2023 BID assessments are anticipated to generate: \$241,511.61 based on this methodology.
- Adjustments from previous year presented by the City Assessor include:

ADDED PARCELS:

- 312027309 at 100 W College unit 50H (no longer tax exempt)
- 312034300 at 320 E. College Ave. (was vacant lot 1/1/21, now new building)
- 313101700 at 119 S Walnut St. (included a commercial use on 1/1/22)

REMOVED PARCELS:

- 312027312 at 116 N. Appleton St. (now tax exempt church)
- 312043900 at 303 N. Oneida St. (now tax exempt church)

11 properties increased in value over the previous year. An increase in total assessed value of 1.45% or \$1,990,000

- 201 W. College
- 129 Durkee
- 300 Appleton
- 625 Lawrence
- 621 Lawrence
- 843 W. College
- 800 W. College
- 513 W. College
- 532 W. College
- 514 W. College
- 500 W. College

D. Assessment Collection and Dispersal

The City of Appleton shall include the special assessment levied herein as a separate line item on the real estate bill for each parcel. The City shall collect such assessments with the taxes as a special assessment, and in the same manner as such taxes, and shall turn over all moneys so collected to the BID Board for distribution in accordance with the BID Plan.

All BID assessments shall be shown on the tax bill as due and owing with the first installment of taxes and shall carry the same penalties and interest if not so paid.

Any money collected by the City of Appleton for BID assessments shall be held by the City in a segregated account.

The City of Appleton Finance Department shall provide to the BID Board by the 15<sup>th</sup> day of each month or as requested a separate financial statement for the BID along with a list of collections and source of such collections identified by tax parcel number for which the amount was collected.

Any BID assessments collected by the City before or after the Plan Year for which the assessments were made shall be held by the city in a segregated account and are to be used by the BID Board in the manner as if received during the applicable Plan Year. This provision is intended to govern BID assessments prepaid in December prior to the applicable Plan Year, as well as to delinquent and late payments made after the Plan Year.

The BID Board shall prepare and make available to the public and the City Council annual reports describing the current status of the BID, including expenditures and revenues, at the time it submits its amended Plan to the City for the following year. Following the end of the fiscal year an independent certified audit shall be obtained by the Board, and which shall be paid for out of the BID Budget. Copies of the 2021 audit are available in the ADI office and a copy was submitted to the Community Development Department with this plan.

Disbursement of BID funds shall be made in accordance with approved BID Operational Plan and Budget. Disbursements for contracted services such as those provided by Appleton Downtown Incorporated shall be done on a reimbursement basis. Invoices and documentation of services performed shall be submitted on a monthly basis to the BID Board. The BID Board shall forward these invoices for payment to the City of Appleton Finance Department. The Finance Department shall issue payment on the invoice once it has received evidence that the expenditures are eligible for reimbursement in accordance with the BID Operational Plan and Budget. This reimbursement shall be made to the service provider within seven business days of the submittal of the request to the City.

The presentation of the proposed Plan to the City shall deem a standing order of the Board under 66.1109 (4) Wis. Stats. To disburse the BID assessments in the manner provided herein. This section shall be sufficient instruction to the City to disburse the BID assessment, without necessity of an additional disbursement agreement, disbursement method, or accounting method. Other than as specified herein, the disbursement procedures shall follow standard City disbursement policy.

E. Annual Report

The Board shall prepare an annual report as required by section 66.1109 (3) (c) of the Wisconsin Statutes. A copy of the 2021 report is attached.

The report shall include the required audit. The required audit shall be prepared by the auditing firm conducting the annual audit for the City of Appleton. The BID shall be solely responsible for payment of any funds specified for the BID Audit related to BID activities for said BID Audit.

The City of Appleton Finance Department shall provide an estimate of the cost of said BID audit for the following year to the BID Board no later than September 1 of the previous year.

**VII. City Role** no change has been made to this section from the previous year.

The City of Appleton is committed to helping private property owners in the District promote development. To this end, the City intends to play a significant role in the implementation of the Downtown plan. In particular, the City will:

1. Encourage the County and State Governments to support activities of the district.
2. Monitor and when appropriate, apply for outside funds, which could be used in support of the district.
3. Collect assessments and maintain a segregated account.
4. Provide disbursement of BID funds to service providers in accordance with the BID Operational Plan and Budget.
5. Contract with an auditing firm to conduct the Audit. Said firm shall be the same firm that conducts the City of Appleton annual audit.
6. Provide a cost estimate for said audit no later than September 1 for the following year.
7. Provide a separate monthly financial statement to the BID Board.
8. Review annual audits as required per 66.1109 (3) (c) of the BID Law.
9. Provide the BID Board through the Assessor's Office on or before **July 1** each Plan Year, with the official City records on assessed value for each tax key number within the District, as of that date in each Plan Year, for purposes of calculating the BID assessment.
10. Adopt this plan in the manner required by the BID Law.
11. Appoint and confirm new BID Board members as required herein.

**VIII. Required Statements** - no change has been made to this section from the previous year.

The Business Improvement District Law requires the Plan to include several specific statements.

66.1109 (1) (f) (1.m): The District will contain property used exclusively for manufacturing purpose, as well as properties used in part for manufacturing. These properties will be assessed according to the formula contained herein because it is assumed that they will benefit from development in the District.

66.1109 (5) (a) Property known to be used exclusively for residential purposes may not be assessed, and such properties will be identified as BID exempt properties.

66.1109(1)(f)(5): Michael, Best & Friedrich, LLP has previously opined that the Operating Plan complies with the provisions of Wis Stat. sec. 66.1109(1)(f)(1-4). Michael, Best & Friedrich, LLP has confirmed that, because no substantive changes are proposed in this amendment, no additional opinion is required.

**IX. Appleton Downtown Incorporated** - no change has been made to this section from the previous year.

A. Appleton Downtown Incorporated

The BID shall be a separate entity from Appleton Downtown Incorporated (ADI). ADI shall remain a private not-for-profit organization, not subject to the open meeting law, and not subject to the public records law except for its records generated in connection with its contract with the BID Board, and may, and it is intended, shall contract with the BID to provide services to the BID in accordance with the Plan. Any contracting with ADI to provide services to BID shall be exempt from the requirements of sec. 62.15, Wis. Stats., because such contracts shall not be for the construction of improvements or provision of materials. If the BID does contract for the construction of improvements or provisions of material, it shall follow the requirements of such statutes to the extent applicable to assure open, competitive procurement of contracts and purchases. Further, the annual accounting required under 66.1109 (3) (c) Wis. Stats. Shall be deemed to fulfill the requirement of 62.15 (14) Wis. Stats. Ownership of assets of Appleton Downtown Incorporated shall remain solely with Appleton Downtown Incorporated.

A. Binding Clause

The adoption of this Operating Plan is subject to the BID Board contracting with Appleton Downtown Incorporated to carry out this Operational Plan, and if such contract is not entered into by the first day of the Plan Year, then the Plan shall be null and void.

**X. Severability and Expansion** - no change has been made to this section from the previous year.

The Business Improvement District has been created under authority of 66.1109 of the Statutes of the State of Wisconsin.

Should any court find any portion of the BID Law or this Plan invalid or unconstitutional, said decision will not invalidate or terminate the Business Improvement District and this Business Improvement District Operating Plan should be amended by the Common Council of the City of Appleton as and when it conducts its annual budget approval and without necessity to undertake any other act.

All of the above is specifically authorized under 66.1109 (3) (b) of the BID Law.

If it is determined by a court or administrative body that the parcel of property not be subject to general real estate taxes may not be included within the District, then said parcels shall be excluded from the definition of the district.

All appendices are hereby incorporated by this reference.

# **APPENDIX A**

## **2023 Plan of Action**



# BUSINESS IMPROVEMENT DISTRICT 2023 Plan of Action

**Mission**  
Our mission to establish a vibrant and accessible destination for business, learning, living and leisure is anchored in our focus to create an environment of success and sustainability for the new exhibition center, a robust employment center and a more livable Downtown. Our strategic initiatives build support for an exceptional visitor experience, a strong business climate and an attractive, accessible and inclusive downtown where more people want to live.

**BID Goals and Objectives:**  
The BID seeks to protect public and private investments in downtown Appleton and to attract new investment to the district. The BID exists to promote the orderly development of the district in cooperation with the City of Appleton, including implementation of the Downtown Plan (Chapter 14 of the Comprehensive Plan) and to develop, redevelop, maintain, operate, and promote the District. The BID shall work to preserve and improve economic, cultural, and social conditions within the District by facilitating partnerships of people and organizations to achieve mutual goals. The BID provides the necessary funding to plan, evaluate, facilitate and implement District development projects, planning activities, and promotional activities that fit within the identified mixed-use strategy for developing viable and sustainable markets that the District in downtown Appleton can serve.

**The State of Downtown Appleton (7/2022)**  
The BID and ADI remain committed to supporting downtown businesses through this time of economic recovery and labor instability. We continue to focus on sustaining a clean, safe, livable environment, promoting quality consumer experiences and attracting and retaining a strong business mix within the district.

Business retention is at the core of our work. With some businesses operating with employees working from home and others with limited hours and staff, the employee base in Downtown Appleton is in a rebounding state. Reduced staffing levels subsequently has an impact on hospitality, service and retail businesses in the district. An increased marketing focus will include promoting employment opportunities with a more comprehensive list on our website. We will continue to work with investing developers to attract new businesses to the district.



The future of commercial real estate is also of concern as some employers continue work at home solutions. Current conditions are improving as we welcome AZCO Inc.'s Appleton office to downtown and other expanding businesses are seeking additional space for employees. Monitoring trends and large employer plans will be an important focus. Adaptive reuse of commercial space may be a development shift in the future.

Our work to create One Great Place is also about talent attraction. As the premier arts and entertainment district of the Fox Cities, downtown is a quality of life benefit highlighted by employers throughout the region to attract and retain a talented workforce. Employees are more often making a decision on job selection based on community and quality of life. By adopting a creative placemaking approach to activating public spaces, recruiting a healthy business mix and integrating public art, we position downtown for employment growth and increased residential interest.

Across the nation the trend toward urban living amidst vibrant cultural districts continues. People are desiring convenient, car-optional neighborhoods where residents can walk to work, shop and access entertainment. With several residential developments are under construction, and more on the horizon, Downtown Appleton is benefited from this trend and the ADI and BID boards are optimistic that we are emerging as a destination for urban living. A focus on providing the needed amenities to support residents such as grocery, nail salon, package mailing facility, green space for dogs and others will need to be a priority for recruitment.

As the City's College North plan is adopted and potential development is explored, we aim to align with the work of the City Community Development department to leverage resources and collaborate as needed to support the growth opportunities. We will explore options to expand placemaking elements and walkability amenities.

Downtown Appleton continues to be a critical central social district. ADI sponsored programs such as the Saturday Farm Market, free concerts in the park and sidewalk activities continue to offer opportunities to engage in the community and connect with local food and local arts. Public art projects like the Downtown murals and sidewalk chalk walk continue to bring vibrancy in an open air walkable environment.

Downtown cleanliness is of utmost importance. Continuing our partnership with the CARE program and expanded services with private contracts are expected to improve downtown cleanliness. Ongoing safety measures are also an important focus for the BID, ADI and our business neighbors; monthly meetings that include Pillars, APD, the City of Appleton, Valley Transit and several other partners discuss and monitor activity. Assisting in monitoring traffic and sidewalk safety along with the new APD traffic safety officer will be an ongoing collaborative effort.

A Downtown for All message of inclusion through our programs and projects keeps us centered on diversity in our work such as event vendor mix, artists, music, murals, business recruitment and talent attraction.

## **OUR BRIGHT FUTURE**

As the City, BID, ADI, CDA and its partners continue to plan and invest in downtown Appleton, they will be guided by the following vision and principles set forth by the City: “Downtown Appleton is a great American urban neighborhood and employment center with world class arts and entertainment.”

1. Invest in the growth of downtown neighborhoods with diverse housing options and residential amenities
2. Fully embrace and leverage the diverse arts, cultural, and educational assets of the community
3. Increase connectivity, trails, and recreation opportunities between the downtown, the Fox River, and the region
4. Foster a culture of walking and biking
5. Promote quality development along the Fox River by embracing the region’s industrial and natural heritage
6. Support diverse partnerships which make downtown more attractive for residents and visitors through: activities and events; public art and place making; on-going maintenance; and promotion and marketing
7. Create a safe, welcoming, inclusive and accessible downtown
8. Grow downtown as the employment center for the region
9. Continue to support events and entertainment which safely draw visitors to downtown Appleton
10. Collaborate with community partners to increasing leisure travel and sports tournament travelers to Appleton and maximize the value of the Fox Cities Exhibition Center
11. Support the launch and growth of unique, independent businesses

## **MARKET FINDINGS**

The 2017 Appleton Downtown Market Analysis identifies the following key assets and subsequent development and community priorities that reflect the public input and discussion throughout the plan development.

### **Key Assets:**

1. Sizeable daytime workforce
2. A thriving arts/entertainment/culture/educational scene
3. The Fox River, an extensive parks system, and growing trail network
4. Diverse events and programs draw thousands of visitors
5. Strong diverse business mix
6. College Avenue, which is walkable and economically vibrant

### **Downtown Community Priorities:**

- A strong local economy that supports businesses of all size in all sectors
- An inclusive and welcoming downtown that encourages belonging

- Build downtown as a destination for leisure and business travel
- Strong livable Downtown neighborhoods with a variety of housing stock
- Improved traffic safety and walkability
- Improved connectivity to the Riverfront
- Accessible and affordable parking solutions
- Enhanced and expanded streetscapes throughout Downtown
- Expand public art & creative culture
- Strengthened partnership with Lawrence University and Appleton Area School District

## **2023 BID/ADI/CDA Work Plan**

For the next year, the ADI, CDA and BID boards will continue to advance the four imperatives for advancing Downtown’s mission and supporting downtown businesses through the current economic recovery:

1. Play an integral role in business retention and recruitment efforts to maintain an occupancy rate of 80% or greater.
2. Promote Downtown living options and curate livability enhancements to attract residents.
3. Collaborate with our community partners to boost our downtown tourism economy.
4. Increase communication and interaction with downtown business owners to encourage more engagement and cross promotion.

The BID work Plan is aligned with the seven initiatives outlined in the City of Appleton Downtown Plan. The plan is presented as a collaborative plan incorporating efforts by the Business Improvement District, Appleton Downtown Inc and Creative Downtown Appleton Inc.

<b>#1 Urban Form &amp; Design</b>	<b>ADI/BID/CDA</b>
Annual flowers in the planters and Houdini Fountain area and street pole banner replacement as needed	BID/ADI
Manage the Façade Improvement grant program	BID/ADI
Increase flexible outdoor seating and enhance public use areas	ADI/CDA
Fund and have installed intersection lights at one or more of the following: Superior, Appleton, Oneida and Morrison	ADI/CDA
Work with DPW to update the graphics and information in the sidewalk kiosks	BID/ADI
Pursue permission to extend sidewalk cafes for licensed establishments with neighbor agreement	BID/ADI

<b>#2 Tourism, Arts, Entertainment &amp; Education</b>	<b>ADI/BID/CDA</b>
Maintain the Visitor Area kiosk within our office	BID/ADI
Collaborate with community partners to increasing leisure travel and sports tournament travelers to Appleton and maximize the value of the Fox Cities Exhibition Center	BID/ADI

Host annual events: Farm Market, Heid Music Concert Series, Lunchtime Live concert series, Death by Chocolate, Soup Walk, spring and fall Craft Beer Walks, Spring Fashion Show, Fall Shop Sip and Stroll, Mini Golf on the Town, Cultural Cuisine Walk, Light up Appleton, Downtown Creates walking features: Student Art, Street Music Night, Chalk Walk, Paint out, Avenue of Ice	ADI/CDA
Partner with Community organizations to co-host or support events and programs: Rhythms of the World, Mile of Music, Heid Music's Street Music Week, Fox Cities Chamber of Commerce Octoberfest, City of Appleton parades, Appleton Public Library Story Walk and more	ADI/CDA
Enhance Downtown environment with interactive art	ADI/CDA
Extend creative elements to side streets: such as painted intersections, murals, sculptures, sidewalk art	ADI/CDA

<b>#3 Neighborhood &amp; Residential Development</b>	<b>ADI/BID/CDA</b>
Host a downtown living Open House event and promote downtown living options	ADI
Promote and distribute Downtown Welcome packet for new residents	BID/ADI
Host Downtown resident meet and greet events twice a year	ADI/CDA
Add pet friendly amenities and explore options for a downtown dog friendly green space	ADI/CDA
Pursue business recruitment for: grocery store, nail salon, bookstore, teen hang outs, dry cleaners, more restaurants	BID/ADI
Work with APD to better manage and discourage cruising, street behavior and noise	BID/ADI

<b>#4 Downtown Development &amp; Business Retention</b>	<b>ADI/BID/CDA</b>
Collaborate with the City of Appleton to update Downtown development and recruitment materials and host a state of the downtown event	BID/ADI
Cooperatively market the City TIF and ARA grant programs	BID/ADI
Promote and distribute Downtown Welcome packet for new employees	BID/ADI
Manage and promote the Gift Certificate Program	BID/ADI
Manage the Business Recruitment grant program	BID/ADI
Manage the matching marketing grant program	BID/ADI
Host quarterly Business to Business event and initiative to promote services in downtown	BID/ADI
Establish a business recruitment team within the Econ Dev committee	BID/ADI
Establish an Employee Appreciation day promotion and activities	ADI
Revisit the Ambassador program with past Board members to make ongoing business visits	BID/ADI

<b>#5 Mobility and Parking</b>	<b>ADI/BID/CDA</b>
Include and promote accessibility improvements through the façade grant program	BID/ADI
Collaborate with the APD traffic safety officer to improve sidewalk and vehicle traffic safety	BID/ADI
Promote the use of the Passport parking app, meter options and permit information through social media and website	BID/ADI
Host walk audits of BID side streets to identify walkability improvement opportunities	ADI
Work with the City to create and install signage for accessing bike lanes and trails	ADI

Pursue parking system amendments based on survey results	ADI
Partner role in supporting the downtown trolley	ADI

<b>#6 Downtown Management</b>	<b>ADI/BID/CDA</b>
Manage the cooperative agreement between the BID, ADI and CDA	BID/ADI
Manage image marketing strategy to promote, shopping, dining, attractions, employment, living	BID/ADI
Communicate Weekly to our members with the Eblast system	BID/ADI
Create and manage a social media network for business members to connect and share resources	BID/ADI
Host monthly committee meetings: Marketing committee, Hospitality committee, Washington Square committee, Economic Development committee, Museum Directors, quarterly BID Board meetings	BID/ADI
Manage cleaning contracts and oversee project needs to enhance the cleanliness of the district	BID/ADI
Host annual networking events for members: ADI Business Awards, Golf Outing and BID/ADI Annual Meeting	BID/ADI
Establish internal systems for more accurate metric tracking	BID/ADI
Expand the membership structure as an investment support structure with greater reach to regional businesses that are looking to enhance workforce attractiveness of the Fox Cities	ADI

<b>#7 Public Spaces &amp; Riverfront</b>	<b>ADI/BID/CDA</b>
Partner role in supporting the downtown trolley	ADI
Partner with the City of Appleton to support Riverfront connectivity and wayfinding initiatives	ADI
Install the parklet in a new location on the east end	ADI/CDA

<b>Annual Statistics tracking: (2022 base tracking in process)</b>	
Grant and sponsorship funds	
Maintenance contract hours and results	
Occupancy of commercial units	
Occupancy of residential units	
Marketing reach and social media following tracked quarterly	
Business breakdown by industry within the BID: commercial, retail, hospitality, attraction, living	
Member engagement and participation with annual events and promotions	
Event attendance estimates	

# **Appendix B**

## **2022 Midyear Review**

## 2022 BID Work Plan Second Quarter report

#1 Urban Form & Design	ADI/BID/CDA	Second Quarter 2022
Street pole banner replacement	BID/ADI	Replacement banners are up and more are ordered
Annual flowers in the planters and Houdini Fountain area	BID/ADI	Sidewalk flowers are in and we have connected with the master gardeners to design and maintain the areas around the fountain in Houdini Plaza
Manage the Façade grant program	BID/ADI	Applications listed below
Increase flexible outdoor seating and public use areas	ADI/CDA	Parklet area updated – still need to paint the tables The State street parklet is installed Would like to put Adirondack chairs back in Houdini Plaza – push back from neighboring businesses. Feedback appreciated

#2 Tourism, Arts, Entertainment & Education	ADI/BID/CDA	
Maintain the Visitor Area kiosk within our office	BID/ADI	With the expected office renovation we are looking at ways to expand our visitor area and create better access to the materials. Outdoor brochure box or holders will be added. Construction happening sooner than expected. Have requested more wall space for visitor information.
Collaborate with community partners to increasing leisure travel to Appleton and maximize the value of the Fox Cities Exhibition Center	BID/ADI	Conventions are back and visitor traffic is increasing. Recent WCMA conference we helped make dinner reservations for 85 of their attendees through signupgenius. Visitor spending increasing quickly in 2022. CVB reports we are near pre pandemic occupancy – 57.6%.
Explore opportunities to connect with sports tournament travelers	BID/ADI	We meet monthly with the CVB to connect with groups coming in. CVB has launched the tourism master plan process – ADI is involved on the committee.
Host annual events: Farm Market, Heid Music Concert Series, Lunchtime Live concert series, Death by Chocolate, Soup Walk, spring and fall Craft Beer Walks, Spring Fashion Show, Fall Shop Sip and Stroll, Mini Golf on the Town, Community Public Market events, Light up Appleton, Downtown Creates walking features: Playful Planter, Artful Chairs, Chalk Walk, Paint out, Avenue of Ice	ADI/CDA	<b>First quarter events:</b> 2 Community Public Markets, Vacation Destination, Death by Chocolate, Avenue of Ice, Ladies day tickets and Mini Golf Teams on sale now! <b>Second quarter events:</b> Ladies Day Fashion Show and shopping, Mini Golf, Craft Beer Walk, Dt Creates Student Gallery Walk, Memorial Day Parade, Concerts, Lunch Time Live, Flag Day Parade, Farm Market, Street Music Week, Make Music Day,

CDA to curate public art projects as the opportunities occur	ADI/CDA	Proposed mural on the Block 800 building. \$5000 committed and another \$5000 needed to start painting. Looking for additional support.
Partner with Community organizations to co-host or support events and programs: Rhythms of the World, Mile of Music, Heid Music's Street Music Week, Fox Cities Chamber of Commerce Octoberfest, City of Appleton parades, Appleton Public Library Story Walk, and others	ADI/CDA	Current Planning committee involvement: Rhythms of the World, Street Music Week, Make Music Day, Festival of Cultures, Octoberfest, Mile of Music,  The new museum pass will go on sale this summer and will be a month long pass for September unlimited visits to five museums for \$25/person or \$100 for a family.

<b>#3 Neighborhood &amp; Residential Development</b>	<b>ADI/BID/CDA</b>	
Host a downtown living Open House event with video promotion	ADI	As part of our image video work, we have several 2 minute videos in the work: the winter seasonal video, living in downtown, business attraction. Downtown Living video work part of the proposed group of new videos Tour at 320 East with the Econ Dev Committee June 22 12:30-1pm
Promote and distribute Downtown Welcome packet for new residents	BID/ADI	Updated Welcome packets are ready and being distributed
Host Downtown resident meet and greet events twice a year	ADI/CDA	Resident Meet and Greet will be moved to Sept. 10 for Rhythms of the World in Houdini Plaza.  We are also engaged in the Age Friendly Initiative with the City of Appleton and will host a listening session in downtown this summer and help distribute the survey.
Add pet friendly amenities and explore options for a downtown dog friendly green space	ADI/CDA	Private space for a dog park is no longer an option. Other options to look at: Kalata Place. City will install the second pet waste station on the west end. We will work with CARE to empty it weekly – a new application is now required.

<b>#4 Downtown Development &amp; Business Retention</b>	<b>ADI/BID/CDA</b>	
Downtown Development and recruitment event, webinar or video created to share data and information with developers and business interests	BID/ADI	Insight will host InDevelopment in Appleton on September 13, 2022. We are exploring a Downtown Update to developers for an October date.



Cooperatively market the City TIF and ARA grant programs	BID/ADI	TIF 12 and 11 boundaries have been amended. New maps are available on the City website. Several interested improvement projects have already reached out. We continue to promote the collaborative leverage of both programs.
Promote and distribute Downtown Welcome packet for new employees	BID/ADI	No new updates – packets are going out.
Manage and promote the Gift Certificate Program	BID/ADI	No new updates – sales continue to be steady throughout the year.
Manage the Business Recruitment grant program	BID/ADI	Murphy’s Family Barbershop and Salon All tied Up Floral Café Franklin Street Salon Studios Yoga 3 Appleton 3 Tall Pines Eroding Winds League of Woman Voters Tiffani’s Bridal
Manage the matching marketing grant program	BID/ADI	Grant program had committed on \$6227 in matching grant awards Program is still open until the dollars are granted

Increase brand and image marketing	BID/ADI	<p>Appleton Mag will feature Appleton in April and we are working on an article and ad for the magazine. Other image ads: Fun in WI, Fox Cities Magazine, WI Event Guide, Airport, hotel guides, Downtown Guide.</p> <p>Met with CVB regarding additional options for partnership to extend our image marketing beyond the Fox Cities. We are exploring partner opportunities and setting a follow up meeting with CVB.</p> <p>Current focus on vertical video – concepts for the first round:  Video 1: B2B – Make your business stand out  Video 2: Getting Around Downtown  Video 3: Shop for Summer in Downtown Appleton  Video 4: Full Day in Downtown</p> <p>Travel WI summer campaign which targets 12 markets including Chicago, Duluth, Rochester, Cedar Rapids, Des Moines, Rockford. Looking for ways to play off of the Here’s to Summer in WI – with tag like: Here’s how we summer in Downtown Appleton</p> <p><a href="https://www.industry.travelwisconsin.com/travel-promotion/seasonal-marketing-plan/">https://www.industry.travelwisconsin.com/travel-promotion/seasonal-marketing-plan/</a></p>
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#5 Mobility and Parking	ADI/BID/CDA	
Include and promote accessibility improvements through the façade grant program	BID/ADI	Acoca Coffee applied for an automatic door addition to their building. The new bookstore is also interested in making accessibility improvements once they are up and operating.
Expand the sidewalk safety program: walk your wheels signage, social media messaging	BID/ADI	Concerns continue with the BIRD scooters. We reached out to BIRD with sidewalk parking and riding concerns. They would like to meet with us to look at solutions. Working on scheduling
Promote the use of the Passport parking app	BID/ADI	The downtown parking map available on our website is now updated and Refreshing our how to use the app video
Host walk audits of BID side streets to identify walkability improvement opportunities	ADI	Economic Development committee will look to fall for scheduling a walk of side streets. We walk the downtown discuss projects, facades, condition, walkability etc.. All are welcome to join us.

#6 Downtown Management	ADI/BID/CDA	
Cooperative agreement between the BID and ADI. Management of:		

Image and event marketing to promote, shopping, dining, attractions, employment, living: such as the Downtown Guide, Small Business Saturday, Vacation Destination, Golden Ticket Giveaway, One Great Give, I'm Worth It promotion,	BID/ADI	Marketing report is attached Please note Google Analytics is switching to a new platform called GA4 across the board for all users. During this transition, data was not being collected, therefore, we do not have analytics on our website for the month of April. All data shown above was resumed at the beginning of May. Normal data collection will resume in the Q3 report.
Weekly public and member Eblast	BID/ADI	weekly updates on happenings, committee minutes and City committee meetings
Create and manage a social media network for business members to connect and share resources	BID/ADI	The private business Facebook group was launched. Abby is using it to share information but it's intended use is to increase communication between business owners. 90 members and growing.
Host monthly committee meetings: Marketing committee, Hospitality committee, Washington Square committee, Economic Development committee, Museum Directors	BID/ADI	In addition to our committee meetings we also participate in monthly: Octoberfest meeting, age friendly network meetings, various City committees, Chamber of Commerce public policy meetings, Mile, CVB Master Plan Tourism, East Central Planning trail/bike community impacts study, WDAC state Board, WI Creates Board.
The BID Board of Directors quarterly meetings	BID	Next meeting June 15 following the joint board retreats
Manage and financially support the CARE team contract in partnership with Riverview Gardens and the City of Appleton, to ensure daily sidewalk cleanup. Additional contract services as needed.	BID/ADI	I receive weekly reporting from Pfefferle on any graffiti removed, damaged property reports, weed reports, large items, dumpster fires, etc.. I direct to the proper City department or the Pfefferle team cleans or removes as they can.
Host annual networking events for members: ADI Business Awards, Golf Outing and BID/ADI Annual Meeting	BID/ADI	First B2B luncheon is scheduled for June 28 11:30-1pm at J. Geiger Consulting, Lunch will be included and Jeff will present on how to leverage technology for your small business and provide other service based businesses the opportunity to share their B2B service. Invites are targeted to serviced based business. No cost to attend.

<b>#7 Public Spaces &amp; Riverfront</b>	<b>ADI/BID/CDA</b>	
Partner role in supporting the downtown trolley	ADI	Trolley will run this year and ADI will contribute a reduced fee this year. \$5000
Riverfront committee with a focus on enhancing walkability, connectivity and promotion between destination points including wayfinding signage	ADI	Still looking for a chair for a riverfront committee. No new work accomplished here.
Cooperatively draft a parklet policy proposal with City of Appleton departments	ADI/CDA	Parklet Policy is adopted by City council – complete! Parklet is installed on State Street.

## 2022 2<sup>nd</sup> Quarter BID Marketing Report

<b>EVENT</b>	<b>DATE</b>	<b>SPONSORS</b>	<b>ADVERTISING/PROMO</b>	<b>ATTENDANCE</b>	<b>NEW NOTES</b>
<b>Ladies' Day Spring into Style Fashion Show</b>	Saturday, April 9 <sup>th</sup>	Star Supporters: Tundraland and AZCO Sponsors: Renewal by Andersen, ATW, Clarity Care, Fox Communities Credit Union, TDS Media Partner: Y100 Country Supporting: Wisconsibs	Radio advertising with Y100 Digital advertising with Cumulus Facebook advertising , website, eblasts, social media with FB event, Fox Cities Magazine ad	Attendance lower than 2019, but good turnout and good participating from the Downtown retailers	Considering changing location from the Hilton Paper Valley Hotel to The 513
<b>Mini Golf on the Town</b>	Saturday, April 9 <sup>th</sup>	Star Supporters: Tundraland and AZCO Sponsor: Renewal by Andersen	Radio advertising with Woodward radio on KISS FM Facebook advertising , website, eblasts, social media with FB event	Attendance was great, around 500 playing	There was a lot of back and forth with the bars and restaurants, closing of Bad Badger, etc. We need to have more clear communication and commitment for the event next year
<b>One Great Give</b>	May 1 - 7	Star Supporters: Tundraland and AZCO Sponsor: Renewal by Andersen	Facebook advertising , website, eblasts, social media with FB event	Good reports from businesses about business throughout the week	A total of \$8,823 was raised by all 15 businesses, the most the event has ever raised, great feedback from the community
<b>Craft Beer Walk</b>	Saturday, May 14 <sup>th</sup>	Star Supporters: Tundraland, AZCO and Renewal by Andersen Sponsors: Hilton Appleton Paper Valley Hotel, Wisconsin Distributors, General Beer, Lee Beverage and Kay Distributing Media Partner: 96.9 The Fox	Radio advertising with 96.9 The Fox, ticket giveaways on air Print advertising with Appleton Monthly Facebook advertising , website, eblasts, social media with FB event	Great attendance, over 100 tickets sold online and more sold by participating businesses in store	Overall good feedback from the businesses, a bit of miscommunication about VIP offers that will be clarified for the fall event Brought a lot of business during the full duration of the event

<p><b>Downtown Creates: Student Art Gallery</b></p>	<p>Friday, May 20<sup>th</sup></p>	<p>Presented by: Kimberly-Clark Cares  Star Supporters: Tundraland, AZCO and Renewal by Andersen  Sponsors: TDS, Warning Lites, ATW, Hilton Appleton Paper Valley Hotel, Johnson Financial Group and the City of Appleton</p>	<p>Digital advertising with Cumulus   Facebook advertising , website, eblasts, social media with FB event</p>	<p>Consistent traffic Downtown viewing the art and listening to live performers, cold weather might have been a deterrent</p>	<p>A first time event for the Downtown Creates Series, we are hoping to continue to grow the event involving more local schools. A great way to bring families Downtown</p>
<p><b>Heid Music Summer Concert Series</b></p>	<p>Thursday's June 2 – August 25</p>	<p>Presented by US Venture  Star Supporters: Tundraland, AZCO and Renewal by Andersen  Sponsors: Heid Music, Nicolet National Bank, Festival Foods, Steve &amp; Teri Winter, General Beer, Wisconsin Distributors, Brian Hodgkiss Injury Lawyers  Media Partners: Woodward Radio (105.7 WAPL, 95.9 KISS FM, 104.3 KZ and 103.5 WAPL)</p>	<p>Radio advertising with Woodward radio across multiple stations (each band is paired with a station that fits their genre)   Facebook advertising , website, eblasts, social media with FB event</p>		<p>Great feedback on the line up from the community, a lot of inquiries about the event</p>

<b>Lunchtime Live on the Road!</b>	Friday's June 3 – August 26	Presented by US Venture Star Supporters: Tundraland, AZCO and Renewal by Andersen Sponsors: Heid Music, Nicolet National Bank, Festival Foods, Steve & Teri Winter, General Beer, Wisconsin Distributors, Brian Hodgkiss Injury Lawyers Media Partners: Woodward Radio (105.7 WAPL, 95.9 KISS FM, 104.3 KZ and 103.5 WAPL)	Radio advertising with Woodward radio across multiple stations, mention of the performance during concert announcements  Facebook advertising , website, eblasts, social media with FB event		Working closely with businesses to help them promote the shows they are hosting, hoping for better traffic now that it's on Friday afternoons versus Thursday afternoons
<b>Downtown Creates: Street Music Night</b>	Friday, June 17	Presented by: Kimberly-Clark Cares Star Supporters: Tundraland, AZCO and Renewal by Andersen Sponsors: TDS, Warning Lites, ATW, Hilton Appleton Paper Valley Hotel, Johnson Financial Group and the City of Appleton	Digital advertising with Cumulus  Facebook advertising , website, eblasts, social media with FB event		A first time event for the Downtown Creates Series partnering with Heid Music during Street Music week to bring performers Downtown Friday night up and down College Avenue

<b>Farm Market</b>	Saturday's June 18 – October 29	Presented by: US Venture Star Supporters: Tundraland, AZCO and Renewal by Andersen Sponsors: Theda Care, Gateway Chiropractic, City of Appleton, Hilton Appleton Paper Valley Hotel, First Weber Realtors, Sury-Dry, Ulness Health, Warning Lites, Crunch Fitness, Mortgage Nerds Media Partner: Healthy Living and Wellness Magazine Kids Market Sponsor: Fox Communities Credit Union EBT Match Sponsor: Community First Credit Union Music Sponsor: Consolidated Construction Co.	Facebook advertising , website, eblasts, social media with FB event		30 <sup>th</sup> Anniversary
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<b>OTHER DOWNTOWN EVENTS</b>	<b>PRESENTED BY</b>	<b>DATES</b>	<b>NOTES</b>
WNA APRN Forum Pharmacology & Clinical Update Conference	Wisconsin Nurses Association	April 20-24 2022	400 attendees at the Hilton Appleton Paper Valley
WI Credit Union League Annual Convention, 600 attendees, Fox Cities Exhibition Center & Hilton Appleton Paper Valley Hotel	The Wisconsin Credit Union League	May 11 - 13	Annual Convention, 600 attendees, Fox Cities Exhibition Center & Hilton Appleton Paper Valley Hotel
Memorial Day Parade	City of Appleton	May 30 <sup>th</sup>	
Street Music Week	Heid Music	June 13 - 17	
Flag Day Parade	City of Appleton	June 11	Introducing new elements to the event: live music, Cavalcade of cards, etc.

<b>FREE PUBLICITY</b>	<b>PAID IMAGE ADVERTISING</b>
Monthly Interviews with WVBO	CopperLeaf guestbook (annual)
Monthly Interviews with Y100	APRD City Guide Back Cover Full Page ad
Local 5 Live interviews for Mini Golf on the Town and Ladies' Day Fashion Show	Appleton International Airport Billboard in Luggage Area (annual)
Local 5 Live interview for One Great Give	1/2 page with Appleton Monthly May Issue
Local 5 Live interview for Craft Beer Walk	Found in the Fox Ad Fox Cities Magazine, April and June Issues
Focus Fox Valley Radio Interview – Covering all summer events	Healthy Living and Wellness Full Page Ad, May and June Issues
Appleton Monthly - Article on Craft Beer Walk	
Fox Cities Convention and Visitors Bureau Newsletter	
Appleton Monthly Events Calendar	

**COMMUNICATION STATISTICS: May 1 – June 2**

Appleton Downtown Facebook Page Likes	18,510	Email Active Contacts	
Farm Market Facebook Page Likes	18,874	@Dwtnappleton Twitter Followers	
Blog Posts	850	Website Sessions: 10,824	
Instagram Followers	6,733	By Device:	
		Mobile 67.5 % Desktop 30.3% Other 2.2%	
Engaged Sessions	9,561	New Visitors	9,656
<ul style="list-style-type: none"> <li>Views a page for 10 or more seconds</li> <li>Visits 2 or more pages</li> <li>Completes an action on page (eg. filling out a form)</li> </ul>			
<b>Website Visits by Location</b>		<b>Top Referral Sites</b>	
Appleton, WI	1,073	Google	2,228
Milwaukee	538	Direct Search	694
Kaukauna	301	Bing	83
Neenah, WI	106	Robly (Eblast platform)	80
Chicago	97		
<b>Website Visits from Social Media : 594</b>		<b>Top Landing Pages</b>	
<b>Facebook: 196</b>		Downtown Appleton Farm Market	840
		Home Page	538
		Heid Music Summer Concert Series	471
		Upcoming Events	422

**Google Analytics is switching to a new platform called GA4 across the board for all users. During this transition, data was not being collected, therefore, we do not have analytics on our website for the month of April. All data shown above was resumed at the beginning of May. Normal data collection will resume in the Q3 report.**



# **APPENDIX C**

**2023**

**Budget**



# APPENDIX D

## 2022 BID Board List

<b>Board Member</b>	<b>Business</b>	<b>Category</b>
Monica Stage – Treasurer	City of Appleton	City Government
Benjamin King	King Brokerage	Property owner / Business Owner –office/ Downtown Resident
Brad Schwebs	NAI Pfefferle/Pfefferle Management	Property owner representative / Office
Gary Schmitz – President	Retired	
Marcie Harris	Triumph Engineering	Property and Business Owner – office
Bill Wetzel	Acoca Coffee	Property Owner / Business Owner Hospitality
Jason Druxman– Secretary	Avenue Jewelers	Retail & property/co-owner
Tim Ceman	Noble Assets	Building Owner
Nate Weyenberg	Angels Forever Windows of Light	Property Owner / Business Owner: Retail

# **Appendix E**

## **Schedule of Assessments (attached)**

Parcel	#	Dir	Street Location	Owner first	Owner MI	Owner last	Acres	Land Assessed Value	Building Assessed Value	Total Assessed Value	% of Condo	Unit	Assessment	Min/Max Adj	Total Assessment
312000200	303	E	COLLEGE AVE			WP & R INC	0.17	128,600	171,400	300,000			825.00	825.00	825.00
312000300	305	E	COLLEGE AVE			GO TO COLLEGE LLC	0.08	54,900	98,800	153,700			422.68	422.68	422.68
312000400	311	E	COLLEGE AVE			311 COLLEGE AVE LLC	0.07	43,000	117,000	160,000			440.00	440.00	440.00
312000700	321	E	COLLEGE AVE	JIMMY	B	PHIMMASENE	0.11	68,300	237,800	306,100			841.78	841.78	841.78
312001700	231	E	COLLEGE AVE			FURMAN PROPERTIES LLC	0.09	68,600	281,400	350,000			962.50	962.50	962.50
312001900	229	E	COLLEGE AVE			NOBLE ASSETS INC	0.04	27,400	98,000	125,400			344.85	344.85	344.85
312002000	227	E	COLLEGE AVE			FIFTY-ONE FIFTY LLC	0.04	30,700	93,400	124,100			341.28	341.28	341.28
312002100	225	E	COLLEGE AVE	WENDY		KRUEGER ET AL	0.04	32,100	91,900	124,000			341.00	341.00	341.00
312002200	223	E	COLLEGE AVE			223 COLLEGE LLC	0.08	59,400	123,300	182,700			502.43	502.43	502.43
312002300	219	E	COLLEGE AVE			219 COLLEGE LLC	0.08	59,400	45,600	105,000			288.75	288.75	288.75
312002500	217	E	COLLEGE AVE	ANTHONY	A	MUELLER	0.08	59,400	112,600	172,000			473.00	473.00	473.00
312002600	215	E	COLLEGE AVE			KORN ACQUISITIONS R.E. LLC	0.08	59,700	254,300	314,000			863.50	863.50	863.50
312002700	213	E	COLLEGE AVE			SHIRAZ HOLDINGS LLC	0.08	59,700	162,300	222,000			610.50	610.50	610.50
312003100	201	E	COLLEGE AVE			GABRIEL LOFTS LLC	0.38	303,800	3,996,200	4,300,000			11,825.00	5,500.00	5,500.00
312003800	101	E	COLLEGE AVE			BEHNKE PROPERTIES LLC	0.04	37,900	194,700	232,600			639.65	639.65	639.65
312003900	103	E	COLLEGE AVE			FA & VB LLC	0.15	122,300	426,700	549,000			1,509.75	1,509.75	1,509.75
312004000	107	E	COLLEGE AVE	RAYMON	L	ASPLUND	0.06	49,400	124,000	173,400			476.85	476.85	476.85
312004100	109	E	COLLEGE AVE			DKS REALTY WISCONSIN IV LLC	0.06	53,000	127,000	180,000			495.00	495.00	495.00
312004200	111	E	COLLEGE AVE			DKS REALTY WISCONSIN IV LLC	0.06	53,000	136,000	189,000			519.75	519.75	519.75
312004300	113	E	COLLEGE AVE			BEHNKE PROPERTIES LLC	0.07	55,100	140,800	195,900			538.73	538.73	538.73
312004400	115	E	COLLEGE AVE			BEHNKE PROPERTIES LLC	0.18	152,900	420,900	573,800			1,577.95	1,577.95	1,577.95
312004600	121	E	COLLEGE AVE			BEHNKE PROPERTIES LLC	0.06	46,400	113,200	159,600			438.90	438.90	438.90
312004700	123	E	COLLEGE AVE			ECO PROPERTIES LLC	0.05	44,900	115,100	160,000			440.00	440.00	440.00
312004800	125	E	COLLEGE AVE			SOMA CORPORATION	0.06	47,500	289,000	336,500			925.38	925.38	925.38
312004900	127	E	COLLEGE AVE			BEHNKE PROPERTIES LLC	0.07	58,700	126,100	184,800			508.20	508.20	508.20
312005000	129	E	COLLEGE AVE			BEHNKE PROPERTIES LLC	0.07	58,700	182,700	241,400			663.85	663.85	663.85
312005100	133	E	COLLEGE AVE			133 E COLLEGE WI WCO LLC	0.07	58,700	303,300	362,000			995.50	995.50	995.50
312005101	135	E	COLLEGE AVE			GREENSIDE PROPERTIES LLC	0.07	61,900	135,600	197,500			543.13	543.13	543.13
312006900	107	W	COLLEGE AVE			BAZIL PROPERTIES LLC	0.1	90,100	359,900	450,000			1,237.50	1,237.50	1,237.50
312007000	101	W	COLLEGE AVE			ZUELKE FLATS LLC	0.15	133,100	1,789,000	1,922,100			5,285.78	5,285.78	5,285.78
312007200	100	W	LAWRENCE ST			100 W LAWRENCE STREET FEE LLC	0.79	519,100	7,504,900	8,024,000			22,066.00	5,500.00	5,500.00
312007400	221	W	COLLEGE AVE			SHAH BECK GROUP LLC	0.58	533,600	2,472,800	3,006,400			8,267.60	5,500.00	5,500.00
312007800	215	W	COLLEGE AVE			PASSION8 LLC	0.11	98,400	207,500	305,900			841.23	841.23	841.23
312007900	211	W	COLLEGE AVE			KING BROKERAGE LTD	0.17	146,200	625,600	771,800			2,122.45	2,122.45	2,122.45
312008000	207	W	COLLEGE AVE			TUSLER PROPERTIES LLC	0.08	73,000	229,900	302,900			832.98	832.98	832.98
312008100	205	W	COLLEGE AVE	STEVEN		HECKENLAIBLE LIV TRUST	0.05	43,200	231,800	275,000			756.25	756.25	756.25
312008200	203	W	COLLEGE AVE			CLEO'S REAL ESTATE PARTNERSHIP	0.05	44,200	260,100	304,300			836.83	836.83	836.83
312008300	201	W	COLLEGE AVE			201 W COLLEGE LLC	0.06	53,100	307,500	360,600			991.65	991.65	991.65
312008400	117	S	APPLETON ST			THEOBALD-APPLETON RENTAL PROPERTY LLC	0.03	24,200	114,000	138,200			380.05	380.05	380.05
312009200	343	W	COLLEGE AVE			DURTY PROPERTIES LLC	0.06	56,200	93,800	150,000			412.50	412.50	412.50
312009201	345	W	COLLEGE AVE			KONIETZKI HOLDINGS LLC	0.04	44,000	123,800	167,800			461.45	461.45	461.45
312009500	333	W	COLLEGE AVE			APPLETON HOTEL HOLDINGS LLC	0.35	321,700	2,026,100	2,347,800	21%		6,456.45	5,500.00	1,155.00
312009600	333	W	COLLEGE AVE			APPLETON HOTEL HOLDINGS LLC	2.5	1,963,700	8,442,900	10,406,600	79%		28,618.15	5,500.00	4,345.00
312023300	125	N	SUPERIOR ST			FOX CITIES CHAMBER OF COMMERCE	0.29	179,600	475,400	655,000			1,801.25	1,801.25	1,801.25

Parcel	#	Dir	Street Location	Owner first	Owner MI	Owner last	Acres	Land Assessed Value	Building Assessed Value	Total Assessed Value	% of Condo	Unit	Assessment	Min/Max Adj	Total Assessment
312023500	342	W	COLLEGE AVE			HVN COMMERCIAL HOLDINGS LLC	0.4	401,100	1,328,900	1,730,000			4,757.50	4,757.50	4,757.50
312023800	330	W	COLLEGE AVE	STEPHEN	M	EVANS	0.38	332,300	1,820,000	2,152,300			5,918.83	5,500.00	5,500.00
312024200	322	W	COLLEGE AVE			DOUGHLICIOUS REAL ESTATE HOLDINGS LLC	0.13	110,500	219,500	330,000			907.50	907.50	907.50
312024300	318	W	COLLEGE AVE			318 COLLEGE AVE LLC	0.38	326,700	500,300	827,000			2,274.25	2,274.25	2,274.25
312024800	310	W	COLLEGE AVE	NATHAN	S	WEYENBERG	0.07	57,000	105,000	162,000			445.50	445.50	445.50
312025000	300	W	COLLEGE AVE			FOX CITIES HOTEL INVESTORS LLC	0.36	333,700	6,618,300	6,952,000			19,118.00	5,500.00	5,500.00
312025300	131	N	APPLETON ST			BANK ONE	0.54	378,300	158,300	536,600			1,475.65	1,475.65	1,475.65
312025700	222	W	COLLEGE AVE			222 BUILDING LLC	0.62	567,800	10,472,900	11,040,700			30,361.93	5,500.00	5,500.00
312026000	210	W	COLLEGE AVE			PATTEN PROPERTIES LLC	0.17	144,200	706,800	851,000			2,340.25	2,340.25	2,340.25
312026300	200	W	COLLEGE AVE			BANK ONE	0.33	305,100	1,800,600	2,105,700			5,790.68	5,500.00	5,500.00
312027303	100	W	COLLEGE AVE			NKHH LLC	0.01	6,400	100	6,500	1.30%	50B	17.88	275.00	71.50
312027304	100	W	COLLEGE AVE			NKHH LLC	0.0043	3,900	100	4,000	0.80%	50C	11.00	275.00	44.00
312027305	100	W	COLLEGE AVE			ISLAND MEDICAL LLC ET AL	0.0043	3,900	100	4,000	0.80%	50D	11.00	275.00	44.00
312027306	100	W	COLLEGE AVE			ISLAND MEDICAL LLC ET AL	0.0027	2,500	3,200	5,700	0.50%	50E	15.68	275.00	27.50
312027309	100	W	COLLEGE AVE			NKHH LLC	0.0011	500	3,500	4,000	1.30%	100C	11.00	275.00	71.50
312027330	100	W	COLLEGE AVE			NKHH LLC	0.08	78,000	983,400	1,061,400	15.80%	300A	2,918.85	2,918.85	869.00
312027340	100	W	COLLEGE AVE			NKHH LLC	0.08	78,500	988,200	1,066,700	15.90%	400A	2,933.43	2,933.43	874.50
312027341	100	W	COLLEGE AVE			NKHH LLC	0.0005	500	4,400	4,900	0.10%	400B	13.48	275.00	5.50
312027342	100	W	COLLEGE AVE			NKHH LLC	0.0005	500	6,900	7,400	0.10%	400C	20.35	275.00	5.50
312028200	122	E	COLLEGE AVE			PFEFFERLE INVESTMENTS INC ET AL	0.51	447,100	1,928,800	2,375,900	34.00%	001	6,533.73	5,500.00	1,870.00
312028201	122	E	COLLEGE AVE			PFEFFERLE INVESTMENTS INC ET AL	0.0026	2,200	7,100	9,300	0.17%	002	25.58	275.00	9.35
312028202	122	E	COLLEGE AVE			WASHINGTON STREET R.E. INVESTMENT FUND I	0.14	123,900	1,194,600	1,318,500	9.42%	101	3,625.88	3,625.88	518.10
312028203	122	E	COLLEGE AVE			WASHINGTON STREET R.E. INVESTMENT FUND I	0.01	7,100	19,500	26,600	0.54%	102	73.15	275.00	29.70
312028204	122	E	COLLEGE AVE			WASHINGTON STREET R.E. INVESTMENT FUND I	0.01	12,200	71,600	83,800	0.93%	103	230.45	275.00	51.15
312028205	122	E	COLLEGE AVE			HOFFMAN HOLDINGS LLC ET AL	0.01	7,600	19,000	26,600	0.58%	104	73.15	275.00	31.90
312028206	122	E	COLLEGE AVE			APPLETON EDUCATION FOUNDATION INC	0.1	0	674,300	674,300	6.68%	105	1,854.33	1,854.33	367.40
312028207	122	E	COLLEGE AVE			PFEFFERLE INVESTMENTS INC ET AL	0.19	166,700	1,606,800	1,773,500	12.68%	201	4,877.13	4,877.13	697.40
312028208	122	E	COLLEGE AVE			PFEFFERLE INVESTMENTS INC ET AL	0.01	5,000	13,800	18,800	0.38%	202	51.70	275.00	20.90
312028210	122	E	COLLEGE AVE			PFEFFERLE INVESTMENTS INC ET AL	0.28	243,500	2,327,500	2,571,000	18.52%	204	7,070.25	5,500.00	1,018.60
312028211	122	E	COLLEGE AVE			PFEFFERLE INVESTMENTS INC ET AL	0.0039	3,400	10,000	13,400	0.26%	205	36.85	275.00	14.30
312028212	122	E	COLLEGE AVE			PFEFFERLE INVESTMENTS INC ET AL	0.0041	3,600	9,700	13,300	0.27%	206	36.58	275.00	14.85
312028213	122	E	COLLEGE AVE			WASHINGTON STREET R.E. INVESTMENT FUND I	0.05	45,400	410,700	456,100	3.45%	301	1,254.28	1,254.28	189.75
312028214	122	E	COLLEGE AVE			WASHINGTON STREET R.E. INVESTMENT FUND I	0.07	57,500	554,800	612,300	4.37%	106	1,683.83	1,683.83	240.35
312028215	122	E	COLLEGE AVE			HOFFMAN HOLDINGS LLC ET AL	0.1	87,300	871,800	959,100	6.64%	107	2,637.53	2,637.53	365.20
312028700	100	E	COLLEGE AVE			APPLETON HOTEL GROUP LLC	0.07	60,300	227,700	288,000			792.00	792.00	792.00
312029001	10	E	COLLEGE AVE			TAM LLC	1.54	1,209,400	769,500	1,978,900			5,441.98	5,441.98	5,441.98
312030200	130	N	MORRISON ST			DAUNTLESS PROPERTIES LLC	0.05	26,000	114,000	140,000			385.00	385.00	385.00
312030300	120	N	MORRISON ST			MORRISON BUILDING LLC	0.18	96,500	332,400	428,900			1,179.48	1,179.48	1,179.48
312031100	129	N	DURKEE ST			229 WASHINGTON LLC	0.14	61,800	127,200	189,000			519.75	519.75	519.75
312031200	200	E	COLLEGE AVE			200 COLLEGE LLC	0.12	102,600	527,400	630,000			1,732.50	1,732.50	1,732.50
312031300	204	E	COLLEGE AVE			FA & VB LLC	0.12	97,500	369,200	466,700			1,283.43	1,283.43	1,283.43
312031500	208	E	COLLEGE AVE			TENNIE'S JEWELRY PROPERTIES LLC	0.06	47,500	92,500	140,000			385.00	385.00	385.00
312031600	212	E	COLLEGE AVE	BRADLEY	R	VANDINTER	0.06	49,700	88,300	138,000			379.50	379.50	379.50
312031700	216	E	COLLEGE AVE			214/216 COLLEGE LLC	0.12	97,200	242,300	339,500			933.63	933.63	933.63

Parcel	#	Dir	Street Location	Owner first	Owner MI	Owner last	Acres	Land Assessed Value	Building Assessed Value	Total Assessed Value	% of Condo	Unit	Assessment	Min/Max Adj	Total Assessment
312031900	218	E	COLLEGE AVE			218220 COLLEGE LLC	0.12	94,000	275,600	369,600			1,016.40	1,016.40	1,016.40
312032100	222	E	COLLEGE AVE			DDCC HOLDINGS LLC	0.06	45,900	140,900	186,800			513.70	513.70	513.70
312032200	224	E	COLLEGE AVE			TROOPER PROPERTIES LLC	0.11	78,500	355,000	433,500			1,192.13	1,192.13	1,192.13
312032300	230	E	COLLEGE AVE			CJW PROPERTIES LLC	0.09	67,300	113,800	181,100			498.03	498.03	498.03
312032400	232	E	COLLEGE AVE			CJW PROPERTIES LLC	0.08	60,500	164,500	225,000			618.75	618.75	618.75
312032500	109	N	DURKEE ST			CJW PROPERTIES LLC	0.02	8,400	60,700	69,100			190.03	275.00	275.00
312033300	323	E	WASHINGTON ST			LAWRENCE UNIVERSITY OF WISCONSIN	0.51	142,900	12,300	155,200			426.80	426.80	426.80
312033400	331	E	WASHINGTON ST			DMW INVESTMENTS LLC	0.11	42,500	195,500	238,000			654.50	654.50	654.50
312033700	300	E	COLLEGE AVE			BGO LLC	0.3	206,600	181,000	387,600			1,065.90	1,065.90	1,065.90
312034000	308	E	COLLEGE AVE			BGO LLC	0.15	96,300	192,700	289,000			794.75	794.75	794.75
312034200	314	E	COLLEGE AVE			BOMB ALLEY LLC	0.07	45,600	136,500	182,100			500.78	500.78	500.78
312034300	320	E	COLLEGE AVE			320 EAST COLLEGE LLC	0.3	163,900	3,000,000	3,163,900			8,700.73	5,500.00	5,500.00
312035300	200	N	DURKEE ST			FIRSTAR BANK APPLETON	1.33	492,500	947,500	1,440,000			3,960.00	3,960.00	3,960.00
312036300	230	N	MORRISON ST			OPTION L PROPERTIES LLC	0.29	115,600	209,800	325,400			894.85	894.85	894.85
312036600	200	E	WASHINGTON ST			SKY APPLETON LLC ET AL	1.67	888,000	4,520,100	5,408,100			14,872.28	5,500.00	5,500.00
312037100	229	E	FRANKLIN ST	ETHEL		CONNER LLC	0.18	65,000	125,000	190,000			522.50	522.50	522.50
312040400	231	W	FRANKLIN ST			SEC PROPERTIES LLC	0.38	132,200	155,700	287,900			791.73	791.73	791.73
312040500	214	N	SUPERIOR ST			214 SUPERIOR LLC	0.04	21,500	153,400	174,900			480.98	480.98	480.98
312040800	233	N	APPLETON ST	SCOTT		BERKEN	0.22	86,500	136,600	223,100			613.53	613.53	613.53
312041700	211	N	APPLETON ST			VINTAGE-SPECIALTY PROPERTIES LLC	0.06	30,500	105,000	135,500			372.63	372.63	372.63
312041800	207	N	APPLETON ST			JK APOLLON LLC	0.07	34,600	184,100	218,700			601.43	601.43	601.43
312043006	218	N	DIVISION ST	ROBERT	E	HOERSCH	0.2	71,100	142,200	213,300			586.58	586.58	586.58
312043600	300	N	APPLETON ST			FITZGERALD PROPERTIES LLC	0.14	51,000	285,000	336,000			924.00	924.00	924.00
312045800	130	E	FRANKLIN ST			HOTV.BIZ LLC	0.11	42,000	177,000	219,000			602.25	602.25	602.25
313084700	201	S	WALNUT ST			MIP LLC	0.25	104,400	300,400	404,800			1,113.20	1,113.20	1,113.20
313084900	211	S	WALNUT ST			NOBLE ASSETS INC	0.08	28,800	121,200	150,000			412.50	412.50	412.50
313085500	516	W	EIGHTH ST			NORWEST BANK WISCONSIN APPLETON	1.14	375,900	141,900	517,800			1,423.95	1,423.95	1,423.95
313087600	206	S	MEMORIAL DR			MSV ENTERPRISE LLC	0.19	61,200	144,800	206,000			566.50	566.50	566.50
313087700	625	W	LAWRENCE ST			920 HOME PRO LLC	0.15	34,800	72,900	107,700			296.18	296.18	296.18
313087800	621	W	LAWRENCE ST			MB HOMES LLC	0.19	46,300	90,300	136,600			375.65	375.65	375.65
313087900	617	W	LAWRENCE ST			BEHNKE PROPERTIES LLC	0.18	42,900	45,600	88,500			243.38	275.00	275.00
313088300	215	S	MEMORIAL DR			DECLREENE-ZELLNER LLC	0.56	145,700	478,300	624,000			1,716.00	1,716.00	1,716.00
313093400	131	S	BADGER AVE	JAMES	M	BOYLE	0.42	77,600	47,400	125,000			343.75	343.75	343.75
313093700	911	W	COLLEGE AVE			S & K FOOD MART INC	0.48	132,800	314,900	447,700			1,231.18	1,231.18	1,231.18
313093800	843	W	COLLEGE AVE	LANCE	L	NEVINS REV TRUST	0.38	115,600	331,000	446,600			1,228.15	1,228.15	1,228.15
313094300	823	W	COLLEGE AVE			BLOCK 800 LLC	0.37	129,600	4,570,000	4,699,600			12,923.90	5,500.00	5,500.00
313094400	819	W	COLLEGE AVE	SARA	K	PIERRI REV TRUST	0.08	25,200	79,200	104,400			287.10	287.10	287.10
313094500	815	W	COLLEGE AVE	SARA	K	PIERRI REV TRUST	0.13	40,500	139,500	180,000			495.00	495.00	495.00
313094501	813	W	COLLEGE AVE	SARA	K	PIERRI REV TRUST	0.07	20,800	52,500	73,300			201.58	275.00	275.00
313094600	809	W	COLLEGE AVE			PIONEER PROFESSIONAL CARPET CARE LLC	0.07	20,200	76,700	96,900			266.48	275.00	275.00
313094700	807	W	COLLEGE AVE			OUTPOST 31 LLC	0.07	20,200	67,700	87,900			241.73	275.00	275.00
313094800	801	W	COLLEGE AVE			WENZ RENTAL PROPERTIES LLC	0.13	46,100	115,200	161,300			443.58	443.58	443.58
313096000	745	W	COLLEGE AVE			PACIFIC HOLDINGS LLC	0.08	29,500	274,500	304,000			836.00	836.00	836.00
313096100	741	W	COLLEGE AVE			I KNOW, RIGHT? LLC	0.25	45,100	33,300	78,400			215.60	275.00	275.00

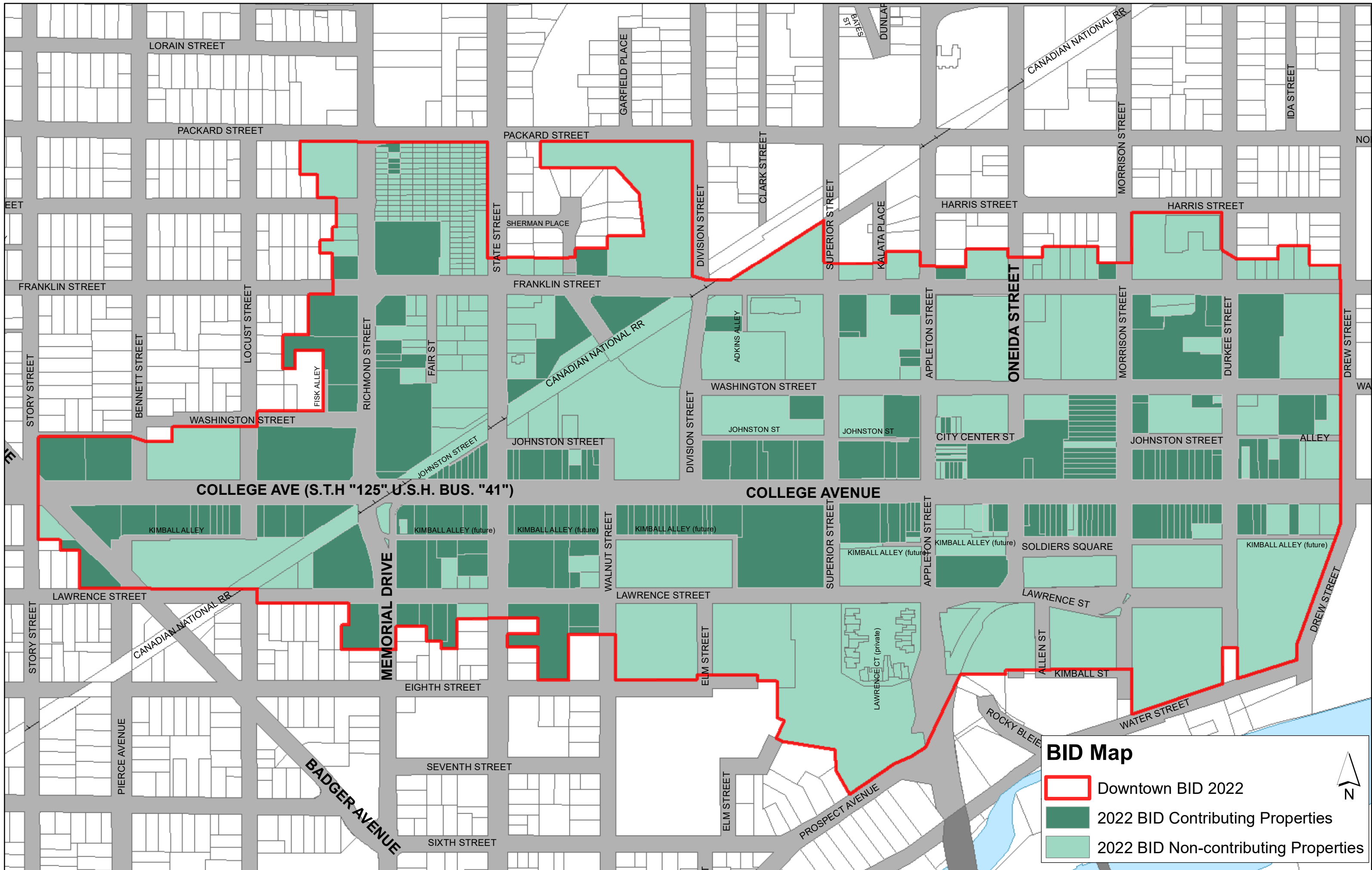
Parcel	#	Dir	Street Location	Owner first	Owner MI	Owner last	Acres	Land Assessed Value	Building Assessed Value	Total Assessed Value	% of Condo	Unit	Assessment	Min/Max Adj	Total Assessment
313096301	733	W	COLLEGE AVE			SPATS FOOD AND SPIRITS LLC	0.21	64,400	142,700	207,100			569.53	569.53	569.53
313096400	719	W	COLLEGE AVE	JENNY		KONG-YU ET AL	0.31	114,500	185,300	299,800			824.45	824.45	824.45
313097200	127	S	MEMORIAL DR			ZCF QOZB LLC	1.03	269,500	1,100,500	1,370,000			3,767.50	3,767.50	3,767.50
313097600	623	W	COLLEGE AVE			GENIA'S LEGACY LLC	0.13	69,400	224,600	294,000			808.50	808.50	808.50
313097601	104	S	MEMORIAL DR	MAI		VANG	0.19	107,500	90,400	197,900			544.23	544.23	544.23
313097900	609	W	COLLEGE AVE			APPLETON WEST END REALTY LTD	0.4	202,300	271,700	474,000			1,303.50	1,303.50	1,303.50
313098300	603	W	COLLEGE AVE			DAS VENTURES HOLDINGS LLC	0.2	112,500	488,600	601,100			1,653.03	1,653.03	1,653.03
313098500	601	W	COLLEGE AVE	JAMES		LISON	0.07	46,100	168,900	215,000			591.25	591.25	591.25
313098600	115	S	STATE ST			MCFLESHMAN'S COMMONS LLC	0.15	63,900	539,000	602,900			1,657.98	1,657.98	1,657.98
313098800	121	S	STATE ST			121 STATE ST LLC	0.24	83,000	126,500	209,500			576.13	576.13	576.13
313099300	620	W	LAWRENCE ST			RUBY LOU PROPERTIES LLC	0.23	59,900	108,100	168,000			462.00	462.00	462.00
313099600	122	S	MEMORIAL DR	ROBERT	J	MAZZA	0.52	182,000	138,000	320,000			880.00	880.00	880.00
313099800	613	W	COLLEGE AVE			RUBY LOU PROPERTIES LLC	0.13	24,400	35,600	60,000			165.00	275.00	275.00
313099900	535	W	COLLEGE AVE	JOHN	C	GREINER	0.07	51,800	151,100	202,900			557.98	557.98	557.98
313100300	523	W	COLLEGE AVE			EFS LLC	0.33	246,400	724,800	971,200			2,670.80	2,670.80	2,670.80
313100400	519	W	COLLEGE AVE			KOROLL PROPERTIES LLC	0.1	77,600	336,300	413,900			1,138.23	1,138.23	1,138.23
313100500	513	W	COLLEGE AVE			BELA DEVELOPMENT LLC	0.16	128,100	912,000	1,040,100			2,860.28	2,860.28	2,860.28
313100600	516	W	LAWRENCE ST			BELA DEVELOPMENT LLC	0.26	90,900	10,000	100,900			277.48	277.48	277.48
313100800	118	S	STATE ST			NORWEST BANK WISCONSIN APPLETON	0.78	341,000	791,700	1,132,700			3,114.93	3,114.93	3,114.93
313101500	510	W	LAWRENCE ST	CRESENCIO		VICTORIA	0.06	24,300	55,700	80,000			220.00	275.00	275.00
313101700	119	S	WALNUT ST			HAUSSERMAN REV TRUST	0.17	82,000	78,000	160,000			440.00	440.00	440.00
313102000	511	W	COLLEGE AVE			JJS VENTURES LLC	0.13	109,400	508,100	617,500			1,698.13	1,698.13	1,698.13
313102100	507	W	COLLEGE AVE			VICTORIAS APPLETON INC	0.07	57,600	259,300	316,900			871.48	871.48	871.48
313102200	503	W	COLLEGE AVE			VICTORIAS APPLETON INC	0.13	121,400	249,000	370,400			1,018.60	1,018.60	1,018.60
313102300	427	W	COLLEGE AVE			THE BAR GROUP LLC	0.13	138,200	789,500	927,700			2,551.18	2,551.18	2,551.18
313102500	425	W	COLLEGE AVE			SUESS MANAGEMENT LLC	0.07	66,200	193,000	259,200			712.80	712.80	712.80
313102700	423	W	COLLEGE AVE			FERRUCCIO VC INC	0.13	132,500	1,153,200	1,285,700			3,535.68	3,535.68	3,535.68
313102800	417	W	COLLEGE AVE			M & H PROPERTIES LLC	0.07	69,300	242,700	312,000			858.00	858.00	858.00
313102900	415	W	COLLEGE AVE			ZIMJET LLC	0.06	63,500	167,800	231,300			636.08	636.08	636.08
313103000	413	W	COLLEGE AVE			RVC LLC	0.07	66,200	203,800	270,000			742.50	742.50	742.50
313103100	411	W	COLLEGE AVE	MERIJE		ELMAZI	0.07	66,200	183,800	250,000			687.50	687.50	687.50
313103200	409	W	COLLEGE AVE	JULIA		MORALES	0.07	66,200	128,800	195,000			536.25	536.25	536.25
313103300	403	W	COLLEGE AVE			AH&M ENTERPRISES LLC	0.28	277,700	1,090,700	1,368,400			3,763.10	3,763.10	3,763.10
315069300	305	N	RICHMOND ST			MYLEE'S EGG ROLLS LLC	0.22	71,800	95,200	167,000			459.25	459.25	459.25
315071200	225	N	RICHMOND ST			BLUE OFFICE LLC	0.73	239,200	385,800	625,000			1,718.75	1,718.75	1,718.75
315105800	532	W	COLLEGE AVE			KEYSTONE FUTURES LLC	0.07	51,800	449,000	500,800			1,377.20	1,377.20	1,377.20
315105900	530	W	COLLEGE AVE	ANDREW	R	THORNELL	0.07	49,000	123,500	172,500			474.38	474.38	474.38
315106000	524	W	COLLEGE AVE	PATRICK	J	FLANAGAN	0.26	201,500	326,100	527,600			1,450.90	1,450.90	1,450.90
315106300	514	W	COLLEGE AVE			NOBLE ASSETS INC	0.2	154,900	181,000	335,900			923.73	923.73	923.73
315106500	512	W	COLLEGE AVE			FRASER PROPERTIES LLC	0.07	52,400	98,900	151,300			416.08	416.08	416.08
315106700	508	W	COLLEGE AVE			FRASER PROPERTIES LLC	0.07	55,700	129,400	185,100			509.03	509.03	509.03
315106800	506	W	COLLEGE AVE			FRASER PROPERTIES LLC	0.07	54,700	121,400	176,100			484.28	484.28	484.28
315107000	500	W	COLLEGE AVE			COLLEGE AVE LEGACY LLC	0.1	89,800	229,000	318,800			876.70	876.70	876.70
315107001	111	N	WALNUT ST	NATASHA		BANKS	0.03	29,900	47,100	77,000			211.75	275.00	275.00



Parcel	#	Dir	Street Location	Owner first	Owner MI	Owner last	Acres	Land Assessed Value	Building Assessed Value	Total Assessed Value	% of Condo	Unit	Assessment	Min/Max Adj	Total Assessment
315107500	509	W	FRANKLIN ST			BELFEUIL RENTALS LLC	0.64	111,500	88,500	200,000			550.00	550.00	550.00
315107502	437	W	FRANKLIN ST			RUNNING PROPERTIES LLC	0.61	110,500	129,600	240,100			660.28	660.28	660.28
315107600	136	N	STATE ST	ROBERT		CASTON	0.2	43,200	66,000	109,200			300.30	300.30	300.30
315110000	306	N	RICHMOND ST			KWIK TRIP INC	1.27	401,700	1,546,200	1,947,900			5,356.73	5,356.73	5,356.73
315110100	400	N	RICHMOND ST			400 NORTH LLC	0.22	67,700	634,200	701,900			1,930.23	1,930.23	1,930.23
315110120	400	N	RICHMOND ST			400 NORTH LLC	0.05	16,800	117,800	134,600			370.15	370.15	370.15
315110121	400	N	RICHMOND ST			400 NORTH LLC	0.28	85,200	479,100	564,300			1,551.83	1,551.83	1,551.83
315110122	400	N	RICHMOND ST			400 NORTH LLC	0.05	14,100	141,900	156,000			429.00	429.00	429.00
315113900	226	N	RICHMOND ST			2418 S ONEIDA ST LLC	0.32	47,000	100	47,100			129.53	275.00	275.00
315114700	208	N	RICHMOND ST	JAMIE	L	BOYCE	0.13	34,700	60,300	95,000			261.25	275.00	275.00
315114800	200	N	RICHMOND ST	JAMIE	L	BOYCE	0.19	50,500	69,500	120,000			330.00	330.00	330.00
315114801	204	N	RICHMOND ST	JAMIE	L	BOYCE	0.06	14,700	66,300	81,000			222.75	275.00	275.00
315115800	110	N	RICHMOND ST			OLD BRICK PROPERTIES LLC	1.81	630,900	489,100	1,120,000			3,080.00	3,080.00	3,080.00
315115900	638	W	COLLEGE AVE	RANDY		KESTER	0.07	41,700	37,800	79,500			218.63	275.00	275.00
315116000	600	W	COLLEGE AVE	EMILIANO		MORALES REV LIV TRUST	0.1	53,500	77,500	131,000			360.25	360.25	360.25
315116200	602	W	COLLEGE AVE	SHANE		KRUEGER	0.07	32,600	88,300	120,900			332.48	332.48	332.48
315116300	604	W	COLLEGE AVE			FDS LLC	0.06	28,500	126,500	155,000			426.25	426.25	426.25
315116400	606	W	COLLEGE AVE	FREDERICK	G	VANHANDEL	0.05	24,300	90,800	115,100			316.53	316.53	316.53
315116500	610	W	COLLEGE AVE	FREDERICK	G	VANHANDEL	0.04	20,200	98,600	118,800			326.70	326.70	326.70
315116600	612	W	COLLEGE AVE			INVESTMENT CREATIONS LLC	0.03	16,300	103,700	120,000			330.00	330.00	330.00
315116700	614	W	COLLEGE AVE			DRS INVESTMENTS LLC	0.03	15,100	86,900	102,000			280.50	280.50	280.50
315116800	616	W	COLLEGE AVE	JOHN		YDE	0.02	11,000	61,700	72,700			199.93	275.00	275.00
315116900	618	W	COLLEGE AVE	ANTAR		BARQUET-LEYTE ET AL	0.02	9,700	30,900	40,600			111.65	275.00	275.00
315117300	700	W	COLLEGE AVE			GRANITE PEAK PROPERTY INVESTMENTS LP ET A	1.82	790,700	1,409,300	2,200,000			6,050.00	5,500.00	5,500.00
315118400	137	N	RICHMOND ST			CHRISTENSEN LAND CO	0.87	227,200	507,100	734,300			2,019.33	2,019.33	2,019.33
315118700	133	N	RICHMOND ST			EVERGREEN CREDIT UNION	0.29	95,700	415,000	510,700			1,404.43	1,404.43	1,404.43
315121200	900	W	COLLEGE AVE	JOHN	C	MAY REVOCABLE TRUST	0.72	251,500	864,000	1,115,500			3,067.63	3,067.63	3,067.63
315121600	926	W	COLLEGE AVE			CAPITAL CREDIT UNION	0.72	251,200	387,500	638,700			1,756.43	1,756.43	1,756.43
315191800	500	W	FRANKLIN ST			FRANKLIN PROPERTIES LLC	0.32	69,900	160,100	230,000			632.50	632.50	632.50
								<b>25,391,500</b>	<b>114,252,200</b>	<b>139,643,700</b>					<b>241,511.61</b>

# **Appendix F**

## **Map of District**



**BID Map**

- Downtown BID 2022
- 2022 BID Contributing Properties
- 2022 BID Non-contributing Properties

**ON THE**

# **RISE**

Appleton Downtown, Inc.

## **2021 ANNUAL REPORT**



**BUSINESS IMPROVEMENT DISTRICT  
& CREATIVE DOWNTOWN APPLETON**

# 2021 ADI & CDA HIGHLIGHTS

Over the past year, Downtown has continued on a path through recovery. Our climb is steady as we work to retain a vital business mix, restore valuable foot traffic and attract new tenants. As we celebrated the vibrancy of our community, we welcomed 14 dynamic entrepreneurs, 89 new residential units and the return of many of our events. The mission of our collaborative organization has become even more important as we create an environment that supports small business and attracts residents, visitors and investments that will keep Downtown on the rise.

- **Laura Vargosko**, President of ADI Board of Directors, Thrivent Financial

## ADI/BID/CDA: Our Strategic Core

### DISTRICT SERVICES

The cornerstone of a GREAT Downtown is a clean, safe and hospitable environment. We collaborate to address cleanliness and walkability in the public realm. We partner with property owners and many others to support the live/work/visit experience.

### STAKEHOLDER SUPPORT & ADVOCACY

Our grant programs aim to attract new business neighbors, sustain and enhance the value of the properties within the district and support business retention. We represent and advocate for our stakeholders and keep them informed on issues impacting Downtown.

### MARKETING

We market Downtown as the unique epicenter for business, culture, education, living and entertainment for our region through content creation and curation.

### EVENTS

Our events and promotions showcase Downtown's diverse attractions, amenities and offerings. They serve as economic drivers for Downtown businesses; create welcoming settings for people to explore Downtown; and raise funds for special initiatives.

### PLACEMAKING

Public space beautification, activation and management plays a fundamental role in creating exceptional experiences. We focus on improving the public realm experience with cultural events and a variety of artistic expression to create reasons for all people to linger, explore and return to One Great Place!

## Downtown Livability

Urban Living has Downtown Appleton on the RISE! With an estimated total value of over \$60.5 million dollars, the following developments bring a total of **461** units to Downtown (101 low moderate income units).

- |                         |                                |
|-------------------------|--------------------------------|
| <b>Gabriel Lofts</b>    | <b>Park Central</b>            |
| <b>Avant Apartments</b> | <b>Zuelke Building</b>         |
| <b>Crescent Lofts</b>   | <b>Merge Urban Dev. Ph. I</b>  |
| <b>320 E. College</b>   | <b>Merge Urban Dev. Ph. II</b> |
| <b>Block 800</b>        | <b>Rise</b>                    |

## Gift Certificates

**2,699** Downtown Gift Certificates sold

**\$71,532** Generated additional Downtown spending!



## Marketing and Events

**303,452** WEBSITE VISITS **68%** MOBILE **29%** DESKTOP **3%** OTHER



**17,127** LIKES +5%



**6,012** FOLLOWERS +8%



**841** BLOG POSTS



**17,518** LIKES +6%



**70+** PLEDGES



## 2021 CREATIVE DOWNTOWN APPLETON HIGHLIGHTS:



LIGHT UP APPLETON



DOWNTOWN CREATES: ARTFUL CHAIRS



AVENUE OF ICE



LUNCHTIME LIVE



DOWNTOWN CREATES: PAINT OUT



TASTE OF THAI MURAL

# 2021 BUSINESS IMPROVEMENT DISTRICT HIGHLIGHTS

**Business Improvement District total assessed value of the 206 BID properties: \$137,653,700**

**1.33% INCREASE OVER PREVIOUS YEAR**

The 2021 BID Budget reflects the BID Board of Directors, City Planning Commission and City Council approved BID rate of \$2.75 per \$1000 of assessed value, with a minimum of \$275 and maximum of \$5500.

## BID Grant Investments:

### Grant Support:

- 20 Matching Marketing Grants totaling \$9,342
- 14 Business Recruitment Grants totaling \$13,250
- 25 Façade Improvement Grants totaling \$57,215

City of Appleton TIFs #11 & #12 Business Enhancement Grants were awarded to 11 properties totaling over \$63,000 and leveraging another \$165,673 in private investment in these districts.



The C.A.R.E. Team, in partnership with Riverview Gardens and the City of Appleton, in 2021 completed 454 hours of cleaning and collected 384 bags of garbage. The program helped 46 ServiceWorks participants acquire employability training while contributing to the cleanliness of the district.



**Business Recruitment Grants supported 14 new businesses. Welcome to Downtown:**

- Dreyer Wealth Management
- Olive & Rose Boutique
- The Hypnosis Institute of Wisconsin
- The Statement Piece
- Brian Hodgkiss Injury Lawyers
- Evolve Management Solutions Inc.
- Sunny Side Up Yoga
- Fitzgerald Properties / Fitzgerald Law
- Queen B Braids
- Amanda Furman Real Estate Collective
- Shear Images by Carla
- Voyageurs Bakehouse
- HOLA Wisconsin
- Coalesce Marketing Inc.



To access the 2022 Collaborative BID/ADI/CDA Operating Plan

**280 Welcome Packets**

were distributed to new residents and employees to help introduce them to businesses in their new neighborhood.

## BUSINESS IMPROVEMENT DISTRICT

REVENUE	2021 Actual	2022 Budget
BID Assessments	231,786	235,485
Carryover from Prior Year	20,937	21,805
	<b>\$252,723</b>	<b>\$257,290</b>
EXPENSES		
<b>Contracted Services</b>		
ADI Staff	50,000	50,000
<b>Administrative</b>	6,147	6,485
<b>BID Audit</b>	2,971	2,500
<b>Marketing and Printing</b>	73,040	74,000
<b>Economic Development</b>		
Façade Grant	57,215	40,000
Marketing Grant	9,342	10,000
Recruitment Grant	13,250	15,000
Business Employee & Resident Recruitment	2,440	7,500
<b>Maintenance Services</b>		
Maintenance/Flowers	16,513	30,000
	<b>\$230,918</b>	<b>\$235,485</b>
<b>CARRYOVER</b>	<b>\$21,805</b>	<b>\$21,805</b>

# APPLETON DOWNTOWN, INC. AND CREATIVE DOWNTOWN APPLETON, INC. BOARD OF DIRECTORS 2021

## PRESIDENT

**Laura Vargosko**, Thrivent Financial

## VICE PRESIDENT

**Lyssa King**, Downtown Resident & King Brokerage

## SECRETARY

**Tom Klister**, FORE Development + Investment Group

## TREASURER

**Steve Lonsway**, Stone Arch Brewpub

**Monica Stage**, City of Appleton

**Kevin Wirth**, US Venture

**Natasha Banks**, Queen of Soul Food

**AJ Olander**, Salelytics

**Natalie Klika**, Johnson Financial Group

**Madera Allen**, Lawrence University

**Kolby Knuth**, Knuth Financial Planning and The 513

**Jay Lison**, Pixel Pro Audio

**Kara Manuel**, Lillians of Appleton

**Audra Balof**, Poppy Avenue Boutique

# BUSINESS IMPROVEMENT DISTRICT BOARD OF DIRECTORS 2021

## PRESIDENT

**Gary Schmitz**, Community Advocate

## TREASURER

**Monica Stage**, City of Appleton

## SECRETARY

**Jason Druxman**, Avenue Jewelers

**Leah Fogle**, Appleton Beer Factory

**Brad Schwebs**, Pfefferle Management

**Nate Weyenberg**, Angels Forever-Windows of Light

**Marcie Hoffman**, Triumph Engineering

**Bill Wetzel**, ACOCA Coffee

**Benjamin King**, Downtown Resident and  
King Brokerage

# APPLETON DOWNTOWN, INC. STAFF 2021

**Jennifer Stephany**  
EXECUTIVE DIRECTOR

**Abby Reich**  
MARKETING AND  
COMMUNICATIONS  
MANAGER

**Djuanna Kath**  
COMMUNITY  
PARTNERSHIP  
DIRECTOR

**Meghan Warner**  
EVENT DIRECTOR/FARM  
MARKET DIRECTOR

**Sandy Storch**  
EVENTS  
COORDINATOR

**Cindy Shell**  
ADMINISTRATIVE  
ASSISTANT  
**Welcome to  
the ADI Staff!**

# THANK YOU

to all who sponsor and support our events & creative projects throughout the year:

4imprint	Consolidated Construction Co.	Hoffman Planning, Design & Construction Inc.	State Farm - Jordyn Hendzel
Abby Bank	CopperLeaf Boutique Hotel	Investors Community Bank	Stellar Blue Technologies
ACOCA	Crane Engineering	Ivory Rose Bridal Boutique	Steve & Teri Winter
ADI Board of Directors	Crazy Sweet	Jeff & Lisa Geiger	Stone Arch Brewpub
ADI Staff	Cumulus Media Radio Group	Johnson Financial Group	Sure-Dry Basement Systems
Acre Realty	D2 Sports Pub	Kay Distributing	The 513
Action Painting & Services	EPS	Kimberly-Clark Cares Foundation	The Bar on the Avenue
Appleton Beer Factory	Edible Door Magazine	Knuth Financial Life Planning	The Post-Crescent
Appleton International Airport - ATW	Festival Foods	Lee Beverage	The Trout Museum of Art
Appleton YMCA	First Weber Realty	Lillians of Appleton	ThedaCare
AT&T	Float Light	McCain Foods	TDS
Avenue Jewelers	Fore Development & Investments	McFleshman's Brewing Co.	Tech Village
AZCO Inc.	Fox Cities Magazine	Maritime Tavern	THZ Insurance Group
Bayland Builders	Fox Cities Sign & Lighting	Menasha Corporation	Tennie's Jewelry
Bazil's Pub & Provisions/No Idea Bar!	Fox Communities Credit Union	Midwest Communications	Triumph Engineering
BConnected Inc.	Fratellos Waterfront Restaurant	Mile of Music Festival	Tundraland/ Renewal by Andersen
BioLife Plasma Services	Gateway Chiropractic	NAI Pfefferle	U.S. Venture
Boldt Co.	General Beer	Network Health	Ulness Health
Brian Hodgkiss Injury Lawyers	GNC - Great Northern Corporation	Nicolet National Bank	Valley Transit Inc.
CLA - CliftonLarsonAllen	Harrison Printing & Promotions	Orange Theory Fitness	Warning Lites of Appleton, Inc.
City of Appleton	Healthy Living Magazine	Red Lion Paper Valley Hotel	WE Energies
Community First Credit Union	Heid Music & Heid Music Foundation	Regency Wealth Management	Willems Marketing
Community Foundation		Ridgeway Country Club	Wisconsin Distributors
Bright Idea Fund - Grant		Run Away Shoes	Woodward Communications
		Sabre Lanes	Radio Group

Thank you to our  
Star Supporters!



# 2021 AWARD WINNERS

## Business of the Year Award – The Fire

Presented to the Business or entity that stands out from the rest and captured the admiration of the Downtown.

## Bernie Pearlman Downtowner Award – Tim Hanna

Presented to a person who has had a significant positive impact on Downtown and displays an overwhelming passion for its success.

## The Mike Pfefferle Dreamers & Doers Award – Irineo Medina

A new award last year - Presented to the business, group or individual who has significantly enhanced, for years to come, the physical and/or economic landscape of the Downtown.

## President's Award – BLOCK 800

Presented to an individual, group or business who, within their working relationship with ADI and the Downtown, went above and beyond that usual relationship to contribute to the success of Downtown.

## Harvey Samson Outstanding Volunteer Award – Don Schumann

Presented to an individual whose time and commitment to the effort of building a strong Downtown highlights him or her as an outstanding volunteer and community advocate.

## New Face of Downtown Façade Award – ACOCA Coffee

Presented to a business that has invested in the physical appearance of the building they call home in our Downtown neighborhood.

## Rising Star Award – Ivory Rose Bridal Boutique

Presented to a business new to Downtown in the last year that shows longevity and fulfills a need in the Downtown.

## Walter Kalata Landmark Award – Stone Arch Brewpub

Presented to a business that has withstood the test of time and operates with passion and a strong commitment to Downtown. A place where people can remember the past and converse about the future.

**Thank you to the photographers and artists** whose work graces the walls, sidewalks, windows and public spaces of our Downtown.

Appleton Downtown, Inc.  
Creative Downtown Appleton, Inc.  
Business Improvement District  
333 W College Ave, Suite 100, Appleton, WI 54911  
920-954-9112 • Fax 920-954-0219 • info@appletondowntown.org

**appletondowntown.org #onegreatplace**



One Great Place!

**DOWNTOWN**

Appleton

**CITY OF APPLETON  
BUSINESS IMPROVEMENT DISTRICT**

**A COMPONENT UNIT OF THE  
CITY OF APPLETON, WISCONSIN**

**FINANCIAL STATEMENTS AND  
SUPPLEMENTARY INFORMATION**

**YEAR ENDED DECEMBER 31, 2021**



WEALTH ADVISORY | OUTSOURCING  
AUDIT, TAX, AND CONSULTING

[CLAconnect.com](http://CLAconnect.com)



**CITY OF APPLETON BUSINESS IMPROVEMENT DISTRICT  
APPLETON, WISCONSIN  
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## INDEPENDENT AUDITORS' REPORT

Board of Directors  
Appleton Business Improvement District  
City of Appleton, Wisconsin

### Report on the Audit of the Financial Statements

#### **Opinion**

We have audited the accompanying financial statements of Appleton Business Improvement District (the District), a component unit of the City of Appleton, Wisconsin, as of and for the year ended December 31, 2021, and the related notes to the financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the District as of December 31, 2021, and the changes in its financial position and its cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.

#### **Basis for Opinion**

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS) and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the District and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

#### **Responsibilities of Management for the Financial Statements**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the District's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

***Auditors' Responsibilities for the Audit of the Financial Statements***

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinions. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Districts' internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Districts' ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

***Other Matter***

***Report on Summarized Comparative Information***

We have previously audited the District's 2020 financial statements, and we expressed an unmodified opinion on the financial statements of the District in our report dated June 7, 2021. In our opinion, the summarized comparative information presented herein as of and for the year ended December 31, 2020, is consistent, in all material respects, with the audited financial statements from which it has been derived.

Board of Directors  
Appleton Business Improvement District  
City of Appleton, Wisconsin

***Required Supplementary Information***

Management has omitted the management's discussion and analysis that accounting principles generally accepted in the United States of America require to be presented to supplement the basic financial statements. Such missing information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. Our opinion on the basic financial statements is not affected by this missing information.

***Supplementary Information***

Our audit was conducted for the purpose of forming an opinion on the District's financial statements. The schedule of revenues, expenses, and changes in net position – budget and actual is presented for purposes of additional analysis and is not a required part of the financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The schedule of revenues, expenses, and changes in net position – budget and actual has been subjected to the auditing procedures applied in the audits of the financial statements, and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of revenues, expenses, and changes in net position – budget and actual is fairly stated in all material respects in relation to the basic financial statements as a whole.

***Other Reporting Required by Government Auditing Standards***

In accordance with *Government Auditing Standards*, we have also issued our report dated June 7, 2022, on our consideration of the District's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of District's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the District's internal control over financial reporting and compliance.



**CliftonLarsonAllen LLP**

Green Bay, Wisconsin  
June 7, 2022

**FINANCIAL STATEMENTS**

**CITY OF APPLETON BUSINESS IMPROVEMENT DISTRICT  
 APPLETON, WISCONSIN  
 STATEMENT OF NET POSITION  
 DECEMBER 31, 2021  
 (WITH SUMMARIZED AMOUNTS AS OF DECEMBER 31, 2020)**

	2021	2020
<b>ASSETS</b>		
Current Assets:		
Cash and Investments	\$ 205,599	\$ 222,019
Special Assessments Receivable	81,533	68,757
Total Assets	287,132	290,776
 <b>LIABILITIES</b>		
Current Liabilities:		
Accounts Payable	23,639	30,819
 <b>DEFERRED INFLOWS OF RESOURCES</b>		
BID Assessments Levied for Subsequent Year	235,485	230,931
 <b>NET POSITION</b>		
Unrestricted	28,008	29,026
Total Net Position	\$ 28,008	\$ 29,026

*See accompanying Notes to Financial Statements.*

**CITY OF APPLETON BUSINESS IMPROVEMENT DISTRICT  
APPLETON, WISCONSIN  
STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION  
YEAR ENDED DECEMBER 31, 2021  
(WITH SUMMARIZED ACTUAL AMOUNTS FOR THE YEAR ENDED DECEMBER 31, 2020)**

	<u>2021</u>	<u>2020</u>
<b>OPERATING REVENUES</b>		
BID Assessments	\$ 230,931	\$ 225,757
<b>OPERATING EXPENSES</b>		
Contracted Services	50,000	50,349
Administrative:		
Telephone	1,889	2,660
Office Supplies	58	253
Postage	1,286	1,347
Dues, Fees, and Subscriptions	802	1,381
Facility Rent	1,816	368
Equipment	-	343
Total Administrative	<u>5,851</u>	<u>6,352</u>
Audit and Accounting Services	2,971	2,669
Marketing:		
Advertising	70,918	68,823
Printing	218	568
Total Marketing	<u>71,136</u>	<u>69,391</u>
Economic Development Projects:		
Sidewalk Maintenance/Amenities	18,712	11,165
Façade Grants	57,216	47,831
Marketing Grants	9,343	8,358
Recruiting Grant	13,250	8,000
Business Recruitment	2,440	2,500
Total Economic Development Projects	<u>100,961</u>	<u>77,854</u>
Total Operating Expenses	<u>230,919</u>	<u>206,615</u>
<b>OPERATING INCOME (LOSS)</b>	12	19,142
<b>NONOPERATING REVENUES</b>		
Investment Income (Loss)	<u>(1,030)</u>	<u>2,942</u>
<b>CHANGE IN NET POSITION</b>	(1,018)	22,084
Net Position - Beginning of Year	<u>29,026</u>	<u>6,942</u>
<b>NET POSITION - END OF YEAR</b>	<u>\$ 28,008</u>	<u>\$ 29,026</u>

See accompanying Notes to Financial Statements.

**CITY OF APPLETON BUSINESS IMPROVEMENT DISTRICT  
 APPLETON, WISCONSIN  
 STATEMENT OF CASH FLOWS  
 YEAR ENDED DECEMBER 31, 2021  
 (WITH SUMMARIZED AMOUNTS FOR THE YEAR ENDED DECEMBER 31, 2020)**

	2021	2020
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Cash Received from District Members	\$ 222,709	\$ 232,680
Cash Paid to Suppliers	(238,099)	(175,796)
Net Cash Provided (Used) by Operating Activities	(15,390)	56,884
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Interest Income (Loss)	(1,030)	2,942
<b>CHANGE IN CASH AND CASH EQUIVALENTS</b>	(16,420)	59,826
Cash and Cash Equivalents - Beginning of Year	222,019	162,193
<b>CASH AND CASH EQUIVALENTS - END OF YEAR</b>	\$ 205,599	\$ 222,019
<b>RECONCILIATION OF OPERATING INCOME (LOSS) TO NET CASH PROVIDED (USED) BY OPERATING ACTIVITIES</b>		
Operating Income	\$ 12	\$ 19,142
Adjustments to Reconcile Operating Income to Net Cash Provided (Used) by Operating Activities:		
Change in Operating Assets and Liabilities:		
Special Assessments Receivable	(12,776)	1,749
Accounts Payable	(7,180)	30,819
BID Assessments Levied for Subsequent Year	4,554	5,174
Net Cash Provided (Used) by Operating Activities	\$ (15,390)	\$ 56,884

See accompanying Notes to Financial Statements.



**CITY OF APPLETON BUSINESS IMPROVEMENT DISTRICT  
APPLETON, WISCONSIN  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2021**

**NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

The financial statements of the City of Appleton Business Improvement District, Appleton, Wisconsin (the District), have been prepared in conformity with accounting principles generally accepted in the United States of America (U.S. GAAP) as applied to government units. The Governmental Accounting Standards Board (GASB) is the accepted standard-setting body for establishing governmental accounting and financial reporting principles. The significant accounting principles and policies utilized by the District are described below:

**A. Reporting Entity**

Wisconsin Statutes allow for the creation of Business Improvement Districts (BID). A BID is a geographic area within a municipality consisting of contiguous parcels, which are subject to assessments, where the assessment revenue must be used to benefit the BID. The purpose was to authorize cities, villages, and towns to create one or more business improvement districts to allow businesses within those districts to develop, manage, maintain, and promote their districts and to establish an assessment method to fund these activities. A BID affords property owners and business people a very real role in directing those affairs within the district, which influences their investment and environment. It also ensures that the beneficiaries of district programs participate in the funding of the programs.

The District is a legal entity separate and distinct from the City of Appleton, Wisconsin. The District is governed by a nine member appointed board and approved by the Common council. The members serve staggered, two year terms. A majority of the board members shall own or occupy real property in the District.

**B. Measurement Focus and Basis of Accounting**

The accounting and financial reporting treatment applied to the District is determined by its measurement focus. The transactions of the District are accounted for using the *economic resources measurement focus*. With this measurement focus, all assets, deferred outflows of resources, liabilities, and deferred inflows of resources associated with the operations are included on the statement of net position.

The statement of net position and statement of revenues, expenses, and changes in net position are reported using the accrual basis of accounting. Under the accrual basis of accounting, revenues are recognized when earned and expenses are recorded when the liability is incurred or economic asset used. Revenues, expenses, gains, losses, assets, and liabilities resulting from exchange and exchange like transactions are recognized when the exchange takes place. Assessments are levied upon all property within the District and are recognized as revenues in the year for which they are levied. At year end, assessments for the following year are recorded as receivables and deferred inflows of resources. Grants and similar items are recognized as revenues as soon as all eligibility requirements imposed by the provider are met. Special assessments are recorded as revenue when earned. Unbilled receivables are recorded as revenues when services are provided.

**CITY OF APPLETON BUSINESS IMPROVEMENT DISTRICT  
APPLETON, WISCONSIN  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2021**

**NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**B. Measurement Focus and Basis of Accounting (Continued)**

The District distinguishes *operating* revenues and expenses from *nonoperating* items. Operating revenues and expenses generally result from providing services and producing and delivering goods in connection with a proprietary fund's principal ongoing operations. The principal operating revenues of the District are charges to the district members. Operating expenses for the District include salaries and wages, operation and maintenance, business development and promotions. All revenues and expenses not meeting this definition are reported as nonoperating revenues and expenses.

When both restricted and unrestricted resources are available for use, it is the District's policy to use restricted resources first, then unrestricted resources, as they are needed.

**C. Assets, Liabilities, Deferred Outflows/Inflows of Resources, and Net Position**

**1. Cash and Investments**

Cash and investments are combined in the financial statements. Cash deposits consist of demand and time deposits with financial institutions and are carried at cost. Investments are stated at fair value. Fair value is the price that would be received to sell an asset in an orderly transaction between market participants at the measurement date.

**2. BID Special Assessments**

The primary source of revenue for the District is an assessment levied on property located within District boundaries. The BID assessments are determined in November, and included as a special charge on each property owner's tax bill within the District and become an enforceable lien on December 31. The BID assessments are due in full to the City by January 31st of the subsequent year, who collects and distributes to the District.

**3. Deferred Outflows/Inflows of Resources**

Deferred outflows of resources are a consumption of net position by the government that is applicable to a future reporting period. Deferred inflows of resources are an acquisition of net position by the government that is applicable to a future reporting period. The recognition of those outflows and inflows as expenses or expenditures and revenues are deferred until the future periods to which the outflows and inflows are applicable.

**CITY OF APPLETON BUSINESS IMPROVEMENT DISTRICT  
APPLETON, WISCONSIN  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2021**

**NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**C. Assets, Liabilities, Deferred Outflows/Inflows of Resources, and Net Position  
(Continued)**

**4. Net Position**

Equity is classified as net position and displayed in three components:

- Net Investment in Capital Assets. Amount of capital assets, net of accumulated depreciation, and capital related deferred outflows of resources less outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets and any capital related deferred inflows of resources.
- Restricted Net Position. Amount of net position that is subject to restrictions that are imposed by 1) external groups, such as creditors, grantors, contributors or laws or regulations of other governments or 2) law through constitutional provisions or enabling legislation.
- Unrestricted Net Position. Net position that is neither classified as restricted nor as net investment in capital assets.

**5. Claims and Judgements**

Claims and judgements are recorded as expenses when the related liabilities are incurred.

**D. Prior Year Information**

Comparative amounts for the prior year have been presented in the financial statements to provide an understanding of changes in the District's financial position and operations. The comparative amounts may be summarized in total and not at the level of detail required for a presentation in conformity with generally accepted accounting principles. Accordingly, such information should be read in conjunction with the District's financial statements for the year ended December 31, 2020, from which the summarized information was derived.

**CITY OF APPLETON BUSINESS IMPROVEMENT DISTRICT  
APPLETON, WISCONSIN  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2021**

**NOTE 2 STEWARDSHIP AND COMPLIANCE**

**A. Operating Plan**

The budgetary information is derived from the District's annual operating plan budget and is presented using the same basis of accounting as described in Note 1.B. The 2021 Operating Plan, as approved by the Board of Directors and Common council, included provisions for District assessments and related spending of \$252,722. The board of directors and management use the budget to manage the District's program activities; however, the budget does not represent a legal budget establishing specific line item expenditure limits.

**NOTE 3 DETAILED NOTES ON ALL FUNDS**

**A. Cash and Investments**

The District's cash and investments total \$205,599 are commingled with the cash and investment accounts of the City of Appleton; therefore, individual bank balances of the District cannot be determined. Please refer to the City's financial statements for further information.

The City's Comprehensive Annual Financial Report can be located at [www.appleton.org/government/finance](http://www.appleton.org/government/finance).

**NOTE 4 OTHER INFORMATION**

**A. Risk Management**

The District is exposed to various risks of loss related to torts; theft of, damage to and destruction of assets; errors and omissions; and natural disasters for which the government carries commercial insurance. The District completes an annual review of its insurance coverage to ensure adequate coverage.

**B. Contingencies**

From time to time, the District is party to other various pending claims and legal proceedings. Although the outcome of such matters cannot be forecast with certainty, it is the opinion of management that the likelihood is remote that any such claims or proceedings will have a material adverse effect on the District's financial position or results of operations.

**SUPPLEMENTARY INFORMATION**

**CITY OF APPLETON BUSINESS IMPROVEMENT DISTRICT  
APPLETON, WISCONSIN  
SCHEDULE OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION  
BUDGET AND ACTUAL  
YEAR ENDED DECEMBER 31, 2021**

	Original Budget	Final Budget	Actual
<b>OPERATING REVENUES</b>			
Bid Assessments	\$ 231,786	\$ 252,722	\$ 230,931
<b>OPERATING EXPENSES</b>			
Contracted Services	50,000	50,000	50,000
Administrative:			
Telephone	-	-	1,889
Office Supplies	-	-	58
Postage	-	-	1,286
Dues, Fees, and Subscriptions	-	-	802
Facility Rent	-	-	1,816
Total Administrative	<u>6,286</u>	<u>6,286</u>	<u>5,851</u>
Audit and Accounting Services	2,500	2,500	2,971
Marketing:			
Advertising	73,000	73,000	70,918
Printing	-	-	218
Total Marketing	<u>73,000</u>	<u>73,000</u>	<u>71,136</u>
Economic Development Projects:			
Sidewalk Maintenance/Amenities	30,000	30,000	18,712
Façade Grants	35,000	57,216	57,216
Marketing Grants	10,000	9,470	9,343
Recruiting Grant	15,000	14,250	13,250
Business Recruitment	10,000	10,000	2,440
Total Economic Development Projects	<u>100,000</u>	<u>120,936</u>	<u>100,961</u>
Total Operating Expenses	<u>231,786</u>	<u>252,722</u>	<u>230,919</u>
<b>OPERATING LOSS</b>	-	-	12
<b>NONOPERATING REVENUES</b>			
Investment Income	-	-	(1,030)
<b>CHANGE IN NET POSITION</b>	-	-	(1,018)
Net Position - Beginning of Year	<u>29,026</u>	<u>29,026</u>	<u>29,026</u>
<b>NET POSITION - END OF YEAR</b>	<u>\$ 29,026</u>	<u>\$ 29,026</u>	<u>\$ 28,008</u>





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**PARKS, RECREATION & FACILITIES  
MANAGEMENT**

**Dean R. Gazza, Director**

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Appleton, Wisconsin 54911-8401  
(920) 832-5572 FAX (920) 993-3103  
Email - [dean.gazza@appleton.org](mailto:dean.gazza@appleton.org)

TO: Finance Committee

FROM: Dean R. Gazza

DATE: 8/22/2022

RE: Action: Reject bids from Cardinal Construction Co., Inc., and Frank O Zeise Construction Co., Inc. for the 2022 Telulah Pavilion Renovation Project.

The 2022 Capital Improvement Plan includes \$200,000 to renovate the large and small pavilions at Telulah Park. Of that amount \$24,850 has been utilized for design leaving a balance of \$175,150 for construction. Bids were opened on August 2, 2022, for the 2022 Telulah Pavilion Renovation Project.

The bids received were as follows:

Cardinal Construction Co., Inc.	\$220,187
Frank O Zeise Construction Co., Inc.	\$309,800

The bids exceeded our allocated project budget for the 2022 Telulah Pavilion Renovation Project. After conferring with our consulting engineer (Martenson and Eisele), the Parks, Recreation and Facilities Management Department is recommending rejecting the bids, reviewing the current project bidding documents for items that can be deferred to a future year, and re-bidding with a reduction in project scope. The items reduced from the project scope will be addressed in a future year CIP.

The Parks, Recreation and Facilities Management Department recommends rejecting these bids. Please contact me at 832-5572 or at [dean.gazza@appleton.org](mailto:dean.gazza@appleton.org) with any questions.





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Email - [dean.gazza@appleton.org](mailto:dean.gazza@appleton.org)

TO: Finance Committee

FROM: Dean R. Gazza

DATE: 8/22/2022

RE: Action: Reject bid from Cardinal Construction, Inc. in the amount of \$631,600 for the Appleton Wastewater Treatment Plant F1-Building Remodeling Project.

The 2022 Capital Improvement Plan includes \$300,000 to renovate the F1-Building at the Wastewater Treatment Plant. Previously, \$24,500 had been utilized for engineering services, leaving a balance of \$275,500 for construction. Only one bid was received for the project and was over the allocated budget.

The bids received were as follows:

Cardinal Construction, Inc. \$631,600

The bid exceeded our allocated project budget for the AWWTP F1-Building Remodeling Project. After conferring with our consulting engineer (McMahon and Associates), the Parks, Recreation and Facilities Management Department is recommending rejecting the bid, reviewing the current project bidding documents for items that can be deferred to a future year, and re-bidding with a reduction in project scope. The items reduced from the project scope will be addressed in a future year CIP.

Please contact me at 832-5572 or at [dean.gazza@appleton.org](mailto:dean.gazza@appleton.org) with any questions.



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Email - [dean.gazza@appleton.org](mailto:dean.gazza@appleton.org)

TO: Finance Committee

FROM: Dean R. Gazza

DATE: 8/22/2022

RE: Action: Reject bids from Otis Elevator Company and Frank O Zeise, Construction Co., Inc. for the 2022 Appleton Red Ramp Elevator Upgrades Project.

The 2022 Capital Improvement Plan includes \$275,000 to upgrade the elevators at the Appleton Red Parking Ramp. Of that amount \$10,900 has been utilized for design leaving a balance of \$264,100 for construction. Bids were opened on August 2, 2022, for the Appleton Red Ramp Elevator Upgrades Project.

The bids received were as follows:

Otis Elevator Company	\$724,500
Frank O Zeise, Construction Co., Inc.	\$724,987

The bids exceeded our allocated project budget for the Appleton Red Ramp Elevator Upgrades Project. After conferring with our consulting engineer (McMahon and Associates), the Parks, Recreation and Facilities Management Department is recommending rejecting the bids, reviewing the current project bidding documents for items that can be deferred to a future year, and re-bidding with a reduction in project scope. The items reduced from the project scope will be addressed in a future year CIP.

The Parks, Recreation and Facilities Management Department recommends rejecting these bids. Please contact me at 832-5572 or at [dean.gazza@appleton.org](mailto:dean.gazza@appleton.org) with any questions.



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(920) 832-5572 FAX (920) 993-3103  
Email - [dean.gazza@appleton.org](mailto:dean.gazza@appleton.org)

TO: Finance Committee

FROM: Dean R. Gazza

DATE: 8/22/2022

RE: Action: Reject bid from The Wilson Group, Inc. in the amount of \$173,086 for the Appleton Wastewater Treatment Plant 2022 Asbestos Remediation Project.

The 2022 Appleton Wastewater Treatment Plant operating budget includes \$125,000 to remediate the asbestos in A-Building. Previously, \$19,500 had been utilized for engineering services, leaving a balance of \$105,500 for construction. Only one bid was received for the project and was over the allocated budget.

The bids received were as follows:

The Wilson Group, Inc.        \$173,086

After conferring with our consulting engineer (Donohue and Associates), the Parks, Recreation and Facilities Management Department is recommending rebidding the project at a later date to seek more competitive bids.

Please contact me at 832-5572 or at [dean.gazza@appleton.org](mailto:dean.gazza@appleton.org) with any questions.



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Email - [dean.gazza@appleton.org](mailto:dean.gazza@appleton.org)

TO: Finance Committee

FROM: Dean R. Gazza

DATE: 8/22/2022

RE: Action: Approve the Wastewater Treatment Plant's F-1 Building Remodeling Project Engineering Services Amendment #1 increasing the McMahon's total contract amount by \$20,000 from \$24,500 to \$44,500

**BACKGROUND:**

The Appleton Wastewater Treatment Plant's (AWWTP) F1-Building was constructed in the mid-1960's and has not been updated since it was constructed. The F1-Building renovation project includes exterior upgrades, upgrades to finishes, fixture upgrades, and mechanicals.

The 2022 Capital Improvement Plan includes \$300,000 for the F1-Building Remodeling Project.

At the beginning of the project, we entered into a design contract with McMahon to complete the necessary architectural services needed for the F1-Building Renovation Project. During the final design/bidding process, the project design needed to be modified because of structural, mechanical, and electrical issues that were discovered. The project was bid as designed and came in overbudget with only one bidder. We have discussed this project internally and are going to phase this project into two phases. The first phase needs to be completed in fall of 2022 to accommodate the new pavement being installed around the building.

This request is to increase McMahon's contract amount to accommodate the design modifications made during final design/bidding process, break out the existing project into two separate phased projects, and bidding of the first phase.

The cost of additional engineering services outlined as part of the McMahon Contract Amendment #1 totals \$20,000. This amendment would result in the contract amount increasing from \$24,500 to \$44,500.

Please contact me at 832-5572 or at [dean.gazza@appleton.org](mailto:dean.gazza@appleton.org) with any questions.



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Email - [dean.gazza@appleton.org](mailto:dean.gazza@appleton.org)

TO: Finance Committee

FROM: Dean R. Gazza

DATE: 8/22/2022

RE: Action: Reject bids from B & P Mechanical, Inc., Great Lakes Mechanical, Inc., Rohde Brothers, Inc., August Winter and Sons, Inc., and Belonger Corporation, Inc. for the 2022 Appleton Wastewater Treatment Plant H & J Buildings HVAC Upgrades Project.

The 2022 Capital Improvement Plan includes \$750,000 to upgrade the HVAC systems for the H & J Buildings, the V-Building, and to make upgrades to the boiler system at the Appleton Wastewater Treatment Plant. Of that amount \$48,000 has been utilized for design leaving a balance of \$702,000 for construction. Of that amount \$250,000 has been allocated for the H & J Buildings HVAC Upgrades. Bids were opened on August 2, 2022, for the H & J Buildings portion of the 2022 AWWTP HVAC Upgrades Project.

The bids received were as follows:

B & P Mechanical, Inc.	\$302,200
Great Lakes Mechanical, Inc.	\$328,000
Rohde Brothers, Inc.	\$354,800
August Winter and Sons, Inc.	\$401,000
Belonger Corporation, Inc.	\$460,000

The bids exceeded our allocated project budget of \$250,000 for the H & J Buildings portion of the 2022 AWWTP HVAC Upgrades Project. After conferring with our consulting engineer (Donohue and Associates), the Parks, Recreation and Facilities Management Department is recommending rejecting the bids, reviewing the current project bidding documents for items that can be deferred to a future year, and re-bidding with a reduction in project scope. The items reduced from the project scope will be addressed in a future year CIP.

The Parks, Recreation and Facilities Management Department recommends rejecting these bids. Please contact me at 832-5572 or at [dean.gazza@appleton.org](mailto:dean.gazza@appleton.org) with any questions.



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---

**TO:** Finance Committee

**FROM:** Jeri Ohman, Finance Director

**DATE:** August 22, 2022

**RE:** Request to award the ARPA Grant Administration contract to Booth Management Consulting, LLC for a project total not to exceed \$150,000.

---

The American Rescue Plan Act (ARPA) budget includes \$150,000 for consulting and administrative support for ARPA projects. A Request for Proposals was posted in May and responses were received from four firms on June 30, 2022.

A 6-person review team, composed of Directors, Deputy Directors, staff, and the Mayor, evaluated the proposals for relevant experience, project team, project understanding, knowledge of federal grant compliance, and cost.

The team selected two firms to interview and speak with references provided in the proposal. The findings were discussed with the review team and Booth Management Consulting, LLC (BMC) was unanimously selected to be recommended for award of the contract.

BMC has experience with grant administration and compliance with federal requirements prior to the pandemic and is assisting other local governments with ARPA funding and recovery processes. They will provide guidance to City staff during all stages of the process. This will include creating grant applications, developing application rating systems, provide training for recipients, monitoring of awards, and assistance with the reporting process.

Therefore, based on review of the information provided and interviews with firm representatives, the review team recommends awarding a not to exceed contract to BMC for \$150,000.

Please feel free to contact me at 832-5742 or at [jeri.ohman@appleton.org](mailto:jeri.ohman@appleton.org) with any questions.



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**TO:** Finance Committee  
**FROM:** Jake Woodford, Mayor  
Jeri Ohman, Finance Director  
**DATE:** August 22, 2022  
**RE:** General Fund Balance Policy

---

The City has a general fund balance that states:

*At least 75% of general fund balance in excess of the reserve policy (currently three months operating expenditures) be used for the reduction of long-term liabilities. Utilization of the remaining funds are subject to recommendation from the Finance Committee to be used for additional reduction of long-term liabilities or general fund expenditures with final Council approval.*

Each year upon the conclusion of the annual audit, the general fund balance is reviewed to determine if such excess funds are available. The audit report, presented to the Finance Committee on July 11, 2022, noted an unadjusted general fund balance of \$5,273,273 in excess of the City’s reserve policy at December 31, 2021.

December 31, 2021

General Fund Balance in excess of reserve policy per audit	\$ 5,273,273
Less: Amounts from 2020 Excess Fund Balance held (Council approved 3/17/22):	
Website redesign	\$ (100,000)
Pedestrian safety	\$ (225,000)
Technology upgrades	<u>\$ (150,000)</u>
Adjusted fund balance applicable to reserve policy	<u>\$ 4,798,273</u>

Reasons for the Excess

It is unusual to have this large of an excess at year end. There were a couple major factors that contributed to the excess. First, four of the City’s TIF Districts are paying back advances (loans) that the general fund made in prior years. As the advances are paid back, this adds available cash to the general fund balance. The result of these TIF advance repayments in 2021 was a \$4,000,000 increase in the unassigned general fund balance.

Second, federal CARES and ARPA funding for COVID-19 relief expenses also played a significant role in generating the surplus. Approximately \$560,000 of these grant funds were able to be used to pay for public health and public safety personnel costs which replaced the budgeted general fund spending.

#### Application of the Policy

Applying the policy to the adjusted excess fund balance results in approximately \$3,598,705 (75%) being designated to be used to reduce long-term liabilities and \$1,199,568 (25%) subject to the recommendation of the Finance Committee.

Per discussion with staff, we are respectfully requesting the Finance Committee's approval to allocate \$1,175,000 as follows:

- \$20,000      *Aerial Imaging for GIS – Cover the city's portion of aerial photography costs in partnership with Outagamie County to update the GIS imagery to the present day.*
- \$130,000    *College Ave. Traffic Safety – Appropriates funds for the Traffic Section of DPW, in partnership with Community and Economic Development, Police Department, and Appleton Downtown Inc. to plan, design, and pilot/implement interventions aimed at improving the safety and multi-modal functionality of College Avenue.*
- \$50,000      *ARA Business Enhancement Grants – Renews funding for the ongoing Appleton Redevelopment Authority citywide business enhancement grant program.*
- \$150,000    *Emerald Ash Borer (EAB) Mitigation – Appropriates funds jointly to Forestry Section of DPW and the Parks, Recreation and Facilities Management Department for the purpose of EAB remediation, prioritizing Vosters Park, followed by a prioritized list of projects to be developed by staff.*
- \$550,000    *Information Technology Updates & Security – Funds Migration of Munis System to Tyler Technologies services. Any remaining funds in this allocation will be directed to areas of greatest need within Information Technology as determined by staff.*
- \$275,000    *Current Year Operating Reserve – Holds funds aside for current year needs to mitigate the effects of high inflation. Unspent balance at the end of the year will either be carried forward to maintain additional cash reserves or recommended for other purposes.*


Director Ohman will work with the City's financial advisor to determine the most cost-effective use of the remaining \$3,623,273 slated for debt reduction (either call any eligible existing debt or reduce the 2023 borrowing package).


If you have any questions on these requests, feel free to reach out to either Mayor Woodford or Director Ohman. Thank you for your consideration.




# CITY OF APPLETON

## FIRE DEPARTMENT

 700 N. Drew Street  
Appleton, WI 54911

 (920) 832-5810

 (920) 832-5830

 [jeremy.hansen@appleton.org](mailto:jeremy.hansen@appleton.org)

## MEMORANDUM

September 2, 2022

To: Finance Committee, Safety & Licensing Committee and Common Council  
From: Jeremy Hansen, Fire Chief  
Cc: Ryan Weyers, Deputy Fire Chief  
Re: Request to Accept Paramedic Training Grant

The Appleton Fire Department (AFD) is requesting approval to accept an Assistance to Firefighter Grant (AFG) in the amount of \$192,088.20.

Since 2001, AFG has helped firefighters and other first responders obtain critically needed resources necessary for protecting the public and emergency personnel from fire and related hazards. The AFG supports training emergency personnel, enhancing efficiencies, and supporting community resilience. This grant opportunity places a high priority on upgrading medical service levels in the community. While other grants exist, the AFG is unique and essential to offset tuition and the large cost of staffing backfill that ensures essential fire protection and medical response capability is maintained during the training.

The City of Appleton is responsible for a 10% match, or roughly \$19,208.80, bringing the total project cost to \$211, 297.00. The AFD will utilize its current overtime budget to cover the required match.

In 2021, the AFD responded to 6,841 calls for service. Requests for service included fire suppression, vehicle accidents and extrication, water rescue, heavy technical rescue, hazardous materials, and medical incidents. In 2021, a total of 5,180 were for medical emergencies. Emergency medical services (EMS) response accounts for 76% of the fire department's calls for service. Between 2018 and 2021, there was a 27% increase in total call volume, which includes a 35% increase in medical emergencies. While the Fire Department provides response to all medical emergencies within the city limits, AFD is one of only three career fire departments in the State of Wisconsin that does not provide paramedic level services.

The Fire Department requested grant funding to support tuition and backfill costs that will be incurred from sending six employees to an instructor-led paramedic training program in the fall of 2023. The AFD has a strong desire to provide the community an exceptional pre-hospital experience by upgrading our medical response capabilities from Emergency Medical Technician (EMT) to Paramedic in the near future.

The paramedic engine concept will upgrade the existing fire apparatus to the paramedic level. This will provide improved level of pre-hospital care to the community without adding staff. The paramedic engine concept meets the

need for rapid delivery of advanced life support (ALS) medical care, and will lower the time from incident dispatch to the first ALS intervention on approximately 5,000 medical emergencies each year. Additionally, a fire-based paramedic program will improve safety during all daily activities, including emergency incidents and the training ground, as trained and equipped paramedics can provide immediate life-saving care to all firefighters, law enforcement, and first responders. This project will enhance the life safety for the 75,644 residents within the City of Appleton and upwards of 250,000 residents in the neighboring communities with the help of our automatic-aid and mutual aid agreements.

If you have any questions or concerns, please do not hesitate to contact me at (920) 832-5810. Thank you for your consideration.



# City of Appleton Stormwater Quality Management Plan

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Prepared for  
City of Appleton  
Appleton, WI  
March, 2022



250 East Wisconsin Avenue, Suite 1600  
Milwaukee, WI 53202-4203  
T: 414.273.8800

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## List of Abbreviations

2014 Plan	2014 City of Appleton Citywide Stormwater Management Plan	SMP	Stormwater Management Practice (term used interchangeably with “SCM”)
2020 Plan	2020 City of Appleton Stormwater Quality Management Plan	SWMP	Stormwater Management Plan
ac	acre	TMDL	total maximum daily load
ADT	average daily traffic	TP	total phosphorus
AIS	Aquatic Invasive Species	TSS	total suspended solids
BRRTS	Bureau for Remediation and Redevelopment Tracking System	USDA	United States Department of Agriculture
CEA	Central Equipment Agency	USEPA	United States Environmental Protection Agency
City	City of Appleton	USGS	United States Geological Survey
DPW	Department of Public Works	wastewater utility	City of Appleton’s Wastewater Utility
EPA	United States Environmental Protection Agency	WDNR	Wisconsin Department of Natural Resources
FWWA	Fox-Wolf Watershed Alliance	WinSLAMM	Windows Source Loading and Management Model
GIS	Geographical Information System	WisDOT	Wisconsin Department of Transportation
GO	general obligation	WLA	waste load allocation
HSD	hydrodynamic separation devices	WPDES	Wisconsin Pollutant Discharge Elimination System
IDDE	illicit discharge detection and elimination	WQBEL	water quality-based effluent limitations
MDRNA	Medium Density Residential No Alleys	yr	year
MEP	maximum extent practicable		
MS4	Municipal Separate Storm Sewer System		
MSB	Municipal Services Building		
NEWSC	Northeast Wisconsin Stormwater Consortium		
NHI	Natural Heritage Inventory		
NPS	nonpoint source		
NRCS	Natural Resource Conservation Service		
SCM	Stormwater Control Measure (term used interchangeably with “SMP”)		

Throughout this document the terms “WPDES permit”, “Stormwater Permit”, and “MS4 permit” are used interchangeably to refer to the Wisconsin Department of Natural Resources (WDNR) General Permit to Discharge Under the Wisconsin Pollutant Discharge Elimination System (WPDES) Permit No. WI-S050075-3. This general permit regulates all discharge from the Municipal Separate Storm Sewer System (MS4) owned and operated by the City of Appleton.



# Executive Summary

## Introduction and Purpose of this Plan

The City of Appleton's (City) stormwater discharge quality is regulated under a Wisconsin Department of Natural Resources (WDNR) Municipal Separate Storm Sewer System (MS4) permit. The permit was originally issued in 2006 and was most recently reissued in 2019 (WI-S050075-3). The permit requires the City to conduct various stormwater management program elements geared towards reducing stormwater pollution from its existing storm sewer system. Further details on the MS4 permit and regulatory drivers can be found in Section 1.

Stormwater quality management planning allows the City to assess compliance with specific numeric requirements of the permit and to identify implementation measures to move towards full compliance. Specifically, the City is obligated to move towards meeting total maximum daily load (TMDL), total suspended solids (TSS), and total phosphorus (TP) requirements for areas of the City that discharge within the six reachsheds (waterway drainage areas) of the Lower Fox River Basin and Lower Green Bay TMDL (which was the focus of the City's 2014 Stormwater Management Plan) and the two reachsheds of the Upper Fox and Wolf River basin TMDL (approved by EPA February 2020). Section 2 provides more information on the reachsheds and the project setting.

The purpose of this plan is to use computer modeling following WDNR guidance and provide the information required by DNR to:

1. Update the "no controls" (unmanaged) pollutant load from all applicable areas of the City
2. Update the "with controls" (current managed) pollutant load
3. Evaluate and consider potential stormwater management practices (SMPs) that the City could implement to further improve stormwater discharge quality
4. Develop an implementation plan that identifies specific practices, the timing of those practices, and their impact on moving towards compliance with the TMDL reduction targets
5. Meet the requirements of the WPDES permit WI-S050075-03

## Stormwater Management Plan Analysis Methodology

This study recalculated the no controls stormwater pollutant loads throughout the City using the WinSLAMM (Source Loading and Management Model for Windows) computer model, representing runoff conditions as if it was completely unmanaged by the City. Next, the impact of existing stormwater management measures on discharge stormwater quality was calculated throughout the City.

Management measures evaluated include street cleaning, grass swales, regional stormwater management practices (SMPs), and non-regional SMPs. Results are managed on a reachshed basis to allow comparison to the TMDL reductions identified in the respective TMDL studies. Details on the no controls and with controls evaluations are in Section 3.

Following the no controls and with controls analyses, a variety of potential stormwater management measures were evaluated. These include:

- Enhancements to the existing street cleaning and leaf collection programs
- Construction of additional regional SMPs
- Augmenting existing or future SMPs with coagulant treatment systems to improve settling and increase nutrient removal

- Consideration of the impact of new development and redevelopment on progress towards meeting TMDL reduction goals, including how ordinance changes could be impactful
- Potential to use water quality pollutant trading with the City's wastewater utility, other partners and within the City's reachsheds
- Review of new and other technologies

Alternative stormwater practices evaluated are detailed in Section 4.

## Summary of Results and Conclusions

### Current Progress Towards TMDL Compliance

The results of the analysis can be seen in Table ES1 which includes information on the results from the 2014 study and this study in comparison to the various TMDL reduction targets (bold text indicates that TMDL reachshed reduction targets are met or exceeded).

Table ES-1. TMDL Reachshed Targets and Reductions vs 2014 and 2020 Study Results						
Reachshed	TMDL Target TSS Load Reduction %	2014 With Controls TSS Reduction %	2020 With Controls TSS Reduction %	TMDL Target TP Load Reduction %	2014 With Controls TP Reduction %	2020 With Controls TP Reduction %
<b>Lower Fox River TMDL</b>						
Apple Creek	52%	<b>79.6%</b>	<b>69.7%</b>	40.5%	<b>59.6%</b>	<b>48.3%</b>
Duck Creek	52%	<b>69.2%</b>	<b>73.7%</b>	40.5%	<b>43.8%</b>	<b>48.5%</b>
Garners Creek	60%	<b>78.0%</b>	<b>75.9%</b>	68.6%	58.7%	56.0%
Lower Fox River Mainstem (DS)	72%	29.3%	36.0%	40.5%	20.3%	23.5%
Lower Fox River Mainstem (US)	72%	17.8%	25.3%	40.5%	11.4%	15.4%
Mud Creek	43%	21.3%	28.6%	48.2%	13.8%	20.8%
<b>Upper Fox-Wolf TMDL</b>						
Bear Creek	84%	32.3%	25.8%	85.6%	26.8%	11.4%
Lake Winnebago	20%		<b>22.4%</b>	85.6%		15.3%

Comparing the 2014 and 2020 reductions to the TMDL reduction goals results in the following observations:

- The 2014 study did not include TSS and TP reductions for Bear Creek and Lake Winnebago individually.
- The City meets TSS reduction goals in four of the eight reachsheds and TP reduction goals in two of the eight reachsheds with this analysis, which is similar to 2014.
- TSS and TP reductions improved in four of the six Lower Fox River TMDL reachsheds.
- Garners Creek TSS and TP reductions decreased slightly due to changes in land use and minor reduction in Coop Road Pond and Kensington Pond regional SMP treatment efficiency based on WinSLAMM models developed in this study rather than applying TSS reduction rule-of-thumb treatment efficiency based on wet detention pond surface area.
- Apple Creek TSS and TP reductions decreased due to changes in land use and annexation of areas, including Plamann Park, which have few current stormwater treatment practices.

## Implementation Plan for TMDL Compliance

Following the evaluation of potential practices, Brown and Caldwell and City staff worked together to select components for implementation. The implementation plan includes a mix of items that provide measurable improvement towards meeting the TMDL goals, such as new wet detention ponds and purchasing additional high efficiency street sweepers. It also includes some that do not provide numeric improvement but are instrumental in continuing the success of the City's overall plan, such as updating stormwater utility billing information and expanding the municipal services building to accommodate new stormwater related equipment. Full implementation plan tables are located in Appendix D and Section 6 provides details on the selected components.

One plan element that was identified to help move towards compliance, particularly in some of the oldest and more densely developed areas of the City, is the modification of the City's post-construction stormwater management ordinance. The ordinance updates include requiring new development and redevelopment sites to meet the TMDL reduction numeric standards if they are higher than what is currently required by the ordinance (based on state-wide standards). This is discussed further in Section 5.

Significant capital projects are generally timed to occur every 5 years (such as planning and constructing a new wet detention pond) to coincide with the MS4 permit cycles. The implementation plan extends into the year 2140, which is primarily tied to the redevelopment component. The plan suggests that the City will be in compliance with TSS and TP TMDL reduction targets for all six of the Lower Fox TMDL reachsheds at the end of 2140 and with TSS reduction targets for Lake Winnebago. However, the implementation plan does not show that the TP target for Lake Winnebago and both the TSS and TP targets for Bear Creek can be met by the end of 2140.

## Section 1

# Introduction

The City of Appleton's (City) stormwater discharge quality is regulated under a Wisconsin Department of Natural Resources (WDNR) issued Municipal Separate Storm Sewer System (MS4) permit. The permit was originally issued in 2006 and was most recently reissued in 2019 (WI-S050075-3). The permit requires the City to conduct various stormwater management programs including reduction of stormwater pollution from its existing storm sewer system. See Section 1.3 for a discussion on several important revisions contained in this most recent permit.

In 2005, the City completed a Citywide Stormwater Management Plan to evaluate stormwater discharge quality on a citywide basis. That plan was updated in 2008 to assess compliance with NR151.13 Developed Urban Area Performance Standard for total suspended solids (TSS). Details of the performance standard are included in Section 1.1 of this report. The 2008 Plan indicated that the City had met and exceeded the required 20 percent TSS reduction.

The plan was updated again in 2014, following the WDNR publication of the "Total Maximum Daily Load and Watershed Management Plan for Total Phosphorus and Total Suspended Solids in the Lower Fox River Basin and Lower Green Bay" (Lower Fox TMDL), which was approved by the United States Environmental Protection Agency (EPA) in March 2012. The "City of Appleton Citywide Stormwater Management Plan", AECOM October 2014 (2014 SWMP) assessed both compliance with NR151.13 performance standards and the individual water quality reduction targets that were set by the Lower Fox TMDL on a reachshed basis. The 2014 Plan reported the following:

- On a citywide basis, TSS was reduced by 38 percent and was in compliance with the NR151.13 requirement.
- Total phosphorus (TP) was reduced by 28 percent (which does not have a specific reduction target under NR151.13).
- The City was in compliance with TSS reductions for three of the six TMDL reachsheds (Apple Creek, Duck Creek, Garners Creek) and with TP reductions for two of the six reachsheds (Apple Creek, Duck Creek).

This stormwater management plan builds upon the information generated during the 2014 Plan, updates models based on changes in development conditions (soils, land use, city limits, additional stormwater management practices [SMPs], etc.), and evaluates additional SMPs that could assist the City with continuing to move towards compliance with all TMDL pollutant targets. Stormwater pollution analyses were conducted with a focus on compliance with the Lower Fox TMDL, and the "Total Maximum Daily Loads for Total Phosphorus and Total Suspended Solids Upper Fox and Wolf Basins" (Upper Fox/Wolf TMDL) study that was approved by EPA in February 2020. This report is partially funded by a WDNR Urban Non-point Source & Storm Water (UNPS&SW) Program Planning Grant. The remaining funding is provided for through the City of Appleton's Stormwater Utility.

The full TMDL reports can be found on the WDNR's website at <https://dnr.wi.gov/topic/tmdls/>. This plan fulfills the TMDL stormwater planning requirements for the City located in Appendix A and Appendix C of the MS4 Permit. The methodology, analytical approach, and the results are described in subsequent sections of this document.

## 1.1 NR151 Developed Urban Area Performance Standard for Pollution Reduction.

The Developed Urban Area Performance Standard (NR 151.13) for MS4 permit holders has been in place since October 2004, when the Administrative Code NR151 Runoff Management requirements were promulgated by the WDNR. This standard requires municipalities with MS4 permits to reduce pollution from areas within the City that were developed as of October 2004. When this standard was first put in place, the City was required to meet TSS pollution reductions from a no controls condition of 20 percent by March 31, 2008, and 40 percent by March 31, 2013. These control levels were applied to the City as a whole.

Under state budget bill 2011 Wisconsin Act 32, two provisions were passed which directly impacted the Developed Urban Area Performance Standard.

- The March 31, 2013 deadline regarding the 40 percent TSS reduction requirement from existing urban areas was removed. The requirement to meet the 20 percent TSS reduction is still in force, as are all performance standards addressing new land development and land redevelopment.
- A second provision of 2011 Wisconsin Act 32 identified that where a permitted municipality had achieved a reduction above the 20 percent TSS performance standard, all structural best management practices in place on July 1, 2011, must be maintained to the maximum extent practicable.

As noted previously, the pollution reduction analysis conducted under the 2014 Plan found that the City was achieving a 38 percent reduction in TSS (from a no controls condition). This means that the City complies with the current NR 151.13 requirement, and the City must continue to maintain the existing management measures. Maintenance of existing practices is covered in the City's Pollution Prevention Plan covering permit section 2.6.

Because the City meets the NR 151.13 pollution reduction targets, the remaining portions of the plan will focus on TMDL compliance, and policies and procedures applicable to the WDNR's TMDL guidance.

## 1.2 TMDL Program and Pollution Reduction Targets

The Lower Fox TMDL and Upper Fox/Wolf TMDL reports establish Wasteload Allocations (WLAs) and associated pollution reduction requirements for TSS and TP for each reachshed in the City of Appleton. A "reachshed" is the watershed (drainage area) to an identified segment of a stream, river, or other water body as defined in the TMDL document.

In 2012, the Lower Fox TMDL study established pollution reduction goals (TSS and TP) for each of the six reachsheds that receive discharge from the MS4. In 2020, the Upper Fox/Wolf TMDL study established TSS and TP targets for the remaining two reachsheds in the city. Reachsheds and their corresponding reductions are found in Table 1-1 and can be seen graphically in Figure 1-1 located in Appendix A.

The two TMDL studies present the required reductions somewhat differently. The Upper Fox/Wolf TMDL presents pollution reduction requirements for a reach as "Local", "Downstream", and "Total" reductions from baseline loads. For example, in Table 5 of Appendix H of the Upper Fox/Wolf TMDL report, the Bear Creek TMDL reach (TMDL Subbasin 52 in the Upper Fox/Wolf TMDL report) has a "Local" reduction of 51 percent, "Downstream" reduction of 32 percent, and corresponding "Total" reduction of 83 percent for TP allocated to the City of Appleton, all expressed as reductions from baseline loads. (The importance of the word baseline will be addressed in a subsequent paragraph.) The intent of this breakdown is to explain the amount of stormwater pollution reduction that is needed

to reduce the impairment of the “local” waterway (in this example Bear Creek), and pollutant reductions must be made within the drainage area to Bear Creek (direct drainage subbasin or from an upstream drainage area). The remaining 32 percent can be found from anywhere within the drainage area for Lake Winnebago to meet more stringent downstream reduction requirements. For the purpose of this study, it is assumed that the City must meet the “Total” reduction requirement for each reachshed and only those are presented in this report.

The Lower Fox TMDL did not express reductions in the same manner as the Upper Fox/Wolf TMDL report. The information is not expressed in terms of “Local” and “Downstream” but only the total reduction from baseline that is required. Information on each reachshed is presented in Section 6 of the Lower Fox River TMDL report document.

Furthermore, the required reductions reported in each of the two studies are represented as reductions from baseline conditions. This is not the same as the no controls conditions that are customarily used in citywide water quality studies in Wisconsin and described in WDNR guidance documents. The two studies were required to assume that the NR151 reductions of 20 percent for TSS (and a corresponding 15 percent for TP) were being met by the municipalities. (See page 57 of the Upper Fox/Wolf TMDL report for a more detailed description and reasoning.) This means that the actual reduction requirements from baseline are higher than those listed in tables in the TMDL reports. For example, in the Apple Creek reachshed, the Lower Fox TMDL report (table on page 54) identifies a reduction of 40 percent from baseline loads of TSS is required from the Appleton MS4. In this case, the baseline assumes a 20 percent reduction in TSS has already been achieved, so to calculate the reduction from no controls, the equation is:  $20\% + (0.80 * 40\%) = 52\%$ .

Using the prior example of Bear Creek in the Upper Fox/Wolf TMDL report, an 83 percent reduction in TP is required from baseline loads from the Appleton MS4. In this case, the baseline assumes a 15 percent reduction in TP has already been achieved, so to calculate the reduction from no controls, the equation is:  $15\% + (0.85 * 83\%) = 85.55\%$  (say 85.6 percent when rounded).

The pollution reduction targets in Table 1-1 are based on a no controls condition which is consistent with the way NR 151 pollution reduction levels are established. The various receiving waters are described further in Section 2.3.

It should further be noted that the 85.6 percent TP reduction goal established for the two Upper Fox/Wolf TMDL reachsheds is very challenging. The phosphorus found in urban stormwater is generally comprised of approximately 80 percent particulate phosphorus and 20 percent soluble phosphorus. Many of the common stormwater management measures mainly remove the particulate forms of a pollutant and have less impact on the soluble form. Thus, even if 100 percent of the particulate form of phosphorus is removed from all sources of stormwater, that would represent, at the most, approximately an 80 percent reduction in TP—still short of the required reduction. To achieve the higher TMDL TP Reductions, both the particulate and soluble forms of phosphorus will need to be addressed.

<b>Table 1-1. TMDL Reaches Corresponding Reduction Requirements <sup>1</sup></b>				
<b>TMDL Reach</b>	<b>TMDL Report Identified TSS Reduction <sup>1</sup></b>	<b>City Required TSS Reduction <sup>1</sup></b>	<b>TMDL Report Identified TP Reduction <sup>1</sup></b>	<b>City Required TP Reduction <sup>1</sup></b>
<b>Lower Fox TMDL Reachsheds</b>				
Apple Creek	40%	52.0%	30%	40.5%
Duck Creek	40%	52.0%	30%	40.5%
Garners Creek	49.9%	59.9%	63.1%	68.6%
Lower Fox River Mainstem (DS)	65.2%	72.2%	30%	40.5%
Lower Fox River Mainstem (US)	65.2%	72.2%	30%	40.5%
Mud Creek	28.5%	42.8%	39%	48.2%
<b>Upper Fox/Wolf TMDL Reachsheds</b>				
Bear Creek	80%	84.0%	83%	85.6%
Lake Winnebago	0%	20.0%	83%	85.6%

<sup>1</sup> Sources: "Total Maximum Daily Loads for Total Phosphorus and Total Suspended Solids Upper Fox and Wolf Basins" and "Total Maximum Daily Load and Watershed Management Plan for Total Phosphorus and Total Suspended Solids in the Lower Fox River Basin and Lower Green Bay". See Section 1.2 for difference between TMDL Report and City Required TMDL reductions.

### 1.3 Revisions to the MS4 Permit

The current WDNR General Permit to Discharge Under the Wisconsin Pollutant Discharge Elimination System, WPDES Permit No. WI-S050075-3 (commonly referred to as the MS4 Permit) was effective May 1, 2019. The MS4 Permit regulates stormwater quality from the City's stormwater system and defines compliance requirements and schedules for meeting the TMDLs pollution reduction goals.

Important TMDL requirements that impact the City relative to Lower Fox TMDL areas are described in the MS4 Permit's "Appendix A: MS4 Permittees Subject to a TMDL Approved Prior to May 1, 2014 including Applicable Updates". Because the City is not currently in compliance with TMDL reductions for all reachsheds in the Lower Fox TMDL, the City will need to follow the most suitable path to compliance based on options outlined in "A.5 Compliance Over Multiple Permit Terms", as well as adhere to "A.6 Reporting Requirements".

Additional requirements that impact the City relative to Upper Fox/Wolf TMDL areas are described in the MS4 Permit's "Appendix C: MS4 Permittees Subject to a TMDL Approved After May 1, 2019". Because the City is not currently in compliance with TMDL reductions for all reachsheds in the Upper Fox/Wolf TMDL, the City will need to follow section "C.4. TMDL Implementation Plan", as well as adhere to "C.5. Annual Reporting".

The full WPDES General Permit with the referenced appendices is in Appendix E

This Plan was prepared to meet applicable requirements of both appendices to the extent practicable.

## Section 2

# Project Setting

## 2.1 Overview

The City of Appleton is in northeastern Wisconsin, with land areas primarily in Outagamie County but with portions in Calumet and Winnebago Counties. The City is situated on the Fox River and is known as one of the “Fox Cities”. The US Census Bureau reported a 2010 population of 72,623 for the City, and the 2018 estimate was 74,526 and is expected to have continued to grow. The 2020 municipal boundary encompassed over 25 square miles.

## 2.2 Defining the Project Area – Excluded Areas

The project area for compliance with the Upper Fox/Wolf and Lower Fox TMDLs involves analyzing all urban developed land as of the date of this study. For this purpose, the land use, drainage, and management conditions, as defined on the data files provided by the City, are considered current conditions. These files reflect conditions as of approximately July 2020.

A WDNR policy memo “TMDL Guidance for MS4 Permits: Planning, Implementation, and Modeling Guidance” (document number 3800-2014-04) issued October 2014, and recertified September 16, 2019, clarified how municipalities should conduct their TMDL analysis. The document describes areas that are required for inclusion in a study and areas that are optional for inclusion (typically referred to as excluded areas). This policy memo can be found on the WDNR’s website along with other MS4 modeling guidance documents at:

[https://dnr.wi.gov/topic/stormwater/standards/ms4\\_modeling.html](https://dnr.wi.gov/topic/stormwater/standards/ms4_modeling.html).

The areas excluded from this TMDL analysis are identified as follows:

- Agricultural areas that are not discharging to an existing or imminently implemented stormwater control measure (SCM), except under limited circumstances where the agricultural area is tributary to an implemented SCM, but development has been stalled for a prolonged period of time, or the developer has deviated from the approved plan.
- Lands within the Wisconsin Department of Transportation (WisDOT) right-of-way that are operated and maintained by WisDOT (see Appendix B for Memorandum of Agreement between WisDOT and City of Appleton for the USH10/STH 441 area).
- Major open water features—specifically the Fox River. Minor water features are included within their surrounding land use category.
- Riparian areas with direct discharge to a receiving water (not discharging to the City’s MS4). A list of parcels with excluded riparian areas is located in Appendix B.
- Industrial areas permitted under NR 216 and not discharging to an existing City SCM). A list of parcels with excluded industrial areas is located in Appendix B.

The City has Memorandums of Understanding with Calumet and Outagamie Counties that identify responsibilities of the respective entities for road rights-of-way within the City of Appleton. Those agreements identify the responsibility of the City for storm sewer maintenance and street sweeping, and, thereby, the pollutant loadings and credits for SCMs fall on the City. There are no agreements in place or needed with Winnebago County. County Agreements can be found in Appendix B.



There are no current agreements in place with neighboring municipalities that identify limits of individual responsibilities for the City of Appleton or the adjoining municipality. Therefore, it is assumed that roadways that fall within the municipal limits of the City of Appleton are under the jurisdiction and responsibility of the City of Appleton for maintenance and associated pollutant loadings. Figure B-1 located in Appendix B, shows streets along the boundary areas of the City limits of the City of Appleton. This figure was shared with a representative from McMahan who is an engineer for many of the adjacent municipalities and agreed with this approach.

Table 2-1 lists components of the 2,261 acres excluded from the pollution loading analysis and not subject to the MS4 Permit requirements. Figure 2-1 in Appendix A displays the locations of the excluded areas.

<b>Table 2-1. Areas Excluded from the Pollution Loading Analysis</b>	
<b>Exclusion Type</b>	<b>Excluded Area (ac)</b>
Agricultural	1,101
WisDOT	404
Open Water	396
Riparian	292
Permitted Industrial Sites	67
<b>Totals</b>	<b>2,261</b>

*Note: in some limited instances, an area may be eligible for exclusion under multiple conditions but is only listed once in Table 2-1.*

## 2.3 TMDL Reaches and Reachsheds

Land area within the City of Appleton drains to one of seven impaired waters, either directly or indirectly, through tributaries via storm sewers or open channels. Impaired waters are often broken up into multiple segments (reaches) to better describe and categorize differing conditions within the waterway. Land area that drains to these impaired waters are referred to as subbasins or reachsheds.

These water resources are briefly described in the following sections. The descriptions were obtained from WDNR's "Explore Wisconsin's Waters" (<http://dnr.wi.gov/water/default.aspx>) and "Impaired Waters Search" (<https://dnr.wi.gov/water/impairedSearch.aspx>) tools on the WDNR website. Figure 1-1 in Appendix A displays the TMDL reachshed drainage areas within the City of Appleton.

### 2.3.1 Lower Fox TMDL

Six impaired water reachsheds (Apple Creek, Duck Creek, Lower Fox River Mainstem Upstream, Lower Fox River Mainstem Downstream, Garners Creek, and Mud Creek) were evaluated as part of the "Total Maximum Daily Load and Watershed Management Plan for Total Phosphorus and Total Suspended Solids in the Lower Fox River Basin and Lower Green Bay" (Lower Fox TMDL) approved by the EPA in March 2012. The City of Appleton drains directly to two reaches of the Fox River, one upstream of the "Middle Appleton Dam", located at river mile 32.18 near South Olde Oneida Street (Fox River Upstream) and one downstream of the "Middle Appleton Dam" (Fox River Downstream). While the TMDL reduction targets for both reaches were the same in the Lower Fox TMDL, they are presented in this report separately if they need to be addressed individually in the future.

## **Apple Creek**

Apple Creek is a tributary to the Fox River downstream reach and joins the Fox River downstream of Wrightstown (upstream of DePere). Apple Creek impairments include elevated water temperature and degraded habitat due to TP and TSS. Upstream portions of Apple Creek and several tributaries originate or pass through the northern area of the City of Appleton. Most of the City north of Highway 41 drains to Apple Creek and constitutes the second largest collection of land area in this study. Land use is a mix of residential, commercial, institutional, industrial, and park/open spaces with some remaining agricultural areas.

## **Duck Creek**

Duck Creek roughly parallels the downstream reaches of the Fox River and enters Lower Green Bay to the northwest of where the Fox River enters the bay. Duck Creek is impaired with degraded habitat and low dissolved oxygen due to TSS and TP. A small area on the northern most tip of the City is tributary to Duck Creek and is largely undeveloped and agricultural lands that are developing into primarily residential areas.

## **Garners Creek**

Garners Creek is a tributary to the downstream reach of the Fox River. The upstream portion of Garners Creek originates in the southeastern area of the City and continues east until it joins the Fox River near Kaukauna. Impairments include a degraded biological community and habitat caused by elevated TP and TSS pollutants. Southeast areas of the City are tributary to Garners Creek and contains a mix of residential, commercial, and industrial areas, much of which is newer development, and runoff is treated through several large regional stormwater management practices (SMPs).

## **Lower Fox River Mainstem Downstream**

The downstream reach of the Fox River mainstem starts at the Middle Appleton Dam and continues to the DePere dam. Impairments of this reach include low dissolved oxygen as a result of elevated TP. Approximately 40 percent of the City drainage area is tributary to this reach of the Fox River. It contains some of the oldest areas of the City, as well as newer growth areas, and is a mix of industrial, commercial, residential, and institutional land uses.

## **Lower Fox River Mainstem Upstream**

The upstream reach of the Fox River mainstem originates at the Lake Winnebago outlet at Neenah/Menasha and continues to the Middle Appleton Dam. Impairments in this reach include low dissolved oxygen due to elevated TP. Southeastern areas of the City that drain to this portion of the Fox River contain a mix of residential, industrial, and commercial land uses from some of the older areas of the City.

## **Mud Creek**

Mud Creek is a tributary water to the upstream reach of the Fox River. Mud Creek is located to the west of the City of Appleton and enters the Fox River upstream of the City limits. Mud Creek is impaired for degraded habitat due to TSS and TP but chronic and acute aquatic toxicity was also cited due to chlorides. A portion of the western edge of the City drains to Mud Creek and contains a mix of land uses including industrial, commercial, and residential areas.

### 2.3.2 Upper Fox/Wolf TMDL

Two of the impaired water reachsheds (Bear Creek and Lake Winnebago) were recently evaluated as part of the “Total Maximum Daily Loads for Total Phosphorus and Total Suspended Solids Upper Fox and Wolf Basins” (Upper Fox/Wolf TMDL) study that was approved by the EPA in February 2020.

#### Bear Creek

Bear Creek (TMDL subbasin 52 in the Upper Fox/Wolf TMDL) is an 18-mile-long tributary to the Wolf River. Impairments vary depending on the specific segment of the waterway but include degraded biological community, degraded habitat, and high phosphorus levels due to TSS and TP. A small area in the northwest portion of the City, including the landfill and developing residential land uses from agricultural areas, are tributary to this waterway.

#### Lake Winnebago

Lake Winnebago (TMDL subbasin 72 in the Upper Fox/Wolf TMDL) covers approximately 206 square miles and is the largest natural lake in Wisconsin. The primary inlet to the lake is the Fox River at Oshkosh, and its outlet is the Fox River at Neenah/Menasha upstream of the City of Appleton. The lake level is controlled via locks and dam at Neenah/Menasha. The lake is listed by the WDNR with numerous impairments including low dissolved oxygen, eutrophication, turbidity, and excess algal growth from pollutants that include TSS and TP. Some of the southernmost areas of the City (primarily residential land uses) drain to the lake through storm sewers and swales/ditches, passing through municipalities to the south of the city, prior to discharging at the north end of Lake Winnebago.

## 2.4 Land Use and Municipal Limits

### 2.4.1 General Background

The type and distribution of land use has a major impact on the hydrology and urban stormwater pollution within a watershed. The volume and rate of stormwater runoff increases as the percentage of impervious surfaces (streets, parking lots, roofs, etc.) in an area increases. In turn, the amount of impervious surface is related to land use. As development occurs, the impervious area generally increases significantly. Land use also plays an important role in determining the types and amounts of pollutants that are carried by runoff.

Highly urbanized commercial and industrial areas generally contain a high percentage of impervious area and generate high amounts of pollutants. These pollutants include sediment (TSS), nutrients (TP), bacteria, metals, and toxic substances. Less intensive development, such as low to medium density residential lands, contains a lower amount of impervious area and generates lower levels of TSS and TP.

### 2.4.2 Data Sources and Methods

To create the land use for the TMDL analysis, current (2020) parcel data was reviewed to determine the designated land use by parcel. That land use designation was then compared to the 2014 WinSLAMM land use designation and a 2017 aerial photograph of the City. The WinSLAMM designated land use was reviewed with City staff and adjusted based on staff knowledge of the City and modified for areas that are approved for development or in permitting or anticipated near term approval for development.

The City municipal limits were also modified as needed based on near term annexations of various parcels. In cases where development is anticipated to be imminent (generally within the timeframe of this study—2020/2021), the future condition land use was used in the analysis. In a few cases where development has been halted for several years or the developer is not following the original development plan, those land areas were left in an undeveloped or agricultural land use condition depending on the situation and will be adjusted in the future. The entire study area includes approximately 16,532 acres. After removing the 2,261 acres of excluded areas as noted in Section 2.2, the resulting analyzed area for this study is approximately 14,271 acres as shown by land use in Table 2-2.

**Table 2-2. TMDL Categorized WinSLAMM Land Use**

WinSLAMM Land Use	Area (ac)	Area (% of total)
Cemetery	120	1%
Commercial		
Commercial Downtown	117	1%
Office Park	570	4%
Shopping Center	480	3%
Strip Commercial	456	3%
Industrial		
Light Industrial	1,212	8%
Medium Industrial	145	1%
Institutional		
Hospital	63	0%
Institutional	504	4%
Schools	467	3%
Parks and Open Space		
Golf Course	116	1%
Open Space, Undeveloped	1,202	8%
Parks	696	5%
Railroad	91	1%
Residential		
Duplex	178	1%
Low Density Residential	740	5%
Medium Density Residential	5,197	36%
High Density Residential	1,244	9%
Multifamily Residential	658	5%
Mobile Home	14	0%
<b>Totals</b>	<b>14,271</b>	<b>100%</b>

The land use categories were selected to represent the best match to the definitions used by WinSLAMM and WDNR criteria for modeling. Figure 2-2 in Appendix A shows the WinSLAMM land uses for this study.

## 2.5 Precipitation

Precipitation data is another parameter that is used in WinSLAMM. When modeling stormwater pollution loadings, cumulative runoff, and pollution loads from the more frequent “normal” rain events (in the range of 0.25-inch to 1.5-inch rains) are more important than the pollution from the less frequent “larger” rain events. This is because the more frequent events generate the majority of the volume of urban stormwater runoff in any given year; therefore, modeling simulations are performed with rainfall records for a representative time period.

Current guidance from the WDNR stipulates that rainfall records for a specific five-year period should be used. Rainfall input files were developed by the USGS for several locations throughout the State of Wisconsin. The WDNR specifies that the file developed for a location closest to the project area be used in the analysis and also specifies what five-year period is to be used. Thus, the Green Bay five-year rainfall file for rain events between 1968 and 1972 was used for the stormwater pollution modeling in Appleton.

## 2.6 Soils

Soil properties influence the volume and rate of runoff generated from rainfall events. Soils that allow rainfall to freely drain into the ground (sandy soils) will result in lower runoff rates and volumes. Soils that restrict the infiltration of rainfall into the ground (clayey soils) will cause higher runoff rates and volumes. The United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) classifies soils based on their runoff potential into Hydrologic Groups A, B, C, or D. Soils in Hydrologic Group A have a high infiltration capacity and low runoff potential (generally sandy or gravelly soils). Group D soils have a low infiltration capacity and a high runoff potential (generally soils with high clay content).

The soils characteristics are occasionally updated by the USDA/NRCS. For this plan, the soils data was downloaded from the USDA/NRCS website in February 2020, and the soils files, dated September 14, 2019, were used. According to the NRCS Soil Survey, the project area consists of mostly Group C soils. There is a mixture of the other soils found in the remaining areas of the City. NRCS Soil Survey information shows that these soils exhibit a wide range of properties and infiltration ability. The NRCS Soil Surveys were developed to summarize soil characteristics. Actual soil conditions for a specific location can vary from the general (mapped) condition. Table 2-3 summarizes the extent of soil hydrologic groups within the project area. Figure 2-3 in Appendix A displays the distribution of NRCS hydrologic groups within the City.

**Table 2-3. USDA/NRCS Soil Hydrologic Groups and WinSLAMM Designation for Project Area**

Soil Hydrologic Group (USDA/NRCS)	WinSLAMM Soil Texture Designation	Project Area Coverage (ac)	Project Area Coverage (% of Total)
A	Sandy	774	5%
B	Silty	218	2%
C or D	Clayey	13,279	93%
<b>Totals</b>		<b>14,271</b>	<b>100%</b>

## Section 3

# Stormwater Pollution Analysis

Urban stormwater pollution is made up of many contaminants including sediment, nutrients, metals, organic compounds, and pathogens. Stormwater pollution can have significant negative impacts on receiving waters. The assessment of stormwater pollution through a modeling approach is the core of this Plan. The City has been issued, and is required to follow, a municipal stormwater discharge permit (MS4 Permit) which regulates stormwater pollution from the City's stormwater conveyance system. As previously discussed in Section 1.1, the City already meets the NR 151.13 TSS control requirements for TSS (see Section 4.2.1 on page 4-3 of the of the 2014 Plan for more details).

This study describes the stormwater pollution conditions in the City of Appleton with a focus on TSS and TP management in order to meet the Upper Fox/Wolf and Lower Fox TMDLs reduction targets for the City (see Table 1-1).

### 3.1 Methodology

To analyze TMDL stormwater pollution loads for the City's urban areas, a computer simulation model, WinSLAMM, Version 10.4.1, was used. WinSLAMM was originally developed by the WDNR and is now licensed by PV & Associates (see [www.winslamm.com](http://www.winslamm.com) for more information). WinSLAMM is the most commonly used model in Wisconsin to assess urban stormwater pollution loads and SCM pollution reduction performance. The WDNR has established specific guidance for application of the model to assess pollution management related to TMDL targets by MS4s.

The project area, as described in Section 2.2, was determined based on WDNR guidelines to meet the compliance requirements of the Upper Fox/Wolf and Lower Fox TMDLs. In keeping with the WDNR guidelines for conducting these analyses and defining the "no stormwater control measure" or no controls condition a variety of steps were conducted as described in the following paragraphs.

A geographical information system (GIS) database was created or modified from the 2014 Plan containing information pertaining to stormwater pollution in the City. Information in the database includes:

- Soil Hydrologic Group and WinSLAMM soil texture designation
- Land use, as of approximately July 2020
- Street Drainage type (curb and gutter or grass swale)
- Stormwater Permitted entities within the municipal boundary (regulated industrial properties, WisDOT right-of-ways)
- Existing grass swales meeting WDNR requirements
- Existing street cleaning schedule
- Existing structural SCMs that are under the City's jurisdiction
- The municipal boundary as of July 2020 (and with pending annexations as noted previously)

WinSLAMM requires input files that describe characteristics of the soil, land cover, drainage system, and precipitation, and other factors of the project area. The model uses a five-year rainfall record to calculate runoff and pollution loads. As previously described, the 1968 to 1972 rainfall data for the City of Green Bay was used for this application.

WinSLAMM also requires support files. The United States Geological Survey (USGS) and WDNR developed versions of these files for use in Wisconsin. The files are based on extensive field monitoring and calibration. The latest versions of these WinSLAMM files were obtained from the USGS and used for this project.

The files used are:

- WisReg –Green Bay Five Year Rainfall.ran (1968 – 1972)
- WI\_GEO03.ppdX
- WI\_SL06 Dec06.rsvx
- V10.1 WI\_AVG01.pscx
- WI\_Res and Other Urban Dec06.std
- WI\_Com Inst Indust Dec06.std
- Freeway Dec06.std

WinSLAMM was run, and pollution loads were calculated for each land use and reachshed for the TMDL analyzed areas. The pollutants analyzed for this project were TSS and TP.

## 3.2 Results: No controls Conditions

### 3.2.1 TMDL Reachshed Loads

To understand compliance with the Upper Fox/Wolf and Lower Fox TMDL pollution loading reductions for TSS and TP for each reachshed within the City (see Section 1.2 and Table 1-1 of this report), the pollution loads for each reachshed need to be calculated under a no controls condition. This is a theoretical condition of the amount of annual pollutant loading that would come from the City if there were no SCMs removing pollutants from stormwater runoff. The loadings are calculated using the WinSLAMM model based on the various combinations of land uses and soils for drainage areas in each reachshed that are included in the analysis. For the no controls condition, the entire analyzed area of the City (14,271 acres) is assumed to have curb and gutters because swales are considered to be a treatment practice. The resulting no controls load are listed in Table 3-1.

<b>Table 3-1. No Controls Pollutant Loading Results</b>			
<b>Reachshed</b>	<b>Total Area (ac)</b>	<b>TSS Load (tons/year)</b>	<b>TP Load (lbs/year)</b>
<b>Lower Fox TMDL Reachsheds</b>			
Apple Creek	3,388	332.3	2,277.2
Duck Creek	57	3.8	33.7
Garners Creek	1,576	236.7	1,280.0
Lower Fox River Mainstem (DS)	5,966	830.6	5,015.6
Lower Fox River Mainstem (US)	1,664	229.1	1390.5
Mud Creek	1,055	164.7	868.0
<b>Totals</b>	<b>13,707</b>		
<b>Upper Fox/Wolf TMDL Reachsheds</b>			
Bear Creek	137	4.6	46.9
Lake Winnebago	427	47.2	346.6
<b>Totals</b>	<b>565</b>		

The total area analyzed in this study has increased by about 10 percent from the 2014 Plan. TSS and TP no controls loads have increased by 10 percent and 8 percent, respectively, when compared to the 2014 Plan. The increases in pollutant loadings seem reasonable and relatively proportional to the change in study area due to the expansion of the municipal limits and developed area in the City.

### 3.2.2 Impact of Soils Changes on No Controls Reachshed Loadings

As noted previously in Section 2.6, the NRCS periodically updates the soil survey information. The City was interested in understanding how these soil survey changes may be impacting no controls and “with-controls” (existing management) conditions results. To evaluate this for the no controls condition, the 2014 municipal limits were used as the boundary condition of this analysis and intersected with 2020 reachsheds, land use, excluded areas, and 2014 and 2019 soils information. The WinSLAMM model database was then compared to these data sets to model and compare no controls TSS and TP loads between 2014 and 2020 soils datasets.

The results of the analysis show that, in most cases, changes in NRCS soil types that occurred between the 2014 Plan and the 2020 Plan had very limited impact on pollutant loading to the no controls results. Impact on a citywide basis was minor reductions in no controls loads of about -0.1 percent for TSS and -0.2 percent for TP. Six of the eight reachsheds had no change in TSS load, with the other two having minor decreases in TSS load. Three of the eight reachsheds had no change in TP load, two reachsheds (Apple Creek and Garners Creek) had minor increases in TP load (0.2 percent and 0.1 percent, respectively) and three (Lower Fox River (DS), Lower Fox River (US) and Mud Creek) saw decreases of -0.3 percent, -0.9 percent, and -0.7 percent, respectively. A table (“Comparison of Impact of NRCS Soils Changes on Pollutant Loadings by TMDL Basin [Reachshed]”) and figure (Figure B-2) showing the soils that changed between 2014 and 2020, with their 2020 soil type, is in Appendix B – Supplemental Project Information.

## 3.3 Existing Management Conditions With Controls Analysis

Following completion of the no controls conditions analysis to identify the amount of TSS and TP loads available within the project limits, the City’s existing stormwater management practices (SMPs), sometimes referred to as stormwater control measures (SCMs) were evaluated. This evaluation is intended to compare how much progress the City has made towards achieving the TMDL goals for each of the various reachsheds in the City.

The following SMP categories are presented in the following sections:

- Street cleaning
- Grass swales
- Regional SMPs
- Non-regional SMPs

### 3.3.1 Street Cleaning

The City of Appleton, like other communities, has had a street cleaning program in place for many years, primarily for the aesthetic benefits of having clean and safe streets. Over time the program has expanded from conventional street cleaners to include high efficiency street cleaners which do a better job of removing the finer material that is more impactful to our water resources.



The City's current street cleaning schedule and approach was discussed with City of Appleton Department of Public Works (DPW) Operations and Engineering staff during a meeting on March 24, 2020. The City continues to maintain street cleaning efforts in three different zones: (1) commercial downtown zone; (2) main arterials and industrial areas; and (3) other remaining areas of the City.

Table 3-2 contains information on the various street cleaning zones including: scheduled cleaning frequency, equipment/sweeper type used, parking controls and cleaning season. Figure 3-1 in Appendix A displays the various street cleaning zones in the City as described in Table 3-2.

<b>Zone</b>	<b>Cleaning Frequency</b>	<b>Equipment</b>	<b>Parking Controls</b>	<b>Cleaning Season</b>
Commercial Downtown	Twice per week, daily during special events	50% high efficiency, 50% mechanical	No overnight parking allowed 2am-5am, sweeping done during those hours	Mid-March to December 1 <sup>st</sup> , weather permitting (snow is hauled from this area)
Main Arterials and Industrial Areas	Approximately every 10 days (target is weekly)	100% high efficiency	No parking allowed on mains; collectors and arterials partial parking allowed; industrial areas parking is allowed	Mid-March to December 1 <sup>st</sup>
Other Areas of the City*	Every 3 weeks for areas without regional SMPs, Every 6 weeks for areas with regional SMPs	33% high efficiency, 67% mechanical	No overnight parking allowed 2am-5am, sweeping generally done during those hours	First week of April to December 1 <sup>st</sup>

\*Note: The closed City landfill does not have an associated roadway system that receives any street cleaning, so no practice is applied there.

Currently, the City owns the following street cleaning equipment:

- 2 – Elgin Pelican NP (2012 and 2015 vintage) mechanical broom cleaners
- 1 – TYMCO 500x (2019) regenerative air street cleaner
- 1 – Elgin MX-16 (2011) dual purpose vacuum street cleaner and vac-all machine

Street cleaning equipment was reported to operate at approximately 4 miles per hour for high efficiency and mechanical cleaners. WinSLAMM street cleaning parameters for parking density and parking controls used in the water quality modeling were also confirmed with City Staff during the March 24 meeting and are listed by land use as shown in Appendix B (“WinSLAMM Street Cleaning Parameters”). Parking control details are also discussed in Table 3-2. According to City Staff, parking controls and/or street cleaning scheduled times are adequate to allow good curb access.

In 2019, the City removed approximately 3,940 cubic yards of street cleaning debris (per Appleton 2020 Budget, 2019 and 2020 target removal is 4,000 cubic yards), covering over 8,050 broom (curb) miles, estimated to weigh 1,188 tons. Costs for 2019 included \$45,159 for landfill tipping fees, equipment replacement and operational costs of \$252,762, and labor of \$121,602 for a total cost of \$419,523. Using these values, it costs the City approximately \$353 per ton of material removed and disposed of, or \$52 per broom/curb mile swept.

Applying the WinSLAMM model and the various zones of street cleaning, the impact of the City's street cleaning program to reduce TSS and TP loads on each reachshed are shown on Table 3-3. This equates to \$1,329/ton of TSS removed annually using the WinSLAMM reductions and current city costs.

<b>Table 3-3. Street Cleaning Program Pollutant Load Reduction Results</b>					
<b>Reachshed</b>	<b>Total Treated Area (ac)</b>	<b>TSS Load Reduction (tons/year)</b>	<b>TSS Reduction % (Compared to no controls total load)</b>	<b>TP Load Reduction (lbs/year)</b>	<b>TP Reduction % (Compared to no controls total load)</b>
<b>Lower Fox TMDL Reachsheds</b>					
Apple Creek	3,388	60.3	18.1%	248.3	10.9%
Duck Creek	57	0.7	18.2%	3.2	9.5%
Garners Creek	1,576	39.1	16.5%	142.7	11.2%
Lower Fox River Mainstem (DS)	5,966	139.3	16.8%	539.2	10.7%
Lower Fox River Mainstem (US)	1,664	40.1	17.5%	157.3	11.3%
Mud Creek	1,055	25.5	15.5%	91.7	10.6%
<b>Totals</b>	<b>13,707</b>				
<b>Upper Fox/Wolf TMDL Reachsheds</b>					
Bear Creek	137	0.3	7.1%	1.3	2.8%
Lake Winnebago	427	806	18.2%	38.4	11.1%
<b>Totals</b>	<b>565</b>				

It is important to note that the number of tons of material removed from City streets as presented in the Appleton 2020 Budget document cannot be directly compared to water quality modeling estimated reductions of material. This is because the WinSLAMM model uses the “NURP” sediment file for the analysis which does not include particles larger than 800 microns, while the street cleaner collects material that can be much greater in size and includes the weight of moisture. That means model results for the amount of sediment removed by street cleaners associated with stormwater quality modeling will not match the actual amount of material collected by street cleaners that needs to be managed.

The majority of the City of Appleton (99 percent) is treated by the City’s street cleaning program. The reason for the difference in total treated area in Table 3-3 compared to the total available area in Table 3-1 is that the City’s closed landfill, located in Bear Creek, does not have any streets associated with it that are swept by the City.

### 3.3.2 Grass Swales

The City maintains small portions of its stormwater conveyance system as grassed swales. These engineered swales treat stormwater through filtration and infiltration of runoff.

The 2014 SWMP included eight areas containing grass swales that were identified as 1-A through 8-A and categorized by geographic area, and with similar soil and land use compositions. Each of the swales were evaluated in 2012 following the WDNR’s “Process to Assess and Model Grass Swales” to develop field infiltration rates based on double-ring infiltrometer testing. The results of that effort were confirmed with WDNR Staff (Sarah Zareczny). Supporting documentation from the infiltration testing was provided in Appendix C of the 2014 SWMP. Additional swale areas were also identified but were noted as planned areas to be converted to urban roadway sections and were not included as water quality features in the 2014 SWMP analysis.

As part of this study, those same eight swale areas were discussed and reviewed with City Staff. No changes to the mapped swale in areas 1-A through 8-A were identified. Any swales that were no longer in place correlated to areas that were identified as being planned to be converted to urban sections, such as Edgewood Drive (CTH JJ) from Ballard to 600 feet east of Lightning Drive which was urbanized in 2017.

Additionally, BC did a cursory review of the swale areas to WDNR wetland inventory mapping to check if any swales were identified in a delineated natural wetland area. In conducting this analysis, BC found a small number of swale segments identified in the 2014 SWMP that were in delineated wetlands or did not exhibit the desired swale characteristics (e.g., did not convey low flows). These swale segments were removed from this analysis prior to modeling. Aside from these changes, the same swale treatment areas and infiltration rates used in the 2014 SWMP were used in this SWMP. The location of the swales and their corresponding treatment tributary areas are shown on Figure 3-2 in Appendix A.

Analyzing the water quality treatment benefits provided by grassed swale areas is not done in the same manner as some other SMPs where loads are based on application through treatment using scaled standard land use files. The nature of swales requires that individual models be developed for the swale treatment areas—much like individual models are developed for regional wet detention ponds—to accurately predict treatment efficiencies. Furthermore, for areas where grassed swales are tributary to a regional wet detention facility, the swales are modeled with the wet detention pond in series to provide the most accurate representation of the combined treatment practices. Based on this analysis, a total of 323 acres in the City are treated by swales as shown in Table 3-4 which identifies the TSS and TP reductions for each swale area, by reachshed. Only reachsheds that have analyzed swales are shown in the table.

**Table 3-4. Grass Swale Pollutant Load Reduction Results**

Reachshed	Swale ID(s) in Reachshed	Total Treated Area (ac)	TSS Load Reduction (tons/year)	TSS Reduction % (Compared to no controls total load)	TP Load Reduction (lbs/year)	TP Reduction % (Compared to no controls total load)
<b>Lower Fox TMDL Reachsheds</b>						
Apple Creek	4-A, 5-A, 6-A, 7-A, 8-A	242	19.3	5.8%	118.0	5.2%
Lower Fox River (DS)	1-A, 3-A	22	2.0	0.2%	13.5	0.3%
Mud Creek	3-A	39	5.7	3.4%	23.0	2.7%
<b>Upper Fox/Wolf TMDL Reachsheds</b>						
Lake Winnebago	2-A	20	2.0	3%	15.1	3%

### 3.3.3 Regional SMPs

Regional wet detention pond SMPs that have been designed and constructed to treat stormwater from developed (and developing) areas are a major part of improving stormwater quality in the City of Appleton. The 2014 SWMP identified 39 public and private regional wet detention ponds that were in place at the time.

In the past, some water quality ponds were sized and constructed based on WDNR guidance and a rule-of-thumb drainage area to surface area methodology. However, the real effectiveness is much more variable based on land use, outlet structure, and other factors. For this reason, the WDNR no longer finds using a rule-of-thumb approach sufficient evidence of the actual efficiency of a practice.

A WinSLAMM model must be created that represents the pond to establish the allowable pollutant removal efficiency and for the WDNR to accept that reachshed reduction goals have been achieved.

As part of this SWMP, existing WinSLAMM models that were available in the City's files were collected to develop a repository of existing models. Of the 39 ponds identified in the 2014 SWMP, four existing WinSLAMM models were located by City Staff. Those models were run and the TSS and TP results were used in this study. Figure 3-3 in Appendix A shows the tributary drainage area and approximate location of the facility based on the placement of the facility ID on the figure.

Because it was anticipated that not all of the previously identified ponds would have existing models available to verify pollutant reductions, this project included development of at least 10 WinSLAMM models to supplement those that were available. The City prioritized model development efforts in Apple Creek, Mud Creek, and Garners Creek reachsheds, as they were the closest to complying with their respective TMDL target reductions. The TSS and TP results from a total of 11 newly created models were generated and used for this study.

This leaves a gap of 24 models that still need to be created or requested from consultants or developers to complete the model repository for the 39 ponds discussed in the 2014 SWMP, although the City may not develop a model for the Crossing Meadow/MCN (pond 13) since it was not designed to WDNR wet detention pond standards. The remaining models will be developed as scheduled in the Implementation Plan of this report, to complete the backup information necessary to document the effectiveness of the City's regional SMPs. In the interim, this SWMP will utilize the TSS and TP removal effectiveness of the remaining 24 regional SMPs as reported in the 2014 SWMP. Differences in SMP effectiveness will be captured in the next Citywide SWMP update.

In addition to the 39 SMPs identified in the 2014 SWMP, the following 12 new regional wet detention ponds have since been designed and/or constructed in the City:

- Northland Pond
- Leona Pond
- Oneida/Highway 441 Pond
- Cotter Pond
- JJ/Lighting Pond
- North Edgewood Estates Pond
- Apple Ridge Subdivision (3 Ponds)
- Spartan Drive (3 Ponds)

Models for each of these new facilities were provided by the City, and the TSS and TP reductions reported by the models were used for this study. The details of these new facilities can also be found in Table 3-5B in Appendix B. Table 3-5 lists TSS and TP removals associated with regional SMPs by TMDL reachshed. Almost 41 percent of the area analyzed in this study is treated by regional SMPs. No regional SMPs are located in the Lake Winnebago reachshed.

**Table 3-5. Regional SMP Pollutant Load Reduction Results**

Reachshed	Total Treated Area (ac)	Percent of Total Reachshed Area	TSS Load Reduction (tons/year)	TSS Reduction % (Compared to no controls total load)	TP Load Reduction (lbs/year)	TP Reduction % (Compared to no controls total load)
<b>Lower Fox TMDL</b>						
Apple Creek	2,556	75.4%	217.0	65.3%	1,026.9	45.1%
Duck Creek	15	26.3%	0.9	23.5%	5.2	15.5%
Garners Creek	1,540	97.7%	178.8	75.5%	714.4	55.8%
Lower Fox River Mainstem (DS)	1,587	26.6%	178.5	21.5%	717.5	14.3%
Lower Fox River Mainstem (US)	146	8.7%	12.2	5.3%	43.3	3.1%
Mud Creek	171	16.2%	15.5	9.4%	72.8	8.4%
<b>Totals</b>	<b>6,015</b>					
<b>Upper Fox/Wolf TMDL</b>						
Bear Creek	10	7.3%	1.1	23.8%	5.0	10.6%
Lake Winnebago	-	-	-	-	-	-
<b>Totals</b>	<b>10</b>					

The Regional SMP List contained in Table 3-5B in Appendix B lists the facility number, name, ownership (public or private), year constructed, TSS and TP removal efficiencies by reachshed, and if a WinSLAMM model is available. The City of Appleton is responsible for maintenance of regional SMPs that are designated as public and have maintenance agreements in place to ensure appropriate maintenance for SMPs that are identified as private.

### 3.3.4 Impact of Soils Changes on Regional SMP Load Reductions

As noted previously in Section 2.6, the NRCS periodically updates the soil survey information. The City was interested in understanding how these soil survey changes may be impacting no controls and with controls (existing management) conditions results. As stated in Section 3.2.2, the impact of soils changes on the no controls results on a citywide basis was a very minor reduction of about -0.1 percent for TSS and -0.2 percent for TP, with the greatest change on any individual reachshed being less than 1.0 percent.

To evaluate if there are impacts to individual regional SMPs, the soils maps created under Task 2 was compared against the drainage areas of the existing regional ponds to see if these SMPs are impacted by the soil changes. The Kensington facility appeared to have the largest soils data changes and had an available WinSLAMM model. That model was run with both old and new soils information to evaluate the impact of soils changes. The comparison indicated that soil changes had very little impact on results, with TSS reductions increasing by 0.01 percent and TP reductions increasing by 0.04 percent.

### 3.3.5 Non-Regional SMPs

Non-regional SMPs include biofilters, hydrodynamic separation devices (HSDs), catch basins, small water quality ponds, and filtering devices. SMP treatment areas can range from less than an acre to multiple acres. Non-regional SMPs are typically private; however, some SMPs, particularly HSDs, are public. The 2014 SWMP identified 82 non-regional SMPs as noted in Appendix E of that report. The information for the non-regional SMPs in the 2014 SWMP (drainage area, pollution reduction percentages) were generally utilized for this study unless a known change in condition warranted a different approach. No non-regional SMPs are located in the Upper Fox/Wolf reachsheds at this time.

#### Private Non-Regional SMPs

During the scoping of the UNPS grant, it was estimated that 54 new private, non-regional SMPs had been installed since the 2014 SWMP analysis. These were suggested to include 20 biofilters, 16 ponds, 15 HSDs/up-flow filters, and 3 artificial turf areas. These new SMPs were identified by reviewing Stormwater Permit Logs for Site Plan Reviews that typically included the development or project name, the SMPs that were installed, TSS loads and reductions, and, in some instances, TP loads and reductions. The 2014 SWMP list of non-regional SMPs was expanded to include available information on the new identified sites and incorporated into a non-regional SMP tracking spreadsheet.

In most cases, additional information needed to be provided by the City to support the analysis. This usually included recovering the project narrative and site map from project archives to aid in verifying the treatment area. In some cases, where the SMP data was not tracked in Stormwater Permit Logs, additional details on the type of SMP(s), and corresponding TSS and TP loads and reductions needed to be identified. WinSLAMM input and output data, and, in a few instances, available model files were provided.

This was an extensive effort by the City to research project files to identify, and then provide details to BC for use and application in this SWMP. Once the details of a site were provided, the tracking spreadsheet was updated with treatment area and other information as available, including adding references to what sections/pages of the project file the information was obtained from.

If TP loads and reductions were not available as part of the original project file, typical rules of thumb to estimate TP reductions based on TSS reductions were employed. The treatment site was also compared to the site development parcel(s) and, if necessary, the percentage reduction for TSS and TP loadings were reduced on a total area basis to not overestimate pollutant reductions for the site. The adjustment in treatment reduction for the development was applied in lieu of creating individual SMP treatment (tributary) areas and breaking up individual parcels due to the inefficiency of this exercise.

The resulting spreadsheet was then available for use in applying non-regional SMPs, treating a total of 735 acres, with TSS and TP reductions summarized by reachshed as shown on Table 3-6. The tracking spreadsheet was summarized to create the detailed Non-Regional SMP List contained in Table 3-6B in Appendix B. That table itemizes the SMP ID number, site name, ownership (public or private), TSS, and TP removal efficiencies by reachshed. The City is responsible for maintenance of non-regional SMPs that are designated as public and have maintenance agreements in place to ensure appropriate maintenance for SMPs that are identified as private. Figure 3-4 in Appendix A displays the geographic location of the various non-regional SMPs with their corresponding SMP ID and associated site development parcel.

Because it was anticipated that not all of the non-regional SMP information could be located to verify pollutant reductions, the scope of work for this project included evaluation of at least 54 SMPs installed since the prior study. During the course of this non-regional SMP analysis, 82 SMPs were identified, evaluated, and incorporated. The TSS and TP reductions were geographically tied to their respective parcels and used for this study. SMP information that could not be confirmed during this study will be evaluated in future years as scheduled in the Implementation Plan of this report, to document the effectiveness of the City's non-regional SMPs. In the interim, non-regional SMPs that could not be researched and documented as described above are not included in the resulting TSS and TP reductions.

### Public Non-Regional SMPs

The 2014 SWMP included some public non-regional SMPs. Since that study, the City has installed additional non-regional SMPs, primarily HSDs. These HSDs were identified in individual basin studies completed after the 2004 City-wide Stormwater Management Plan. The grant application scope estimated approximately 12 public HSDs have been installed since the 2014 SWMP. For this study, the City provided their HSD tracking spreadsheet that gave the location of HSDs throughout the City. The City supplied GIS information and design drawings that identified the details (size, depth, location) of the HSDs. 20 HSDs were identified in this process, 10 of which were researched to find adequate supporting information and/or modeled.

The remaining 10 HSDs will be researched over the next several years as scheduled in the Implementation Plan of this report, to document the effectiveness of the City's public HSDs. In the interim, HSDs that could not be documented as noted above are not included in the resulting TSS and TP reductions. The public non-regional HSDs evaluated in this study are also included in the Non-Regional SMP List contained in Table 3-6B in Appendix B. Since the City has geographic and drainage area associated with the HSDs that were not verified during this study, they are included in the Appendix B table, but lack TSS and TP reduction information, which will be completed and incorporated into future updates.

<b>Table 3-6. Non-Regional SMP Pollutant Load Reduction Results</b>					
<b>Reachshed</b>	<b>Total Treated Area (ac)</b>	<b>TSS Load Reduction (tons/year)</b>	<b>TSS Reduction % (Compared to no controls total load)</b>	<b>TP Load Reduction (lbs/year)</b>	<b>TP Reduction % (Compared to no controls total load)</b>
<b>Lower Fox TMDL Reachsheds</b>					
Apple Creek	30	3.1	0.9%	12.8	0.6%
Duck Creek	31	1.8	47.6%	10.7	31.7%
Lower Fox River Mainstem (DS)	370	26.6	3.2%	87.2	1.7%
Lower Fox River Mainstem (US)	211	14.7	6.4%	48.5	3.5%
Mud Creek	93	8.3	5.0%	21.2	2.4%
<b>Totals</b>	<b>733</b>				

### 3.3.6 Results: With Controls Analysis

Following the individual analyses for street cleaning, grass swales, regional SMPs, and non-regional SMPs as presented in previous sections of this report, the treatment practices were combined to evaluate their current collective impact on improving water quality. The most effective practice was applied to each land area to avoid double counting where multiple practices treat the same drainage area. Reachshed totals are therefore not equal to the sum of the individual treatment practices presented in prior tables. The results are shown, sorted by reachshed and TMDL study area for TSS and TP in Table 3-7 and Table 3-8 respectively.

The resulting TSS reductions for Lower Fox River TMDL reachsheds indicate that the City has met the TMDL reduction targets for three of the six reachsheds. The Lower Fox River Mainstem reachsheds which contain some of the oldest development in the City have improved from the prior study. Changes from the previous study are due to a number of factors, including land use revisions, refinements to SMP drainage basin delineations and/or pollutant reduction effectiveness, annexations and construction of additional SMPs.

Upper Fox/Wolf TMDL reachshed results are mixed, with the City meeting the TSS reduction for the Lake Winnebago reachshed, but not Bear Creek.

**Table 3-7. With Controls TSS Reduction Results**

Reachshed	Total Area (ac)	No Controls TSS Load (tons/year)	With Controls TSS Load Reduction (tons/year)	TMDL Target TSS Load Reduction %	With Controls TSS Reduction % (Compared to no controls total load)	Is TSS Load Reduction Target Met?
<b>Lower Fox TMDL</b>						
Apple Creek	3,388	332.3	231.8	52%	<b>69.7%</b>	<b>Yes</b>
Duck Creek	57	3.8	2.8	52%	<b>73.7%</b>	<b>Yes</b>
Garners Creek	1,576	236.7	179.7	60%	<b>75.9%</b>	<b>Yes</b>
Lower Fox River Mainstem (DS)	5,966	830.6	298.7	72%	36.0%	No
Lower Fox River Mainstem (US)	1,664	229.1	57.9	72%	25.3%	No
Mud Creek	1,055	164.7	47.1	43%	28.6%	No
<b>Totals</b>	<b>13,707</b>					
<b>Upper Fox/Wolf TMDL</b>						
Bear Creek	137	4.6	1.2	84%	25.8%	No
Lake Winnebago	427	47.2	10.6	20%	<b>22.4%</b>	<b>Yes</b>
<b>Totals</b>	<b>565</b>					



<b>Table 3-8. With Controls TP Reduction Results</b>						
<b>Reachshed</b>	<b>Total Area (ac)</b>	<b>No Controls TP Load (lbs/year)</b>	<b>With Controls TP Load Reduction (lbs/year)</b>	<b>TMDL Target TP Load Reduction %</b>	<b>With Controls TP Reduction % (Compared to no controls total load)</b>	<b>Is TP Load Reduction Target Met?</b>
<b>Lower Fox TMDL</b>						
Apple Creek	3,388	2,277.2	1,099.3	40.5%	<b>48.3%</b>	<b>Yes</b>
Duck Creek	57	33.7	16.4	40.5%	<b>48.5%</b>	<b>Yes</b>
Garners Creek	1,576	1,280.0	717.3	68.6%	56.0%	No
Lower Fox River Mainstem (DS)	5,966	5,015.6	1,179.9	40.5%	23.5%	No
Lower Fox River Mainstem (US)	1,664	1,390.5	213.9	40.5%	15.4%	No
Mud Creek	1,055	868.0	180.1	48.2%	20.8%	No
<b>Totals</b>	<b>13,707</b>					
<b>Upper Fox/Wolf TMDL</b>						
Bear Creek	137	46.9	5.4	85.6%	11.4%	No
Lake Winnebago	427	346.6	52.9	85.6%	15.3%	No
<b>Totals</b>	<b>565</b>					

The resulting TP reductions for Lower Fox River TMDL reachsheds indicate that the City has met the TMDL reduction targets for two of the six reachsheds. The Lower Fox River Mainstem reachsheds which contain some of the oldest development in the City have improved from the prior study. The City has not met TP reduction targets for either of the two Upper Fox/Wolf TMDL reachsheds, which are the most aggressive reduction targets in the City.

## Section 4

# Alternative Stormwater Management Practices Evaluation

The with controls analysis, documented in Section 3 of this report, indicated that while the City’s stormwater management program continues to make strides towards achieving compliance with TMDL reachshed loading targets—including meeting TSS goals in 4 of 8 reachsheds and TP goals in 2 of 8 reachsheds—more is needed to move towards compliance. To help the City understand potential avenues for implementation of additional stormwater management practices, nine different practices or approaches towards compliance are discussed in this study, as listed in Table 4-1 and presented in the following sections.

Table 4-1. Alternative Stormwater Practices/Approaches Reviewed	
Alternative Practice/Approach Reviewed	Comments
Street Cleaning Modifications	Common practice with proven technology, model quantifiable performance of low to moderate TSS and TP reductions
Bulk Leaf Collection Modifications	Newer evaluated approach, evolving WDNR model guidance, less quantifiable performance, provides TP reduction credit only
Regional Stormwater Management Practices	Regional SMPs serve more than one parcel and are typically wet detention ponds or underground water quality facilities. These are common practice with proven technology with some of the highest TSS and TP reductions, WDNR standard, model quantifiable performance
Enhanced Settling for Phosphorus Removal	Implemented practice in southern areas of US as part of wet detention treatment, minimal WDNR guidance, lab quantifiable performance, targets increased TP reductions
Hydrodynamic Separation Devices	Common practice with proven technology, WDNR model guidance, model quantifiable performance, low to moderate TSS and TP reductions
Non-regional Stormwater Management Practices	Non-regional SMPs treat one parcel and the specific practice and resulting effectiveness will vary, typically employ common practices with proven technology, WDNR model guidance, model quantifiable performance
Redevelopment Impacts	No specific practice, ordinance driven, model quantifiable performance based on theoretical impact of ordinance requirement changes and potential redevelopment
Pollutant Trading	Emerging practice, WDNR guidance, model or lab quantifiable performance
Technological Changes for Pollutant Removal	Emerging technologies, WDNR guidance (typically), model quantifiable performance (typically)

## 4.1 Street Cleaning

The City of Appleton conducts a street cleaning program as presented in Section 3.3.1. Street cleaning is a citywide source control option to reduce stormwater runoff pollutant discharges before they enter waterways or other treatment practices. Two potential modifications to the City's current program were evaluated and discussed with the City Public Works Operations and Engineering staff on March 16, 2021, and further reviewed with staff on September 8, 2021. Components of the potential program modifications and results of the water quality analyses are presented in the following sections.

### 4.1.1 Street Cleaning Alternative 1 – Equipment Upgrades

The first alternative considered maintains the current street cleaning schedule but would utilize all high efficiency (vacuum or regenerative air) type sweepers. This would require the purchase of two new high efficiency sweepers. The City would retain conventional sweeping equipment since they are still occasionally needed to pick up larger debris and can be used when temperatures are below freezing. Purchase and maintenance of new equipment is generally considered to be more acceptable than adding to the City labor forces. While it was noted by staff that there are fewer individuals currently trained to operate this style of sweeper, it was assumed that there would be no significant direct labor cost associated with this alternative. The results of this analysis are shown by reachshed for TSS and TP reductions in Table 4-2 and Table 4-3, respectively.

Additional space must be allocated for the new equipment in the Municipal Services Building (MSB) which is currently in the planning phase of an expansion. The stormwater program would budget for the following costs: purchase of the new equipment, annual allocations for equipment replacement (through Central Equipment Agency (CEA) payments), increased maintenance, and a cost share of the MSB expansion project. Costs associated with the MSB expansion will be tracked separately from the practices shown in the implementation plan.

### 4.1.2 Street Cleaning Alternative 2 – Intensive Spring-Cleaning Program

The second alternative considered would follow the WDNR's intensive spring-cleaning approach (weekly sweeping for the first six weeks of the program in spring) then return to the City's current schedule. All elements of the program are also assumed to utilize high efficiency cleaning equipment. This would require the purchase of two new high efficiency sweepers and contract labor for street cleaning that cannot be conducted by current City staff during normal business hours, or to compensate City staff on an overtime basis. To evaluate the additional cost associated with this change in program, it was assumed that three full weeks of contract street cleaning would need to be acquired. City staff suggested that each week of street cleaning required approximately 160 hours. The results of this analysis are shown by reachshed for TSS and TP in Table 4-2 and Table 4-3, respectively. The costs of overtime for City staff are estimated to be similar.

Table 4-2. Street Cleaning Alternatives – TSS Reductions														
Reachshed	Total Treated Area (ac)	No Controls TSS Load (tons/year)	With Controls TSS Load Reduction (tons/year)	TMDL Target TSS Load Reduction %	With Controls TSS Reduction % (Compared to no controls total load)	Is TSS Load Reduction Target Met?	Alt 1 – Current Schedule but with all High Efficiency Street Cleaners				Alt 2- Intense Spring Street Cleaning (6-weeks) then return to schedule, all with High Efficiency Equipment			
							Load Reduction (tons/year)	Load Reduction %	Incremental Load Reduction (tons/year)	Incremental Load Reduction %	Load Reduction (tons/year)	Load Reduction %	Incremental Load Reduction (tons/year)	Incremental Load Reduction %
<b>Lower Fox TMDL</b>														
Apple Creek	3,388	332.3	231.8	52.0%	69.7%	Yes	233.0	70.1%	1.24	0.4%	233.8	70.3%	1.96	0.6%
Duck Creek	57	3.8	2.8	52.0%	73.7%	Yes	2.8	74.4%	0.02	0.6%	2.8	74.7%	0.04	0.9%
Garners Creek	1,576	236.7	179.7	59.9%	75.9%	Yes	179.7	75.9%	0.02	0.0%	179.7	75.9%	0.03	0.0%
Lower Fox River Mainstem (DS)	5,966	830.6	298.7	72.2%	36.0%	No	306.8	36.9%	8.11	1.0%	312.6	37.6%	13.88	1.7%
Lower Fox River Mainstem (US)	1,664	229.1	57.9	72.2%	25.3%	No	59.0	25.7%	1.05	0.5%	60.7	26.5%	2.80	1.2%
Mud Creek	1,055	164.7	47.1	42.8%	28.6%	No	48.7	29.5%	1.61	1.0%	49.5	30.1%	2.49	1.5%
<b>Upper Fox/Wolf TMDL</b>														
Bear Creek	137	4.6	1.2	84.0%	25.8%	No	1.2	26.2%	0.02	0.4%	1.2	26.4%	0.03	0.6%
Lake Winnebago	427	47.2	10.6	20.0%	22.4%	Yes	12.2	25.8%	1.59	3.4%	12.9	27.4%	2.36	5.0%

Note: If TSS Load reduction target is already being met, additional TSS reduction gained from implementing this practice can be internally tradable to downstream reachsheds.

Table 4-3. Street Cleaning Alternatives - TP Reductions														
Reachshed	Total Treated Area (ac)	No Controls TP Load (lbs/year)	With Controls TP Load Reduction (lbs/year)	TMDL Target TP Load Reduction %	With Controls TP Reduction % (Compared to no controls total load)	Is TP Load Reduction Target Met?	Alt 1 - Current Schedule but with all High Efficiency Street Cleaners				Alt 2- Intense Spring Street Cleaning (6-weeks) then return to schedule, all with High Efficiency Equipment			
							Load Reduction (lbs/year)	Load Reduction %	Incremental Load Reduction (lbs/year)	Incremental Load Reduction %	Load Reduction (lbs/year)	Load Reduction %	Incremental Load Reduction (lbs/year)	Incremental Load Reduction %
<b>Lower Fox TMDL</b>														
Apple Creek	3,388	2,277.2	1,099.3	40.5%	48.3%	Yes	1104.8	48.5%	5.50	0.2%	1107.9	48.6%	8.53	0.4%
Duck Creek	57	33.7	16.4	40.5%	48.5%	Yes	16.5	48.9%	0.11	0.3%	16.5	49.0%	0.16	0.5%
Garners Creek	1,576	1,280.0	717.3	68.6%	56.0%	No	717.3	56.0%	0.07	0.0%	717.4	56.0%	0.11	0.0%
Lower Fox River Mainstem (DS)	5,966	5,015.6	1,179.9	40.5%	23.5%	No	1231.3	24.5%	51.42	1.0%	1256.9	25.1%	77.07	1.5%
Lower Fox River Mainstem (US)	1,664	1,390.5	213.9	40.5%	15.4	No	229.5	16.5%	15.60	1.1%	237.0	17.0%	23.16	1.7%
Mud Creek	1,055	868.0	180.1	48.2%	20.8%	No	187.3	21.6%	7.19	0.8%	191.1	22.0%	10.94	1.3%
<b>Upper Fox/Wolf TMDL</b>														
Bear Creek	137	46.9	5.4	85.6%	11.4%	No	5.4	11.6%	0.08	0.2%	5.5	11.7%	0.12	0.3%
Lake Winnebago	427	346.6	52.9	85.6%	15.3%	No	60.2	17.4%	7.30	2.1%	63.8	18.4%	10.86	3.1%

Note: If TP Load reduction target is already being met, additional TP reduction gained from implementing this practice can be internally tradable to downstream reachsheds.

### 4.1.3 Street Cleaning Program Modification Considerations and Costs

For Alternative 1, the City estimated that each new high efficiency sweeper would cost approximately \$310,000 for the initial purchase and other related equipment. The City estimated annual maintenance costs of \$38,000 and annual CEA payments of \$44,796 per sweeper. Estimated costs assume a street sweeper life of 10 years and a 3 percent inflation rate. A total annual cost of \$238,256 (in 2021 dollars) was estimated to implement Alternative 1 over the first 10-years of the program. That results in a cost effectiveness of \$18,122 per ton per year of TSS and \$2,803 per pound per year of TP.

For Alternative 2, the same costs from Alternative 1 were assumed, plus the addition of three weeks of contract cleaning (160 hours/week) at a cost of \$149.50/hour. The rate is based on an estimate provided to the City by a contract sweeping operation and includes labor and contractor provided high efficiency street cleaning device with debris dropped off by the contractor at existing designated drop off sites and material management by the City. This results in a contract sweeping cost of \$73,913/year based on the quote provided on February 8, 2020 and adding three percent inflation. Using the above information, a total annual cost of \$312,169 was estimated to implement Alternative 2. That results in a cost effectiveness of \$13,695 per ton per year of TSS and \$2,450 per pound per year of TP. This is slightly more efficient than Alternative 1; however, there are concerns that the contract sweeping pricing could increase more aggressively since only a single provider is currently quoting this service.

The costs presented (cost assumptions and details are also presented in Appendix B) may be higher in early years as compared to future years of the program as the initial years assume payments to cover the initial cost to purchase the sweepers and to also collect funds (CEA payments) to replace the sweepers in the future on a pay-as-you-go approach. However, there may also be an allocation of the MSB cost in the future that could impact the future cost effectiveness.

As noted in Section 3.3.1, the current cost for the street cleaning program equates to \$1,329/ton of TSS removed annually using the WinSLAMM reductions. The increased cost per ton of TSS and pound of TP over existing levels is reasonable given the incremental improvement in the alternatives. The City of Appleton is open to potential changes in the current street cleaning program, but it is not expected that changes would be made for 5-years or more.

Because the program is more effective in certain reachsheds due to the mix of existing SMPs and other conditions, the City may want to focus on program expansion in reachsheds that are not currently meeting TMDL targets or in reachsheds where implementation could provide internal trade credits to downstream reachsheds not meeting TMDL targets. However, even implementation in areas with large numbers of existing practices can be useful to remove pollutants before they enter those practices, extending the time between future maintenance/dredging efforts.

## 4.2 Leaf Management

The City of Appleton operates a bulk leaf collection program as a service to the public which also provides a stormwater quality benefit. The WDNR has recognized that there may be beneficial changes in municipal leaf management programs that can reduce phosphorus discharges to waters of the state. Based on research conducted by the WDNR and USGS, the WDNR developed guidance (“Interim Municipal Phosphorus Reduction Credit for Leaf Management Programs”, effective March 2018) to provide criteria for numeric credit for leaf collection programs. Research is continuing and the WDNR is considering expanded credit under additional conditions. The existing City of Appleton bulk leaf management program was evaluated and compared against the WDNR guidance. The program is summarized in the following sections and further details are available in Appendix B.

### 4.2.1 Existing City Bulk Leaf Management Program

The existing City leaf collection program currently starts six weeks before the Friday preceding the Wisconsin nine-day deer gun hunting season, placing the start near the beginning of October. Leaves are collected throughout the City three to four times per year. Currently, like many communities, the City asks residents to rake their leaves in the fall into the gutter of the roadway for pickup by the City. Residents are also allowed to place other bulk materials (e.g., sticks, garden debris) out for pickup at the same time. The City has four single-axle dump trucks with modified leaf pushers/rakes that collect leaves into large piles which are then picked up by front end loaders with a clamshell bucket that loads the leaves into trucks for disposal. The City has invested significant time and effort to develop a working relationship with area farmers who receive the leaves which are used as mulch/fertilizer in their farming operations. The streets are swept with a conventional street cleaner following bulk pickup.

The City receives no specific stormwater quality credit or reduction for their current leaf collection program. The WDNR has developed a guidance document that allows a municipality to take credit for a bulk leaf collection program that meets the criteria and land use (medium density residential) as outlined in their 2018 guidance. The WDNR is also considering a second level of allowable credit based on tree canopy and high-efficiency street cleaner use, as outlined by the WDNR in presentations provided in 2020, but are not currently available in final guidance format. Future research may allow credit in additional land use areas or applications but are not considered in this discussion. The City can only take credit for increased numeric stormwater pollution reduction as allowed under WDNR guidance when the conditions outlined in the guidance are met by the City. Non-numeric credit can be taken for other land uses that are not currently outlined for numeric credit and can be a component of the City's implementation plan and evidence of working towards TMDL pollutant reduction goals. The current and potential WDNR leaf collection program modification options and the City's evaluation of potential changes are discussed in the following sections.

### 4.2.2 Bulk Leaf Management Program Modification Considerations and Costs

Two potential WDNR leaf collection program modification options were discussed with City staff at a meeting on January 19, 2021, and further evaluated for potential applicability based on how the current and potential future state of leaf management in the City compare to the WDNR criteria.

The evaluation identified areas in the City that appeared to match up well with the 2018 WDNR guidance for land use, tree size and spacing, that allowed a 17 percent reduction in TP loadings for medium density residential areas. It did not appear that the new pending guidance for expanded reductions would be applicable to the City for various reasons. To comply with the guidance, the City would be required to make programmatic changes in their leaf management program, purchase and store new equipment, and educate the public on how the program would change.

Based on the WDNR criteria, there are a total of approximately 749 acres of medium density residential land use with no alleys (MDRNA) along public curb and gutter streets and not draining to an existing SMP beyond street cleaning (e.g., a regional detention facility) that are applicable to this practice as shown in Figure 4-1 in Appendix A. A summary of land use area, incremental TP reduction by sweeper zone and reachshed is shown in Table 4-4. It is important to note that the existing and potential TP reductions shown are only for the eligible treated areas based on current WDNR guidance and do not represent reductions to an entire sweeper zone or reachshed.

The program implementation is anticipated to take place over a period of 4 years. It is desired to implement the program by selecting one north and one south zone each year to add to the program. The highest load reducing zones were selected first to maximize the impact of implementing the program, which was agreed to at the September 8, 2021 meeting with DPW Operations and Engineering staff. Actual implementation of the program is subject to revision, if needed, as there is a recognition that a public educational component is needed to make this change. Extra time may be needed to allow for a pivot by DPW staff and, more importantly, provide the public the opportunity to understand what these changes will mean to them. Table 4-5 displays the suggested implementation plan by year, sweeper zones, and the impact by reachshed. TP reduction credit varies by reachshed and collectively result in over 30 lbs/year of TP reduction at full implementation based on an analysis and current WDNR guidance.

The City has identified an initial capital cost of \$2,197,500 over 5 years. To estimate the cost of implementing this program, a 4-year phased implementation was assumed. Two of the eight sweeper zones were incorporated into the program in each of the four years. The street cleaning zones were based on 2018 mapped street cleaning zones as provided by the City, with minor modifications to fit the project area limits of this study and are also shown on Figure 4-1 in Appendix A.

The estimated annual cost to implement the program, including annualizing initial capital equipment costs based on life of each unit and annual CEA payment (see Appendix B for more details), is \$559,570. Similar to the discussion presented for street cleaning, future annualized costs may go down because the amount shown includes the cost to pay off the initial equipment purchase and future CEA payments. However, it does not include any potential future MSB expansion cost allocations. Based on the total of 30.45 pounds of TP reduced annually at full implementation, the cost in 2021 dollars to implement this program is \$18,377 per pound. As WDNR guidance expands to include other types of land uses or credits and the City further investigates the impact of this program, the cost per pound is anticipated to be reduced.



Table 4-4. Potential Leaf Management Total Phosphorus Load Reduction Results							
Sweeper Zone	TMDL Reachshed	Total Treated Area (ac)	No Controls TP Load (lbs/year)	Existing TP Load (lbs/year)	Existing TP Reduction % (compared to no controls total load)	Potential TP Reduction Increase Due to Leaf Collection (lbs/year)	Potential TP Reduction % Increase Due to Leaf Collection
North1	Apple Creek	0.6	0.47	0.40	15.0%	0.01	2.0%
	Bear Creek	0.3	0.27	0.23	16.7%	0.00	0.3%
	Lower Fox River (DS)	24.7	20.17	17.81	11.7%	1.07	5.3%
	Mud Creek	3.5	2.89	2.56	11.3%	0.16	5.7%
North2	Lower Fox River (DS)	96.3	78.94	69.67	11.7%	4.15	5.3%
North3	Lower Fox River (DS)	114.7	93.97	82.72	12.0%	4.72	5.0%
North4	Lower Fox River (DS)	56.4	46.23	40.37	12.7%	1.99	4.3%
	Lower Fox River (US)	13.2	10.79	9.56	11.4%	0.61	5.6%
	Mud Creek	9.0	7.41	6.43	13.3%	0.28	3.7%
South1	Lake Winnebago	169.1	138.68	122.75	11.5%	7.64	5.5%
	Lower Fox River (DS)	0.0	0.00	0.00	11.3%	0.00	5.7%
	Lower Fox River (US)	3.6	2.96	2.58	12.9%	0.12	4.1%
South 2	Lower Fox River (DS)	48.2	39.51	34.48	12.7%	1.69	4.3%
	Lower Fox River (US)	18.1	14.86	12.76	14.1%	0.42	2.9%
South3	Garners Creek	0.1	0.07	0.06	11.3%	0.00	5.7%
	Lower Fox River (DS)	110.2	90.26	79.42	12.0%	4.51	5.0%
South4	Lower Fox River (US)	78.2	64.05	56.13	12.4%	2.97	4.6%
	Mud Creek	2.4	1.94	1.72	11.4%	0.11	5.6%

Note: areas showing 0.00 Potential TP reduction in column 7 are due to small, treated areas and rounding in the table.



**Table 4-5. Potential Leaf Management TP Reductions By Implementation Year**

Implementation Year	Sweeper Zones Implemented	Lower Fox TMDL Reachsheds						Upper Fox/Wolf TMDL Reachsheds	
		Apple Creek TP Reductions (lbs/year)	Duck Creek TP Reductions (lbs/year)	Garners Creek TP Reductions (lbs/year)	Lower Fox DS TP Reductions (lbs/year)	Lower Fox US TP Reductions (lbs/year)	Mud Creek TP Reductions (lbs/year)	Bear Creek TP Reductions (lbs/year)	Lake Winnebago TP Reductions (lbs/year)
Year 1	North 3 and South 1				4.72	0.10			7.66
Year 2	North 2 and South 3			0.00	8.65				
Year 3	North 4 and South 4				1.99	3.57	0.39		
Year 4	North 1 and South 2	0.01			2.76	0.42	0.16	0.00	0.00
<b>Totals:</b>		<b>0.01</b>	<b>0.00</b>	<b>0.00</b>	<b>18.12</b>	<b>4.10</b>	<b>0.55</b>	<b>0.00</b>	<b>7.66</b>



## 4.3 Regional Stormwater Management Practices (SMPs)

The City of Appleton currently has 51 regional SMPs treating stormwater discharges from over 42 percent of the area analyzed in this study, scattered across the City as presented in Section 3.3.3 of this report. The City has successfully used this technique to reduce stormwater pollutant discharges and will continue to evaluate locations of potential future practices; however, finding locations to put regional detention where there is not already existing development or where hydraulics work well is challenging.

### 4.3.1 Regional SMP Alternatives

As part of this study, 10 locations for potential new regional SMPs were identified with City Staff for evaluation. An eleventh site also evolved associated with the former City water utility lagoons, now a part of the RGL Logistics site. This potential pond location is a sub-area of the Everett Street potential regional practice and information is based on the “Leonard Street Basin Study (AECOM 2010). A summary of the facilities by reachshed is included in Table 4-6 Potential Regional Stormwater Management Practices.

These 11 areas are shown on Figure 4-2 in Appendix A. The locations are largely traditional surface detention ponds, but since open space is becoming more challenging to find, some locations considered would require storm sewer relays or would be placed in underground water quality wet detention treatment vaults to preserve ground surface use as parking or to serve other needs. With these increasingly challenging situations also comes increasing costs.

**Table 4-6. Potential Regional Stormwater Management Practices**

TMDL Reachshed	Proposed Regional Practice # and Name	Drainage Area (ac)	TSS Reduction (tons/year)	TSS Reduction (%)	TP Reduction (lbs/year)	TP Reduction (%)
LFR Downstream	1-Bellaire Court	691	45.6	44.3%	209.0	33.1%
	4-Kensington UG Storage	145	21.7	80.1%	80.2	60.4%
	5-Meade & Wisconsin UG Storage	393	33.8	67.2%	171.4	49.8%
	6-Northland/441 <sup>1</sup>	2,401	172.6	72.6%	744.0	48.8%
	9-Winslow Ave	153	25.0	74.4%	75.3	56.3%
	10-Wisconsin Ave	102	13.6	82.0%	56.7	63.1%
	<b>Reachshed Totals<sup>2</sup></b>	<b>3,885.8</b>	<b>287.3</b>		<b>1,261.3</b>	
LFR Upstream	7-Pierce Park	343	24.2	45.0%	93.5	33.2%
	8-Riverview Gardens	198	13.4	59.0%	65.5	43.9%
	<b>Reachshed Totals</b>	<b>540.2</b>	<b>37.6</b>		<b>159.0</b>	
Mud Creek	2-Everett Street <sup>3</sup>	249	33.6	61.8%	96.6	43.7%
	3-Hillock Court	76	7.5	79.3%	36.5	59.8%
	11-RGL-Lagoons	232	46.0	92.3%	129.7	67.8%
	<b>Reachshed Totals<sup>2</sup></b>	<b>324.9</b>	<b>41.1</b>		<b>133.1</b>	

<sup>1</sup> Reductions do not include pollutants removed by upstream regional SMPs

<sup>2</sup> Totals do not include potential Winslow Ave or RGL-Lagoons sites due to overlapping drainage areas

<sup>3</sup> Reductions do not include pollutants removed by upstream Cotter Pond regional SMP

After further review and discussion with the City, the following six sites were included in the Implementation Plan: #3-Hillock Court; #7 Pierce Park; #8 Riverview Gardens; #9 Winslow Avenue; #10 Wisconsin Avenue and #11 RGL-Lagoons site. The City has written to the landowners to obtain feedback of their interest to potentially place SMPs on their property. Additional investigations are necessary prior to further consideration of these regional SMPs (see individual narratives in Appendix B). Any location that the City schedules for potential implementation will have a preliminary engineering phase to further detail the facility followed by final design and construction.

### 4.3.2 Regional SMP Cost Considerations

Cost estimates were developed for the six remaining sites of interest. Table 4-7 summarizes the six facilities with annualized cost information for comparison. Further details on the cost estimates including capital cost to construct the facility, land acquisition cost, annual maintenance cost (annual pond maintenance cost graph), and future dredging cost are included in Appendix B.

The Leona Street Pond was constructed during this current permit. Future potential regional SMP projects and timing are identified in the implementation plan of this report, including the anticipated project selected for construction during the next permit period.

**Table 4-7. Wet Detention Alternative Cost Analysis**

Pond Name (Reachshed)	Pond Analyzed Drainage Basin (ac)	TSS Reduction (tons/year)	TSS Reduction (%)	TP Reduction (lbs/year)	TP Reduction (%)	Total Annualized Cost	Annual Cost per Ton of TSS Removed	Annual Cost per Pound of TP Removed
3 - Hillock Court (Mud Creek)	76	7.5	79.3%	36.5	59.8%	\$155,048	\$20,673	\$4,248
7 - Pierce Park (Lower Fox River [US])	343	24.2	45.0%	93.5	33.2%	\$85,451	\$3,531	\$914
8 - Riverview Gardens (Lower Fox River [US])	198	13.4	59.0%	65.5	43.9%	\$61,865	\$4,617	\$945
9 - Winslow Avenue (Lower Fox River [DS])	153	25	74.4%	75.3	56.3%	\$133,524	\$5,341	\$1,773
10 - Wisconsin Avenue (Lower Fox River [DS])	102	13.6	82.0%	56.7	63.1%	\$136,491	\$10,036	\$2,407
11 - RGL-Lagoons (Mud Creek)	232	46.0	92.3%	129.7	67.8%	\$452,340	\$9,844	\$3,487

## 4.4 Enhanced Settling for Phosphorus Removal

Conventional stormwater treatment ponds trap particulate pollutants when stormwater is held for a period of time and allowed to settle out. The amount of particulate pollutants that are trapped depends on several factors, including the residence time of the pond, the density of the particles, and water temperature. For TP, a stormwater pond generally traps only the particulate form of phosphorus, and most of the dissolved form is not retained. The dissolved form of phosphorus can account for 50 percent or more of the TP load in stormwater.

A method to increase the phosphorus trapping efficiency of stormwater ponds is to use coagulants. Aluminum-based coagulants have been shown to enhance removal of both particulate and dissolved phosphorus by causing flocculation. Coagulant treatment of stormwater was first used in the southeast United States in the late 1980's. Typical systems for coagulant treatment of stormwater consists of the following:

1. A coagulant injection system to add a coagulant, in the proper dose, to raw stormwater
2. A rapid mixing chamber to achieve thorough and complete mixing of the coagulant with the stormwater
3. A pond to settle and trap the flocculant
4. Discharge of treated runoff from the settling pond

The treatment system generally is housed in a small building with power, pumps, instrumentation, and storage tanks for the coagulant.

Before implementing a coagulant treatment system, pilot testing of a basin's stormwater runoff with various coagulant compounds in different concentrations is conducted to determine the optimum treatment. Testing has shown that TP reductions in stormwater of 85 to 95 percent can be achieved. This is in comparison to the conventional stormwater pond TP treatment reductions of 40 to 60 percent. To be conservative, a TP reduction of 85 percent will be assumed for pollutant removal and cost effectiveness analyses.

#### **4.4.1 Enhanced Settling Alternatives and Cost Estimates**

The use of coagulants to enhance treatment has been considered by the City of Appleton in the past. The prior stormwater plan identified potential locations where this practice could be applied and estimated associated costs to implement the design. In that plan, a capital cost was estimated using an average cost per pound of TP removed of \$5,000, regardless of the amount of TP removed or other factors. Upon further review, this may not be the best approach at estimating cost since there are significant equipment needs and other fixed costs with some operation and maintenance components somewhat scalable to size.

The Leona Street and Northland Avenue wet detention basin preliminary engineering designs conducted a more detailed evaluation of this practice during the design of those facilities. Those two preliminary engineering design analyses had very similar capital costs of around \$450,000 after factoring in testing, design, and contingencies. However, further evaluation and a review of other studies, such as the City of Madison's Starkweather Creek project, suggest that costs are likely higher. Project components were compared and updated with new unit prices which suggest an initial capital cost of \$914,300 per facility may be more accurate.

The Leona Street stormwater facility was constructed with a deeper sediment storage area and potential future location of buildings, sanitary, and water service lines were incorporated into the design layout in preparation for future addition of a coagulant treatment system. A preliminary engineering study is required to identify site specific implementation challenges and update individual cost estimates.

The actual cost of each facility will vary due to the site-specific conditions and required sizing of equipment and a more detailed preliminary engineering evaluation would be necessary in addition to specific inflow and coagulant pilot testing to determine the needs of the site. Furthermore, based on the design for floc removal currently under consideration, the City will need to purchase a remote dredge to remove the floc from facilities for discharge to the sanitary sewer system. The dredge cost is estimated at \$250,000 and can be used for any and all facilities constructed by the City.

Annual maintenance costs were also estimated for the Leona Street and Northland Avenue coagulant systems. The annual maintenance cost estimate was also updated based on the Starkweather Creek (City of Madison) analysis for base operation and maintenance (O&M) components, such as routine site inspections, water quality monitoring, coagulant usage and floc disposal.

Using this information, the potential coagulant retrofit list of ponds from the 2014 study was updated and the new costs are shown in Table 4-8. The prior stormwater management plan estimated a cost range per annualized incremental pound of TP between \$317 and \$7,283. Using the updated capital and annual operation and maintenance cost estimating approach results in a cost range per annualized incremental pound of TP between \$1,183 and \$72,366. The wide range is due to a number of factors including current pond removal efficiencies and the adjustment in how costs are calculated, indicating that some ponds appear to be potentially much more (or less) efficient on a cost per pound basis. The highest cost per pound of TP is associated with the Mud Creek South Pond and is due to the small drainage area and pollutant reductions associated with that facility, suggesting that it may not be practical to consider that location. That facility was also the high outlier in the 2014 study. Removing that facility creates a much tighter range to between \$1,183 and \$4,220 per pound of TP annually.

A variety of factors have held the City back from implementing this practice, including requirements for monitoring system performance (due to lack of WDNR guidance and inability to model the practice) and the associated cost of implementation coupled with the uncertainty of results and TP reduction credit. It appears that the WDNR is in the process of putting together a committee to evaluate this treatment practice and is likely therefore to publish guidance that would be helpful to the City of Appleton and others considering this technology on the expectations and efforts required.

Additionally, the City of Appleton wastewater utility has concerns on the impact of discharged floc to their system operation and will want to know if there is any particular timing required for discharge of the material based on other plant operations and loads so they stay within their permit limits. Pilot testing, including bench scale testing of floc on wastewater processes will likely be needed. Once site specific evaluations are completed, the cost estimate should be updated in consultation with wastewater staff to confirm how their discharge cost structure will be applied.

Table 4-8. Enhanced Settling (Coagulant Treatment) Alternatives Cost Analysis													
Reachshed	Pond Name	Drainage Area (ac)	Base TP Load with No Controls (lbs/year)	Existing Pond TP Reduction Efficiency	Existing TP Remaining Load with Wet Pond (lbs/year)	Incremental TP Reduction with Coagulant Treatment (lbs/year)	Remaining TP Load With Coagulant Treatment (lbs/year)	Coagulant System Capital Cost	(A) Annualized Capital Cost	(B) Base Annual Operation and Maintenance Costs	(C) Variable Annual Maintenance Cost	(D) Total Annualized Cost (A+B+C)	Annualized Cost/Pound of Incremental TP Removed
Garners Creek	Kensington	911	727	60.2%	290	181	109	\$914,300	\$33,630	\$35,000	\$195,891	\$264,521	\$1,464
Lower Fox River (DS)	Conkey	153	132	55.4%	59	39	20	\$914,300	\$33,630	\$35,000	\$32,807	\$101,437	\$2,601
	Leona St	196	166	58.5%	69	44	25	\$914,300	\$33,630	\$35,000	\$42,133	\$110,763	\$2,520
	MPPNE	220	176	52.0%	84	58	26	\$914,300	\$33,630	\$35,000	\$47,255	\$115,885	\$1,999
	MPPS	529	457	51.3%	223	154	69	\$914,300	\$33,630	\$35,000	\$113,695	\$182,325	\$1,183
	Pershing	104	84	55.5%	38	25	13	\$914,300	\$33,630	\$35,000	\$22,333	\$90,963	\$3,653
	Reid GC E	162	132	56.0%	58	38	20	\$914,300	\$33,630	\$35,000	\$34,757	\$103,387	\$2,705
	Reid GC S	225	181	56.0%	79	52	27	\$914,300	\$33,630	\$35,000	\$48,276	\$116,906	\$2,233
<b>Lower Fox River (DS) Totals</b>								<b>\$6,400,100</b>	<b>\$235,410</b>	<b>\$245,000</b>	<b>\$341,257</b>	<b>\$821,667</b>	<b>\$2,002</b>
Lower Fox River (US)	Pierce Park	343	282	33.2%	188	146	42	\$914,300	\$33,630	\$35,000	\$73,745	\$142,375	\$976
	Schindler 441 Pond	146	98	44.1%	55	40	15	\$914,300	\$33,630	\$35,000	\$31,342	\$99,972	\$2,480
<b>Lower Fox River (US) Totals</b>								<b>\$1,828,600</b>	<b>\$67,260</b>	<b>\$70,000</b>	<b>\$105,087</b>	<b>\$242,347</b>	<b>\$1,302</b>
Mud Creek	Crossing Meadow	40	33	16.9%	27	22	5	\$914,300	\$33,630	\$35,000	\$8,671	\$77,301	\$3,448
	Mud Creek S	6	5	66.2%	2	1	1	\$914,300	\$33,630	\$35,000	\$1,337	\$69,967	\$72,366
	Northland Ave	115	96	61.9%	36	22	14	\$914,300	\$33,630	\$35,000	\$24,700	\$93,330	\$4,220
	RGL Lagoons Pond	232	191	67.8%	61	33	29	\$914,300	\$33,630	\$35,000	\$49,923	\$118,553	\$3,613
<b>Mud Creek Totals</b>								<b>\$3,657,200</b>	<b>\$134,520</b>	<b>\$140,000</b>	<b>\$84,631</b>	<b>\$359,151</b>	<b>\$4,586</b>

Assumptions:

- (1) Coagulant Treatment Assumes increases TP to 85% for each individual wet detention pond receiving treatment (regardless of initial efficiency or overall size)
- (2) Annualized Capital Cost assumes 100-year life on structural and pipe related items, 35-year life on controls and other equipment (roughly a 60-40 split of all cost items), and 3% inflation.
- (3) Annualized Capital does not include cost of ~\$250,000 for remote operated dredge required to remove floc from ponds. That is separate implementation plan line item. Impact of adding into annualized cost is approx. 5% increase in annualized cost/pound of incremental TP removed (assuming 3% inflation and 35-year equipment life which may be aggressive).
- (4) Base Annual O&M cost for weekly site visits and supplies allowance is \$35,000 per site regardless of size. Variable Annual O&M cost based on chemical cost, floc removal/disposal and energy usage of \$215/acre of drainage area.

## 4.5 Hydrodynamic Separation Devices

Hydrodynamic separation devices (HSDs) are devices with sumps (catch basins, oversized manholes, proprietary devices, etc.) that generally treat smaller drainage basins in more heavily urbanized areas that are not conducive to larger SMP facilities. The City has included the evaluation of these types of devices in many prior studies and maintains a list of potential HSD locations.

### 4.5.1 HSD Alternatives

Potential HSD locations for future implementation are shown on Figure 4-3 with their associated drainage areas. Drainage areas were not generally reviewed or modified from the prior study. The identified HSDs are based on the prior inventory of potential structures and was updated to remove those that have been installed since the last Citywide SWMP update.

The HSDs are categorized into two types, those that do not drain to a regional SMP and those that do. The reason for the distinction is because the City would not be able to take TSS or TP credit for HSDs that drain to an existing regional practice because they would not provide a measurable further improvement in water quality. However there still may be other reasons for the City to implement those HSDs, especially if they can extend the time period between dredging of the facility and aid in materials management.

The expected TSS reduction efficiency for each potential HSD from the prior study was used for this analysis; HSDs were not re-modeled to verify TSS or TP reductions. The expected reductions were also compared with the existing reductions obtained by street cleaning alone. HSDs were assumed to provide at least 10 percent TSS reduction above the reductions achieved by street cleaning. A more thorough analysis is needed to provide better estimation on the added TSS and TP removal efficiency associated with HSDs. Initially, this would include a broader WinSLAMM analysis of various potential HSD installations to determine if a reasonable correlation can be made between TSS and TP reductions under various situations and if the WDNR would agree to using that correlation, or if they will require that each HSD be modeled.

Table 4-9 contains a summary of potential HSDs by reachshed for those that are not tributary to a regional facility. Upcoming street projects through 2026 were reviewed by intersecting the limits of the roadway projects and potential HSDs that could be implemented as part of these projects. Those HSDs are presented for potential installation in the implementation plan. Appendix B contains assumptions related to annual maintenance and two tables with a detailed listing of each individual HSD by reachshed for the two aforementioned categories.



**Table 4-9. Summary of HSDs Not Tributary to a Regional SMP**

TMDL Reachshed	Number of HSDs Identified	Drainage Area (ac)	No Controls TSS Load (tons/year)	Existing TSS Removed (tons/year)	Estimated HSD Incremental TSS Reduction (tons/year)	Estimated Reachshed TSS Impact (Reduction) if All Identified HSDs are Implemented	No Controls TP Load (lbs/year)	Existing TP Removed (lbs/year)	Estimated HSD Incremental TP Reduction (lbs/year)	Estimated Reachshed TP Impact (Reduction) if All Identified HSDs are Implemented
Lake Winnebago	11	43.10	4.41	0.83	0.54	0.87%	33.77	3.81	2.49	0.54%
Lower Fox River (DS)	57	580.78	83.68	17.89	8.42	1.01%	503.67	67.45	16.46	0.33%
Lower Fox River (US)	20	94.87	13.41	2.32	1.37	0.64%	82.44	9.08	3.77	0.29%
Mud Creek	7	36.99	7.04	1.46	0.70	0.43%	30.95	4.41	1.14	0.13%



### 4.5.2 HSD Cost Estimates

Because these practices are typically installed at the time of a road reconstruction project, only the capital cost of the HSD structure itself was used in the cost analysis. Further, because the recommended size associated with each HSD was not included in the 2014 study analysis and is not available without reviewing each of the original studies, a standard HSD size of 96-inches in diameter was assumed. A capital cost per HSD of \$25,000 was assumed based on review of X-19 and Y-20 City project bids and construction pricing.

Also, while each device is unique in the individual actual maintenance requirements, no attempt was made to develop an individual maintenance cost by device due to location or HSD size. A new average annual maintenance cost of \$775 per device was estimated based on discussion with City staff from a review of labor and equipment cost associated with what was felt to be a typical cleaning operation.

Cost information is also shown with cost effectiveness per incremental ton of TSS or pound of TP in the detailed tables in Appendix B. Annualized cost effectiveness ranges from a low of about \$2,500 to almost \$100,000 per ton of TSS with an average of about \$23,500. Annualized cost effectiveness ranges from a low of about \$1,800 to almost \$31,000 per pound of TP, with an average of about \$9,000. The cost effectiveness range is quite variable depending on the specific HSD and may factor into the City's consideration for future implementation.

## 4.6 Non-regional SMPs

There are over a hundred small, non-regional SMPs located across the City, many of which were included in this study and described in Section 3.3.5. While less impactful than larger, regional facilities, these smaller SMPs can nevertheless help the City get closer to compliance with TMDL standards.

In the prior study, the City evaluated the use and implementation of biofilters and porous pavement for potential application on smaller private (or public) property locations. Site specific examples were evaluated and then extrapolated Citywide to determine a potential impact and associated cost with a broad implementation. The analysis identified up to \$6 million in annualized costs for small practices to be installed throughout multiple areas in Mud Creek and the Lower Fox River (Upstream and Downstream) reachsheds without achieving TMDL compliance. An exercise of that nature on a citywide scale becomes more academic and requires numerous assumptions that cannot accurately represent the potential uniqueness of each individual circumstance, such as direction of drainage and ability to locate the desired practice; understanding of real impact on a facility's operation and ability to incorporate a treatment practice; cost of land or easement; and other factors. Additionally, in 2015-2016, the City constructed porous pavement in a parking lot and on a street. The installations used paver blocks adjacent to concrete pavement and curb and gutter, over open graded stone galleries. Settlement of the paver blocks created significant challenges for snowplow operations.

For these reasons, while it is assumed that smaller facilities of this type may continue to be installed over time and should be considered as part of the City's long-term implementation plan in some manner, it is unlikely that the City would try to take on a program to implement private property practices on a citywide scale. The City has attempted to, and will continue to consider, partnering with a private entity to implement or expand a facility on private property when opportunities present themselves. Modifying the City's post-construction stormwater management ordinance is another way to accomplish the objective to address smaller individual developed areas as they redevelop and would put the bulk of the effort to do so on the owner/developer.

#### 4.6.1 Non-regional SMP Sites Evaluation

Part of the scope of this study included evaluating five locations to continue to advance the City's understanding on the impact and potential effectiveness of these smaller practices. Sites were located in reachsheds not currently meeting TMDL reduction requirements: the upstream and downstream Lower Fox River reachsheds and the Mud Creek reachshed. The locations of the five sites within the reachsheds are shown on Figure 4-4 in Appendix A. The sites were selected because they all have large parking areas that would both produce a larger pollutant load, but also could likely be configured to incorporate an SMP. Different types of SMPs were also evaluated for these sites, including rain gardens, biofilters, porous pavement and catch basins. Devices were sized to fit within each site's local constraints and to meet WDNR guidance for each facility where necessary/possible. Figures 4-5 through 4-9 in Appendix A depict the area treated, and location of identified potential treatment device(s). The SMPs were modeled in WinSLAMM to determine their TSS and TP removal efficiencies for their site and their impact on TSS and TP reductions for the reachshed as a whole, as summarized on Table 4-10.

Table 4-10. Non-Regional Potential SMP Evaluation									
Site Number	Reachshed	Site Address	SMP Type	Sitewide TSS Reduction (tons/year)	Sitewide TSS % Reduction	Reachshed-Wide TSS Reduction (%)	Sitewide TP Reduction (lbs/year)	Sitewide TP % Reduction	Reachshed-Wide TP Reduction (%)
1	Lower Fox River (US)	200 E Washington	Biofilter	0.26	79.5%	0.12%	0.85	64.3%	0.07%
			Porous Pavement	0.30	89.5%	0.14%	0.95	86.4%	0.07%
2	Lower Fox River (DS)	825 E Wisconsin	Biofilter	0.23	85.7%	0.03%	1.18	69.5%	0.02%
			Stormfilter	0.19	70.1%	0.02%	0.88	52.1%	0.02%
			Sand Filter	0.22	80.0%	0.03%	0.97	57.4%	0.02%
3	Mud Creek	W 4th Street	Catchbasins	0.07	22.0%	0.04%	0.22	20.6%	0.03%
			Porous Pavement	0.17	52.4%	0.10%	0.55	50.9%	0.06%
4	Lower Fox River (US)	116 N Linwood	Rain Gardens	0.32	89.2%	0.15%	1.47	89.0%	0.11%
5	Lower Fox River (US)	N Superior Street	Porous Pavement	1.21	89.3%	0.57%	3.86	86.0%	0.30%



## 4.6.2 National Program Examples

An additional scope item included researching national programs for what other locations are doing to make progress with stormwater quality management. During the research for this effort, a number of observations were made:

1. There is no universal best approach to implementing stormwater management measures for water quality improvement
2. Some programs include practices such as planting of additional trees that state benefits that appear contrary to some recent research on the impact of trees on nutrient loadings in an urban environment during the fall
3. Green infrastructure (GI) seems to be a fairly common theme (EPA and other have programs and documents on the benefits of green infrastructure), yet there are many examples of failed GI installations, usually due to improper or unaccomplished maintenance
4. Other TMDLs are seeking to mitigate chlorides, biochemical oxygen demand (BOD), bacteria, thermal discharges, and other pollutants.

The City of Los Angeles, California has an extensive program for watershed protection and to address TMDLs. The program includes low impact development, green infrastructure, and a collaborative approach with other municipalities, non-governmental organizations, and community members to implement “Enhanced Watershed Management Plans” for Los Angeles’ five watersheds. Also, in 2004, the City of Los Angeles received voter approval for a \$500 million general obligation (GO) bond to fund projects that fit into four general categories that are focused on providing water quality benefits in an effort called “Proposition O”. (Source: City of Los Angeles Watershed Protection website) This seems like a large amount but, compared to the City of Los Angeles approved annual general fund revenue budgeted in 2004-2005 year of \$3.65 billion, it is less than 14 percent of that year’s anticipated revenues. For comparison, the City of Appleton’s 2021 General fund revenue was set at \$61.7 million. A similar GO bond by the City of Appleton would be valued at about \$8.5 million, which would be impactful, but would only fund a portion of the work needed. (Source: City of Los Angeles and City of Appleton annual budget reports). Furthermore, this impact would not be spread out of the City of Appleton’s general fund, but would impact the Stormwater Utility, which estimated 2021 revenue of \$11.8 million.

Another example of a program to achieve TMDL compliance that is closer to home is the Menomonee River Watershed-Based MS4 Permit (WPDES Permit No. WI-S065404-2). This permit consists of a group of 11 MS4s (five villages, five cities, and Milwaukee County). This permitted group is unique in that while they have individual permit benchmarks, they are allowed to operate together to improve the overall health of the Menomonee River Watershed to comply with permit requirements collectively where pooling resources is determined to be more efficient. The specifics for how a project is selected, accomplished, paid for, and how credit for improvements are shared are determined by the collaborating permittees (Source: WDNR Fact Sheet for WPDES Permit No. WI-S065404-2).

The key takeaway from this cursory review of other national programs is that there is no one-size-fits all approach to TMDL compliance. While there are a variety of tools for moving towards compliance, selecting the right practice takes time and effort. Collaboration can take many forms and range from permittees tied to a shared permit to local cost share or engineering support for a stormwater practice that provides benefits to both parties. The City has collaborated with the Wisconsin Department of Transportation to construct and maintain a stormwater pond for the Hwy 441/Oneida Street reconstruction and also with developers to manage private and public land together in shared SMPs.

## 4.7 Impacts of New Development and Redevelopment

As part of this Citywide water quality plan, it was desired to understand the impacts that both new (future) development and existing areas that redevelop have on water quality pollutant loadings. As the City grows and redevelops, there will be incremental impact, either positively or negatively, on the City's overall level of pollutant reduction and can provide some insight into how ordinance changes could impact future pollution reductions. Some municipalities are changing their ordinances to require higher levels of pollution control/reduction to place more of the burden on new development and redevelopment sites. These changes can provide incremental improvements in water quality but are also impactful to developers and can be challenging to convince development stakeholders (internal and external) to accept such a change.

### 4.7.1 New Development

The WDNR TMDL Guidance for MS4 Permit Planning, Implementation and Modeling Guidance requires the TMDL analysis area to include all land areas within its corporate boundary unless it is listed as optional (e.g., riparian areas). Therefore, as the City grows, so will its no controls and with controls pollutant loadings.

The Upper Fox/Wolf TMDL report states that a reserve capacity of 5 percent was set aside for future discharges, changes in current discharge loading, and other sources not defined through the TMDL associated with controllable loads (does not include background or general permitted baseline loads); however, there is no direct application or allowance of new development to individual municipalities or other sources of pollutant loads. When reviewing the Lower Fox River TMDL report, that document states that the analysis did not include any reserve capacity for future growth of municipalities. The two main factors attributed to the lack of any reserve capacity for MS4 communities are: (1) the expectation that often growth is attributed to the conversion of agricultural land into urban land uses (which the report suggests TP and TSS loads may remain the same or decrease but is not guaranteed), and (2) the need to comply with NR 151 and NR 216 requiring new development to reduce pollutant loads.

As the City boundary expands or open land within the current City boundary develops (for areas not already identified as developed), the impacts will be incorporated into future water quality plan updates. The City of Appleton Water System Master Plan, October 2019, identified several areas (named A through X) that were poised to develop in 10, 20, and 30 years (see AECOM Figure 3-3 Future Service Area and Land Use in Appendix B for area locations). The analysis identified the type and acreage of land use and the timing of development which averaged between about 80 and 120 acres per year of new development. Some of those areas were already fully developed as of 2019. The map and table of land use identifying anticipated buildout timing were used in this study to approximate the impact of future development over those 10, 20, and 30 years by TMDL reachshed. A TSS reduction of 80 percent was assumed for all areas as required under the City's current post-construction ordinance, and a TP reduction of 54 percent was also assumed based on existing modeling associated with wet detention SMPs. It is important to note that TP reductions can vary depending on the practice used.

Under the current post-construction ordinance, all reachsheds will see positive movement towards TMDL compliance as areas develop. However, the Bear Creek TMDL TSS reduction requirement is 84 percent, which is higher than the current ordinance requirement of 80 percent for new development. In addition, the TMDL TP reduction requirements are 68.6 percent in Garners Creek and 85.6 percent in both Bear Creek and Lake Winnebago reachsheds, all of which are higher than the anticipated TP reduction of 54 percent that is commensurate with the 80 percent TSS reduction. That means that for the reachsheds noted, there will be a shortfall between the TMDL goals and new

development reductions that theoretically the City would need to make up in other areas to achieve the goals. A table with an analysis of projected future loads and reductions for the next three decades based on the provided information and analysis with TMDL reachshed information is included in Appendix B.

#### 4.7.2 Redevelopment

The impact of future redevelopment areas on the City's ability to make progress towards meeting the various TMDL reachshed goals was evaluated. The City's current post-construction stormwater management ordinance has two redevelopment conditions: (1) areas 5 acres and larger are required to achieve an 80 percent reduction in TSS compared to no controls (TP reduction is assumed to be approximately 54 percent under this condition using wet detention as a surrogate SMP); and (2) areas from 1 to 5 acres are required to achieve a 40 percent reduction in TSS compared to no controls (TP reduction is assumed to be 27 percent under this condition based on the assumption used in the aforementioned WDNR guidance document, p. 5).

To evaluate this scenario, the database used to develop the with controls condition for this project was evaluated and areas were extracted for land uses that had no existing SMPs or had existing SMPs that were underperforming the reductions required under the City's ordinance. The analysis assumed that no maximum extent practicable (MEP) relief from the requirements is granted, but it is acknowledged that will likely happen as allowed by City ordinance. The analysis also did not include reducing the area of disturbance or impervious area triggers to increase the number of parcels that could be impacted by the ordinance, but that is something that the City could consider as a modification to the current ordinance. The loads associated with those areas were then reduced based on the City's current post-construction ordinance and the new TSS and TP loads were aggregated by reachshed and are reported in Table 4-11.

No specific timeline was applied to the redevelopment in any particular reachshed but rather was used to evaluate the full potential progress towards meeting TMDL target reductions. The City Community Development Department currently does not keep track of acres of redevelopment. However, based on a review by City staff of permit submittals over the last 10 years, it was estimated that the current rate of redevelopment is 20 acres per year. The results are noted in the "Redevelopment TSS (or TP) Incremental Reduction Percentage" columns in Table 4-11. The impact varies quite a bit between the various reachsheds, ranging from 0 percent to 18.6 percent improvement for TSS and 0 percent to 8.6 percent for TP. The greatest impact of redevelopment is in the Lower Fox River and Mud Creek reachsheds. The table suggests that over time Mud Creek could reach compliance with TMDL TSS reduction requirements through redevelopment in that reachshed.

This same dataset was also used to evaluate other potential ordinance requirement alternative scenarios, including requiring redevelopment control to the City's current post-construction ordinance levels for new development or TMDL reachshed targets for TSS and TP, whichever is greater. The analysis shows modest gains in incremental reductions, with the greatest impact of the change affecting the Lower Fox River reachsheds. Results are shown in Table 4-12.

A review of ordinances in other surrounding areas and Fox River tributary communities shows almost a 50-50 split between communities using NR 151 reduction requirements and those that are requiring TMDL reachshed reductions. The list of communities included in the review and their requirements are shown on Table 4-13. This information was shared with the City of Appleton Community Development Department which was not opposed to bringing an ordinance change forward to the City Common Council for consideration.

**Table 4-11. Redevelopment Analysis Under Existing Ordinance Requirements**

Total Suspended Solids											
TMDL Reachshed	Current Conditions						Improvement Under Existing Ordinance Requirements				
	Total Reachshed Area (ac)	No Controls TSS Load (tons/year)	With Controls TSS Load Reduction (tons/year)	TMDL Target TSS Load Reduction %	With Controls TSS Reduction % (Compared to no controls total load)	Is TSS Load Reduction Target Met?	Potential Redevelopment Area (ac)	Redevelopment Incremental TSS Load Reduction (tons/year)	Redevelopment Incremental TSS Reduction % (Compared to no controls total load)	Future Reachshed TSS Reduction % (Compared to no controls total load)	Is TSS Load Reduction Target Met?
Apple Creek	3,388	332.3	231.8	52%	69.7%	Yes	411	12.3	3.7%	73.40%	Yes
Duck Creek	57	3.8	2.8	52%	73.7%	Yes	0	0.0	0.0%	73.7%	Yes
Gamers Creek	1,576	236.7	179.7	60%	75.9%	Yes	391	5.1	2.2%	78.1%	Yes
Lower Fox River (DS)	5,966	830.6	298.7	72%	36.0%	No	950	82.3	9.9%	45.9%	No
Lower Fox River (US)	1,664	229.1	57.9	72%	25.3%	No	242	26.9	11.7%	37.0%	No
Mud Creek	1,055	164.7	47.1	43%	28.6%	No	265	30.7	18.6%	47.2%	Yes
Bear Creek	137	4.6	1.2	84%	25.8%	No	0	0.0	0.0%	25.8%	No
Lake Winnebago	427	47.2	10.6	20%	22.4%	Yes	19	2.7	5.7%	28.1%	Yes
Total Phosphorus											
TMDL Reachshed	Current Conditions						Improvement Under Existing Ordinance Requirements				
	Total Reachshed Area (ac)	No Controls TP Load (lbs/year)	With Controls TP Load Reduction (lbs/year)	TMDL Target TP Load Reduction %	With Controls TP Reduction % (compared to no controls total load)	Is TP Load Reduction Target Met?	Potential Redevelopment Area (ac)	Redevelopment Incremental TP Load Reduction (lbs/year)	Redevelopment Incremental TP Reduction % (compared to no controls total load)	Future Reachshed TP Reduction % (compared to no controls total load)	Is TP Load Reduction Target Met?
Apple Creek	3,388	2,277.2	1,107.9	40.5%	48.3%	Yes	411	41.7	1.8%	50.1%	Yes
Duck Creek	57	33.7	16.4	40.5%	48.5%	Yes	0	0.0	0.0%	48.5%	Yes
Gamers Creek	1,576	1,280.0	717.3	68.6%	56.0%	No	391	6.7	0.5%	56.6%	No
Lower Fox River (DS)	5,966	5,015.6	1,179.9	40.5%	23.5%	No	950	234.7	4.7%	28.2%	No
Lower Fox River (US)	1,506	1,281.0	168.5	40.5%	15.4%	No	242	81.5	5.9%	21.1%	No
Mud Creek	1,055	868.0	180.1	48.2%	20.8%	No	265	74.4	8.6%	29.3%	No
Bear Creek	137	46.9	5.4	85.6%	11.4%	No	0	0.0	0.0%	11.4%	No
Lake Winnebago	586	456.1	98.3	85.6%	15.3%	No	19	9.8	2.8%	18.1%	No



**Table 4-12. Redevelopment Analysis Under Potential Modified Ordinance Requirements**

Total Suspended Solids											
TMDL Reachshed	Current Conditions						Improvement Under Modified Ordinance Requirements (Greater of Existing Requirements or TMDL Target)				
	Total Reachshed Area (ac)	No Controls TSS Load (tons/year)	With Controls TSS Load Reduction (tons/year)	TMDL Target TSS Load Reduction %	With Controls TSS Reduction % (Compared to no controls total load)	Is TSS Load Reduction Target Met?	Potential Redevelopment Area (ac)	Redevelopment Incremental TSS Load Reduction (tons/year)	Redevelopment Incremental TSS Reduction % (Compared to no controls total load)	Future Reachshed TSS Reduction % (Compared to no controls total load)	Is TSS Load Reduction Target Met?
Apple Creek	3,388	332.3	231.8	52%	69.7%	Yes	411	12.9	3.9%	73.6%	Yes
Duck Creek	57	3.8	2.8	52%	73.7%	Yes	0	0.0	0.0%	73.7%	Yes
Garners Creek	1,576	236.7	179.7	60%	75.9%	Yes	391	5.5	2.3%	78.2%	Yes
Lower Fox River (DS)	5,966	830.6	298.7	72%	36.0%	No	950	107.6	13.0%	48.9%	No
Lower Fox River (US)	1,664	229.1	57.9	72%	25.3%	No	242	35.0	15.3%	40.6%	No
Mud Creek	1,055	164.7	47.1	43%	28.6%	No	265	31.4	19.1%	47.6%	Yes
Bear Creek	137	4.6	1.2	84%	25.8%	No	0	0.0	0.0%	25.8%	No
Lake Winnebago	427	47.2	10.6	20%	22.4%	Yes	19	2.7	5.7%	28.1%	Yes
Total Phosphorus											
TMDL Reachshed	Current Conditions						Improvement Under Modified Ordinance Requirements (Greater of Existing Requirements or TMDL Target)				
	Total Reachshed Area (ac)	No Controls TP Load (lbs/year)	With Controls TP Load Reduction (lbs/year)	TMDL Target TP Load Reduction %	With Controls TP Reduction % (compared to no controls total load)	Is TP Load Reduction Target Met?	Potential Redevelopment Area (ac)	Redevelopment Incremental TP Load Reduction (lbs/year)	Redevelopment Incremental TP Reduction % (compared to no controls total load)	Future Reachshed TP Reduction % (compared to no controls total load)	Is TP Load Reduction Target Met?
Apple Creek	3,388	2,277.2	1,107.9	40.5%	48.3%	Yes	411	43.6	1.9%	50.2%	Yes
Duck Creek	57	33.7	16.4	40.5%	48.5%	Yes	0	0.0	0.0%	48.5%	Yes
Garners Creek	1,576	1,280.0	717.3	68.6%	56.0%	No	391	7.7	0.6%	56.6%	No
Lower Fox River (DS)	5,966	5,015.6	1,179.9	40.5%	23.5%	No	950	307.9	6.1%	29.7%	No
Lower Fox River (US)	1,506	1,281.0	168.5	40.5%	15.4%	No	242	104.4	7.5%	22.9%	No
Mud Creek	1,055	868.0	180.1	48.2%	20.8%	No	265	76.2	8.8%	29.5%	No
Bear Creek	137	46.9	5.4	85.6%	11.4%	No	0	0.0	0.0%	11.4%	No
Lake Winnebago	586	456.1	98.3	85.6%	15.3%	No	19	9.8	2.8%	18.1%	No

Municipality	Pollution Reduction Requirements		Requirements Applicability	
	TMDL Reach TSS/TP Reductions	NR151 (80%/40%) TSS Reductions	Disturbed Area	New Impervious Area
Appleton, City of		X	1 acre	
Calumet, County of	X		1 acre	20,000 sf
DePere, City of <sup>1</sup>		X	1 acre	20,000 sf
Fox Crossing, Village of	X		1 acre	20,000 sf
Grand Chute, Town of	X		1 acre	4,000 sf
Green Bay, City of		X	Tiered	1/4 acre
Harrison, Village of		X	1 acre	20,000 sf
Kaukauna, City of	X		1 acre	20,000 sf
Kimberly, Village of		X	1 acre	20,000 sf
Little Chute, Village of		X	1 acre	20,000 sf
Menasha, City of	X		1 acre	20,000 sf
Neenah, City of	X		1 acre	20,000 sf
Outagamie, County of	X		1 acre	20,000 sf

Note: <sup>1</sup> -DePere has stormwater utility fee incentive if you meet TMDL reduction requirements.

## 4.8 Pollutant Trading

Rather than solely implementing source controls or other SMPs on the City's stormwater management system, another alternative is to identify entities or sources available for water quality pollutant trading.

The WDNR's "Guidance for Implementing Water Quality Trading in WPDES Permits" was updated on June 1, 2020. The guidance document is intended to assist with developing and implementing trades associated with various WPDES permits as authorized in s. 283.84 Wis. Stats. Trades may be used by industrial and municipal WPDES permit holders to demonstrate compliance with water quality-based effluent limitations (WQBELs). Trading is different from, and not to be confused, with adaptive management. Adaptive management is typically for phosphorus compliance only and must demonstrate evidence through monitoring of in-stream phosphorus concentrations and eventually achieving phosphorus water quality criteria in the water of focus. It is important to note that an adaptive management approach must be under the lead of a Wastewater Treatment Plant. A stormwater program cannot undertake an adaptive management approach on its own.

Water quality trading can be applied to a number of pollutants, not just phosphorus, and involves the purchase or creation of "credits" in the watershed to achieve compliance. A trade can be between two point sources "point to point" or a point source and nonpoint source "point to nonpoint". Municipal stormwater runoff and discharges are sometimes referred to as nonpoint sources and other times as point sources. For the purpose of trading, stormwater is considered a point source, as is the City of Appleton's wastewater treatment plant discharge. "Nonpoint sources" are land management activities that contribute runoff, seepage, or percolation which adversely affects water quality, such as agricultural runoff.

The various potential pollutant trading options available to the City of Appleton's stormwater management program were evaluated. Details are included in the Water Quality Trading Alternative Summary document located in Appendix B and highlights are noted in the following sections.

#### **4.8.1 Water Quality Trading in Agricultural Areas**

While water quality trading is not new to Wisconsin, it is not widely utilized as a tool for WPDES permit compliance. To assist in understanding some past trades and considerations in agricultural situations, City of Appleton and BC staff met with Jessica Schultz, Executive Director of the Fox-Wolf Watershed Alliance (FWWA), on January 21, 2021. As part of the discussion, Jessica shared her experiences from her feasibility study "Exploring Water Quality Trading for Compliance" with Neenah-Menasha and Fox-West Regional Sewerage Commissions and the Heart of the Valley Metropolitan Sewerage District (Wisconsin's first water quality trade in a TMDL watershed). During that discussion, Jessica noted that, while there have been some positive changes associated with WDNR guidance, her experience has been that, in its current state, water quality trading continues to be a rather costly method of moving towards compliance that involves considerable risk in most cases.

Based on FWWA's experience with trading and the current WDNR guidance, it appears that the best scenario for a trade working with agricultural land would result if the City had an opportunity to convert agricultural lands into the City's parks and open space plan. In this instance, the purchase of the land would match other objectives of the City, would not have the secondary impact of removing land areas that might be otherwise developable and beneficial to the tax base, and would provide the desired long-term benefit. The number of credits available would depend on the specific identified final use of the land and need to go through the full pollutant loading evaluation effort and trade process in the WDNR guidance. The proposed trade must be approved by the WDNR through the Notice of Intent process and follow the guidance outlined to be eligible. Past acquisition or instances are not eligible.

During a review with the City of the concept to implement a trade with an agricultural area through conversion of the ag land to park land, it was noted that the City may have such an opportunity where a future park site is suggested on farmed land currently owned by Thrivent in the Apple Creek Reachshed. While the Apple Creek reachshed does not need further TSS or TP reductions, excess reductions could be applied to the Lower Fox River DS Reachshed. A brief desktop analysis was conducted (see Appendix B) using information from the Lower Fox River TMDL report to evaluate the base load and load reduction requirements for ag land in the Apple Creek Reachshed and using WinSLAMM to assess the loads associated with parkland.

This scenario was discussed with WDNR staff. There are a number of potential challenges with this specific trade as noted in the discussion items presented in Appendix B. Although it is possible that the credit that could ultimately be obtained, proving evidence of actual improvement to the Apple Creek reachshed may be challenging because of existing stormwater practices treating the area in question. Also, a trade such as this would require the City to move from their current General Permit to an Individual Permit, as that is the mechanism that the WDNR uses to track trade related permit compliance items. City staff review of the example individual permit provided by DNR determined additional staff would be needed to meet the additional permit requirements. The addition of staff was avoided in developing this plan.

#### **4.8.2 Water Quality Trading with the City of Appleton Wastewater Utility**

Beyond looking at agricultural areas for generating stormwater quality credits, the City also has the potential to consider a trade between the City of Appleton's Wastewater Utility (wastewater utility) and the City's stormwater management program. Excess credits available in the wastewater utility could be purchased by the stormwater management utility to help close the gap on reachshed TMDL compliance. The cost per pound to purchase the credits must be developed and compared to other

potential practices for cost effectiveness, and both entities must be willing to have the trade incorporated into their permits and understand the long-term impacts of the trade.

City of Appleton stormwater staff and BC staff met with Chris Stempa, Deputy Director of Utilities for the City of Appleton, on January 27, 2021, to discuss this water quality option. The goals of the meeting included obtaining an understanding of current wastewater utility operations and WPDES permit requirements, review current treatment/discharge levels of TSS and TP compared to permit limits, and initiate a discussion on potential water quality trading opportunities available to both parties.

The City's wastewater treatment plant discharges to the Lower Fox River Mainstem Downstream Reach. The Lower Fox TMDL evaluated the point loads from the wastewater plant and a TP load allocation was established in the TMDL for daily loadings to the reach of 20.69 lbs/day (7,556 lbs/yr), which is a 43.7 percent reduction from their baseline load. The TMDL also allocated a TSS load of 465 bs/day (169,857 lbs/year) which did not result in a TSS load allocation reduction target being established for the wastewater discharge.

The WPDES permit for the wastewater treatment plant includes discharge limits of 1,322 lbs/day (expressed as a monthly average) and 2,434 lbs/day (expressed as a weekly average) for TSS. The plant is operating under an interim limit of 1.0 mg/L for TP, but the discharge limit will be lowered to 23 lbs/day (expressed as a six-month average) and 69 lbs/day (expressed on a monthly average) with the issuance of the next permit. These current TSS and pending TP discharge limits are based on the Lower Fox TMDL wasteload allocations for the plant. The current permit for the plant expires on March 31, 2022.

The wastewater utility would like to increase their factor/margin of safety for TP compliance, so are unlikely at this time to be able to entertain a trade of any excess TP. However, TSS discharge loads have been well below their permit levels and the load allocated to the wastewater utility in the TMDL. Based on this information and the data presented in Appendix B, it appears that there may be an opportunity for the stormwater utility to purchase excess TSS capacity/credits available from the wastewater utility. Further clarification from the WDNR on this topic via email noted that a trade ratio of 1.1:1 would be applied, resulting in approximately 124 tons per year of TSS available for trade. The WDNR also noted that both entities would need to have their permits modified to reflect and document that trade. This would mean that the City would need to have their General Stormwater WPDES Permit modified to an Individual Permit.

To develop an estimated value of this trade, the cost for the City for the Leona Street Pond was used as a reference for a recent regional stormwater management facility. The cost to construct the Leona Street Pond was approximately \$1,925,882, per City of Appleton Expense Reporting (includes engineering, land acquisition, and construction related costs – but does not include any ongoing maintenance costs) to remove 16.4 tons/year of TSS. However, Leona Street provides both stormwater quantity and quality management and the City has typically allocated 40 percent of the construction cost to stormwater quality. This would result in approximately \$770,350 in construction related costs and equate to approximately \$46,973/ton of TSS removed. It is important to note that the Leona Street detention facility was constructed with some features such as a deeper wet detention pool to allow for the potential future addition and application of enhanced phosphorus treatment which increases its cost somewhat over some other stormwater facilities. At 124 tons/year, the excess TSS capacity of the Appleton WWTP is the equivalent of building over 7 (~7.56) Leona Street detention facilities. If \$50,000/ton of TSS is used, the present worth value of the 124 tons/year of excess WWTP TSS would be \$6,200,000.

Ultimately the cost or value of the TSS trade from the wastewater utility would need to be negotiated between the wastewater and stormwater utilities in consultation with the City Finance and Legal staff to understand internal logistics. There would also need to be a clear understanding of the benefits to both the wastewater and stormwater utility rate payers for the trade as they ultimately will bear the cost of a trade. Additionally, there are reduced benefits to the stormwater utility if only TSS credit is gained as both TSS and TP reductions are needed. Based on the WDNR indicating that the City's stormwater management program would have to change from the General Permit to an Individual Permit, the City is not currently interested in implementing a trade in the near term.

#### **4.8.2.1 Other Potential Opportunities for Pollutant Trading**

During the meeting, there was also discussion on how the wastewater utility and stormwater utility might consider working together to evaluate and implement a shared trade with a nonpoint (agricultural) source might work. There is interest from the wastewater utility to increase their margin of safety with their TP discharge given the seasonal variability. Additionally, the use of chemical treatment to achieve the TP levels on an ongoing basis is costly and may also provide some potential relief to reduce polymer use and still be able to achieve wastewater plant WPDES permit levels reliably. The balance of the TP reductions realized from a nonpoint source trade could be utilized by the stormwater utility. The wastewater utility does not need additional TSS reductions, so any credits realized in that regard could be available to the stormwater utility.

#### **4.8.3 Water Quality Trading with City of Appleton TMDL Compliant Reachsheds**

The only pollutant trading that the City has considered to date was discussed in the 2014 City of Appleton Citywide Stormwater Management Plan, where excess TSS and TP in TMDL compliant reachsheds were identified as an internal trade opportunity to help close the gap with downstream reachsheds. This continues to be a viable and very cost-effective method to implement a trade since there essentially is no cost because the TSS and TP reductions are already available and in the control of the City. Section 3.3.6 of this report identified reachsheds with excess TSS (See Table 3-7) and TP (See Table 3-8) that can be applied to the Lower Fox Mainstem. The City has confirmed with the WDNR during this study that there is no trade ratio for the City to internally apply credit to a downstream reachshed. However, one key caveat to this is that the City needs to have model evidence of each pond performance with the ability to maintain the long-term performance before the credit can be applied. Therefore, the City has scheduled the development of additional models to confirm these expectations.

## **4.9 Technological Changes for Stormwater Pollution Removal**

The City of Appleton utilizes various types of SMPs—wet detention, catch basins/HSDs, street cleaning, and biofiltration—to treat stormwater discharges. The City has explored a variety of practices over the years including implementing an enhanced leaf management program (as discussed in Section 4.2), incorporating coagulant use with wet detention for enhanced TP removal (Section 4.4), and other practices such as permeable pavement. As the City continues to grow in understanding of the potential future application of technologies and program changes, some will work their way into the City's efforts to improve stormwater quality, while others may not. Regardless, the City remains interested in understanding what other technological changes are taking place that could become additional tools for implementation to further improve stormwater quality. While the City is open to considering new technologies, it is also important to understand how the WDNR accepts these new technologies and provides assurances that credit toward TMDL reduction targets is granted before any investment is made. New technologies also come with limited cost data for long term operation and maintenance. Some potential technologies for implementation or augmentation of current practices are presented in the following sections.

### 4.9.1 Proprietary Filtration Devices

Proprietary filtration devices are not necessarily new, but the variety of vendors and types of filters has grown over the years. More importantly, the WDNR has developed a new technical standard (1010) for Proprietary Storm Water Filtration Devices, and these types of devices are also now able to be modeled more directly in WinSLAMM. The City of Appleton currently does not have any municipally implemented proprietary filtration devices. The model and guidance document includes an evaluation of pollutant removal and provides an expectation of filter maintenance frequency (filters are sized to be replaced annually).

As part of a recent study to evaluate the conversion of a rural section of road to an urban section in another community, BC considered multiple types of potential SMPs to treat stormwater discharges to the required level of pollutant reduction. Proprietary filters were one of the practices evaluated. Challenges with incorporating them included space restrictions (horizontal and vertical for structure placement to physically install the devices and develop the required head to pass the needed flows) and location for convenient access to replace the filter cartridges and maintain the devices annually as required. One additional challenge for the evaluated site was the amount of off-site runoff that was being treated by a grassed swale. Replacing the swale with an urban section of road would have required a large number of filtration devices that could not be readily accommodated in the right-of-way that was available.

A preliminary cost estimate to install four dispersed devices to remove 0.91 tons/yr of TSS and achieve a 67 percent reduction suggested a capital cost of almost \$135,000 (about \$150,000 per ton of TSS). That does not include the additional identified costs for storm sewer, design, and estimated \$20,000 of annual maintenance cost needed to dispose and replace media packs.

### 4.9.2 Treatment Practice Augmentation

The addition of a coagulant treatment component to an existing (or future) wet detention facility is one example of modifying (augmenting) a traditional type of treatment practice to enhance pollutant removals. While the WDNR does not have a full standard developed for the use of coagulants, there are documents for “Water quality review procedures for additives” and “Allowable usage rates for water applied additives” available on the WDNR’s website and a way that the WDNR would accept pollutant reductions if this practice was utilized, without currently having a full technical standard developed.

Two other types of additives that have been used to enhance pollutant removal effectiveness in a traditional stormwater practice are iron filings and blast slag.

The Minnesota Stormwater Manual suggests that the incorporation of iron filings into a filtration media aides in the removal of dissolved pollutants, particularly phosphorus. Source: [https://stormwater.pca.state.mn.us/index.php?title=Iron\\_enhanced\\_sand\\_filter\\_combined](https://stormwater.pca.state.mn.us/index.php?title=Iron_enhanced_sand_filter_combined)

The iron filings are typically mixed into a sand filter treatment device, but an example project also included a sand infiltration bench in a wet detention pond. Depending on the device and how a sand filter is incorporated, there can be aesthetic impacts as plants generally do not grow well in sand and may be more appropriately suited to an industrial land use situation.

From a maintenance perspective it was noted that the devices should have a pretreatment component to remove a significant portion of the solids, limiting drainage area can help maintain pollutant removal efficiency, and that there needs to be good/easy site access for routine and periodic maintenance. As phosphorus binds with the iron, the effectiveness will be reduced and eventually the media will need to be removed and replaced.

Another admixture incorporated into a stormwater practice was the City of Cudahy Wisconsin's City Hall and Squires Avenue Parking Lots and Green Alley project. That project incorporated air-cooled blast furnace slag into the project to enhance pollutant removals with a permeable paver system and a proprietary high rate biofiltration system. Source: <https://www.estormwater.com/videos/2019-top-project-city-hall-squires-ave-parking-lots-green-alley> The project is undergoing a 3-year monitoring effort to evaluate the effectiveness of the modified practices. The blast slag was obtained from an out-of-state source which would increase the cost of the material and, like the iron filings noted previously, will need to be replaced when they are no longer removing phosphorus at the desired rate.

## 4.10 Evaluate Compliance with General Stormwater Discharge Limitations

An aspect of the scope of services associated with the grant that the City received from the WDNR included a review and discussion/coordination with WDNR on WPDES Permit Section 1.9 "General Stormwater Discharge Limitations" and consideration of that permit section when proposing SMPs where appropriate. Communication with the WDNR noted that "Section 1.9 is a narrative description of water quality standards. The intent of the permit as a whole is to meet the water quality standards."

Further discussion and reflection with City staff on Section 1.9 and the statement from the WDNR led to a conclusion that the City's program seeks to address the water quality standards through a variety of mechanisms including the City's illicit discharge detection and elimination (IDDE) program. The annual IDDE program includes a screening and inspection of city outfalls.

## Section 5

# Post-Construction Stormwater Ordinance Updates

The City of Appleton periodically makes updates to the post-construction stormwater management ordinance, and other ordinances as needed, to align with current WDNR regulations, improve usability, and incorporate other improvements. The post-construction ordinance (Article VI of Chapter 20 of the Municipal Code of the City of Appleton) was last modified in 2020 and became effective on April 28, 2020. The ordinance updates included changes to definitions, general language, and requirements to conform to regulations and increase usability.

As part of the Citywide study as outlined in the WDNR grant, the City reviewed potential revisions to the ordinance as described in this section.

### 5.1 Post-Construction Stormwater Ordinance Updates

As part of this citywide stormwater management plan update, multiple potential revisions to the post-construction stormwater ordinance were considered including:

- Modifying TSS reduction percentage requirements to call for the more restrictive of either the current TSS reductions (based on NR151/216) or that of the TMDL reachshed targets
- Adding TP reduction requirements (current ordinance requires reporting TP reductions but does not have a required reduction percentage)
- Lowering the applicability trigger by adding a threshold for the amount of new impervious area in a development that would trigger the water quality requirements (e.g., 4,000 square feet or more of new impervious surface)
- Lowering the disturbed area threshold below the current one-acre trigger (e.g., 1/2 acre)

The impact of modifying the current ordinance on redevelopment is discussed in section 4.7.2 of this report for increased TSS and TP reductions. The review suggested incremental progress could be made in almost every reachshed. A review of neighboring and peer municipalities as presented in Table 4-14, also found that almost 60 percent of the ordinances reviewed were utilizing unique targets by TMDL reachshed (not all necessarily set at the same levels based on TMDL reports, partially because some ordinances were updated before TMDL reports were completed).

These potential changes were shared with Community Development, which was supportive of making the TSS and TP reduction requirement changes. Both DPW and Community Development were not supportive of adding an impervious area trigger or reducing the disturbed area threshold, which would increase the City's administrative load, be burdensome on small parcels, and make smaller incremental differences.

The City also identified other modifications to the ordinance that increased overall usability of the ordinance, such as requiring developers to submit models and other digital information that help define the treated area(s) that can be of use to the City in future plan updates. The updated ordinance language is undergoing review by elected officials and is currently expected to be put before the Common Council for consideration and action in March of 2022 with a target effective date of August 1, 2022. The updated Post-Construction Ordinance can be found in Appendix C.



## Section 6

# Implementation Plan

Under the MS4 General Permit, Section 1.5 describes the requirements for compliance with “approved TMDLs”. For the City of Appleton, this includes both the Lower Fox River TMDL and the Upper Fox/Wolf River TMDL. One of the permit requirements is the development of an implementation plan if the stormwater pollution analysis shows that the current pollution control level is not meeting the pollutant reduction requirements for each reachshed in the MS4. The permit states that the implementation plan schedule may extend beyond the expiration date of the current permit, and no ultimate implementation deadline is specified. The analysis conducted in Section 3 of this report concludes that the City’s existing management practices do not fully achieve the TSS or TP reduction targets for all reachsheds and therefore the City must develop an implementation plan.

The targets were developed through monitoring and modeling during the TMDLs development process. The WDNR recognizes that, although the reduction targets are the best estimate of needed pollution loading levels, there is no certainty as to how the impaired receiving waters will respond to the changes in pollution loads. The impaired waters may achieve the desired water quality conditions with less pollution load control, or, conversely, the desired water quality conditions may require more pollution control than indicated.

This report has evaluated multiple potential actions that the City could take and stormwater management practices that the City could implement to move towards future compliance with the TMDL reduction targets as outlined in Section 4. The WDNR requires that MS4 permittees show continued progress towards achieving the pollution reduction targets. Brown and Caldwell and City staff worked together to select the components included in the implementation plan. This section discusses components that have been included in the detailed implementation plan located in Appendix D.

## 6.1 Implementation Plan Components

As previously stated, the current MS4 Permit does not require the City to set a firm deadline for when the pollution reduction targets will be met. The permit language states that the City must “make progress toward achieving compliance”. This plan provides a clear approach to “make progress toward achieving compliance”. The detailed implementation plan, located in Appendix D, provides a schedule for implementation of the recommendations and the corresponding impact on pollutant loadings to the various reachsheds. Where applicable, the impacted area associated with a specific practice being implemented is noted. The schedule was developed to be achievable within the technologies currently available and with an eye on cost effectiveness of practices and approaches overall. General details of the implementation plan components are described in the following sections:

### 6.1.1 Street Cleaning

The City’s street cleaning program is a proven technology that contributes to reduced stormwater runoff pollution and improved aesthetics. The City intends to add additional high efficiency street cleaning equipment and sweep all areas using high-efficiency street cleaners in 2030 after other capital purchases and projects are complete. They will maintain some conventional sweepers for use as needed.

The implementation plan currently does not include an expansion of cleaning frequency in the spring to an ‘intensive cleaning’ six-week schedule due to the need to procure outside contracted cleaning support but may be considered in future years.

### **6.1.2 Leaf Management**

The City has scheduled a change in their leaf management program over a phased implementation period through 2026 to move away from the current collection methodology. The change allows for increased pollutant reduction credit for leaf management in specific residential land use areas that meet the criteria under the WDNR’s guidance documentation.

The program will be implemented citywide and as a result there will be water quality benefits that currently cannot be quantified under the WDNR’s guidance. It is hoped that, as the guidance develops further, the City can take further credit for this programmatic change.

A more robust evaluation of the City’s leaf collection program and analysis of TP removal credit is programmed for 2028.

### **6.1.3 Regional Stormwater Management Practices (SMPs)**

The City currently has many regional SMPs located throughout the various reachsheds that provide reliable and proven stormwater treatment. The City is continuing to provide routine maintenance and is in the process of evaluating locations to manage future wet detention pond dredge material.

This plan evaluated several potential locations for future SMPs and the implementation plan has identified six future potential practices for installation. The RGL Warehouse/Lagoons Pond in the Mud Creek Reachshed is the first scheduled for implementation and has a more detailed schedule laid out in the implementation plan. Future projects are generally scheduled for development over a five-year period to allow for land acquisition, environmental investigations, engineering design and construction. Projects are scheduled sequentially through 2053.

### **6.1.4 Enhanced Settling for Phosphorus Removal**

The City has considered the use of coagulant treatment of stormwater runoff to provide enhanced settling for pollutant removal for a number of years, including a broad consideration in the 2014 Citywide Plan. Recent design projects for Leona Street and Wisconsin Avenue have further considered the technology. The Leona Street wet detention facility was constructed with a deeper pool to allow for the accumulation of floc from coagulants; however, the City has not fully implemented an augmented wet detention practice at this time.

It appears that the WDNR may be planning to develop technical guidance for the use of coagulants in stormwater that could reduce some of the uncertainty with implementing this technology. Currently, the implementation plan includes wet detention pond augmentation starting in 2054, after the regional SMPs discussed previously are in place. Like the regional SMP implementation schedule, wet pond augmentation to include coagulant treatment is scheduled for six existing or proposed facilities over a 5-year period from 2054 through 2083. It is possible that the establishment of WDNR guidance for this practice may create incentive to adjust the schedule and incorporate enhanced settling with a new facility sooner than currently laid out in the plan.

### 6.1.5 Hydrodynamic Separation Devices (HSDs)

The City routinely includes stormwater quality considerations when developing watershed studies, even if the driver behind the study is flood management. As those studies are completed, numerous opportunities for small treatment devices (HSDs) are identified where larger regional facilities could not be implemented due to limited space. Those devices are further evaluated and, where possible, implemented during road construction. While they do not provide major pollutant reduction, they do add incremental benefits to the overall pollutant reduction program. Since road reconstruction projects are scheduled based on need (road deterioration evaluation or other reasons) the specific timing of most HSDs cannot currently be identified. Therefore, they are added near the end of the implementation plan for reachsheds with identified HSDs.

### 6.1.6 Non-Regional SMPs and Ordinance Modifications

In addition to the City installed HSDs discussed in the prior section, other non-regional SMPs were considered in this study and previous citywide studies. In the prior 2014 Citywide SWMP, biofilters and permeable pavement were investigated as ways to treat more dispersed development areas, with a focus on parking lots, when regional facilities could not be implemented. While the evaluation was conducted on a high level, it resulted in the highest cost per ton of TSS or pound of TP. Several sites were also reviewed in this plan as small site options and the potential for new technologies, such as proprietary filters. These practices are challenging to implement because they would largely be on private lands that require easement or acquisition, be impacted by owner willingness and/or ability to give up the space and allow the project to proceed, topographic and/or utility challenges, and the overriding concerns over cost effectiveness and future maintenance.

This study included an evaluation of the impact of modifying the City's current post-construction stormwater management ordinance to incorporate water quality reduction requirement targets (note that maximum extent practicable can still be requested) that will positively impact TMDL reachsheds for new development and redevelopment. When evaluating the impact of ordinance changes on redevelopment, the analysis conducted under Section 4.7.2 identified a potential 2,277 acres that could be positively impacted by changes to the post-construction ordinance. Duck Creek and Bear Creek were the only two reachsheds that were identified that did not have noted benefits from an ordinance change. Since redevelopment can generally not be pinpointed and timed to a specific reachshed, for the purposes of the implementation plan, it was assumed that the recent rate of redevelopment of 20 acres per year would equally impact all potential redevelopment areas. Under this theory, all areas would be redeveloped in about 114 years (simplified to 120 years in the implementation plan so redevelopment would be theoretically complete in 12 decades). The implementation plan incorporates these theoretical improvements by decade and is subject to change based on actual redevelopment.

New development will also be impacted by these ordinance changes with the increased TSS and TP reduction requirements. The specific impact of these changes is not currently identified in the implementation plan as much of the new development would be the conversion of agricultural areas into some form of urban land use that would modify the no controls and with controls pollutant loads and is not easily calculated in the implementing spreadsheet nor can it be readily placed on the timeline.

### 6.1.7 Pollutant Trading

This study looked extensively at various pollutant trading options. Currently, the only option that appears acceptable and readily implementable to the City is an internal trade of excess TSS and/or TP from an upstream reachshed to a downstream reachshed. No trading with other municipalities is currently proposed or envisioned.

The implementation plan identifies reachsheds that are meeting their TMDL reduction goals and to what reachshed the reductions are proposed to be credited. For some reachsheds, there is an internal credit applied in 2023, after the City's 2022 efforts to complete their library of regional SMP WinSLAMM models is completed to confirm the available trade amount available. To be conservative, the implementation plan suggests a trade of 80 percent of the available excess TSS and/or TP loads. There is also an internal trade noted at the end of the implementation plan period to calculate an end of plan trade to downstream reachsheds in an effort to meet the TMDL reduction targets.

### 6.1.8 Non-measurable Implementation Plan Components

In addition to the various components of the implementation plan described in the previous sections that provide measurable progress towards meeting the various TMDL reachshed goals, there are numerous other items identified in the plan that do not provide direct quantifiable/measurable progress toward stormwater goals. The following list contains implementation plan components that contribute toward improving stormwater quality and how they are relevant to the implementation plan.

- **Model development.** Confirms existing SMP effectiveness and complete WinSLAMM model library which will also allow the City to implement internal TSS and TP trades.
- **Stormwater utility billing system updates.** Allows accurate billing charges and supports revenue needed to implement the plan.
- **Plan updates.** Allows the City to quantify progress towards meeting TMDL goals and evaluate emerging technologies.
- **MSB expansions.** Allows storage and maintenance of equipment used to implement or maintain stormwater management practices.
- **Leaf management implementation.** Implementation is citywide and improving stormwater quality on all impacted areas, even those that are not currently identified as able to receive credit based on WDNR guidance.
- **Wet detention pond floc dredge.** A floc dredge is required for removal of settled material when wet detention ponds are modified with this technology. Implementation is anticipated to be applicable citywide ultimately, but currently identified in the plan associated with the Garners Creek Kensington Pond which is the first pond identified for potential use.

### 6.1.9 Implementation Plan Component Limitations and Opportunities

In development of this report and the resulting implementation plan, there are several qualifications or limitations that should be understood and are listed in the following items:

- **Regional SMP TSS and TP reductions.** The pollutant reductions associated with regional SMPs were based on WinSLAMM modeling where available. For SMPs without a model, reductions are based on prior planning report information. As part of this Citywide SWMP, WinSLAMM models were developed for several regional SMPs that the City did not have a model for. The City of Appleton is developing WinSLAMM models for the remaining regional SMPs in 2022. It is important to note that some differences were found between the models developed as part of this study and previously reported treatment efficiency. It is anticipated that minor differences will also be found as a result of the 2022 modeling efforts for the 21 models that are under development.
- **Identified implementation practice feasibility.** The planning team made an effort to consider potential hurdles and opportunities to the implementation of the various practices evaluated. All practices were discussed, evaluated, and identified for implementation with the support of City staff and are believed to be implementable. Regional SMPs were discussed with neighboring municipalities where appropriate, and with current landowners to assess willingness to participate

in the projects. Preliminary engineering will be needed to further evaluate the specifics of each project including detailed environmental evaluation and permitting as needed.

- **Leaf Management reductions.** Leaf management reductions on TP loads were included based on an assessment of tree density (spacing) throughout the City and current WDNR guidance and limitations (such as applicability only to specific medium density residential land use areas). Future enhancements to the WDNR guidance and further understanding of tree cover/canopy may allow expansion to current identified land use areas and/or include other land use areas to increase TP credit. A leaf management analysis is identified for 2028 to investigate this practice further.
- **Enhanced TP reductions through coagulant treatment.** Estimates on performance and cost associated with enhanced TP treatment as an augmented practice to wet detention ponds was based on previous studies. The WDNR appears to be poised to develop technical guidance that could reduce some of the unknowns with applying this technology. Furthermore, it is recommended that additional research into this practice be conducted including pilot testing of stormwater samples and coagulants and close coordination with City of Appleton Wastewater Utility staff to evaluate any impact to WWTP operations and to further define both construction and annual treatment and disposal costs.
- **Financial.** Cost estimates were developed from a number of sources including City provided studies, labor costs, equipment costs, bid tables, and outside sources. An annual inflation value of 3 percent was used to estimate the value of operation and maintenance activities to determine present worth for cost efficiency comparisons as well as to project the cost of identified construction projects implemented in future years. Market volatility and other factors can impact the actual rate of inflation.
- **Regional Practices development.** During this study, there was an effort to reach out to neighboring municipalities and entities, such as WisDOT, to discuss opportunities to develop regional practices that can be of benefit to multiple entities. The City will continue to explore opportunities in the future.
- **TSS and TP reduction estimates.** Estimates are based on WinSLAMM modeling to the extent possible. Final reductions achieved by a specific practice will be determined following design and ultimately construction in some instances. Redevelopment estimates are based on full compliance with the current or future post-construction stormwater management ordinances and does not include any allowance for potential reduction in effectiveness due to approved maximum extent practicable (MEP) that may be allowed to developers based on challenging site considerations, technological limitations, or financial hardship/cost effectiveness reasons.

## 6.2 Implementation Plan Results

The implementation plan provides details for the proposed activities as a result of this Citywide SWMP Update. The implementation plan envisions the potential to meet TMDL reduction targets for all of the Lower Fox TMDL reachsheds.

For the Upper Fox/Wolf TMDL reachsheds, the Lake Winnebago reachshed is currently meeting the TSS reduction goal; however, it is not meeting (nor does the plan identify a way to achieve) the 85.6 percent TP reduction goal. In addition to identified efforts in the implementation plan, the City of Appleton will look for opportunities to work with the City of Menasha on future joint stormwater management facilities to treat stormwater runoff in this reachshed.

Additionally, the Bear Creek reachshed is not currently meeting the 84 percent TSS or 85.6 percent TP reduction goals; nor does the plan identify a way to achieve the goals at this time. As new development takes place in the Bear Creek reachshed, it is anticipated that the gap will be greatly

reduced, particularly with respect to the TSS goal. However, while new development will reduce the current TP gap, the required reduction is extremely aggressive and would require advanced treatment of stormwater runoff that is technologically a challenge and can be extremely costly.

### 6.3 Compliance with Permit Requirements

For the Lower Fox TMDL reaches, which the City of Appleton was subject to a TMDL approved prior to May 1, 2014, the City is seeking compliance with the TMDL reduction requirements over multiple terms as allowed under WPDES Permit WI-S050075-3 Appendix A.5. The City believes it is meeting all requirements as follows:

- A.5.1 – the City is notifying the Department through this report document (in writing) which reachsheds and pollutants of concern are not in full TMDL compliance
- A.5.2 – The City is currently operating under an approved implementation plan and is further modifying that plan through this report document, and is currently in compliance with achieving:
  - at least 20 percent of the remaining reduction needed beyond the current 20 percent TSS reduction required under NR151.13(2)(b)1.b (the City is exceeding this requirement)
  - at least 10 percent of the remaining reduction needed beyond 15 percent TP reduction to achieve full compliance (the City is exceeding this requirement)
- A.5.3 – The City:
  - is currently updating their post-construction ordinance to be stricter than the statewide standards established by the Department of Natural Resources
  - currently requires development and implementation of a maintenance plan for privately-owned storm water treatment facilities for which the City takes TSS and/or TP reduction credit and is further modifying their post-construction ordinance to expand on requirements
  - currently requires submittal of record drawings via their post-construction ordinance
  - is implementing an expanded municipal leaf collection program as described in this report
  - has inventoried the condition of outfalls within the MS4 permitted area and addresses erosion or scour
  - installed the Leona Street facility as a new structural measure during the current permit term
  - has conducted an analysis of the current municipal street cleaning program in this report and has identified future program modifications in the implementation plan

For the Upper Fox/Wolf TMDL reaches, which the City of Appleton was subject to a TMDL approved after May 1, 2019, this document includes a TMDL implementation plan in accordance with Appendix C.4. The City believes it is meeting all requirements as follows:

- C.4.1 – within 36 months of the approved TMDL (approved by EPA February 27, 2020), the City is submitting updated storm sewer system mapping as part of this report
- C.4.2 – within 36 months of the approved TMDL, the City is submitting a tabular summary associated with each MS4 TMDL reachshed

## Appendix A: Figures

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## **Appendix B: Supplemental Project Information**

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1. WisDOT Agreement
2. Calumet and Outagamie County Agreements
3. Figure B-1 Neighboring Municipality Right-of-Way Jurisdiction
4. 2014-2020 Soils Comparison
5. WinSLAMM Street Cleaning Parameters
6. Table 3-5B-Regional SMP Details
7. Table 3-6B-Non-Regional SMPs
8. Street Cleaning Assumptions
9. B4-2a Leaf Management Program Alternatives Summary
10. B4-2b Leaf Management Program Modification Assumptions
11. B4-3a Regional SMP Alternatives Summary
12. B4-3b Annual Pond Maintenance Cost Graph
13. B4-3c Wet Detention Cost Analysis
14. B4-5a HSD Annual Maintenance Assumptions
15. B4-5b HSDs Not Tributary to Existing SMPs
16. B4-5c HSDs Tributary to Existing SMPs
17. Future Development Map
18. B4-7a New Development Impact Analysis
19. Water Quality Trading Alternative Summary



**Memorandum of Agreement for Stormwater Detention Pond Construction and Maintenance**  
between  
**City of Appleton and Wisconsin DOT**  
10/16/2017

Project ID 1517-07-04 & 1517-75-73  
USH 10 – USH 10/STH 441  
USH 10  
Winnebago County

### **Introduction**

This Memorandum of Agreement (MOA) documents decisions and responsibilities agreed to by the Wisconsin Department of Transportation (Department); and the City of Appleton (Municipality); through each agency undersigned duly authorized officers or officials.

The purpose of the MOA is to specify:

- Construction responsibilities of the Department
- Repair responsibilities of all parties
- Maintenance responsibilities of all parties
- Land ownership responsibilities of all parties
- Land use change responsibilities of all parties

### **Project Concepts**

As part of the US 10/ WIS 441 Tri-County Expansion Project, under construction project ID 1517-75-73 (the "Project"), which is currently scheduled to be completed by October of 2019 the Department will construct a stormwater detention pond and related stormwater management facilities, as more fully described herein (the "Detention Pond") near the northwest quadrant of the WIS 441 / US 10 (Oneida St) interchange in order to meet Wisconsin Department of Natural Resources (DNR) stormwater quality requirements.

The Municipality expressed interest in the Detention Pond and recognizes a cost savings would result from the additional stormwater quality improvement on the watershed within their boundaries that would be treated at the Detention Pond. This will reduce or eliminate their need to construct separate stormwater pond in the area or construct more costly measures such as biofilters or underground storage. Hence, the municipality is willing to perform routine maintenance of the Pond at no cost to the Department.

### **WisDOT Detention Pond Construction Responsibilities**

The Department shall complete construction of the Detention Pond, with the exception of final planting, funded 100% by the Department to provide a greater than 80 % total suspended solids (TSS) reduction in accordance with the current WinSLAMM computer model and current Wisconsin Department of Natural Resource guidance documents. The Department shall be responsible for securing any additional right-of-way and other property owner approvals necessary to construct and maintain (for both the Department and Municipality) the Detention Pond covered by this MOA. The Department shall construct the herein described Detention Pond as part of the Project.

The Department will provide the Municipality with final design quantity and quality computer models and any associated maps/documentation for the Detention Pond

The Department shall provide as-built plans to the Municipality and demonstrate that it was constructed and performs as intended under the project plans and specifications, and the terms of this Agreement, following completion of the Detention Pond.

#### **Municipal Detention Pond Construction Responsibilities**

The Municipality shall be solely responsible for completing the final planting and management of the planting establishment period at the Detention Pond after completion of other construction by the Department.

#### **Detention Pond Repair Responsibilities**

The Department shall be responsible for the reconstruction or repair of the Detention Pond in the event of a catastrophic flood, failure, or substantial destruction of the Detention Pond at its sole cost and expense during and after the construction of the Project. This includes any necessary replacement of pipe, inlets, manholes, or endwalls and the repair and replacement of backflow preventers.

#### **Municipal Detention Pond Maintenance Responsibilities**

Once construction of the Project is complete, the Municipality agrees to provide future maintenance of the Detention Pond at their sole cost and expense to ensure that the Detention Pond operates properly. The Municipality agrees to provide for all regular operation and maintenance of the Detention Pond. Operation and maintenance activities include, but are not limited to, the following:

1. Mowing and trimming of vegetation around the Detention Pond.
2. Regular inspection of the Detention Pond embankments, discharge pipe, and ditches for wear and damage. Copies of inspection reports will be provided to the Department if requested.
3. Perform any repairs that do not require replacement of pipes, inlets, manholes, endwalls, or check valves.
4. Confirm every five years that the Detention Pond is operating effectively and achieving the required stormwater quality and total suspended solids (TSS) reduction of greater than 80% in accordance with the current WinSLAMM computer model and current Wisconsin Department of Natural Resource guidance documents.
5. Vegetation & Noxious Weeds Management of the Detention Pond
6. Algae management of the Detention Pond
7. Erosion Control of the Detention Pond
8. Nuisance wildlife management of the Detention Pond
9. Mosquito Control of the Detention Pond
10. Work or maintenance that may be necessary to maintain reasonable ingress and egress to the Detention Pond site.

The Municipality will take over routine maintenance of the pond in September of 2019 after the Department's contractor completes construction.

#### **WisDOT Detention Pond Maintenance Responsibilities**

The Department will be responsible for ownership, operation, and maintenance of pipes, inlets, manholes, endwalls, or check valves that tie into the pond but are located outside of the pond berm.

The Department also agrees to provide for dredging of soil and debris accumulation from the pond and main sedimentation basin such that the pond continues to improve storm water quality of the area runoff. The Department agrees to take ownership of any dredged material and will dispose or manage the material as required under Chapter NR 528 of the Wisconsin Administrative Code. The cost share for this dredging shall be split between the Municipality and the Department based on estimated TSS loading generated as shown in the table below. The cost share between the Department and the Municipality shall be apportioned to the Department for 32% of the dredging costs and the Municipality for 68% of the dredging costs. The Department’s participation in such costs is subject to the availability of funding.

**Estimated Annual TSS Load Generated (LBS)**

Pond	City of Appleton	WisDOT	Total
5	24,569	11,453	36,022
	68%	32%	100%

**Detention Pond Underlying Land ownership**

Following construction of the detention pond, the Municipality agrees to give ownership of the portion of the Detention Pond built on the Municipality-owned parcel so that pond ownership is not split between Municipality and Department right-of-way. Attached as Exhibit A is the legal description of the Municipal Property upon which a portion of the Detention Pond will be built (herein the “Municipal Property”). Upon completion of the Detention Pond, the City of Appleton will draft a legal description providing for the transfer of sufficient real estate from the Municipal Property to accommodate the Detention Pond, access for maintenance and improvement of the Detention Pond as required under this Agreement, and for any other reasonable requirements the Department deems necessary. The transfer of the Detention Pond and underlying real estate shall occur 60 days after written notice by the Department that the Detention Pond is complete. This transfer will occur at no cost to the Department and is subject to applicable Wisconsin law.

**Terms Survive Transfer**

The terms of this Agreement shall survive the Detention Pond transfer of ownership from the Municipality to the Department. All terms and rights in this Agreement shall remain in full force and effect after such transfer for so long as the Detention Ponds are used.

**Department Rights**

In the event the Municipality fails to adhere to their obligations described in this Agreement, the Department may, but shall not be obligated to, complete any needed repairs or maintenance to the Detention Pond that the Department determines in its sole and reasonable discretion, are necessary for the proper operation of said Detention Ponds. The Municipality agrees that if the Department incurs costs because of the Municipality’s failure to adhere to the obligations in this Agreement, the Department has the right to set off such amounts from any other amounts owed by the Department to the Municipality.

**Land Use Changes Affecting Stormwater Runoff**

The Department and the Municipality will re-evaluate land use within the Detention Pond drainage basin a minimum of every 5 years and if either the Department or the Municipality become aware of any proposed significant land use changes within the associated Detention Pond drainage basin, all parties agree to cooperate to try and minimize the potential for additional runoff that might cause the pond to

provide less than 80% TSS reduction. The Municipality agrees that any repair, construction, or maintenance of the Detention Pond required as a result of surrounding land use changes shall be undertaken at their sole cost and expense.

**Approval of Memorandum of Agreement**

This Agreement is made by the undersigned under proper authority to make such Agreement for the Municipality and upon acceptance by the State shall constitute agreement between the Municipality and the State.

**Additional Costs**

Nothing in this Agreement referencing costs that could be or will be incurred by the Municipality is intended to limit the Municipal’s ability to pass said costs on to others as within their authority.

**Miscellaneous Provisions**

- a. This Addendum and Agreement supersedes any other previous agreement(s) between the Parties.
- b. The parties executing this Agreement represent and warrant that each have the authority for their respective parties to undertake the obligations contained in this Agreement. This Agreement is effective on the date the document is duly executed by all Parties hereto. This Agreement will be null and void if not duly executed by all signatories by \_\_\_\_\_, 2017.
- c. This Agreement may be executed in counterparts, and when taken together, shall be deemed one Agreement.
- d. This Agreement shall be construed according to the internal laws of the State of Wisconsin.
- e. The provisions of this Agreement are intended to be enforceable between the Parties and the Parties’ respective successors and assigns. Nothing herein shall limit the statutory obligations and privileges of WisDOT, and nothing in this Agreement shall prevent WisDOT from revising or revoking any permitted access points should the terms of this Agreement be breached or as otherwise permitted by law.
- f. In the event of a dispute, the Parties shall meet and attempt to resolve the dispute informally. In the event any terms of this Agreement are violated, WisDOT may take action to enforce its rights under this Agreement through judicial proceeding or other method of dispute resolution.
- g. This Agreement shall be recorded in a manner agreed to by all parties, to ensure all affected parties have full and equal access to this Agreement.

Signed for and in behalf of the City of Appleton:

Paula Vandehey  
Signature

Director of Public Works  
Title

11-16-17  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

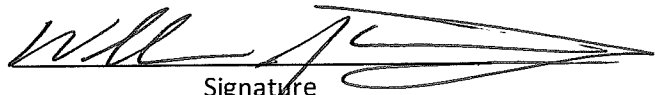
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Date

Signed for and in behalf of the Wisconsin Department of Transportation:

William J Dorsey  
Printed Name

DISTRICT DIRECTOR  
Title

11/27/17  
Date

  
Signature

## MEMORANDUM OF UNDERSTANDING CTH AP (Midway Road)

This Memorandum of Understanding is meant to establish the Midway Road (CTH AP – Oneida Street to Coop Road) maintenance responsibilities for each jurisdiction.

Calumet County shall be responsible for the following tasks:

- Pavement Maintenance
- Signage
- Snow and Ice Maintenance

City of Appleton shall be responsible for the following tasks:

- Hauling snow
- Sidewalk maintenance
- Stormsewer maintenance
- Terrace mowing
- Tree maintenance
- Street Sweeping

By: Brian P. Glaeser  
Brian P. Glaeser, Calumet County Highway Commissioner

Date: 11/24/15

By: Paula Vandehey  
Paula A. Vandehey, City of Appleton Director of Public Works

Date: 11-24-15

**MEMORANDUM OF UNDERSTANDING  
OF  
COUNTY HIGHWAY MAINTENANCE RESPONSIBILITIES**

This Memorandum of Understanding establishes the highway maintenance responsibilities for Outagamie County Highways within the City of Appleton. This understanding is regarding maintenance only, and does not change how capital projects are cost shared. The maintenance responsibilities are as outlined on the attached Exhibit A and may be modified at any time based on mutual agreement by both Outagamie County and the City of Appleton.

By: Paula Vandehey  
Paula Vandehey, Director of Public Works  
City of Appleton

Date: 2/7/2019

By: DZ Steingraber  
Dean Steingraber, Highway Commissioner  
Outagamie County

Date: 2/5/19

# Exhibit A

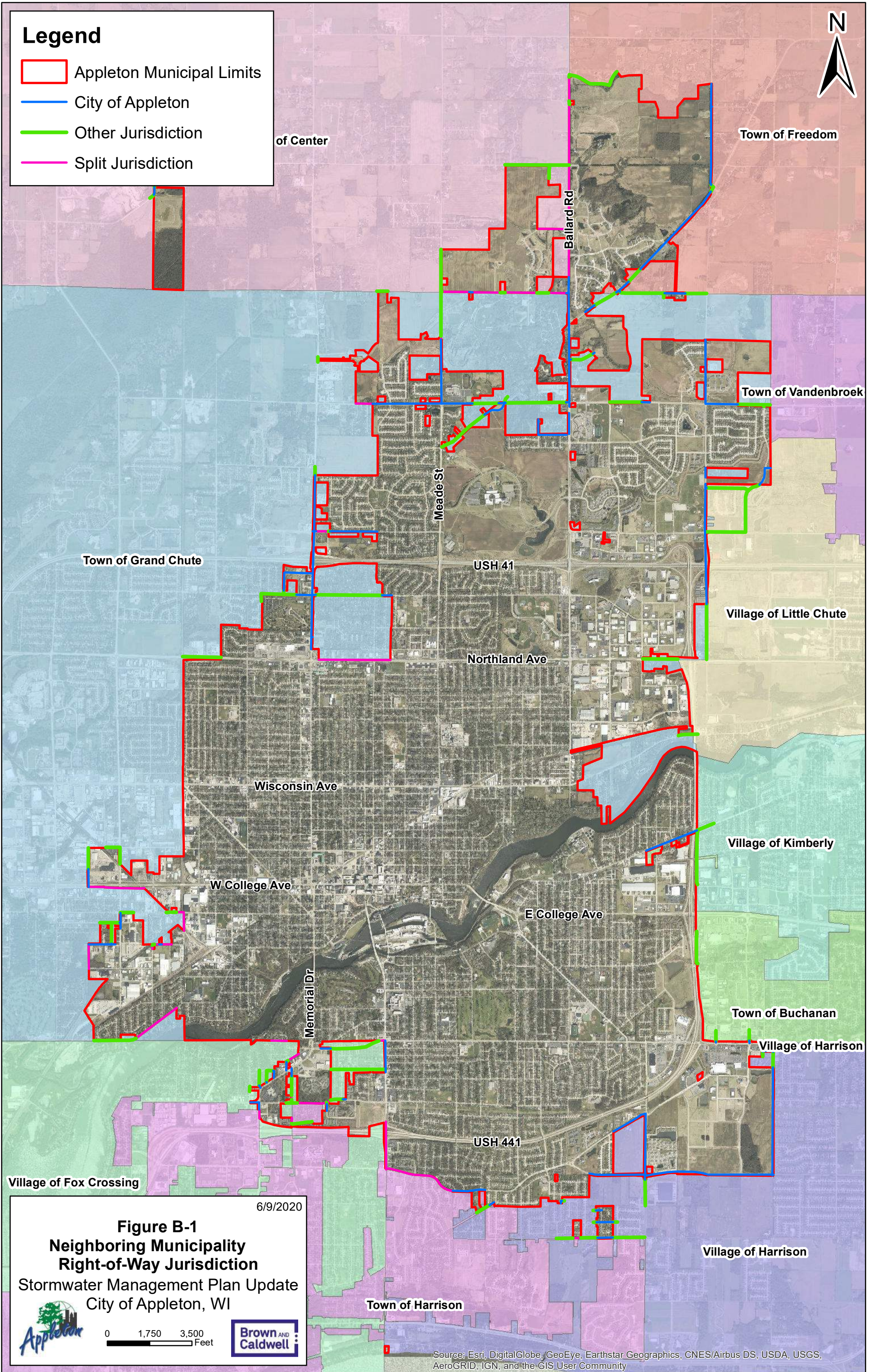
10/11/2018

	Pavement Maintenance	Curb & Gutter Maintenance	Pavement Marking	Signage	Pedestrian Signals & Warning Devices	Traffic Signals	Street Lighting	Sidewalk Maintenance	Stormsewer Maintenance	Bike Signage & Pavement Markings	Tree Maintenance Islands & RAB	Tree Maintenance Terraces	Landscape Maintenance Islands & RAB	Landscape Maintenance Terraces	Ditch Mowing	Snow & Ice	Street Sweeping
<b>COUNTY HIGHWAY SEGMENT</b>																	
<b>Prospect Avenue (CTH BB)</b> East of Riverdale Dr to West City Limits	County	County	County	County	Appleton	N/A	Appleton	Appleton	Appleton	N/A	N/A	Appleton	N/A	N/A	N/A	County	Appleton
<b>Lynndale Drive (CTH A)</b> College Ave to Packard St	County	County	County	County	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	County	County	Appleton
<b>Calumet Street (CTH KK)</b> John St to Coop Rd	County	County	County	County	Appleton	See map	Appleton	Appleton	Appleton	N/A	N/A	Appleton	N/A	Appleton	N/A	County	Appleton
<b>Northland Avenue (CTH OO)</b> West City Limits to Richmond St	County	County	County	County	Appleton	See map	Appleton	Appleton	Appleton	N/A	Appleton	Appleton	Appleton	County	N/A	County	Appleton
Richmond St to Meade St	County	County	County	County	Appleton	See map	Appleton	Appleton	Appleton	N/A	N/A	Appleton	N/A	N/A	N/A	County	Appleton
Meade St to Ballard Rd	County	County	County	County	Appleton	See map	Appleton	N/A	Appleton	N/A	N/A	N/A	N/A	N/A	County	County	Appleton
Ballard Road to Conkey St	County	County	County	County	Appleton	See map	Appleton	Appleton	Appleton	N/A	N/A	N/A	County	County	County	County	Appleton
<b>Edgewood Drive (CTH JJ)</b> West City Limits to Ballard Rd	County	County	County	County	Appleton	See map	Appleton	N/A	Appleton	N/A	N/A	N/A	N/A	N/A	County	County	Appleton
Ballard Rd to Lightning Dr	County	County	County	County	Appleton	See map	Appleton	Appleton	Appleton	Appleton	County	Appleton	County	Appleton	N/A	County	Appleton
Lightning Dr to East City Limits	County	N/A	County	County	N/A	N/A	Appleton	N/A	Appleton	N/A	N/A	N/A	N/A	N/A	County	County	Appleton
<b>Ballard Road (CTH E)</b> Northland Ave to Edgewood Dr	County	County	County	County	Appleton	See map	Appleton	Appleton	Appleton	N/A	Appleton	Appleton	Appleton	Appleton	N/A	County	Appleton
Edgewood Dr to Apple Creek Rd	County	County	County	County	Appleton	See map	Appleton	N/A	Appleton	N/A	N/A	Appleton	N/A	Appleton	County	County	Appleton
<b>Ballard Road (CTH EE)</b> Apple Creek Rd to North City Limits	County	N/A	County	County	N/A	N/A	Appleton	N/A	Appleton	N/A	N/A	N/A	N/A	N/A	County	County	Appleton
<b>Apple Creek Road (CTH E)</b> Ballard Rd to French Rd	County	N/A	County	County	N/A	N/A	Appleton	N/A	Appleton	N/A	N/A	N/A	N/A	N/A	County	County	Appleton



# Legend

- Appleton Municipal Limits
- City of Appleton
- Other Jurisdiction
- Split Jurisdiction



of Center

Town of Freedom

Town of Vandebroek

Town of Grand Chute

USH 41

Village of Little Chute

Northland Ave

Wisconsin Ave

Village of Kimberly

W College Ave

E College Ave

Town of Buchanan

Memorial Dr

Village of Harrison

USH 441

Village of Fox Crossing

6/9/2020

## Figure B-1 Neighboring Municipality Right-of-Way Jurisdiction

Stormwater Management Plan Update  
City of Appleton, WI



0 1,750 3,500 Feet



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community


**Comparison of Impact of NRCS Soils Changes on Pollutant Loadings by TMDL Basin (Reachshed)  
City of Appleton**

TMDL_Basin	Area (ac)	2014 Soils		2020 Soils		2014-20 Soils Change	
		TSS Load (tons/yr)	TP Load (lbs/yr)	TSS Load (tons/yr)	TP Load (lbs/yr)	TSS Load %	TP Load %
Apple Creek	2,910	301	2,011	301	2,015	0.0%	0.2%
Bear Creek	125	3.4	40	3.4	40	0.0%	0.0%
Duck Creek	66	4.7	40	4.7	40	0.0%	0.0%
Garners Creek	1,576	237	1,279	237	1,280	0.0%	0.1%
Lake Winnebago	583	62	453	62	453	0.0%	0.0%
Lower Fox River (DS)	5,910	820	4,981	819	4,967	-0.1%	-0.3%
Lower Fox River (US)	1,509	215	1,294	215	1,283	0.0%	-0.9%
Mud Creek	1,048	165	871	164	865	-0.6%	-0.7%
Citywide	13,727	1,808	10,969	1,806	10,943	-0.1%	-0.2%

Note: The analysis uses municipal limits from the 2014 SWMP with land use and excluded areas from the 2020 SWMP and compares 2014 and 2020 soils information. There is an increase in total analyzed area from 2014 to 2020 due to a reduction in excluded areas as agricultural lands are developing.

**Legend**

 Appleton Municipal Limits

 2020 Annexation

**Regional SMP Drainage Areas**

 Regional SMP Drainage Areas

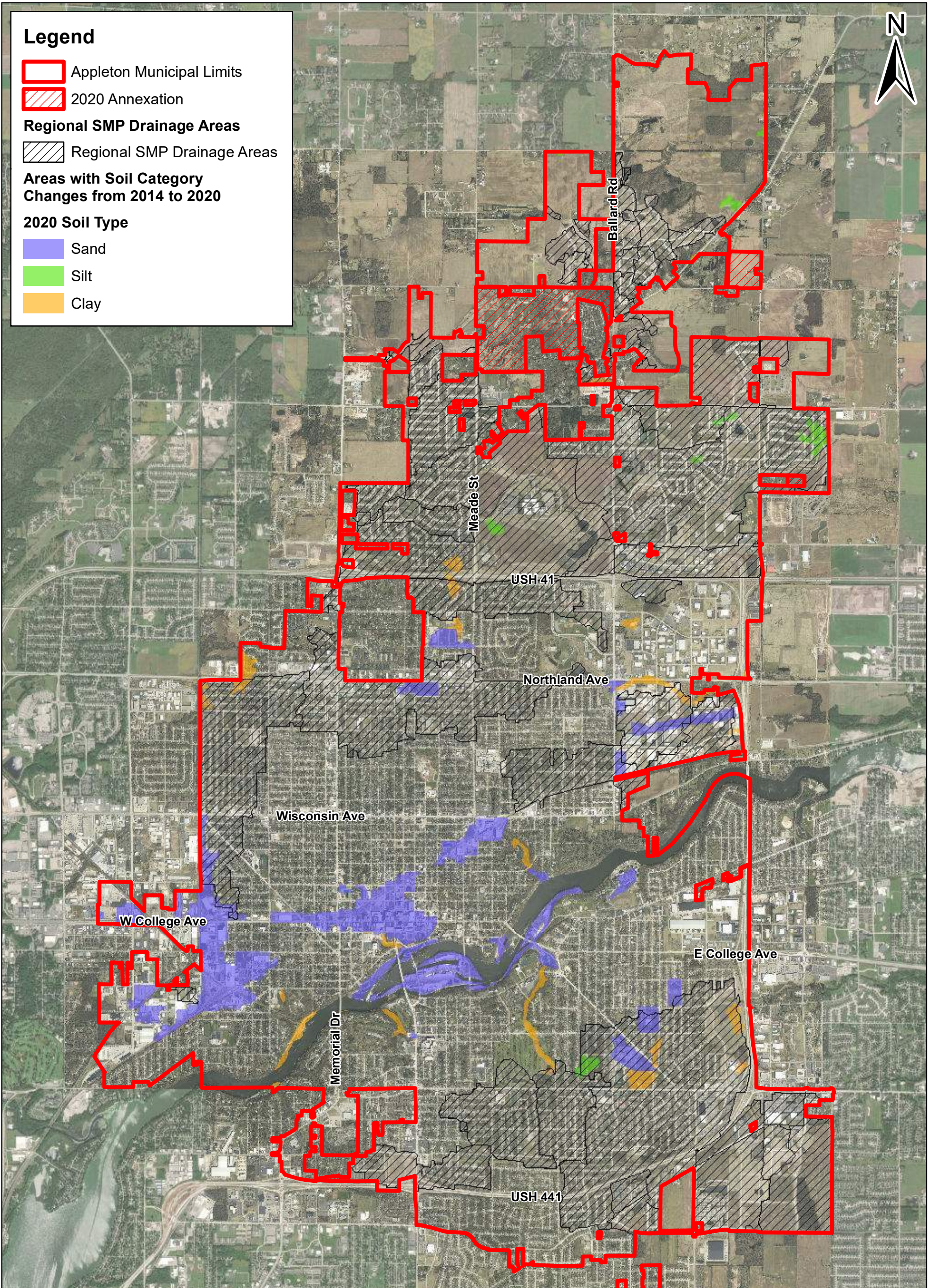
**Areas with Soil Category Changes from 2014 to 2020**

**2020 Soil Type**

 Sand

 Silt

 Clay



12/1/2020

**Figure B-2**  
**2014 to 2020 WinSLAMM**  
**Soil Category Changes**  
Stormwater Management Plan Update  
City of Appleton, WI



0 1,750 3,500  
Feet



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

## WinSLAMM Street Cleaning Parameters

<u>Land Use</u>	<u>Parking Density</u>	<u>Parking Controls</u>
Cemetery	None	Yes
Commercial Downtown	Extensive (short term)	Yes
Duplex	Light	Yes
Golf	None	Yes
High Density Residential Alleys	Medium	Yes
High Density Residential No Alleys	Medium	Yes
Hospital	Extensive (short term)	Yes
Institutional	Medium	Yes
Light Industrial	Light	Yes
Light Industrial 1	Light	Yes
Light Industrial 2	Light	Yes
Low Density Residential	None	Yes
Medium Density Residential No Alleys	Light	Yes
Medium Density Residential Alleys	Light	Yes
Medium Industrial	Light	Yes
Mobile Homes	Light	Yes
Multi Family Residential	None	Yes
Office Park	None	Yes
Office Park 1	None	Yes
Office Park 2	None	Yes
Open Space	None	Yes
Parks	None	Yes
Rail	None	Yes
School	Extensive (short term)	Yes
Shopping Center	None	Yes
Strip Commercial	Light	Yes

**Table 3-5B. Regional SMP Pollutant Load Reduction Results**

Stormwater Management Plan Update

City of Appleton, WI

Lower Fox River TMDL							
Reachshed	Regional SMP Name	Pond ID	Public/Private	Year Constructed	TSS Reduction %	TP Reduction %	WinSLAMM Model Status
Apple Creek	AHF East Pond	24	Public	2005	80%	54%	Model Needed
	AHF High Pond	32	Public	2005	80%	54%	Model Needed
	AHF Pond 1A/1B	29	Public	2004	80%	54%	Model Needed
	AHF Pond 3	28	Public	2004	80%	54%	Model Needed
	AHF Pond 4	27	Public	2004	80%	54%	Model Needed
	AHF Pond 5	26	Public	2004	80%	54%	Model Needed
	AHF Pond 6	25	Public	2004	80%	54%	Model Needed
	AHF Pond E-2	30	Public	2008	80%	54%	Model Needed
	AHF Pond G-1	31	Public	2006	80%	54%	Model Needed
	Apple Ridge Pond A	40	Public	2019	92%	62%	Existing Model on File
	Apple Ridge Pond B	41	Public	2020	95%	64%	Existing Model on File
	Apple Ridge Pond C	42	Public	2020	83%	56%	Existing Model on File
	Ashbury	8	Public	2000	79%	53%	Model Needed
	Ballard Pond	3	Public	1996	87%	59%	Model Created for SWMP
	Clearwater Creek Pond	18	Public	2007	82%	59%	Model Created for SWMP
	Emerald Valley	36	Public	2006	80%	54%	Model Needed
	GR Southeast	23	Public	2007	91%	70%	Existing Model on File
	GR WERNW	22	Public	2007	76%	58%	Existing Model on File
	GR WERS	39	Public	2007	88%	66%	Existing Model on File
	GR WERSW	21	Public	2007	86%	66%	Existing Model on File
	Holland	7	Public	1998	79%	53%	Model Needed
	JJ Lightning Pond	43	Public	2017	81%	55%	Model Needed
	Meade & Evergreen Pond	9	Public	2001	52%	35%	Model Created for SWMP
	Meade & JJ Pond	11	Public	2001	66%	47%	Model Created for SWMP
NE Bus Park	6	Public	1996	78%	53%	Model Needed	
North Edgewood Estates Pond	44	Public	2019	82%	57%	Existing Model on File	
Spartan Pond 5	47	Public	2020	90%	64%	Existing Model on File	
Duck Creek	Mackville Pond	33	Public	2008	80%	54%	Model Needed
Garners Creek	Coop Road Pond	12	Public	2008	69%	48%	Model Created for SWMP
	Horizon Plaza	38	Private	2006	76%	51%	Model Needed
	Kensington Pond	1	Public	2009	78%	53%	Model Created for SWMP
	Plank Rd Pond	4	Public	2000	78%	58%	Model Created for SWMP
	Plank Road NW Pond	35	Public	2005	82%	55%	Model Created for SWMP
	Plank Road W Pond	34	Public	2005	92%	62%	Model Created for SWMP
	SPCPPN	5	Public	2004	80%	54%	Model Needed
	SPCPPS	13	Public	2004	80%	54%	Model Needed
Lower Fox River Mainstem (DS)	Conkey	16	Public	2011	82%	55%	Model Needed
	Leona Pond	48	Public	2019	79%	58%	Existing Model on File
	MPPNE	14	Public	2007	77%	52%	Model Needed
	MPPS	17	Public	2011	76%	51%	Model Needed
	Pershing	15	Public	2009	77%	55%	Model Created for SWMP
	Reid GC E	20	Public	2013	83%	56%	Model Needed
	Reid GC S	19	Public	2013	83%	56%	Model Needed
Lower Fox River Mainstem (US)	Schindler 441 Pond	51	Public	2019	92%	44%	Existing Model on File
Mud Creek	Cotter Street Pond	49	Public	2017	84%	53%	Existing Model on File
	CrossMeadow/MCN	37	Public	1997	25%	17%	Dry Pond - Not Modeling
	Mud Creek South Pond	10	Public	2002	90%	66%	Model Created for SWMP
	Northland Ave Pond	50	Public	2018	82%	62%	Existing Model on File
Upper Fox-Wolf TMDL							
Reachshed	Regional SMP Name	Pond ID	Public/Private	Year Constructed	TSS Reduction %	TP Reduction %	WinSLAMM Model Status
Bear Creek	Spartan Pond 2	45	Public	2020	85%	49%	Existing Model on File
	Spartan Pond 4	46	Public	2020	92%	75%	Existing Model on File

**Table 3-6B. Non-Regional SMP Pollutant Load Reduction Results**

Stormwater Management Plan Update

City of Appleton, WI

Lower Fox River TMDL Reachsheds

Reachshed	Non-Regional SMP Name	SMP ID	Public/Private	TSS Reduction %	TP Reduction %
Apple Creek	APPLE CREEK NATURE CENTER YMCA	40	Private	80%	54%
	FRENCH GARDEN ESTATES	23	Private	82%	55%
	Glenhurst La HSD BI-3	136	Public	-	-
	Pondview Estates	125	Private	20%	15%
Duck Creek	MEU Holdings	36	Private	81%	55%
Lower Fox River (DS)	A to Z MACHINE	31	Private	47%	32%
	AIR GAS	2	Private	91%	62%
	Appleton Medical Center	22	Private	32%	22%
	Appleton NE Storage	77	Private	57%	39%
	Appleton West High School	107	Private	35%	24%
	Appleton West Referendum	110	Private	39%	26%
	Armament Systems	111	Private	44%	22%
	AUGUST WINTER PARKING	42	Private	40%	27%
	Banta Bowl	112	Private	71%	48%
	C3 Corporation	1	Private	82%	80%
	COLLEGE ARLINGTON ST	56	Public	20%	14%
	COLLEGE BANTA BIOFILTER (SE)	65	Public	46%	31%
	COLLEGE BANTA CT	50	Public	27%	18%
	COLLEGE BUCHANAN ST	60	Public	19%	13%
	COLLEGE CHRISTINE ST	57	Public	16%	11%
	COLLEGE EAST BIOFILTER (NE)	66	Public	52%	35%
	COLLEGE FIDELIS ST	62	Public	19%	13%
	COLLEGE JOSEPH ST NORTH	58	Public	19%	13%
	COLLEGE JOSEPH ST SOUTH	59	Public	22%	15%
	COLLEGE LEE ST NORTH	53	Public	17%	12%
	COLLEGE LEE ST SOUTH	54	Public	10%	7%
	COLLEGE MATTHIAS ST NORTH	63	Public	17%	12%
	COLLEGE MATTHIAS ST SOUTH	64	Public	18%	12%
	COLLEGE MIDPARK AVE	61	Public	19%	13%
	COLLEGE TELULAH ST	52	Public	21%	14%
	COLLEGE WARNER ST	51	Public	20%	14%
	COLLEGE WEIMAR ST	55	Public	13%	9%
	COLLEGE WEST BIOFILTER (SW)	67	Public	40%	27%
	Commerce Ct Office	114	Private	81%	59%
	CVS	21	Private	53%	36%
	Eagle Court	115	Private	59%	47%
	Eagle Point	116	Private	80%	31%
	Encircle Health	25	Private	84%	57%
	Endeavor Electric	33	Private	80%	54%
	Erb Park	117	Private	64%	39%
	Glendale/Sandra HSD	135	Public	-	-
	Grand Central Station	79	Private	40%	27%
	HEARTWOOD HOMES PHASE 1 & 2	48	Private	62%	42%
	Johnston School	12	Private	42%	29%
	Konietzki Holdings	120	Private	76%	57%
	Lawrence University Campus Center (Biofilter)	101	Private	90%	61%
	Lawrence University Campus Center (Catch Basins)	10	Private	34%	23%
	LOT 1 NE BUS. PARK	43	Private	81%	55%
	Menards	121	Private	74%	50%
	Morrison and Washington HSD	74	Public	18%	12%
	MSB	5	Private	12%	8%
	Mt Olive Church	123	Private	82%	70%
	Newberry St HSD DD-4	143	Public	23%	17%
	Newberry St HSD DD-5	144	Public	23%	18%
	Newberry St HSD J-54	145	Public	16%	12%
Newberry St HSD J-60	146	Public	19%	13%	
Northland Ave Biofilter	4	Public	17%	12%	
OLDE ONEIDA HSDs	71	Public	22%	15%	
Oneida St Study BB-53	148	Public	13%	9%	
Oneida St Study KK-8	150	Public	19%	13%	
Owaissa St HSD Z-20	151	Public	-	-	
Owaissa St HSD Z-75	152	Public	-	-	
RENNES NURSING HOME	34	Private	45%	30%	
River Heath	126	Private	50%	34%	
Romanesko Development	3	Private	85%	57%	
Sager Center	127	Private	41%	33%	
South Island Street & Olde Oneida Street	19	Public	21%	14%	
Spring to Mead CBs	75	Public	15%	10%	

**Table 3-6B. Non-Regional SMP Pollutant Load Reduction Results**

Stormwater Management Plan Update

City of Appleton, WI

Lower Fox River TMDL Reachsheds

Reachshed	Non-Regional SMP Name	SMP ID	Public/Private	TSS Reduction %	TP Reduction %
	Telulah Park	8	Private	90%	61%
	Telulah Skate Park	128	Private	78%	53%
	Union Square Apartments	129	Private	72%	48%
	Valley Packaging	9	Private	90%	61%
	WALGREENS	38	Private	46%	31%
	West High Artificial Turf	130	Private	81%	81%
	Wire Works	7	Private	82%	56%
	Woodland and McDonald HSD	76	Public	28%	19%
Lower Fox River (US)	7th Street	11	Public	19%	13%
	BOYS AND GIRLS CLUB	37	Private	50%	34%
	College Mason Mike Blank	113	Private	27%	18%
	DOUGLAS ST HSD	72	Public	13%	9%
	Elm St HSD	133	Public	-	-
	Expo Center/Jones Park	118	Private	58%	40%
	FOREMOST FARMS	46	Private	51%	34%
	GOODWILL	29	Private	41%	28%
	Seminole Rd and Propsect Ave HSD II-20	137	Public	-	-
	Perkins St and Prospect Ave HSD II-30	138	Public	-	-
	Jensen Auto Sales	18	Private	86%	58%
	Lawrence St HSD	139	Public	-	-
	Locust ST HSD	140	Public	-	-
	Lutz Dr HSD's	141	Public	19%	13%
	Lutz Park	132	Public	48%	19%
	Miller Electric Parking	122	Private	47%	35%
	Oneida St Study BB-155	147	Public	13%	9%
	Oneida St Study BB-53	148	Public	13%	9%
	Oneida St Study KK-32	149	Public	17%	11%
	Pierce Plat	124	Private	16%	11%
	POLICE STATION	41	Private	48%	32%
	SECURA	26	Private	88%	59%
	SCHINDLER PLACE	39	Private	82%	55%
	South Island Street & Olde Oneida Street	19	Private	21%	14%
	St Elizabeth Hospital	17	Private	23%	16%
	St. Elizabeth Hospital Kindercare Parking	82	Private	51%	34%
	TROLLEY SQUARE	47	Private	89%	60%
	US OIL	105	Private	82%	55%
	VALLEY FAIR MALL	104	Private	84%	57%
	Xavier Addition	16	Private	88%	60%
	Xavier Track	15	Private	62%	42%
	Yacht Club	131	Private	44%	22%
Mud Creek	1200 S. Perkins St	108	Private	73%	49%
	Appleton West HS NW Parking Lot	109	Private	61%	51%
	Appleton West HS Offsite Parking Lot	20	Private	75%	51%
	Bemis/Curwood	14	Private	25%	22%
	DMV	70	Private	81%	55%
	Glendale Ave HSD AA-246	134	Public	0%	0%
	Marian University	45	Private	56%	49%
	Marquette St HSD AA-139	142	Public	13%	10%
	Motomart (Biofilter)	6	Private	90%	61%
	Motomart (Stormceptor)	100	Private	26%	17%
	OEC GRAPHICS	44	Private	54%	36%
	TIMBER CREST DENTAL	24	Private	80%	54%
	Valley Transit	13	Private	90%	61%
	WE ENERGIES	28	Private	70%	47%

**Appendix B4-1a - Street Cleaning Assumptions**

EQUIPMENT COST	Number of High Efficiency (HE) Sweepers	Cost per HE Sweeper	MSB Capital Allocation	Life Span of HE Sweeper (yrs)	Life Span of Building (yrs)	Annual HE Sweeper Maintenance	Annual CEA (Replacement Fund) Payment Allocation	Annual MSB Maint	Annual MSB	Annual inflation
	2	\$ 310,000	\$ -	10		75 \$ 38,000	\$ 44,796	\$ -		3%
10-year Annualized Equipment Capital Cost per Sweeper (2021 \$)		\$ 36,332								
Annual HE Maintenance Cost per Sweeper (2021 \$)		\$ 38,000								
Annual CEA Payments per Sweeper (2021 \$)		\$ 44,796								
MSB Cost		\$ -								
<b>Total Annual Cost (2021 \$)</b>		<b>\$ 119,128</b>								

**CONTRACT LABOR COST**

2021 labor and equipment quote from Precision Sealcoating of Princeton, WI  
 Alternative 2 Only \$149.50 per hour  
 160 hours per week supplemental sweeping needed  
 3 weeks sweeping support needed (every other week during 6 week intensive cleaning period)  
 \$71,760 2021 cost for contract services for intensive cleaning program

	Annual Cost (2021 \$)		Cost Effectiveness	
	Alt 1	Alt 2	Alt 1	Alt 2
Capital	\$ 72,664	\$ 72,664		
Maintenance	\$ 76,000	\$ 76,000	TSS \$/ton/year \$18,122	\$13,695
CEA Fund	\$ 89,592	\$ 89,592	TSS \$/lb/yr \$2,803	\$2,450
Contract Labor	\$ -	\$ 73,913	w/3% Inflation ac See Tables 4-2 and 4-3 for load reduction information	
MSB Cost	\$ -	\$ -		
<b>Total</b>	<b>\$ 238,256</b>	<b>\$ 312,169</b>		

**Street Cleaning Alternative Assumptions**

Alternative #1 - move to all high efficiency (HE) sweepers

Number of new sweepers needed : 2  
 Capital Cost for a single new sweeper: \$ 310,000  
 Life of a sweeper (yrs): 10 (Reduced from 15 to 10 years per 9/8/2021 Operations Discussion)  
 Annual HE maintenance cost per sweeper: \$ 38,000  
 Annual CEA Payments (equipment replacement fund program) per Sweeper \$ 44,796  
 MSB Expansion cost allocation: \$ - (MSB Costs will not be allocated to any particular practice at this time per 9/8/2021 Operations Discussion)  
 MSB Annual Maintenance cost: \$ -

Alternative #2 - move to all HE sweepers plus add contract services for 3 weeks sweeping in spring

2021 labor and equipment quote from Precision Sealcoating of Princeton, WI  
 quoted hourly rate: \$149.50  
 hours per week supplemental sweeping needed: 160 (Per email from City operations staff)  
 weeks sweeping support needed (every other week during 6 week intensive cleaning period): 3 weeks  
 2021 3 weeks contract sweeping cost: \$ 73,913 w/3% inflation



## Appendix B4-2a

### Leaf Management Program Alternatives Summary

#### City of Appleton – Citywide Stormwater Quality Management Plan

##### 1.1 Leaf Management

The City of Appleton operates a bulk leaf collection program as a service to the public which also provides a stormwater quality benefit. The WDNR has recognized that there may be beneficial changes in municipal leaf management programs that can reduce phosphorus discharges to waters of the state. Based on research conducted by the WDNR and USGS, the WDNR developed “Interim Municipal Phosphorus Reduction Credit for Leaf Management Programs”, effective March 2018. That research is continuing and the WDNR is considering expanded credit under additional conditions. The following sections document the City’s current leaf management program, current and draft WDNR guidance and potential reduction credit, and the City’s potential to meet the requirements for obtaining available credits.

##### 1.1.1 Existing City Bulk Leaf Management Program

The City’s existing leaf collection program currently starts six weeks before the Friday preceding the Wisconsin nine-day deer gun hunting season, placing the start near the beginning of October. Leaves are collected throughout the City three to four times per year. Currently, like many communities, the City asks residents to rake their leaves in the fall into the gutter of the roadway for pickup by the City. Residents are also allowed to place other bulk materials (sticks, garden debris, etc.) out for pickup at the same time. The City has 4 single-axle dump trucks with modified leaf pushers/rakes that collect leaves into large piles which are then picked up by front end loaders with a clamshell bucket that loads the leaves into trucks for disposal. The City has invested a lot of time and effort to develop a working relationship with area farmers who receive the leaves which are used as mulch/fertilizer in their farming operations. The streets are swept with a conventional street cleaner following bulk pickup.

The City receives no specific stormwater quality credit or reduction for their current leaf collection program. The Wisconsin Department of Natural Resources (WDNR) has developed a guidance document that allows a municipality to take credit for a bulk leaf collection program that meets the criteria as outlined in their 2018 guidance. The WDNR is also considering a second level of allowable credit as outlined by the WDNR in presentations provided in 2020 but are not currently available in final guidance format. Future research may allow credit in additional land use areas or applications but are not considered in this discussion. The City can only take credit for increased numeric stormwater pollution reduction as allowed under WDNR guidance and assuming the conditions outlined in the guidance are met by the City. Non-numeric credit can be taken for other land uses that are not currently outlined for numeric credit and can be a component of the City’s implementation plan and evidence of working towards TMDL pollutant reduction goals. The current and potential WDNR leaf collection program modification options and the City’s evaluation of potential changes are discussed in the following sections.

##### 1.1.2 Current WDNR Leaf Management Program Guidance (2018)

The WDNR, recognizing that differing methods of leaf collection could have a positive impact on water quality, worked with the USGS and municipalities to study this stormwater management source control measure further. Following some initial research, the WDNR developed the “Interim Municipal

Phosphorus Reduction Credit for Leaf Management Programs” which was approved for use in 2018. A leaf management program is considered a form of source control to remove the source of pollution (leaf matter) from potential contact with rainfall and runoff, rather than a treatment practice to try and remove the pollutants once they comingled with the stormwater runoff. The guidance document allows a municipality to assume a 17% reduction in total phosphorus (TP) loadings for medium density residential land use areas with no alleys (MDRNA). The reduction is only applicable to TP and not total suspended solids. The reduction is limited to this land use and conditions based on research conducted at the time that led to the initial findings. The reduction can be applied if the following conditions are met:

1. Reduction can be applied to MDRNA land use areas (note: if alleys receive the same treatment as noted in these conditions, that land use area can also apply the reduction).
2. Applies to areas with curb and gutter drainage with storm sewer systems and light parking densities during street cleaning activities.
3. An average of one or more mature trees located between the sidewalk and curb for every 80 linear feet of curb. Where sidewalk is not present, trees within 15 feet of the curb may be counted toward tree cover. (Generally, this equates to a tree canopy over the street (pavement only) of 17% or greater. Field investigations or aerial photography may be used to document tree cover.) For the purposes of this study, a mature tree was based on the City’s GIS tree inventory and trees with a diameter of 6-inches and larger were considered mature.
4. The municipality has an ordinance prohibiting residents from placement of leaves in the street and a policy stating that residents may place leaves on the terrace or in bags or piles for collection.
5. Municipal leaf collection is provided at least 4 times spaced through the months of October and November. Leaves may be pushed, vacuumed, or manually loaded into a fully enclosed vehicle, such as a garbage truck or covered dump truck. No leaf piles are left in the street overnight.
6. Within 24 hours of leaf collection, remaining leaf litter in the street must be collected using street cleaning machines such as mechanical broom or vacuum assist street cleaner. A brush attachment on a skid steer is not an acceptable equivalent.

### **1.1.3 Potential WDNR Leaf Management Program Guidance (2020)**

In 2020, based on expanded USGS research and monitoring, the WDNR presented an additional Draft option for TP reduction credits for leaf collection based on expanded research. (Note: Until this alternative is put into a formal and Final approved WDNR guidance, it is not available for application/credit and the requirements are subject to change.) This option as currently proposed by the WDNR would allow up to a 25% reduction in TP loadings for MDRNA land use areas. The reduction remains limited to this land use and conditions based on research conducted at the time that led to the expanded findings. The reduction can be applied if the following conditions (which are slightly different than those required for the 17% reduction) are met:

1. Reduction can be applied to MDRNA land use areas (note: if alleys receive the same treatment as noted in these conditions, that land use area can also apply the reduction).
2. Applies to areas with curb and gutter drainage with storm sewer systems and light parking densities during street cleaning activities.
3. An average of one or more medium to large canopy trees located between the sidewalk and curb for every 80 linear feet of curb.
4. A 40% or greater leaf canopy exists over the pavement on average.

5. A 45% or greater leaf canopy exists over the right-of-way.
6. The municipality has an ordinance prohibiting residents from placement of leaves in the street and a policy stating that residents may place leaves on the terrace or in bags or piles for collection.
7. Municipal bulk leaf collection (as described in 2018 guidance) is provided 3 to 4 times a season with a start date based on geography within the State (October 1<sup>st</sup> for the City of Appleton) spaced through the months of October and November.
8. Weekly street cleaning is provided during the leaf collection season with a regenerative air sweeper.

#### **1.1.4 Bulk Leaf Management Program Modification Considerations and Costs**

The two potential WDNR leaf collection program modification options were discussed with City staff at a meeting on January 19, 2021.

General considerations with making a change in the program include:

1. Bagging is not considered a desirable option for reasons including potential for repetitive motion injury of City staff and the end users (farmers) of the leaves do not want paper bags included with the leaves due to the potential to block infiltration, impede plant growth and other factors.
2. To accommodate this program using existing staff, an existing service (such as collection of bulky garbage/waste materials) would need to be discontinued.
3. Not raking leaves into the gutter would have a positive effect as piles would no longer block bike lanes.
4. Early steps would need to be taken to educate the public on the changing program. The Climate Task Force may be available to assist with educating citizens on this change.
5. The City is not in favor of a pilot project and would prefer a phased implementation that would allow the program to be implemented over 3-5 years in a strategic approach.
6. Leaf collection is not conducted in private owned and maintained streets. Although the City feels that these areas receive similar treatment from the private owners, these areas are rather limited and were not included in the analysis.
7. Some terraces are narrow and areas with narrow or no terraces may need to be collected more frequently. Details such as these will be evaluated and addressed as the program is phased in.

Specific considerations and costs to comply with the current (17% TP reduction) WDNR guidance:

1. Modification to the City's bulk leaf collection program had been discussed in the past and staff believes that changes to the current program to meet the existing WDNR guidance is possible.
2. For this study, the leaf collection activity is considered to have a neutral impact on staff costs to adopt changes to the leaf collection program as outlined by the current WDNR guidance to obtain the 17% TP reduction credit (assuming changes in other bulk waste collection programs can be made).
3. Based on the WDNR criteria, there are a total of approximately 749 acres of MDRNA land use along public curb and gutter streets and not draining to regional detention areas applicable to this practice as shown in Figure 4-1. A summary of land use area, incremental TP reduction by sweeper zone and reachshed is shown in Table 4-4. The table shows that implementing the required leaf management program results in a total TP reduction of 30.45

lbs/year, an average reduction of 5% for applicable treatment areas across the City with an impact on the entire City and any individual reachshed being much lower. The most benefit would be realized in the Lake Winnebago reachshed which would see an approximate 1.7 percent reduction in TP on a reachshed basis. All other reachshed reductions are less than 1 percent.

4. To estimate the cost of implementing this program, a 4-year phased implementation was assumed. Two of the eight sweeper zones were incorporated into the program in each of the four years. The street cleaning zones were based on 2018 mapped street cleaning zones as provided by the City, with minor modifications to fit the project area limits of this study and are also shown on Figure 4-1.
5. City Staff developed an assessment of the various equipment purchases that would be needed to implement this program change. On June 17, 2021, the City developed a memorandum on a "Proposed Modified Operations Plan for DPW" that outlined potential program changes for approval. The above Memo is attached to this document as well as a more detailed list of equipment, equipment cost and CEA payments, and equipment life expectancy. At this time, the City is working under the assumption that operation and maintenance (O&M) effort will be the same for the modified program as it is for the existing leaf collection program.
6. It is important to note several related items at this time: 1) the initial program costs are likely higher in early years than future years as the initial equipment cost is included in the annualized program cost at the same time that future equipment replacement funds are collected/allocated through CEA payments. In future years, all things being equal, it is expected that the cost per pound of TP would go down; 2) the modified city program will be implemented city-wide, in phases; 3) the current WDNR program only includes a provision to take credit for medium density residential land use areas. It is anticipated that this could change in the future, increasing the City's potential TP removal; 4) the estimated amount of TP removal was completed using the best available information on trees and tree spacing available and not all areas that were applicable for credit were included based on the available tree spacing and size. Future study may allow for an increase in areas and loads considered to be eligible under this program change; 5) Similar to the street cleaning program although the City is anticipating expanding the Municipal Services Building (MSB) the details of that expansion and any potential allocation back to individual programs is not yet defined and therefore no cost is currently allocated to any specific program. A future allocation back to this leaf management program would impact/increase the cost per pound of TP removed.
7. The information provided by the City on program capital, and CEA costs and life expectancy were used to estimate an initial program cost per pound of TP, assuming an annual inflation rate of 3% to annualize capital purchase. Equipment purchases and CEA payments were provided and spread out of a period of 2022 through 2026. It is further assumed that the identified purchases over the 5 years constitute all of the required purchases known at this time and as noted do not include a component for MSB cost allocation or include any O&M cost changes. (Note: Small increases in capital equipment purchase prices and CEA payments were typically included in the City provided information. However, since the costs are experienced over a multi-year period, no adjustments were made to create a present worth value for each item.) Based on the information provided, an annual increase to the City leaf collection program are expected to cost based changes are expected to cost \$559,570 annually.

8. Based on the total pounds of TP reduction shown in Table 4-5 (30.45 lbs/yr), the cost in 2021 dollars to implement this program is \$18,377 per pound of TP.

Specific considerations to comply with the proposed (25% TP reduction) WDNR guidance:

1. The City has some concerns with meeting the requirements of the draft proposed guidance, such as use of water-based street cleaning in colder months. The WDNR guidance suggest using a high efficiency cleaner weekly during the 8 weeks leaf collection time period. While feedback from the WDNR indicates that the intent was to describe the type of sweeper device and vacuum suction needed, as compared to a conventional broom sweeper, per city staff, the sweepers are run with water to keep the dust down and protect the internal equipment (fans). Shifts would need to be run in day and night which would likely further reduce the number of times high efficiency cleaners could be used due to cold temperatures.
2. Additionally, in 2020, the City attempted to see what the best street cleaning frequency was with current staff resources. It took about 320 hours of sweeping effort to get through the entire City in a week (8 sweeper shifts x 40 hours each). This was accomplished by running the City's 4 sweepers 16 hours a day for 5 days. It was determined that current resources could sweep the entire City once over a two-week period over regular shifts or would require the addition of staff and the purchase of three or four more high efficiency street cleaning units or enlisting contracted support.
3. A visual review was also conducted of leaf canopy GIS data for the City. From a cursory review of the canopy coverage, it appeared that meeting the 45% tree canopy coverage over the right-of-way would further reduce the number of streets applicable to receive this level of credit. Given the cost per pound estimated under the current guidance and given the need to increase resources and cost to meet the sweeping requirement and an anticipated loss of applicable streets and treatment area, implementing the program under the proposed guidance was considered to be cost-prohibitive at this time.

**Appendix B4-2b-Leaf Management Program Modification Assumptions**

Here is the equipment cost estimates.

We did not factor in additional O&M since we believe the new costs to be similar to old costs.

Assumed inflation

3%

(From July 30, 2021 Email from Nate Loper)

	<u>Equipment Purchases</u>	<u>CEA Payments</u>	<u>Total</u>	Life (yrs)	Monthly Reserve (Vac Unit)	Monthly Reserve (Chasis)	Annualized Equipment Cost	CEA Payments
<b><u>2022</u></b>								
Convert ASL Truck	\$65,000	\$18,000		7	\$970	\$530	\$ 10,433	\$18,000
Convert ASL Truck	\$65,000	\$18,000		7	\$970	\$530	\$ 10,433	\$18,000
Convert ASL Truck	\$65,000	\$19,800		7	\$1,120	\$530	\$ 10,433	\$19,800
Convert ASL Truck	\$65,000	\$19,800		7	\$1,120	\$530	\$ 10,433	\$19,800
Convert ASL Truck	\$65,000	\$19,800		7	\$1,120	\$530	\$ 10,433	\$19,800
<b>Total 2022 Costs</b>	<b>\$325,000</b>	<b>\$95,400</b>	<b>\$420,400</b>					
<b><u>2023</u></b>								
Convert ASL Truck	\$75,000	\$19,800		7	\$1,120	\$530	\$ 12,038	\$19,800
Rolloff Unit (on new truck)	\$145,000	\$20,220		10	\$1,685		\$ 16,994	\$20,220
Rolloff Unit (on new truck)	\$145,000	\$20,220		10	\$1,685		\$ 16,994	\$20,220
<b>Total 2023 Costs</b>	<b>\$365,000</b>	<b>\$60,240</b>	<b>\$425,240</b>					
<b><u>2024</u></b>								
Trailer Unit	\$145,000	\$20,220		10	\$1,685		\$ 16,994	\$20,220
Trailer Unit	\$145,000	\$20,220		10	\$1,685		\$ 16,994	\$20,220
Trailer Unit	\$145,000	\$20,220		10	\$1,685		\$ 16,994	\$20,220
<b>Total 2024 Costs</b>	<b>\$435,000</b>	<b>\$60,660</b>	<b>\$495,660</b>					
<b><u>2025</u></b>								
Trailer Unit	\$150,000	\$20,952		10	\$1,746		\$ 17,580	\$20,952
Trailer Unit	\$150,000	\$20,952		10	\$1,746		\$ 17,580	\$20,952
Trailer Unit	\$150,000	\$20,952		10	\$1,746		\$ 17,580	\$20,952
<b>Total 2025 Costs</b>	<b>\$450,000</b>	<b>\$62,856</b>	<b>\$512,856</b>					
<b><u>2026</u></b>								
Trailer Unit	\$150,000	\$21,672		10	\$1,806		\$ 17,580	\$21,672
Trailer Unit	\$150,000	\$21,672		10	\$1,806		\$ 17,580	\$21,672
<b>Total 2026 Costs</b>	<b>\$300,000</b>	<b>\$43,344</b>	<b>\$343,344</b>					
<b>5 Year Total Cost</b>			<b>\$2,197,500</b>				\$ 237,070	\$ 322,500

MSB Costs NOT included at this time.

Total Annual Program Equipment and CEA Cost :	\$	<b>559,570</b>
Annual TP reduction currently identified (see Table 4-5) :		30.45
Cost per pound of TP :	\$	<b>18,377</b>
Potential Cost per pound of TP (CEA Payments Only) :	\$	10,591.13

## Appendix B4-3a

### Potential Regional Stormwater Management Practice (SMP) Summary

#### City of Appleton – Citywide Stormwater Quality Management Plan

##### Site #1 – Bellaire Court

Location: North of intersection of North Sampson Street and East Atlantic Street

SMP Type: Wet Detention Pond (created in southwest 'finger' of the Bellaire Ravine)

TMDL Reachshed: Lower Fox River (DS)

Drainage Area: 691 acres

Pollutant Reductions: TSS – 45.6 tons/year (44.3%), TP 209 lbs/year (33.1%)

Project Description: A portion of the ravine would be modified through excavation and potential creation of a berm to establish a wet detention pond. The pond area identified is currently under private ownership and easements or land purchase would be required. Additionally, there is some concern with the proximity of residential buildings at the top of the ravine. Sewers in the area would be daylighted to discharge to the newly created pond in the ravine. Approximately 400 feet of storm sewer in Atlantic Street would need to be relayed and a new sewer at intersection of Sampson Street would be added to divert low flows to the new pond. WDNR Surface Water Data Viewer did not indicate any wetland, wetland indicator soils, or waterway issues. A WDNR Natural Heritage Inventory (NHI) review suggested that further actions are needed to ensure compliance with Wisconsin and Federal Endangered Species Law/Act. **(Note: Based on this review, since the land area in question is under private ownership and the single-family homes are situated at the top of the ravine, the City feels this site is less desirable and this location is not currently being considered further at this time. A WDNR BRRTS site evaluation and Endangered Resources Review would also need to be conducted before the project is considered further. In addition, while no waterways were identified in the review, the City would ask the WDNR to do a navigability determination.)**

##### Site #2 – Everett Street

Location: West of Intersection of W Everett Street and S Lilas Drive. Located in Grand Chute.

SMP Type: Wet Detention Pond

TMDL Reachshed: Mud Creek

Drainage Area: 249 acres

Pollutant Reductions: TSS – 33.6 tons/year (61.8%), TP 96.6 lbs/year (43.7%)

Project Description: This area contains extensive commercial and industrial land uses. There is a small portion captured within the drainage area that is tributary to the Cotter Street Pond. The pond area identified is currently under private ownership in the Town of Grand Chute. A development was recently considered for this area. Town easements or land purchase would be required. WDNR Surface Water Data Viewer did not indicate any wetland, wetland indicator soils, or waterways. A WDNR Natural Heritage Inventory (NHI) review suggested that further actions are needed to ensure compliance with Wisconsin and Federal Endangered Species Law/Act. **(Note: Since the identified location is in the Town and based on discussion with the Town, there does not appear to provide a shared benefit for the town and this location is not being considered further at this time. A WDNR BRRTS site evaluation and Endangered Resources Review would also need to be conducted before the project is considered further.)**

### Site #3 – Hillock Court

Location: West of Hillock Court, north of Northland Ave. Located in Grand Chute.

SMP Type: Wet Detention Pond

TMDL Reachshed: Mud Creek

Drainage Area: 76 acres

Pollutant Reductions: TSS – 7.5 tons/year (79.3%), TP 36.5 lbs/year (59.8%)

Project Description: The drainage area contains a mix of residential and commercial development. The suggested potential wet detention area is situated in currently farmed land that is privately owned in Grand Chute and easements or land purchase would be required. WDNR Surface Water Data Viewer did not indicate any wetland, wetland indicator soils, or waterways in the location of the specific detention facility and a WDNR Natural Heritage Inventory (NHI) review did not identify any records of endangered resources in the area, but wetlands do surround the potential site. Discussions with the Town did not identify any current interest in developing the site in question. There is a small potential that the site could offer a share benefit to town lands to the north but would need to be studied further. A wetland delineation should be conducted for the site in the future prior to the project moving forward. A WDNR BRRTS review identified 3 closed sites within 0.35 miles that are not likely to have impact on a future detention pond use based on distance and/or closure status. No EPA ECHO sites were identified in the area. **(Note: The City is interested in the potential of this site for future implementation based on discussions with the property owner and the Town of Grand Chute.)**

### Site #4 – Kensington

Location: West of Kensington Drive and east of Peter Street

SMP Type: Underground Wet Detention

TMDL Reachshed: Lower Fox River (DS)

Drainage Area: 145 acres

Pollutant Reductions: TSS – 21.7 tons/year (80.1%), TP 80.2 lbs/year (60.4%)

Project Description: The drainage area contains a mix of residential and commercial/industrial development. A potential wet detention facility was suggested in the 2009 Kensington North Watershed Study on the west side of Kensington Drive, near Warehouse Road, but the landowner was not interested in participating in the project. Based on current parcel layout and ownership, a stormwater facility may need to be broken into multiple areas to accommodate active industrial sites and work around rail lines and other features. As an alternative to this site, underground detention on the east side of Kensington Drive could be considered under current paved parking/driveway/storage and greenspace areas with easements or land purchase. WDNR Surface Water Data Viewer did not indicate any wetland, wetland indicator soils, or waterways in the location of the specific detention facility, however, further discussion with the City identified a site-specific wetland delineation that was done in 2016 that is not on the Surface Water Data Viewer. A WDNR Natural Heritage Inventory (NHI) review identified the location is covered by the Broad Incidental Take Permit /Authorization for No/Low Impact Activities (No/Low BITP/A). A WDNR BRRTS review identified six closed sites within 0.25 miles, two of which have the potential for impact due to soil contamination that may need to be managed during excavation of the site. The other four sites are not likely to have impact on a future detention pond use based on distance and/or closure status. Four EPA ECHO sites were identified within 0.2 miles and are not anticipated to have any impact due to compliance status. **(Note: Based on this review, this location is not currently being considered further at this time.)**



Site #5 – Meade and Wisconsin

Location: Beneath parking lot at the northeast corner of the intersection of N Meade St and E Wisconsin Ave

SMP Type: Underground Wet Detention

TMDL Reachshed: Lower Fox River (DS)

Drainage Area: 393 acres

Pollutant Reductions: TSS – 33.8 tons/year (67.2%), TP 171.4 lbs/year (49.8%)

Project Description: The drainage area contains a mix of residential and commercial development. The proposed underground detention would be created under existing privately owned parking lot and driveway areas with easements or land purchase required. WDNR Surface Water Data Viewer did not indicate any wetland, wetland indicator soils, or waterways in the location of the specific detention facility and a WDNR Natural Heritage Inventory (NHI) review identified the location is covered by the Broad Incidental Take Permit /Authorization for No/Low Impact Activities (No/Low BITP/A). A WDNR BRRTS review identified twelve closed and one open sites within 0.15 miles, four of which have the potential for impact due to proximity and status of soil or groundwater contamination that may need to be managed during excavation of the site. The other sites are not likely to have impact on a future detention pond use based on distance and/or closure status. Six EPA ECHO sites were identified within 0.25 miles and are not anticipated to have any impact due to compliance status. **(Note: Based on this review and potential future redevelopment opportunities, this location is not currently being considered further at this time.)**

Site #6 – Northland and 441

Location: South of Northland Ave and East of N French Road in Little Chute

SMP Type: Wet Detention Pond

TMDL Reachshed: Lower Fox River DS

Drainage Area: 2,401 acres

Pollutant Reductions: TSS – 173 tons/year (72.6%), TP 744 lbs/year (48.8%)

Project Description: The drainage area contains a mix of residential and commercial/industrial development and has multiple current stormwater management practices within the larger tributary drainage area. This site is being considered because the DOT is planning on making changes to the interchange and will need to mitigate stormwater impacts and this is seen as an opportunity to work with the DOT and Little Chute to develop a shared stormwater management feature. The facility location is in currently farmed land areas and a review of the WDNR Surface Water Data Viewer indicated that wetland and/or wetland indicator soils are in the vicinity of the project and would need to be evaluated during further consideration of this site. Easements or land purchase would be required. WDNR Natural Heritage Inventory (NHI) review identified the location as within 1 mile of a recorded Bald Eagle and timing of construction may be impacted. **(Note: Based on feedback from the Village of Little Chute and DOT, this pond does not have support for implementation and this location is not currently being considered further at this time.)**

#### Site #7 – Pierce Park

Location: Pierce Park west of S Lutz Drive

SMP Type: Wet Detention Pond

TMDL Reachshed: Lower Fox River (US)

Drainage Area: 343 acres

Pollutant Reductions: TSS – 24.2 tons/year (45.0%), TP 93.5 lbs/year (33.2%)

Project Description: This project location in the Pierce Park area has been considered in the past to develop a wet detention pond to help improve flood control and water quality in the area but was not viewed favorably by a homeowner that would be impacted by the project. This project drainage area contains a mix of residential, commercial, and industrial land uses. Land purchase and removal of a home would be required. An initial review of the WDNR Surface Water Data Viewer did not indicate any wetland, wetland indicator soils, or waterways in the location of the specific detention facility and a WDNR Natural Heritage Inventory (NHI) review identified the location as recommending a voluntary environmental review (ER) due to proximity of a nearby waterbody (the Fox River). However recent changes in the WDNR “Maximum Extent Wetland Indicators” layer after the analysis did add some indicator soils to the potential project area, suggesting that if this project were selected to move forward, a wetland delineation should be conducted. A WDNR BRRTS review identified ten closed sites within 0.3 miles, none of which are likely to have impact on a future detention pond use based on distance and/or closure status. One EPA ECHO site was identified within 0.3 miles and is not anticipated to have any impact due to compliance status. **(Note: The City is interested in the potential of this site for future implementation and sent to the homeowners expressing interest in the site. The owners are not interested in selling at this time, so the project will be considered for future implementation.)**

#### Site #8 – Riverview Gardens

Location: In the ravine west of S Oneida Street and north of W Seymour Street

SMP Type: Wet Detention Pond

TMDL Reachshed: Lower Fox River (US)

Drainage Area: 198 acres

Pollutant Reductions: TSS – 13.4 tons/year (59.0%), TP 65.5 lbs/year (43.9%)

Project Description: This project location in the southern end of the ravine in Riverview Gardens would be constructed by excavating an area within the ravine and daylighting storm sewers south and east of the new detention area. Some trees would need to be removed during creation of the pond and local pathways on the property would need to be moved to the outer perimeter of the detention facility. Easements or land purchase would be required. The detained water in the permanent pool could be used as a water source for the gardens on site. WDNR Surface Water Data Viewer did not indicate any wetland, wetland indicator soils, or waterway issues. A WDNR Natural Heritage Inventory (NHI) review suggested that further actions are needed to ensure compliance with Wisconsin and Federal Endangered Species Law/Act. A WDNR BRRTS review identified thirteen closed and one open sites within 0.26 miles, two of which have the potential for impact due to proximity and status of soil contamination that may need to be managed during excavation of the site. The other sites are not likely to have impact on a future detention pond use based on distance and/or closure status. Two EPA ECHO sites were identified within 0.37 miles and are not anticipated to have any impact due to compliance status. **(Note: The City is interested in the potential of this site for future implementation and met on site with the owners of the property. The City will request a navigability determination from WDNR and conduct an Endangered Resources Review before the project is advanced further.)**

Site #9 – Winslow Avenue

Location: Between E Northland Ave and E Winslow Ave, west of Highway 441

SMP Type: Wet Detention Pond

TMDL Reachshed: Lower Fox River DS

Drainage Area: 153 acres

Pollutant Reductions: TSS – 25 tons/year (74.4%), TP 75.3 lbs/year (56.3%)

Project Description: The drainage area is a mix of industrial and commercial property. The wet detention area would be situated in a portion of the industrial park and would reduce the developable amount of land in the park. Easements or land purchase would be required. The topography and depth of sewer is such that the pond would need to be constructed unusually deep (as currently estimated), to the depth of the existing storm sewer, to function by gravity. Alternatively, a lift station would be required to pump smaller, water quality events up into the pond which would then drain by gravity back into the storm sewer system. This area would be tributary to the Northland/441 Pond #6 described previously and would not be necessary if that project is implemented. WDNR Surface Water Data Viewer did not indicate any wetland, wetland indicator soils, or waterways in the location of the specific detention facility and a WDNR Natural Heritage Inventory (NHI) review identified the location is covered by the Broad Incidental Take Permit /Authorization for No/Low Impact Activities (No/Low BITP/A). A WDNR BRRTS review identified five closed sites within 0.45 miles that are not likely to have impact on a future detention pond use based on distance and/or closure status. Ten EPA ECHO sites were identified within 0.45 miles that are not anticipated to have any impact due to compliance status. **(Note: The City is interested in the potential of this site for future implementation and sent a letter to the owners of the property expressing their interest in the site.)**

Site #10 – Wisconsin Avenue

Location: East of N Ballard drive, south of Highway 96

SMP Type: Wet Detention Pond

TMDL Reachshed: Lower Fox River (DS)

Drainage Area: 102 acres

Pollutant Reductions: TSS – 13.6 tons/year (82%), TP 56.7 lbs/year (63.1%)

Project Description: The drainage area is a mix of commercial and residential property. The wet detention area would be situated in a field that is currently farmed. Easements or land purchase would be required. Because the storm sewer in the area is deep, the pond would need to be constructed unusually deep (as currently estimated), to the depth of the existing storm sewer, to function by gravity. Alternately, approximately 1,500 feet of storm sewer would need to be replaced to allow for a gravity inflow to the pond, or a lift station would need to be used to pump smaller water quality events up into the pond which would then drain by gravity back into the storm sewer system. An initial WDNR Surface Water Data Viewer did not indicate any wetland, wetland indicator soils, or waterways in the location of the specific detention facility. However, changes in the WDNR “Maximum Extent Wetland Indicators” layer that took place after the analysis did add some indicator soils to the potential project area, suggesting that if this project were selected to move forward, a wetland delineation should be conducted. A WDNR Natural Heritage Inventory (NHI) review suggested that further actions are needed to ensure compliance with Wisconsin and Federal Endangered Species Law/Act. A WDNR BRRTS review identified five closed and one open sites within 0.97 miles, two of which have the potential for impact due to proximity and/or open status for soil and/or potential groundwater contamination that may need to be managed during excavation of the site. The other sites are not likely to have impact on a future detention pond use based on remediation/closure status. Two EPA ECHO sites were identified within 0.25 miles and are not anticipated to have any impact due to compliance status. **(Note: The City is interested in the potential of this site for future implementation and have begun discussions with the property owners. An Endangered Resources Review will be conducted before the project is advanced further.)**



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# Technical Memorandum

Prepared for: City of Appleton

Project Title: RGL Warehouse Pond Feasibility Study

Project No.: 156199

## Technical Memorandum


Subject: RGL Warehouse Pond Outlet Options Analysis

Date: October 4, 2021

To: Sue Olson, City of Appleton

From: Chuck Boehm, Brown and Caldwell

Prepared by:   
\_\_\_\_\_  
Doug Joachim

Reviewed by:   
\_\_\_\_\_  
Chuck Boehm

The City of Appleton (City) is considering purchasing land to construct a stormwater management facility at the RGL Warehouse location at the southwest quadrant of the W Leonard Street and S Lynndale Drive intersection and has asked Brown and Caldwell (BC) to assist with evaluating the viability of the site. This was the site of former City lagoons for settling out lime from the water treatment process and was previously considered for stormwater quality and/or quantity management uses in the Leonard Street Basin Study (August 24, 2010). The City is currently working with Westwood Infrastructure to evaluate the removal and use/disposal of the lime in the ponds.

To assess whether this location is advantageous for stormwater management, BC reviewed the prior Leonard Street Basin Study memo and associated modeling. The previous study showed that during the 100-year storm event, existing conditions flood depths along S Lynndale Drive exceeded two feet in several locations. (See attached Figure 4 from the 2010 study.)

The prior study also evaluated four stormwater management alternatives to address flood concerns and water quality. The first two alternatives included the proposed pond at S Lynndale and W Leonard Street. Alternative 1 included minor storm sewer improvements and was relatively ineffective at managing flooding during large events. Alternative 2 included substantial storm sewer improvements and was the most effective alternative analyzed. Alternative 2 was the focus of BC's review for this memo. (See attached Figure 10 from the 2010 study.) It should be noted that the City anticipates that the pond shape indicated in the prior figure would likely be changed to place the storage on the central and eastern portions of the property as shown on Figure 1.

Alternative 2 in the prior study included storm sewer upsizing along W Leonard Street and S Lynndale Drive along with the proposed regional wet detention pond. With these improvements in place, flooding was greatly reduced and eliminated in many areas of the study area. Please reference attached Figures 4 and 10 from the prior study to see the recommended storm sewer improvements and pond location in Alternative 2 as well as the changes in peak flood depths from existing to proposed conditions for the 100-year event.

While the prior study did not model the proposed pond for water quality using WinSLAMM, the pond was sized to reduce TSS by 80% per WDNR Technical Standard 1001. Based on information from the on-going Appleton city-wide water quality study, the pollutant loads in the area draining to the proposed pond (excluding any upstream treatment) are 74.8 tons of total suspended solids (TSS) and 285 lbs of total phosphorus (TP.) Applying 80% TSS load reduction and 54% TP load reduction to the drainage area results in a reduction of 59.8 tons of TSS and 154 lbs of TP. Based on the size of the site, it is anticipated that the stated pollutant reductions are achievable but would need to be modeled to confirm the necessary permanent pool size and other details.

The prior study also included a planning level cost estimate for this project. The construction of the pond and associated storm sewer improvements from Alternative 2 were estimated to cost approximately \$4 million, with approximately \$2.6 million associated with the pond construction and \$1.4 million associated with storm sewer improvements.

Based on our review of the prior study, the general location does appear to be suitable for both water quality and quantity control; however, in conversation with City staff, the outlet location identified in the 2010 memo (Outlet Option #3 in the attached Figure 1) seemed to present several challenges, so alternate outlet options were considered. Following a site visit by City staff and further discussions with BC, two alternate potential discharge locations are presented on Figure 1. The three potential outlet configurations for the site are identified on Figure 1 and their various advantages and disadvantages are discussed in the following sections.



**Outlet Option #1** – Prospect Avenue discharge location. This option routes flow southwest parallel to the railroad right-of-way where it will discharge into an existing stormwater pond in the Town of Grand Chute north of Prospect Avenue. The existing pond drains to the east to Prospect Avenue via an existing culvert under the railroad. This option utilizes the existing pond and outlet to convey flow to the Fox River.

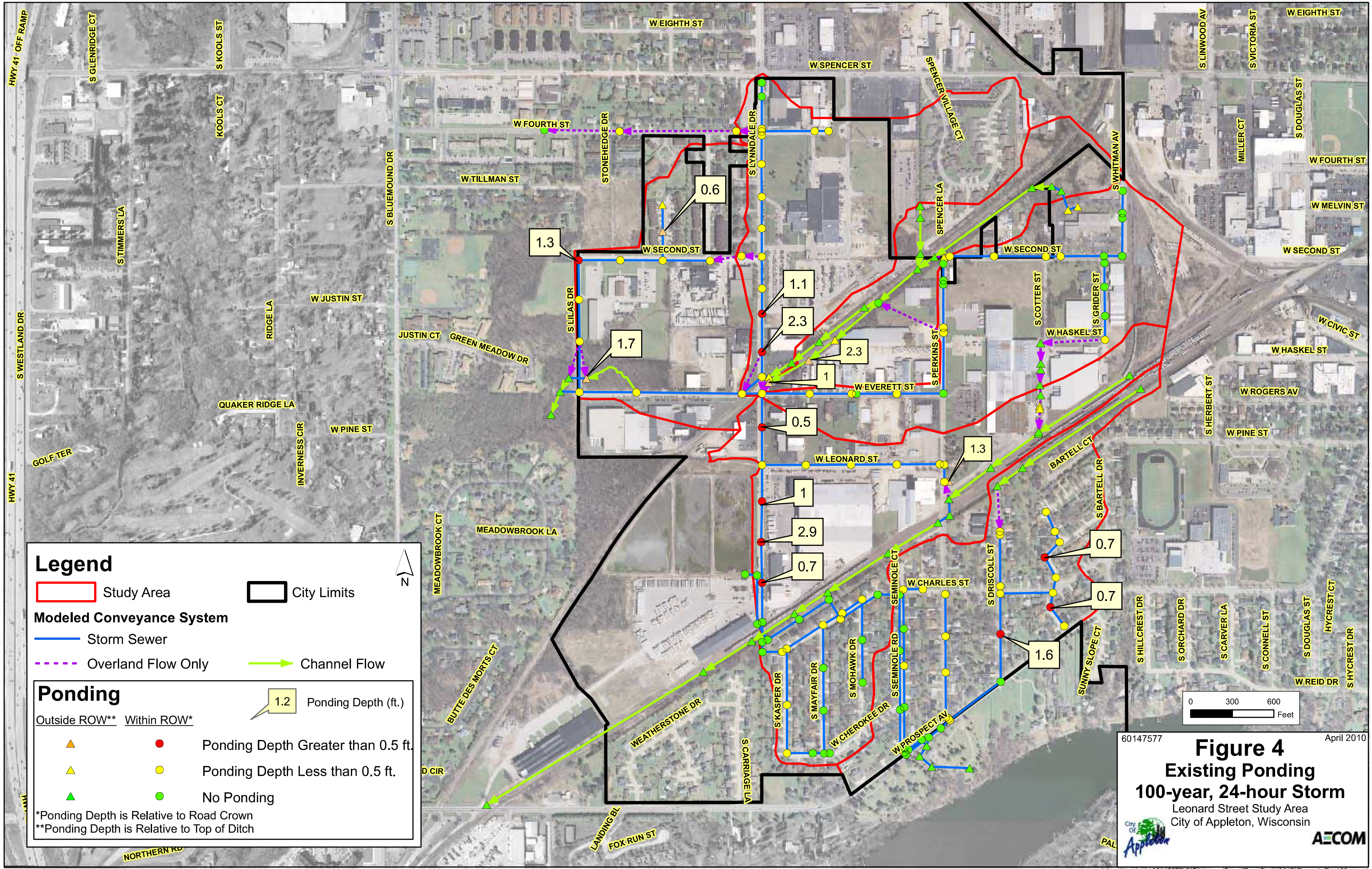
- Advantages
  - This option drains via gravity from the potential RGL Warehouse Pond to the downstream pond where it will utilize an existing gravity drainage outfall.
  - This option utilizes an existing culvert under the railroad.
- Disadvantages
  - The City may need acquire the existing pond north of Prospect Avenue which is located in the Town of Grand Chute.
  - Future storm sewers and/or drainage of the former lagoon area would need to be discussed with the current owners to consider their future development plans for the remaining area.
  - The ability of the existing infrastructure to take the additional flow would need to be evaluated.
  - This option requires discharging under the railroad tracks to the east through a new or existing culvert. Coordinating a railroad discharge is costly and time-consuming. A study would be needed to prove no increase in peak WSEL in the railroad ditch up to and including the 100-year event.

**Outlet Option #2** – Pumping to Everett Street. This option routes flow from the potential RGL Warehouse Pond north to the existing storm sewer on Everett Street via a small discharge pump station.

- Advantages
  - This option does not require any work near railroad right-of-way.
  - No work outside the City of Appleton will be required for this option.
  - Flows are returned to the same current discharge location.
- Disadvantages
  - This option requires the installation and maintenance of a small discharge pump station. Installing and maintaining a pump station will have annual operation and maintenance costs that will be higher than most gravity sewer alternatives.
  - In the event of a discharge pump failure, they City would need to employ a small portable pump.

**Outlet Option #3** – Discharging directly to the west underneath the railroad. This was the original outlet option considered in the 2010 Leonard Street Study. This option conveys flow from the potential RGL Warehouse Pond via gravity to an existing channel in the Town of Grand Chute to the west where it will flow to Mud Creek. A new culvert crossing the railroad is required for this option and is considered the least desirable by both City staff and BC.

- Advantages
  - This option is the simplest from a hydraulic perspective. Stormwater will be conveyed to an existing channel west of the railroad via a small culvert. Approximately 1,200 feet downstream of the new crossing, flow will enter the existing Everett Street discharge channel and be conveyed to Mud Creek.
- Disadvantages
  - This option requires discharging under the railroad tracks to the west through a new or existing culvert. Coordinating a railroad discharge is costly and time-consuming. A study would be needed to prove no increase in peak WSEL in the railroad ditch up to and including the 100-year event.
  - The channel downstream of the railroad is heavily vegetated and difficult to access due to fencing and topography. Initial construction and future maintenance of the channel and culvert will be difficult.
  - The City would need to negotiate access and easements with private owners and the railroad.
  - There is a floodplain downstream of the discharge that would require further analysis.



**Legend**

- Study Area
- City Limits
- Storm Sewer
- Overland Flow Only
- ➔ Channel Flow

**Ponding**

- | Outside ROW**                         | Within ROW*                           |                                    |
|---------------------------------------|---------------------------------------|------------------------------------|
| <span style="color: orange;">▲</span> | <span style="color: red;">●</span>    | Ponding Depth Greater than 0.5 ft. |
| <span style="color: yellow;">▲</span> | <span style="color: yellow;">●</span> | Ponding Depth Less than 0.5 ft.    |
| <span style="color: green;">▲</span>  | <span style="color: green;">●</span>  | No Ponding                         |

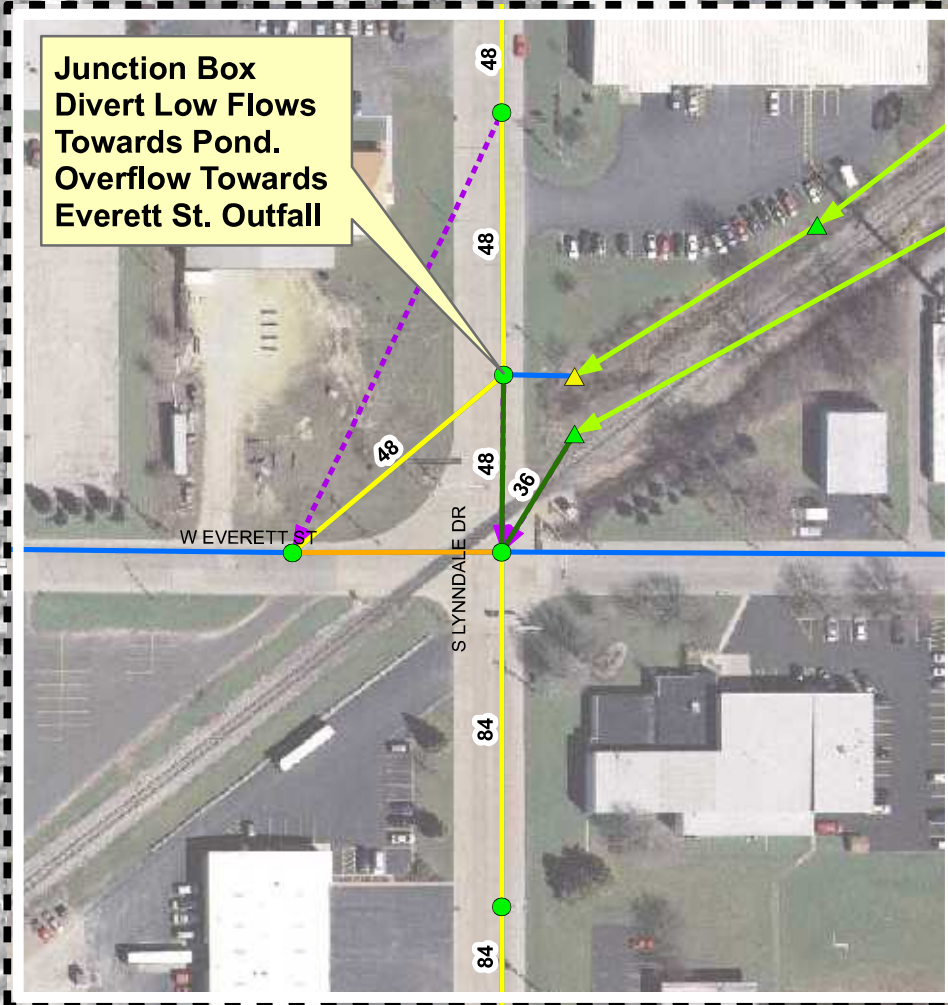
\*Ponding Depth is Relative to Road Crown  
 \*\*Ponding Depth is Relative to Top of Ditch

1.2 Ponding Depth (ft.)

60147577 **Figure 4** April 2010  
**Existing Ponding**  
**100-year, 24-hour Storm**  
 Leonard Street Study Area  
 City of Appleton, Wisconsin



**Junction Box  
Divert Low Flows  
Towards Pond.  
Overflow Towards  
Everett St. Outfall**



Water Quality & Storage Pond  
Bottom of Pond Elevation = 761 ft  
Permanent Pool Elevation = 766 ft  
5-year Storm Peak WSE = 773.7 ft  
Top of Existing Berm = 780 ft  
Estimated Permanent Pool Size = 6 acres

**Legend**

- Study Area
- City Limits

**Modeled Conveyance System**

- Storm Sewer
- Overland Flow Only
- Channel Flow

**Ponding**

Outside ROW**	Within ROW*	
▲	●	Ponding Depth Greater than 0.5 ft.
▲	●	Ponding Depth Less than 0.5 ft.
▲	●	No Ponding

\*Ponding Depth is Relative to Road Crown  
\*\*Ponding Depth is Relative to Top of Ditch

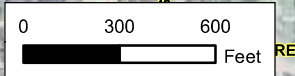
1.2 Ponding Depth (ft.)

**Proposed Improvements**

- Abandon/Remove Storm Sewer
- 30 Upsized Pipe (Pipe Size)
- 30 New Pipe (Pipe Size)

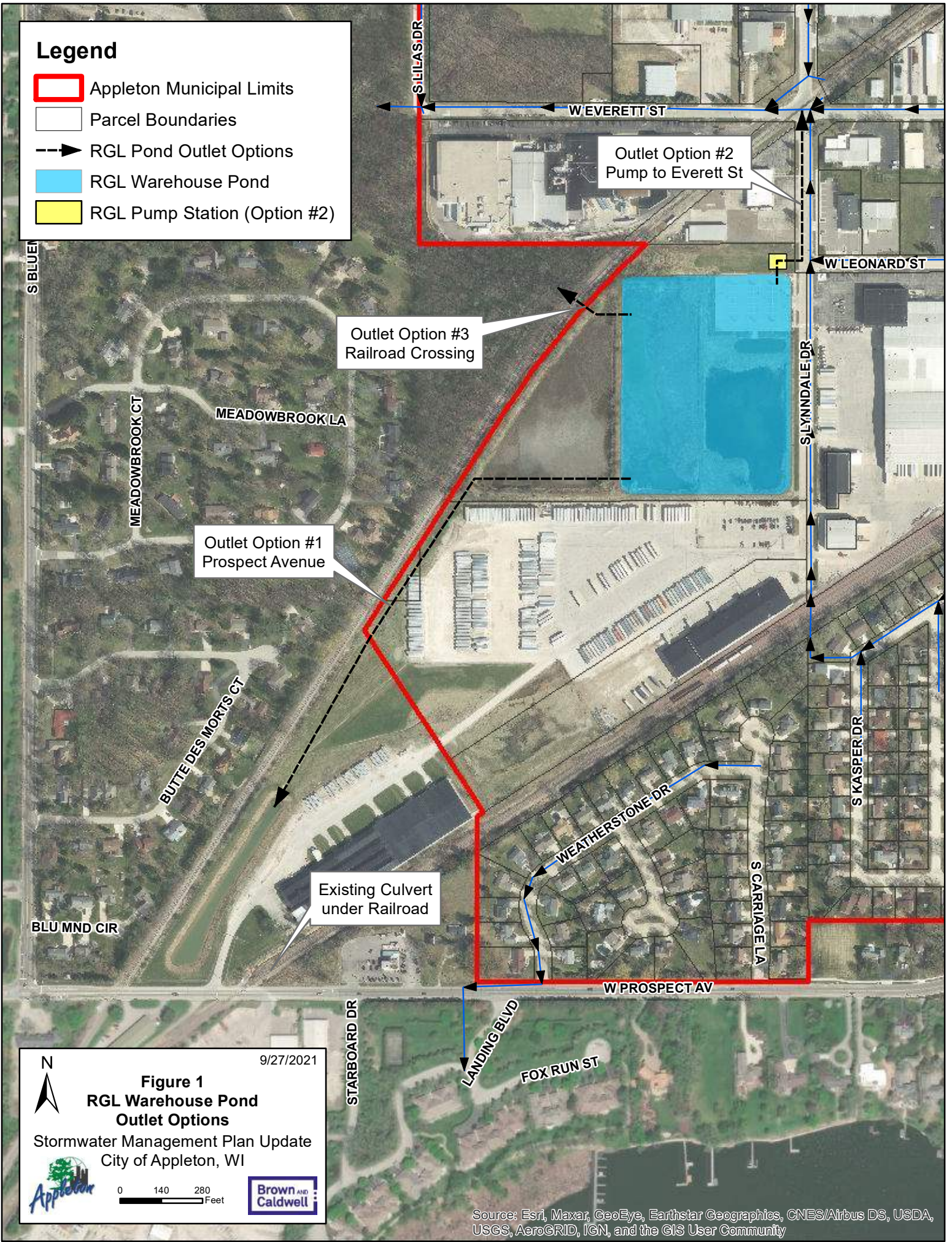
60147577  
May 2010

**Figure 10  
Alternative 2  
100-year, 24-hour Storm**  
Leonard Street Study Area  
City of Appleton, Wisconsin



# Legend

- Appleton Municipal Limits
- Parcel Boundaries
- RGL Pond Outlet Options
- RGL Warehouse Pond
- RGL Pump Station (Option #2)



9/27/2021

## Figure 1 RGL Warehouse Pond Outlet Options

Stormwater Management Plan Update  
City of Appleton, WI

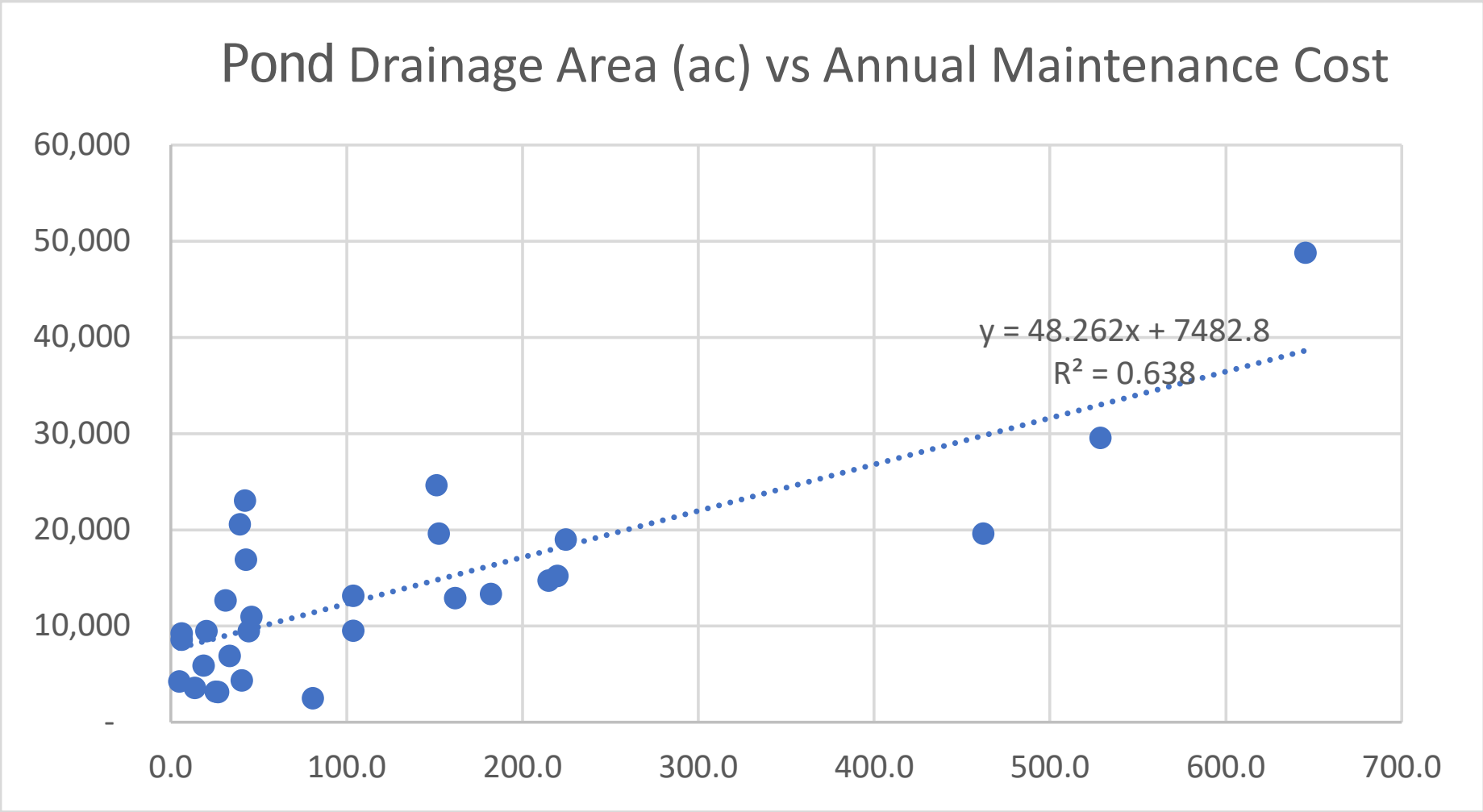


0 140 280 Feet



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Appendix B4-3b Pond Annual Maintenance Graph



Appendix B4-3c  
City of Appleton  
Wet Detention Alternatives Cost Analysis

Pond Name (Reachshed)	Pond Analyzed Drainage Basin (acres)	% TSS Reduction from Drainage Basin	(X) Annual Tons TSS Removed from Drainage Basin	% TP Reduction from Drainage Basin	(Y) Annual Pounds TP Removed from Drainage Basin	(A) Wet Pond Construction Cost (2021)	(B) Land Acquisition Cost (2021)	(C1) Base Annual Maintenance Cost (2021)	(C2) Dredging Maintenance Cost (2021)	Total Annualized Cost	Annualized Cost per Ton of TSS Removed	Annualized Cost per Pound of TP Removed
3 - Hillock Court (Mud Creek)	76	79.3%	7.5	59.8%	36.5	\$1,412,600	\$2,070,000	\$11,151	\$498,490	\$155,048	\$20,673	\$4,248
7 - Pierce Park (Lower Fox River (US))	343	45.0%	24.2	33.2%	93.5	\$776,900	\$550,000	\$24,037	\$287,968	\$85,451	\$3,531	\$914
8 - Riverview Gardens (Lower Fox River (US))	198	59.0%	13.4	43.9%	65.5	\$472,300	\$400,000	\$17,039	\$255,570	\$61,865	\$4,617	\$945
9 - Winslow Avenue (Lower Fox River (DS))	153	74.4%	25.0	56.3%	75.3	\$1,999,040	\$540,960	\$14,867	\$567,545	\$133,524	\$5,341	\$1,773
10 - Wisconsin Avenue (Lower Fox River (DS))	102	82.0%	13.6	63.1%	56.7	\$1,509,400	\$700,000	\$12,406	\$804,270	\$136,491	\$10,036	\$2,407
11-RGL Lagoons (Mud Creek)	232	92.3%	46.0	67.8%	129.7	\$4,257,600	\$3,185,000	\$18,680	\$2,942,406	\$452,340	\$9,844	\$3,487

**Assumptions**

Unit Prices based on Appleton Bid Tabs, DOT Unit Prices, recent estimates from other projects, and Outagamie County Assessor information for land values

Annual maintenance cost based on City maintenance data for existing SMPs and does not include periodic dredging

Dredging based on 3 feet of permanent pool volume of sediment storage, dredged 20 years after initial construction, disposal at \$80/cubic yard (assumes landfill disposal)

All costs (capital, land, maintenance) are in 2021 \$

Annualized cost assumes land and pond construction capital cost are distributed over 100-years (life of pond is 100-years) and dredging cost is annualized assuming 3% interest over 20 years between dredge cycles

## Appendix B4-5a – HSD Annual Maintenance Assumptions

### Mike Stanonik 9-14-21 information:

I copied in Sue as she had a standing request for some info as well. I reviewed the last five years and we've been all across the board on our procedures and documentation of these sumps. When I first started in this position, we were cleaning everything, and over the last few years Sue has helped narrow down the criteria for when we need to clean or just inspect. So it's a little hard to say at this point how often they really need to be cleaned and with the data we have, I don't feel confident giving an answer.

For example, Sandra and Glendale will typically have 3' of sediment and be cleaned annually. While some of the other structures at Riverheath may only have an inch or two and not be cleaned. After some discussion with the sewer crew today it sounds like the time to clean these structures varies on the crew and dewatering process. These structures can hold several truck loads of water and sediment. Sometimes we can dewater into the sanitary. As the sediment increases, that means trucking back to the dump pad. Jim described the cleaning could take as much as a half a day for the larger structures. 4-5 hours.

Sewer OP2 - \$28.00

Sewer Truck 44 - \$110.14

Total 2021 hours we have for the spring sump cleaning.

78 person hours

39 truck equipment hours

127 structures visited

35 structures cleaned of various sizes, but mostly the smaller inlet sumps.

### Nate Loper 9-14-21 information:

Thanks Mike, this is helpful! One thing to add, we will need to add benefits costs to the labor. Carrie can get that for you. Then, we would double the hourly number (including benefits) since we have 2 employees working on this task. Does this sound accurate?

### Mike Stanonik 9-14-21 information:

There is an additional \$13.56 for the average benefits costs that can get added to the \$28/hour = \$41.56/hour total

You will see the hours listed below are already doubled when compared to the truck hours.

### **ASSUMPTIONS For HSD CLEANING**

Based on City provided information regarding HSD cleaning, the following assumptions will be used to develop an annual maintenance cost for cleaning HSDs:

- HSD Cleaning Frequency: 1x/yr (this varies by structure and can be conservative for some structures)
- HSD Cleaning labor cost (2021): 2 operations employees for 4 hours each at a cost of \$41.56/hr/employee =  $2 \times 4 \times \$41.56 = \$332.48$
- Equipment cost: 4 truck hours at \$110.14/hr =  $4 \times \$110.14 = \$440.56$
- Total annual labor and equipment cost per HSD =  $\$332.48 + \$440.45 = \$773.04$  (Say \$775/structure/year)

### **ASSUMPTIONS For HSD CAPITAL COST**

Based on City provided cost information for City construction projects X-19 and Y-20

X-19 Contract – 96” (8-foot) diameter structure was \$950/vertical foot at 19.6’ deep = \$18,620

Y-20 Bid Tabs – 96” (8-foot) diameter structure for a 20’ deep structure; City received 6 bids ranging from \$715/vf (\$14,300) to \$2,038/vf (\$40,760) – average was \$1,294/vf (\$25,880)

Appendix B4-5b  
Hydrodynamic Separator Devices (HSDs) For Implementation Consideration

TMDL Reachshed	Drainage Area Name	Drainage Area (acres)	No Controls TSS Load (tons/year)	Existing TSS Removed (tons/year)	Existing TSS Reduction %	HSD Only TSS Reduction % <sup>1</sup>	Estimated HSD Incremental TSS Reduction (tons/yr) <sup>3</sup>	No Controls TP Load (lbs/year)	Existing TP Removed (lbs/year)	Existing TP Reduction %	HSD Only TP Reduction % <sup>2</sup>	Estimated HSD Incremental TP Reduction (lbs/yr) <sup>4</sup>	(A) Annual Maintenance Cost (2021 \$)	(B) Initial Capital Cost (Assumes 96-inch diameter structure) (2021 \$)	(C) Total Annualized Cost (2021 \$)	Cost per Ton of TSS Removed	Cost per Pound of TP Removed
Lake Winnebago	Manitowoc HSD 21NEW	2.13	0.23	0.04	18.6%	44%	0.06	1.75	0.20	11.3%	30%	0.32	\$ 775	\$ 25,000	\$ 1,568	\$ 26,892	\$ 4,874
Lake Winnebago	Manitowoc HSD 24NEW	6.50	0.52	0.10	19.7%	25%	0.05	4.18	0.47	11.2%	17%	0.24	\$ 775	\$ 25,000	\$ 1,568	\$ 30,281	\$ 6,660
Lake Winnebago	Manitowoc HSD P-148	3.08	0.34	0.06	18.2%	25%	0.03	2.52	0.28	11.2%	17%	0.14	\$ 775	\$ 25,000	\$ 1,568	\$ 46,545	\$ 10,860
Lake Winnebago	Manitowoc HSD P-158	4.70	0.51	0.09	18.4%	25%	0.05	3.85	0.43	11.2%	17%	0.22	\$ 775	\$ 25,000	\$ 1,568	\$ 30,950	\$ 7,151
Lake Winnebago	Manitowoc HSD P-44	4.45	0.48	0.09	18.6%	38%	0.09	3.65	0.41	11.3%	26%	0.52	\$ 775	\$ 25,000	\$ 1,568	\$ 16,851	\$ 2,990
Lake Winnebago	Manitowoc HSD P-58	3.94	0.42	0.08	18.6%	23%	0.04	3.23	0.36	11.3%	16%	0.14	\$ 775	\$ 25,000	\$ 1,568	\$ 36,888	\$ 11,462
Lake Winnebago	Manitowoc HSD P-60	3.35	0.36	0.07	18.6%	25%	0.04	2.75	0.31	11.3%	17%	0.15	\$ 775	\$ 25,000	\$ 1,568	\$ 43,354	\$ 10,213
Lake Winnebago	Manitowoc HSD P-66	2.06	0.22	0.04	18.6%	24%	0.02	1.69	0.19	11.3%	16%	0.08	\$ 775	\$ 25,000	\$ 1,568	\$ 70,423	\$ 18,872
Lake Winnebago	Manitowoc HSD P-75	4.65	0.52	0.10	18.5%	32%	0.07	3.87	0.44	11.5%	22%	0.39	\$ 775	\$ 25,000	\$ 1,568	\$ 22,350	\$ 4,002
Lake Winnebago	Manitowoc HSD P-78	5.14	0.48	0.09	19.1%	22%	0.05	3.74	0.42	11.3%	15%	0.13	\$ 775	\$ 25,000	\$ 1,568	\$ 32,753	\$ 11,713
Lake Winnebago	Manitowoc HSD UU-16	3.09	0.33	0.06	18.6%	25%	0.03	2.53	0.29	11.3%	17%	0.14	\$ 775	\$ 25,000	\$ 1,568	\$ 47,052	\$ 11,084
<b>Totals</b>		<b>43.10</b>	<b>4.41</b>	<b>0.83</b>			<b>0.54</b>	<b>33.77</b>	<b>3.81</b>			<b>2.49</b>					
<b>Reachshed Impact</b>		<b>586.00</b>	<b>62.00</b>	<b>23.60</b>			<b>0.87%</b>	<b>456.10</b>	<b>98.30</b>			<b>0.54%</b>					
Lower Fox River (DS)	Ballard Rd HSD 10	6.35	0.75	0.14	18.2%	23%	0.08	5.43	0.61	11.2%	16%	0.24	\$ 775	\$ 25,000	\$ 1,568	\$ 20,899	\$ 6,640
Lower Fox River (DS)	Ballard Rd HSD 11	5.37	0.66	0.11	16.4%	22%	0.07	4.39	0.44	9.9%	15%	0.22	\$ 775	\$ 25,000	\$ 1,568	\$ 23,832	\$ 7,238
Lower Fox River (DS)	Ballard Rd HSD 5	9.50	1.26	0.23	18.1%	19%	0.13	8.48	1.05	12.4%	13%	0.25	\$ 775	\$ 25,000	\$ 1,568	\$ 12,405	\$ 6,163
Lower Fox River (DS)	Ballard Rd HSD 6	10.38	1.92	0.36	18.6%	19%	0.19	9.81	1.29	13.1%	13%	0.29	\$ 775	\$ 25,000	\$ 1,568	\$ 8,172	\$ 5,328
Lower Fox River (DS)	Ballard Rd HSD 7	8.62	1.08	0.18	16.7%	23%	0.11	7.29	0.78	10.7%	16%	0.35	\$ 775	\$ 25,000	\$ 1,568	\$ 14,485	\$ 4,426
Lower Fox River (DS)	Ballard Rd HSD 8	5.80	0.69	0.12	16.8%	23%	0.07	4.75	0.50	10.6%	16%	0.23	\$ 775	\$ 25,000	\$ 1,568	\$ 22,829	\$ 6,716
Lower Fox River (DS)	College Ave HSD 1	14.07	1.95	0.28	14.4%	16%	0.19	12.40	1.24	10.0%	11%	0.37	\$ 775	\$ 25,000	\$ 1,568	\$ 8,050	\$ 4,214
Lower Fox River (DS)	College Ave HSD 2	8.92	1.13	0.21	18.2%	18%	0.11	7.71	0.88	11.4%	12%	0.23	\$ 775	\$ 25,000	\$ 1,568	\$ 13,825	\$ 6,774
Lower Fox River (DS)	College Ave HSD 3	8.44	0.91	0.17	19.1%	19%	0.09	6.92	0.80	11.6%	13%	0.21	\$ 775	\$ 25,000	\$ 1,568	\$ 17,232	\$ 7,553
Lower Fox River (DS)	College Ave HSD 4	5.11	0.53	0.10	18.3%	22%	0.05	4.09	0.45	11.0%	15%	0.16	\$ 775	\$ 25,000	\$ 1,568	\$ 29,432	\$ 9,976
Lower Fox River (DS)	College Ave HSD 5	4.05	0.44	0.08	19.3%	18%	0.04	3.33	0.39	11.7%	12%	0.10	\$ 775	\$ 25,000	\$ 1,568	\$ 35,674	\$ 15,667
Lower Fox River (DS)	College Ave HSD 6	3.26	0.38	0.07	17.4%	23%	0.04	2.82	0.30	10.8%	16%	0.13	\$ 775	\$ 25,000	\$ 1,568	\$ 41,450	\$ 11,698
Lower Fox River (DS)	College Ave HSD 7	15.67	1.87	0.33	17.9%	15%	0.19	13.08	1.46	11.1%	10%	0.39	\$ 775	\$ 25,000	\$ 1,568	\$ 8,403	\$ 3,994
Lower Fox River (DS)	College Ave HSD 8	10.73	1.17	0.22	18.4%	18%	0.12	8.86	0.99	11.2%	12%	0.27	\$ 775	\$ 25,000	\$ 1,568	\$ 13,429	\$ 5,900
Lower Fox River (DS)	CTH OO HSD 10	5.23	0.56	0.11	18.6%	18%	0.06	4.29	0.48	11.3%	12%	0.13	\$ 775	\$ 25,000	\$ 1,568	\$ 27,794	\$ 12,187
Lower Fox River (DS)	CTH OO HSD 11	16.77	1.81	0.36	20.1%	20%	0.18	13.75	1.67	12.2%	14%	0.41	\$ 775	\$ 25,000	\$ 1,568	\$ 8,668	\$ 3,799
Lower Fox River (DS)	CTH OO HSD 12	10.77	1.33	0.41	31.3%	20%	0.13	9.03	1.58	17.5%	14%	0.27	\$ 775	\$ 25,000	\$ 1,568	\$ 11,829	\$ 5,785
Lower Fox River (DS)	CTH OO HSD 13	18.76	2.22	0.61	27.6%	19%	0.22	15.73	2.43	15.5%	13%	0.47	\$ 775	\$ 25,000	\$ 1,568	\$ 7,061	\$ 3,321
Lower Fox River (DS)	CTH OO HSD 14	5.68	0.59	0.11	19.4%	18%	0.06	4.35	0.53	12.1%	12%	0.13	\$ 775	\$ 25,000	\$ 1,568	\$ 26,677	\$ 12,022
Lower Fox River (DS)	CTH OO HSD 15	7.84	0.80	0.16	19.7%	15%	0.08	5.79	0.72	12.5%	10%	0.17	\$ 775	\$ 25,000	\$ 1,568	\$ 19,688	\$ 9,018
Lower Fox River (DS)	CTH OO HSD 16	9.78	1.06	0.20	18.4%	18%	0.11	8.07	0.90	11.2%	12%	0.24	\$ 775	\$ 25,000	\$ 1,568	\$ 14,768	\$ 6,472
Lower Fox River (DS)	CTH OO HSD 17	13.54	1.88	0.67	35.6%	18%	0.19	11.88	3.40	28.6%	12%	0.36	\$ 775	\$ 25,000	\$ 1,568	\$ 8,331	\$ 4,399
Lower Fox River (DS)	CTH OO HSD 20	7.34	0.80	0.15	18.6%	35%	0.13	6.03	0.68	11.3%	24%	0.74	\$ 775	\$ 25,000	\$ 1,568	\$ 11,971	\$ 2,113
Lower Fox River (DS)	CTH OO HSD 21	9.93	2.28	0.75	32.9%	24%	0.23	10.21	2.38	23.3%	16%	0.31	\$ 775	\$ 25,000	\$ 1,568	\$ 6,860	\$ 5,116
Lower Fox River (DS)	CTH OO HSD 22	31.36	5.31	0.82	15.5%	14%	0.53	25.75	2.56	9.9%	9%	0.77	\$ 775	\$ 25,000	\$ 1,568	\$ 2,953	\$ 2,029

Appendix B4-5b  
Hydrodynamic Separator Devices (HSDs) For Implementation Consideration

TMDL Reachshed	Drainage Area Name	Drainage Area (acres)	No Controls TSS Load (tons/year)	Existing TSS Removed (tons/year)	Existing TSS Reduction %	HSD Only TSS Reduction % <sup>1</sup>	Estimated HSD Incremental TSS Reduction (tons/yr) <sup>3</sup>	No Controls TP Load (lbs/year)	Existing TP Removed (lbs/year)	Existing TP Reduction %	HSD Only TP Reduction % <sup>2</sup>	Estimated HSD Incremental TP Reduction (lbs/yr) <sup>4</sup>	(A) Annual Maintenance Cost (2021 \$)	(B) Initial Capital Cost (Assumes 96-inch diameter structure) (2021 \$)	(C) Total Annualized Cost (2021 \$)	Cost per Ton of TSS Removed	Cost per Pound of TP Removed
Lower Fox River (DS)	CTH OO HSD 23	18.77	3.62	0.70	19.4%	15%	0.36	16.58	2.12	12.8%	10%	0.50	\$ 775	\$ 25,000	\$ 1,568	\$ 4,326	\$ 3,152
Lower Fox River (DS)	CTH OO HSD 24	23.76	4.13	0.80	19.4%	15%	0.41	19.21	2.51	13.1%	10%	0.58	\$ 775	\$ 25,000	\$ 1,568	\$ 3,792	\$ 2,720
Lower Fox River (DS)	CTH OO HSD 25	32.72	6.35	1.15	18.0%	16%	0.64	29.36	3.36	11.4%	11%	0.88	\$ 775	\$ 25,000	\$ 1,568	\$ 2,468	\$ 1,780
Lower Fox River (DS)	CTH OO HSD 27	18.63	2.38	0.43	18.1%	19%	0.24	15.85	1.91	12.0%	13%	0.48	\$ 775	\$ 25,000	\$ 1,568	\$ 6,596	\$ 3,296
Lower Fox River (DS)	CTH OO HSD 28	5.24	0.61	0.11	18.9%	18%	0.06	4.52	0.53	11.7%	12%	0.14	\$ 775	\$ 25,000	\$ 1,568	\$ 25,885	\$ 11,566
Lower Fox River (DS)	CTH OO HSD 29	8.13	0.88	0.19	21.3%	19%	0.09	6.70	0.87	13.0%	13%	0.20	\$ 775	\$ 25,000	\$ 1,568	\$ 17,748	\$ 7,796
Lower Fox River (DS)	CTH OO HSD 3	5.26	0.61	0.10	17.0%	18%	0.06	4.42	0.46	10.4%	12%	0.13	\$ 775	\$ 25,000	\$ 1,568	\$ 25,526	\$ 11,832
Lower Fox River (DS)	CTH OO HSD 30	4.79	0.52	0.10	18.7%	19%	0.05	3.93	0.45	11.4%	13%	0.12	\$ 775	\$ 25,000	\$ 1,568	\$ 30,321	\$ 13,291
Lower Fox River (DS)	CTH OO HSD 33	2.45	0.27	0.05	17.9%	24%	0.03	2.06	0.23	11.0%	16%	0.11	\$ 775	\$ 25,000	\$ 1,568	\$ 14,573	\$ 14,573
Lower Fox River (DS)	CTH OO HSD 35	9.30	1.12	0.19	17.3%	17%	0.11	8.24	0.89	10.8%	11%	0.25	\$ 775	\$ 25,000	\$ 1,568	\$ 14,058	\$ 6,344
Lower Fox River (DS)	CTH OO HSD 36	20.37	2.66	0.40	15.0%	15%	0.27	19.25	1.84	9.5%	10%	0.58	\$ 775	\$ 25,000	\$ 1,568	\$ 5,884	\$ 2,715
Lower Fox River (DS)	CTH OO HSD 37	7.77	1.02	0.15	15.2%	16%	0.10	7.34	0.71	9.7%	11%	0.22	\$ 775	\$ 25,000	\$ 1,568	\$ 15,427	\$ 7,120
Lower Fox River (DS)	CTH OO HSD 38	23.61	3.11	0.47	15.2%	15%	0.31	22.40	2.18	9.7%	10%	0.67	\$ 775	\$ 25,000	\$ 1,568	\$ 5,048	\$ 2,333
Lower Fox River (DS)	CTH OO HSD 39	11.22	1.33	0.23	17.5%	16%	0.13	9.87	1.07	10.9%	11%	0.30	\$ 775	\$ 25,000	\$ 1,568	\$ 11,753	\$ 5,292
Lower Fox River (DS)	CTH OO HSD 4	6.50	0.90	0.16	18.1%	20%	0.09	5.66	0.67	11.8%	14%	0.17	\$ 775	\$ 25,000	\$ 1,568	\$ 17,342	\$ 9,230
Lower Fox River (DS)	CTH OO HSD 40	19.41	2.41	0.37	15.4%	16%	0.24	16.96	1.62	9.5%	11%	0.51	\$ 775	\$ 25,000	\$ 1,568	\$ 6,506	\$ 3,080
Lower Fox River (DS)	CTH OO HSD 41	6.03	0.68	0.14	20.0%	17%	0.07	5.13	0.63	12.3%	11%	0.15	\$ 775	\$ 25,000	\$ 1,568	\$ 22,884	\$ 10,179
Lower Fox River (DS)	CTH OO HSD 5	5.59	0.61	0.16	25.8%	20%	0.06	4.60	0.73	15.9%	14%	0.14	\$ 775	\$ 25,000	\$ 1,568	\$ 25,533	\$ 11,347
Lower Fox River (DS)	CTH OO HSD 6	6.45	0.72	0.15	20.9%	18%	0.07	5.39	0.69	12.9%	12%	0.16	\$ 775	\$ 25,000	\$ 1,568	\$ 21,783	\$ 9,702
Lower Fox River (DS)	CTH OO HSD 7	6.43	0.69	0.13	18.6%	21%	0.07	5.28	0.60	11.3%	14%	0.16	\$ 775	\$ 25,000	\$ 1,568	\$ 22,590	\$ 9,902
Lower Fox River (DS)	CTH OO HSD 8	6.71	0.77	0.14	18.3%	20%	0.08	5.55	0.63	11.3%	14%	0.17	\$ 775	\$ 25,000	\$ 1,568	\$ 20,233	\$ 9,414
Lower Fox River (DS)	CTH OO HSD 9	3.52	0.39	0.08	19.4%	21%	0.04	2.92	0.35	12.0%	14%	0.09	\$ 775	\$ 25,000	\$ 1,568	\$ 40,025	\$ 17,877
Lower Fox River (DS)	Green Bay Rd HSD 11	11.13	2.07	0.42	20.3%	16%	0.21	9.98	1.34	13.5%	11%	0.30	\$ 775	\$ 25,000	\$ 1,568	\$ 7,566	\$ 5,237
Lower Fox River (DS)	Green Bay Rd HSD 12	2.26	0.44	0.09	21.7%	27%	0.04	2.19	0.30	13.5%	18%	0.10	\$ 775	\$ 25,000	\$ 1,568	\$ 35,813	\$ 15,197
Lower Fox River (DS)	Green Bay Rd HSD 13	7.97	1.46	0.32	21.6%	19%	0.15	7.61	1.02	13.4%	13%	0.23	\$ 775	\$ 25,000	\$ 1,568	\$ 10,721	\$ 6,864
Lower Fox River (DS)	Green Bay Rd HSD 14	5.04	0.72	0.13	18.4%	22%	0.07	4.53	0.53	11.7%	15%	0.14	\$ 775	\$ 25,000	\$ 1,568	\$ 21,712	\$ 10,995
Lower Fox River (DS)	Kensington North HSD 1	8.92	2.14	0.32	14.7%	16%	0.21	8.19	0.80	9.8%	11%	0.25	\$ 775	\$ 25,000	\$ 1,568	\$ 7,316	\$ 6,379
Lower Fox River (DS)	Kensington North HSD 2	3.56	0.38	0.07	18.6%	27%	0.04	2.92	0.33	11.3%	18%	0.20	\$ 775	\$ 25,000	\$ 1,568	\$ 40,787	\$ 7,737
Lower Fox River (DS)	Kensington North HSD 3	20.28	4.12	2.47	59.9%	17%	0.41	17.53	7.16	40.8%	11%	0.53	\$ 775	\$ 25,000	\$ 1,568	\$ 3,803	\$ 2,980
Lower Fox River (DS)	Kensington North HSD 6	7.05	1.79	0.43	24.2%	19%	0.18	7.56	1.35	17.9%	13%	0.23	\$ 775	\$ 25,000	\$ 1,568	\$ 8,759	\$ 6,914
Lower Fox River (DS)	Kensington North HSD 7	4.23	0.91	0.20	22.2%	22%	0.09	4.11	0.66	16.0%	15%	0.12	\$ 775	\$ 25,000	\$ 1,568	\$ 17,255	\$ 12,707
Lower Fox River (DS)	Kensington North HSD 8	4.37	0.47	0.09	18.6%	26%	0.05	3.58	0.40	11.3%	18%	0.22	\$ 775	\$ 25,000	\$ 1,568	\$ 33,261	\$ 6,990
<b>Totals</b>		<b>580.78</b>	<b>83.68</b>	<b>17.89</b>			<b>8.42</b>	<b>503.67</b>	<b>67.45</b>			<b>16.46</b>					
<b>Reachshed Impact</b>		<b>5966.00</b>	<b>830.60</b>	<b>298.70</b>			<b>1.01%</b>	<b>5015.60</b>	<b>1179.90</b>			<b>0.33%</b>					



Appendix B4-5b  
Hydrodynamic Separator Devices (HSDs) For Implementation Consideration

TMDL Reached	Drainage Area Name	Drainage Area (acres)	No Controls TSS Load (tons/year)	Existing TSS Removed (tons/year)	Existing TSS Reduction %	HSD Only TSS Reduction % <sup>1</sup>	Estimated HSD Incremental TSS Reduction (tons/yr) <sup>3</sup>	No Controls TP Load (lbs/year)	Existing TP Removed (lbs/year)	Existing TP Reduction %	HSD Only TP Reduction % <sup>2</sup>	Estimated HSD Incremental TP Reduction (lbs/yr) <sup>4</sup>	(A) Annual Maintenance Cost (2021 \$)	(B) Initial Capital Cost (Assumes 96-inch diameter structure) (2021 \$)	(C) Total Annualized Cost (2021 \$)	Cost per Ton of TSS Removed	Cost per Pound of TP Removed
Lower Fox River (US)	Green Bay Rd HSD 1	1.84	0.34	0.07	21.7%	23%	0.03	1.70	0.23	13.6%	16%	0.05	\$ 775	\$ 25,000	\$ 1,568	\$ 46,084	\$ 30,681
Lower Fox River (US)	Green Bay Rd HSD 2	2.85	0.55	0.12	21.7%	23%	0.06	2.76	0.37	13.5%	16%	0.08	\$ 775	\$ 25,000	\$ 1,568	\$ 28,427	\$ 18,917
Lower Fox River (US)	Green Bay Rd HSD 3	8.76	1.36	0.23	17.1%	20%	0.14	8.33	0.94	11.3%	14%	0.25	\$ 775	\$ 25,000	\$ 1,568	\$ 11,519	\$ 6,275
Lower Fox River (US)	Green Bay Rd HSD 4	3.96	0.38	0.09	23.0%	24%	0.04	2.80	0.40	14.1%	16%	0.08	\$ 775	\$ 25,000	\$ 1,568	\$ 40,751	\$ 18,659
Lower Fox River (US)	Green Bay Rd HSD 5	3.18	0.61	0.07	11.9%	24%	0.07	2.82	0.24	8.4%	16%	0.22	\$ 775	\$ 25,000	\$ 1,568	\$ 21,179	\$ 7,127
Lower Fox River (US)	Green Bay Rd HSD 6	9.84	1.83	0.11	6.1%	17%	0.20	9.18	0.35	3.9%	11%	0.70	\$ 775	\$ 25,000	\$ 1,568	\$ 7,882	\$ 2,240
Lower Fox River (US)	Green Bay Rd HSD 7	3.48	0.67	0.15	21.7%	24%	0.07	3.36	0.46	13.5%	16%	0.10	\$ 775	\$ 25,000	\$ 1,568	\$ 23,289	\$ 15,542
Lower Fox River (US)	Green Bay Rd HSD 8	5.96	1.07	0.23	21.6%	18%	0.11	5.39	0.73	13.5%	12%	0.16	\$ 775	\$ 25,000	\$ 1,568	\$ 14,584	\$ 9,695
Lower Fox River (US)	Green Bay Rd HSD 9	4.27	0.83	0.18	21.7%	29%	0.08	4.13	0.56	13.5%	20%	0.25	\$ 775	\$ 25,000	\$ 1,568	\$ 18,971	\$ 6,292
Lower Fox River (US)	Leonard St HSD 10	2.45	0.27	0.06	23.2%	21%	0.03	2.04	0.29	14.2%	14%	0.06	\$ 775	\$ 25,000	\$ 1,568	\$ 58,159	\$ 25,631
Lower Fox River (US)	Leonard St HSD 11	7.15	0.74	0.13	18.1%	19%	0.07	5.48	0.62	11.3%	13%	0.16	\$ 775	\$ 25,000	\$ 1,568	\$ 21,159	\$ 9,538
Lower Fox River (US)	Leonard St HSD 9	8.94	1.04	0.18	17.6%	23%	0.10	7.67	0.85	11.0%	16%	0.34	\$ 775	\$ 25,000	\$ 1,568	\$ 15,021	\$ 4,546
Lower Fox River (US)	Xavier HSD 1	8.85	0.96	0.20	20.5%	23%	0.10	7.30	0.91	12.4%	16%	0.23	\$ 775	\$ 25,000	\$ 1,568	\$ 16,329	\$ 6,878
Lower Fox River (US)	Xavier HSD 2	4.19	0.47	0.10	20.5%	23%	0.05	3.53	0.44	12.5%	16%	0.11	\$ 775	\$ 25,000	\$ 1,568	\$ 33,461	\$ 14,816
Lower Fox River (US)	Xavier HSD 3	2.49	0.27	0.05	18.6%	22%	0.03	2.04	0.23	11.3%	15%	0.07	\$ 775	\$ 25,000	\$ 1,568	\$ 58,512	\$ 21,450
Lower Fox River (US)	Xavier HSD 4	3.65	0.39	0.07	18.6%	24%	0.04	2.99	0.34	11.3%	16%	0.15	\$ 775	\$ 25,000	\$ 1,568	\$ 39,868	\$ 10,683
Lower Fox River (US)	Xavier HSD 5	1.46	0.16	0.03	18.6%	27%	0.02	1.20	0.14	11.3%	18%	0.08	\$ 775	\$ 25,000	\$ 1,568	\$ 99,193	\$ 18,780
Lower Fox River (US)	Xavier HSD 6	1.61	0.14	0.02	17.6%	30%	0.02	1.16	0.11	9.9%	20%	0.12	\$ 775	\$ 25,000	\$ 1,568	\$ 90,197	\$ 13,052
Lower Fox River (US)	Xavier HSD 7	3.84	0.47	0.09	18.6%	25%	0.05	3.25	0.37	11.5%	17%	0.18	\$ 775	\$ 25,000	\$ 1,568	\$ 33,031	\$ 8,932
Lower Fox River (US)	Xavier HSD 8	6.08	0.83	0.13	15.1%	25%	0.08	5.30	0.52	9.9%	17%	0.37	\$ 775	\$ 25,000	\$ 1,568	\$ 18,786	\$ 4,218
<b>Totals</b>		<b>94.87</b>	<b>13.41</b>	<b>2.32</b>			<b>1.37</b>	<b>82.44</b>	<b>9.08</b>			<b>3.77</b>					
<b>Reachshd Impact</b>		<b>1506.00</b>	<b>214.30</b>	<b>44.90</b>			<b>0.64%</b>	<b>1281.00</b>	<b>168.50</b>			<b>0.29%</b>					
Mud Creek	Leonard St HSD 1	4.02	0.67	0.13	19.7%	20%	0.07	3.64	0.53	14.4%	14%	0.11	\$ 775	\$ 25,000	\$ 1,568	\$ 23,505	\$ 14,357
Mud Creek	Leonard St HSD 2	4.78	0.66	0.15	22.9%	21%	0.07	4.33	0.69	16.0%	14%	0.13	\$ 775	\$ 25,000	\$ 1,568	\$ 23,842	\$ 12,054
Mud Creek	Leonard St HSD 3	6.20	1.53	0.56	36.6%	17%	0.15	5.34	1.29	24.1%	11%	0.16	\$ 775	\$ 25,000	\$ 1,568	\$ 10,269	\$ 9,776
Mud Creek	Leonard St HSD 4	8.03	1.77	0.18	9.9%	19%	0.18	5.64	0.41	7.3%	13%	0.31	\$ 775	\$ 25,000	\$ 1,568	\$ 8,868	\$ 5,020
Mud Creek	Leonard St HSD 5	3.52	0.89	0.19	21.4%	25%	0.09	3.52	0.56	16.0%	17%	0.11	\$ 775	\$ 25,000	\$ 1,568	\$ 17,677	\$ 14,845
Mud Creek	Leonard St HSD 6	4.39	0.88	0.14	15.5%	19%	0.09	3.50	0.37	10.7%	13%	0.10	\$ 775	\$ 25,000	\$ 1,568	\$ 17,820	\$ 14,937
Mud Creek	Leonard St HSD 7	6.05	0.65	0.12	18.5%	23%	0.07	4.98	0.56	11.2%	16%	0.21	\$ 775	\$ 25,000	\$ 1,568	\$ 23,946	\$ 7,316
<b>Totals</b>		<b>36.99</b>	<b>7.04</b>	<b>1.46</b>			<b>0.70</b>	<b>30.95</b>	<b>4.41</b>			<b>1.14</b>					
<b>Reachshd Impact</b>		<b>1055.00</b>	<b>164.70</b>	<b>75.60</b>			<b>0.43%</b>	<b>868.00</b>	<b>326.50</b>			<b>0.13%</b>					

<sup>1</sup> Note: TSS removal as reported from prior City of Appleton Watershed Studies.

<sup>2</sup> Note: TP removal based on assumed ratio of 54% TP removal to 80% TSS removal standard and is not based on WinSLAMM modeling results.

<sup>3</sup> Note: Incremental TSS removal is based on applying the difference between the HSD only minus the Existing Conditions TSS reduction or 10% (whichever is greater) and not on direct WinSLAMM modeling results.

<sup>4</sup> Note: Incremental TP removal is based on applying the difference between the HSD only minus the Existing Conditions TP reduction or 3% (whichever is greater) and not on direct WinSLAMM modeling results.

<sup>5</sup> Note: Total Annualized Cost assumes a 100-year life of the concrete sump structure, and annualizes the initial capital cost assuming a 3% interest rate.

min	\$	2,468	\$	1,780
max	\$	99,193	\$	30,681
average	\$	23,511	\$	9,023

Appendix B4-5c

Hydrodynamic Separator Devices (HSDs) Tributary to Existing SMPs That Will Not Generate Additional TSS and TP Reductions for the City if Implemented

TMDL Reached	Drainage Area Name	Drainage Area (acres)	No Controls TSS Load (Tons/year)	Existing TSS Removed (per Year)	Existing % Total Suspended Solids (TSS) Reduction	Potential HSD Only TSS Removal %	Estimated HSD Incremental TSS Reduction (tons/yr) <sup>6</sup>	No Controls TP Load (lbs/year)	Existing Pounds TP Removed (per Year)	Existing % Total Phosphorus (TP) Reduction	Potential HSD Only TP Removal % <sup>1</sup>	Estimated HSD Incremental TP Reduction (lbs/yr) <sup>6</sup>	NR 528 Sediment Control Possibly Required?	Existing DS Regional SMP	(A) Annual Maintenance Cost (2021 \$)	(B) Initial Capital Cost (Assumes 96-inch diameter structure) (2021 \$)	(C) Total Annualized Cost (2021 \$)	Cost per Ton of TSS Removed	Cost per Pound of TP Removed
Lower Fox River (US)	Manitowoc HSD 11NEW	3.04	0.38	0.22	56.7%	25%	0.04	2.58	0.79	30.6%	17%	0.08	yes	Schindler 441 Pond	\$ 775	\$ 25,000	\$ 1,568	\$ 40,827	\$ 20,272
Lower Fox River (US)	Manitowoc HSD 6NEW	13.05	0.70	0.58	82.5%	22%	0.07	5.33	2.24	42.0%	15%	0.16	yes	Schindler 441 Pond	\$ 775	\$ 25,000	\$ 1,568	\$ 22,422	\$ 9,797
Lower Fox River (US)	Manitowoc HSD 7NEW	3.62	0.49	0.46	92.3%	20%	0.05	3.27	1.44	44.1%	14%	0.10	yes	Schindler 441 Pond	\$ 775	\$ 25,000	\$ 1,568	\$ 31,771	\$ 15,985
Lower Fox River (US)	Manitowoc HSD P-104	6.58	0.42	0.39	92.3%	23%	0.04	3.79	1.67	44.1%	16%	0.11	yes	Schindler 441 Pond	\$ 775	\$ 25,000	\$ 1,568	\$ 36,921	\$ 13,794
Lower Fox River (DS)	AMC HSD 1	4.61	0.60	0.47	78.7%	24%	0.06	3.99	2.33	58.4%	16%	0.12	yes	Leona Pond	\$ 775	\$ 25,000	\$ 1,568	\$ 26,294	\$ 13,080
Lower Fox River (DS)	AMC HSD 2	3.83	0.60	0.45	74.2%	22%	0.06	3.54	1.96	55.2%	15%	0.11	yes	Leona Pond	\$ 775	\$ 25,000	\$ 1,568	\$ 26,089	\$ 14,740
Lower Fox River (DS)	AMC HSD 3	5.99	0.73	0.58	78.6%	23%	0.07	4.95	2.89	58.3%	16%	0.15	yes	Leona Pond	\$ 775	\$ 25,000	\$ 1,568	\$ 21,392	\$ 10,559
Lower Fox River (DS)	AMC HSD 5	7.43	0.85	0.67	78.4%	27%	0.08	6.35	3.69	58.1%	18%	0.19	yes	Leona Pond	\$ 775	\$ 25,000	\$ 1,568	\$ 18,458	\$ 8,234
Lower Fox River (DS)	AMC HSD 7	7.97	0.85	0.67	78.6%	23%	0.09	6.49	3.79	58.4%	16%	0.19	yes	Leona Pond	\$ 775	\$ 25,000	\$ 1,568	\$ 18,434	\$ 8,047
Lower Fox River (DS)	AMC HSD 8	9.43	1.05	0.83	78.8%	17%	0.11	7.92	4.63	58.5%	11%	0.24	yes	Leona Pond	\$ 775	\$ 25,000	\$ 1,568	\$ 14,879	\$ 6,600
Lower Fox River (DS)	Ballard Rd HSD 1	4.89	0.67	0.53	78.8%	27%	0.07	4.25	2.48	58.5%	18%	0.13	yes	Leona Pond	\$ 775	\$ 25,000	\$ 1,568	\$ 23,377	\$ 12,309
Lower Fox River (DS)	Ballard Rd HSD 2	17.58	2.35	1.85	78.8%	18%	0.23	14.64	8.56	58.5%	12%	0.44	yes	Leona Pond	\$ 775	\$ 25,000	\$ 1,568	\$ 6,679	\$ 3,569
Lower Fox River (DS)	Ballard Rd HSD 3	9.41	1.10	0.87	78.8%	23%	0.11	7.93	4.64	58.5%	16%	0.24	yes	Leona Pond	\$ 775	\$ 25,000	\$ 1,568	\$ 14,272	\$ 6,593
Lower Fox River (DS)	Ballard Rd HSD 4	4.40	0.47	0.37	78.4%	26%	0.05	3.61	2.10	58.2%	18%	0.11	yes	Leona Pond	\$ 775	\$ 25,000	\$ 1,568	\$ 33,028	\$ 14,480
Lower Fox River (DS)	CTH OO HSD 1	10.80	2.34	0.97	41.5%	16%	0.23	10.39	2.72	26.2%	11%	0.31	no	MPPNE	\$ 775	\$ 25,000	\$ 1,568	\$ 6,689	\$ 5,029
Lower Fox River (DS)	CTH OO HSD 18	13.30	1.41	1.09	77.0%	21%	0.14	10.79	5.61	52.0%	14%	0.32	no	MPPNE	\$ 775	\$ 25,000	\$ 1,568	\$ 11,086	\$ 4,841
Lower Fox River (DS)	CTH OO HSD 19	10.25	1.24	0.95	77.0%	18%	0.12	8.79	4.57	52.0%	12%	0.26	no	MPPNE	\$ 775	\$ 25,000	\$ 1,568	\$ 12,675	\$ 5,943
Lower Fox River (DS)	CTH OO HSD 2	7.64	1.59	1.22	77.0%	18%	0.16	7.21	3.75	52.0%	12%	0.22	no	MPPNE	\$ 775	\$ 25,000	\$ 1,568	\$ 9,878	\$ 7,246

<sup>1</sup> Note: TSS removal as reported from prior City of Appleton Watershed Studies.

<sup>2</sup> Note: TP removal based on assumed ratio of 54% TP removal to 80% TSS removal standard and is not based on WinSLAMM modeling results.

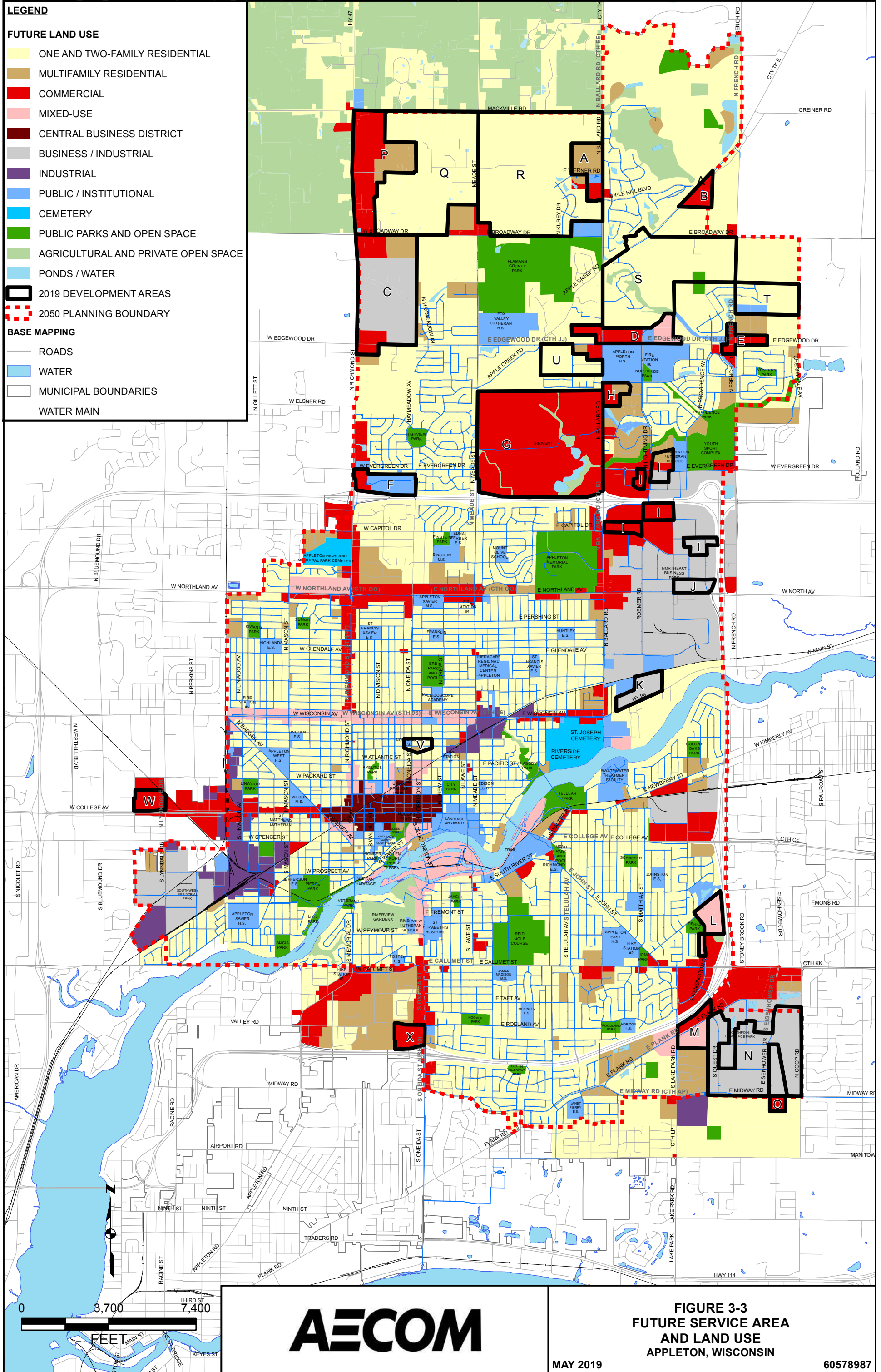
<sup>3</sup> Note: Incremental TSS removal is based on applying the difference between the HSD only minus the Existing Conditions TSS reduction or 10% (whichever is greater) and not on direct WinSLAMM modeling results.

<sup>4</sup> Note: Incremental TP removal is based on applying the difference between the HSD only minus the Existing Conditions TP reduction or 3% (whichever is greater) and not on direct WinSLAMM modeling results.

<sup>5</sup> Note: Total Annualized Cost assumes a 100-year life of the concrete sump structure, and annualizes the initial capital cost assuming a 3% interest rate.

<sup>6</sup> Note: No credit can be taken for annualized TSS or TP removals due to downstream practices.

min	\$	6,679	\$	3,569
max	\$	40,827	\$	20,272
average	\$	20,843	\$	10,062



**Appendix B4-7a  
New Development Impact Analysis**

**2019 Future Development Areas (Data from City of Appleton Water System Master Plan - October 2019)**

Unique Area	TMDL Reachshed	TMDL TSS Removal Requirement	TMDL TP Removal Requirement	Acreage by Land Use Category							Total (acre)
				Single Family	Multi-Family	Commercial	Institutional	Mixed-Use	Business / Industrial	Ponds / Green Space	
A	Apple Creek	52.0%	40.5%	-	40	11	6	-	-	-	57
B				PREVIOUSLY DEFINED DEVELOPMENT AREA THAT IS NOW FULLY DEVELOPED AS OF 2019.							
C	Bear Creek	84.0%	85.6%	-	29	56	-	-	193	-	278
D	Apple Creek	52.0%	40.5%	-	-	41	8	22	-	-	71
E	Apple Creek	52.0%	40.5%	-	-	25	-	-	-	-	25
F	Apple Creek	52.0%	40.5%	-	-	13	16	-	-	-	29
G	Apple Creek	52.0%	40.5%	-	-	417	-	-	-	44	461
H				PREVIOUSLY DEFINED DEVELOPMENT AREA THAT IS NOW FULLY DEVELOPED AS OF 2019.							
I1	Apple Creek	52.0%	40.5%	-	4	27	-	-	13	-	44
I2	Lower Fox River (DS)	72.0%	40.5%	-	4	27	-	-	13	-	44
J	Lower Fox River (DS)	72.0%	40.5%	-	-	-	-	-	22	-	22
K	Lower Fox River (DS)	72.0%	40.5%	-	-	-	-	-	37	-	37
L	Garners Creek	60.0%	68.6%	-	-	-	-	38	-	-	38
M	Garners Creek	60.0%	68.6%	-	-	16	-	27	-	-	43
N	Garners Creek	60.0%	68.6%	-	-	-	-	-	247	-	247
O				PREVIOUSLY DEFINED DEVELOPMENT AREA THAT IS NOW FULLY DEVELOPED AS OF 2019.							
P	Bear Creek	84.0%	85.6%	-	-	131	-	-	-	-	131
Q	Bear Creek	84.0%	85.6%	420	-	-	-	-	-	-	420
R1	Apple Creek	52.0%	40.5%	401	-	-	-	-	-	-	401
R2	Duck Creek	52.0%	40.5%	155	-	-	-	-	-	-	155
S	Apple Creek	52.0%	40.5%	331	-	-	-	-	-	26	357
T	Apple Creek	52.0%	40.5%	73	-	-	12	-	-	-	85
U	Apple Creek	52.0%	40.5%	62	-	-	-	-	-	-	62
V1	Lower Fox River (DS)	72.0%	40.5%	6	2	-	1	-	-	-	10
V2	Lower Fox River (US)	72.0%	40.5%	2	1	-	1	-	-	-	3
W	Mud Creek	43.0%	48.2%	-	-	28	-	-	-	-	28
X	Lower Fox River (US)	20.0%	85.6%	-	-	29	-	-	-	-	29
Total				1,450	80	821	44	87	525	70	3,077

\* Note - if area is in multiple reachsheds, the removal requirement was weighted in this evaluation for simplification.

total acres 3,077

Unique Area	Data Adjustment to Citywide Project GIS WinSLAMM Areas				
	AGR Land Use	OPEN Land Use	Out of City Area	Total GIS Area (ac)	AGR, OPEN, and Out of City Area with No Regional BMP
A	0.00	5.76	51.06	56.8	56.8
B					
C	29.04	2.98	229.65	272.0	261.7
D	0.00	0.17	46.91	75.0	47.1
E	0.00	10.82	4.97	25.2	15.8
F	0.00	0.00	3.37	52.9	3.4
G	0.00	0.00	0.00	535.1	0.0
H					
I1	0.00	0.00	0.00	41.1	0.0
I2	0.00	0.00	0.00	41.1	0.0
J	3.99	9.66	2.33	18.8	16.0
K	0.00	0.00	38.28	38.3	38.3
L	0.00	3.38	0.00	34.8	3.4
M	0.00	0.00	0.00	42.3	0.0
N	0.00	0.30	0.26	256.6	0.6
O					
P	0.00	0.00	177.60	177.6	177.6
Q	0.00	0.00	423.99	424.0	424.0
R1	0.00	4.53	168.43	396.0	173.0
R2	0.00	1.75	65.24	153.4	67.0
S	0.00	7.19	248.54	361.2	255.7
T	0.00	0.00	7.96	80.8	8.0
U	0.00	0.00	61.49	62.9	61.5
V1	0.00	0.00	0.00	9.6	0.0
V2	0.00	0.00	0.00	3.4	0.0
W	0.00	0.00	0.00	25.9	0.0
X	0.00	0.00	0.00	29.0	0.0
Total	<b>33</b>	<b>47</b>	<b>1,530</b>	<b>3,214</b>	<b>1,610</b>

Unique Area	2030 Development Analysis									
	Estimated % Buildout 2030	Acres Developed in 2020-2030	Existing TSS Load (tons) 2030 Dev. Area	Existing TP Load (lbs) 2030 Dev. Area	Estimated 2030 TSS Load (tons)	Estimated 2030 TP Load (lbs)	Potential Net TSS Removal (tons)	Potential Net TP Removal (lbs)	Reachshed TSS Reduction Impact vs TMDL Target (tons)	Reachshed TP Reduction Impact vs TMDL Target (lbs)
A	50%	28.4	0.70	8.48	4.37	25.59	2.94	9.24	1.03	2.31
B	N/A									
C	10%	27.2	0.64	7.81	6.07	23.63	4.35	8.54	(0.22)	(5.00)
D	100%	75.0	1.15	14.05	8.45	40.13	5.83	14.09	2.04	3.52
E	75%	18.9	0.29	3.54	2.25	10.21	1.57	3.60	0.55	0.90
F	75%	39.7	0.06	0.76	0.49	2.27	0.34	0.82	0.12	0.20
G	50%	267.6	-	-	-	-	-	-	-	-
H	N/A									
I1	100%	41.1	-	-	-	-	-	-	-	-
I2	100%	41.1	-	-	-	-	-	-	-	-
J	25%	4.7	0.10	1.19	1.03	3.65	0.75	1.33	0.07	0.33
K	25%	9.6	0.23	2.86	2.47	8.75	1.79	3.18	0.18	0.80
L	30%	10.4	0.02	0.30	0.16	0.82	0.10	0.28	0.03	(0.08)
M	50%	21.2	-	-	-	-	-	-	-	-
N	50%	128.3	0.01	0.08	0.07	0.26	0.05	0.09	0.01	(0.03)
O	N/A									
P	0%	-	-	-	-	-	-	-	-	-
Q	0%	-	-	-	-	-	-	-	-	-
R1	25%	99.0	1.06	12.90	3.40	29.20	1.88	8.80	0.66	2.20
R2	25%	38.4	0.41	5.00	1.32	11.31	0.73	3.41	0.25	0.85
S	50%	180.6	3.13	38.16	9.91	85.30	5.42	25.46	1.90	6.37
T	50%	40.4	0.10	1.19	0.38	2.83	0.23	0.89	0.08	0.22
U	40%	25.2	0.60	7.34	1.94	16.61	1.07	5.01	0.37	1.25
V1	100%	9.6	-	-	-	-	-	-	-	-
V2	100%	3.4	-	-	-	-	-	-	-	-
W	100%	25.9	-	-	-	-	-	-	-	-
X	100%	29.0	-	-	-	-	-	-	-	-
Total	<b>Totals</b>	<b>1,164</b>	<b>8.50</b>	<b>103.64</b>	<b>42.31</b>	<b>260.58</b>	<b>27.05</b>	<b>84.75</b>		
Development rate		116	acres per year							

Unique Area	2040 Development Analysis									
	Estimated % Buildout 2040	Acres Developed in 2030-2040	Existing TSS Load (tons) 2040 Dev. Area	Existing TP Load (lbs) 2040 Dev. Area	Estimated 2040 TSS Load (tons)	Estimated 2040 TP Load (lbs)	Potential Net TSS Removal (tons)	Potential Net TP Removal (lbs)	Reachshed TSS Reduction Impact vs TMDL Target (tons)	Reachshed TP Reduction Impact vs TMDL Target (lbs)
A	100%	28.4	1.39	16.96	8.74	51.18	5.88	18.48	2.06	4.62
B	N/A									
C	50%	108.8	3.20	39.04	30.37	118.15	21.74	42.72	(1.09)	(25.00)
D	100%	-	1.15	14.05	8.45	40.13	5.83	14.09	2.04	3.52
E	100%	6.3	0.39	4.71	3.00	13.62	2.09	4.81	0.73	1.20
F	100%	13.2	0.08	1.01	0.65	3.03	0.46	1.09	0.16	0.27
G	75%	133.8	-	-	-	-	-	-	-	-
H	N/A									
I1	100%	-	-	-	-	-	-	-	-	-
I2	100%	-	-	-	-	-	-	-	-	-
J	50%	4.7	0.20	2.38	2.06	7.30	1.50	2.66	0.15	0.66
K	100%	28.7	0.94	11.42	9.90	35.00	7.17	12.73	0.72	3.18
L	60%	10.4	0.05	0.61	0.31	1.64	0.21	0.56	0.05	(0.15)
M	80%	12.7	-	-	-	-	-	-	-	-
N	75%	64.2	0.01	0.13	0.11	0.38	0.08	0.14	0.02	(0.04)
O	N/A									
P	25%	44.4	1.09	13.25	8.44	38.26	5.88	13.51	(0.29)	(7.90)
Q	25%	106.0	2.59	31.63	8.34	71.59	4.60	21.58	(0.23)	(12.63)
R1	50%	99.0	2.12	25.80	6.80	58.41	3.75	17.60	1.31	4.40
R2	50%	38.4	0.82	10.00	2.64	22.62	1.45	6.82	0.51	1.70
S	75%	90.3	4.69	57.23	14.86	127.96	8.13	38.19	2.85	9.55
T	100%	40.4	0.19	2.37	0.76	5.66	0.45	1.77	0.16	0.44
U	60%	12.6	0.90	11.01	2.90	24.92	1.60	7.51	0.56	1.88
V1	100%	-	-	-	-	-	-	-	-	-
V2	100%	-	-	-	-	-	-	-	-	-
W	100%	-	-	-	-	-	-	-	-	-
X	100%	-	-	-	-	-	-	-	-	-
Total	<b>Totals</b>	<b>842</b>	<b>19.81</b>	<b>241.60</b>	<b>108.33</b>	<b>619.86</b>	<b>70.81</b>	<b>204.26</b>		
Development rate		84	acres per year							

Unique Area	2050 Development Analysis									
	Estimated % Buildout 2050	Acres Developed in 2040-2050	Existing TSS Load (tons) 2050 Dev. Area	Existing TP Load (lbs) 2050 Dev. Area	Estimated 2050 TSS Load (tons)	Estimated 2050 TP Load (lbs)	Potential Net TSS Removal (tons)	Potential Net TP Removal (lbs)	Reachshed TSS Reduction Impact vs TMDL Target (tons)	Reachshed TP Reduction Impact vs TMDL Target (lbs)
A	100%	-	1.39	16.96	8.74	51.18	5.88	18.48	2.06	4.62
B	N/A									
C	100%	136.0	6.40	78.08	60.74	236.31	43.47	85.44	(2.17)	(50.00)
D	100%	-	1.15	14.05	8.45	40.13	5.83	14.09	2.04	3.52
E	100%	-	0.39	4.71	3.00	13.62	2.09	4.81	0.73	1.20
F	100%	-	0.08	1.01	0.65	3.03	0.46	1.09	0.16	0.27
G	100%	133.8	-	-	-	-	-	-	-	-
H	N/A									
I1	100%	-	-	-	-	-	-	-	-	-
I2	100%	-	-	-	-	-	-	-	-	-
J	100%	9.4	0.39	4.77	4.13	14.60	2.99	5.31	0.30	1.33
K	100%	-	0.94	11.42	9.90	35.00	7.17	12.73	0.72	3.18
L	100%	13.9	0.08	1.01	0.52	2.73	0.35	0.93	0.09	(0.25)
M	100%	8.5	-	-	-	-	-	-	-	-
N	100%	64.2	0.01	0.17	0.14	0.51	0.10	0.19	0.03	(0.05)
O	N/A									
P	100%	133.2	4.35	53.00	33.75	153.06	23.52	54.03	(1.18)	(31.62)
Q	100%	318.0	10.38	126.52	33.36	286.37	18.39	86.32	(0.92)	(50.51)
R1	100%	198.0	4.23	51.61	13.61	116.81	7.50	35.21	2.63	8.80
R2	100%	76.7	1.64	19.99	5.27	45.25	2.91	13.64	1.02	3.41
S	100%	90.3	6.26	76.31	19.81	170.61	10.84	50.92	3.80	12.73
T	100%	-	0.19	2.37	0.76	5.66	0.45	1.77	0.16	0.44
U	100%	25.2	1.50	18.35	4.84	41.53	2.67	12.52	0.93	3.13
V1	100%	-	-	-	-	-	-	-	-	-
V2	100%	-	-	-	-	-	-	-	-	-
W	100%	-	-	-	-	-	-	-	-	-
X	100%	-	-	-	-	-	-	-	-	-
Total	<b>Totals</b>	<b>1,207</b>	<b>39.39</b>	<b>480.33</b>	<b>207.67</b>	<b>1,216.40</b>	<b>134.63</b>	<b>397.48</b>		
Development rate		121	acres per year							



TMDL Reachshed	TMDL TSS Removal Requirement	TMDL TP Removal Requirement	2030 Summary		2040 Summary		2050 Summary	
			Reachshed TSS Reduction Impact vs TMDL Target (tons)	Reachshed TP Reduction Impact vs TMDL Target (lbs)	Reachshed TSS Reduction Impact vs TMDL Target (tons)	Reachshed TP Reduction Impact vs TMDL Target (lbs)	Reachshed TSS Reduction Impact vs TMDL Target (tons)	Reachshed TP Reduction Impact vs TMDL Target (lbs)
Apple Creek	52.0%	40.5%	6.75	16.98	9.87	25.89	12.50	34.72
Duck Creek	52.0%	40.5%	0.25	0.85	0.51	1.70	1.02	3.41
Garners Creek	60.0%	68.6%	0.04	(0.10)	0.07	(0.19)	0.11	(0.30)
Lower Fox River Mainstem (DS)	72.0%	40.5%	0.25	1.13	0.87	3.85	1.02	4.51
Lower Fox River Mainstem (US)	72.0%	40.5%	-	-	-	-	-	-
Mud Creek	43.0%	48.2%	-	-	-	-	-	-
Bear Creek	84.0%	85.6%	(0.22)	(5.00)	(1.61)	(45.53)	(4.27)	(132.13)
Lake Winnebago	20.0%	85.6%	-	-	-	-	-	-

Note: Negative values indicate that TMDL reduction targets are higher than current City ordinance requirements.

## Appendix B4-8a

### Water Quality Trading Alternatives Summary

#### City of Appleton – Citywide Stormwater Quality Management Plan

##### 1.1 Pollutant Trading

Rather than solely implementing source controls or other SMPs on the City's stormwater management system, another alternative is to identify entities or sources available for water quality pollutant trading.

The WDNR's "Guidance for Implementing Water Quality Trading in WPDES Permits" was updated on June 1, 2020. The guidance document (consisting of over 160 pages of information) is intended to assist with developing and implementing trades associated with various WPDES permits as authorized in s. 283.84 Wis. Stats. Trades may be used by industrial and municipal WPDES permit holders to demonstrate compliance with water quality-based effluent limitations (WQBELs). Trading is different from, and not to be confused, with adaptive management. Adaptive management is typically for phosphorus compliance only and must demonstrate evidence through monitoring of in-stream phosphorus concentrations and eventually achieving phosphorus water quality criteria in the water of focus. It is important to note that an adaptive management approach must be under the lead of a Wastewater Treatment Plant. A stormwater program cannot undertake an adaptive management approach on its own.

Water quality trading can be applied to a number of pollutants, not just phosphorus, and involves the purchase of "credits" in the watershed to achieve compliance. Permit compliance is demonstrated by comparing permittee discharge data (through modeling or monitoring), available credits, and permit limits. Because of the depth and complexity of this approach for moving towards compliance, only limited details on water quality trading are provided in this document as presented in the following paragraphs. For more detailed information and related resources, please see the WDNR's website at <https://dnr.wisconsin.gov/topic/Wastewater/WaterQualityTrading.html>.

A trade can be between two point sources "point to point" or a point source and nonpoint source "point to nonpoint". Municipal stormwater runoff and discharges are sometimes referred to as nonpoint sources and other times as point sources. For the purpose of trading, stormwater is considered a point source. "Nonpoint sources" are land management activities that contribute runoff, seepage, or percolation which adversely affects water quality, such as agricultural runoff. Trades are typically made directly between the "credit generator" (the source that is providing the excess pollutant load reduction) and the "credit user" (the entity purchasing the excess, available credits). There is also language in the guidance for "credit brokers" and a "credit exchange" to act as third parties to participate in matching credit generators and credit users.

Implementing the guidance is a rather complicated and detailed process, typically involving modeling evaluations of various credit alternatives, understanding and applying trade ratios, development of trading agreements (which would result in changes to both the wastewater and stormwater WPDES permits, including changing the City from a general stormwater permit to an individual permit) and following the required documentation with WDNR (Illustrated on Table 4 of the guidance document)

that includes completion of four different WDNR forms, development of the trade agreement, and an annual report summary. Additionally, there must be the construction of the identified treatment practice, technology, or land cover/condition implementation to complete the trade.

### **1.1.1 Water Quality Trading in Agricultural Areas**

While water quality trading is not new to Wisconsin, it is not widely utilized as a tool for WPDES permit compliance. To assist in understanding some past trades and considerations in agricultural situations, City of Appleton and BC staff met with Jessica Schultz, Executive Director of the Fox-Wolf Watershed Alliance on January 21, 2021. As part of the discussion, Jessica shared her experiences from her feasibility study “Exploring Water Quality Trading for Compliance” with Neenah-Menasha and Fox-West Regional Sewerage Commissions and the Heart of the Valley Metropolitan Sewerage District (Wisconsin’s first water quality trade in a TMDL watershed). During that discussion, Jessica noted that, while there have been some positive changes associated with WDNR guidance, her experience has been that, in its current state, water quality trading continues to be a rather costly method of moving towards compliance that involves considerable risk in most cases. Some specific insight into this is as follows:

#### *Effective duration of trading plan approval by WDNR*

The state statute for water quality trading requires the trade terms and conditions to be included in the WPDES permit. The permit must be issued, reissued, or modified to include information on the trade and is approved for a single permit term that must be re-approved in subsequent permits. Therefore, the length of time a plan is approved for by WDNR is equal to the length of the permit term which is five years for the City of Appleton.

#### *Duration of trade agreements with credit generator*

Management practices implemented on farm fields are often targeted as sources of credits, especially for phosphorus. One challenge that has been encountered is the reluctance for farmers to enter into long-term agreements. In the past, NRCS agreements with farmers have been short, approximately 1-year, which farmers have become accustomed to and willing to accept. Also, farmers have had the option to ‘walk away’ from an agreement. Water quality trade agreements go well beyond the short NRCS agreement duration. Some farmers have accepted agreements of three-to-five-year durations. However these are still relatively short and do not guarantee the long-term availability of credits for a WPDES permit holder like the City of Appleton to rely on them for achieving TMDL reductions. that will take decades to reach full compliance.

#### *Cost per pound of credit (due to farmer risk)*

Work by FWWA and other entities to encourage farmers to enter into credit agreements shows the cost to implement practices to be close to the cost of purchasing the crops that were lost to get farmers to buy into the deal. This raises the cost of the trade on a per-pound basis and ends up being more expensive and less sustainable, especially since this may be a limited arrangement that the farmer may be unwilling to maintain under future permit cycles. This will result in there not being a long-term benefit for the funds spent.

#### *Taking land out of production*

Because of some of the aforementioned challenges, the most cost effective and perhaps only way to guarantee a long-term benefit from a trade is to purchase the land identified for the trade and take it out of production. Ownership would be maintained by the City of Appleton or possibly placed in a trust of a non-profit organization to protect the credit generating characteristics of the property. Two potential concerns of this option include; 1) the possibility that the farming practice changes on other areas not protected by the purchase could be negatively modified and the overall benefit of the trade to the watershed and receiving water could be diluted and; 2) land areas owned by a tax exempt entity that might have otherwise provided an opportunity for development (e.g. residential, commercial, etc.) would impact the future tax base of the City of Appleton or another municipality in which the land area was purchased.

Based on FWWA's experience with trading and the current WDNR guidance, it appears that the best scenario for a trade working with agricultural land would result if the City had an opportunity to convert agricultural lands into the City's parks and open space plan. In this instance, the purchase of the land would match other objectives of the City, would not have the secondary impact of removing land areas that might be otherwise developable and beneficial to the tax base, and would provide the desired long-term benefit. The number of credits available would depend on the specific identified final use of the land and need to go through the full pollutant loading evaluation effort and trade process in the WDNR guidance. The proposed trade must be approved by the WDNR through the Notice of Intent process and follow the guidance outlined to be eligible. Past acquisition or instances are not eligible.

During a review with the City of the concept to implement a trade with an agricultural area through conversion of the ag land to park land, it was noted that the City may have such an opportunity where a future park site is suggested on farmed land currently owned by Thrivent in the Apple Creek Reachshed. While the Apple Creek reachshed does not need further TSS or TP reductions, excess reductions could be applied to the Lower Fox River DS Reachshed. A brief desktop analysis was conducted using information from the Lower Fox River TMDL report to evaluate the base load and load reduction requirements for ag land in the Apple Creek Reachshed, and using WinSLAMM to assess the loads associated with parkland.

The analysis identified that the TMDL report indicated that ag land baseline loads were 1.32 lbs/ac/yr for TP and 458.49 lbs/acre/yr for TSS. Allowable loads from ag land were 0.28 lbs/ac/yr (78.6% reduction) for TP and 201.31 lbs/ac/yr (56.1% reduction) for TSS. The WDNR guidance on trading noted that if the TP results were less than 0.5 lbs/ac/year that the allocation value may be rounded up to 0.5 lbs/ac/yr.

The WinSLAMM loadings for parkland in silty soil conditions are 0.46 lbs/yr/ac for TP and 110.4 lbs/ac/yr for TSS. A minimum trade ratio of 1.2 is required based on a review of the trade ratio components. This left essentially no TP available for a trade of this sort, and only 75.76 lbs/ac/yr of available TSS for a trade. For a 10-acre park this is only about 758 lbs/ac/yr that would be the resulting benefit of such a trade. While rather small, since this may be a project the City plans to implement regardless, the cost of submitting the required documents to the WDNR should be evaluated and the value of this trade proposition considered. Also, a trade such as this would require the City to move from their current General Permit to an Individual Permit as that is the mechanism that the WDNR uses to track trade related permit compliance items.

This scenario was discussed with Jake Zimmerman from the WDNR during a call on June 3, 2021 to review the details of the potential trade. Jake noted several considerations that does not rule out the site as a possibility but are items that would need to be evaluated further and are listed below.

- Typically a conversion of agricultural areas are made to a restored natural condition and not to a park land use.
- Typically an agricultural trade includes the installation of a stormwater management practice (SMP).
- Conversion of agricultural land to an MS4 park land use would require that the new developed obtain NR151 or TMDL reduction goals.
- The WDNR trading guidance indicates that there must be a measurable improvement in water quality. Since the area already drains to an existing City regional SMP (Ballard Road Pond), the improvement may be more difficult to quantify even though it is understood that the TMDL report incorporated the area in question as agricultural non-treated area. There is an expectation that sediment and nutrient loading to the existing regional SMP would be reduced and likely result in improved SMP performance, it is difficult to determine to what extent.
- A full analysis of the conditions would need to be developed following the WDNR guidance (e.g. using SnapPlus for agricultural loading analysis).
- If the trade evaluation was accepted, the City could use the improved conditions towards the Apple Creek reachshed reduction and, if TMDL goals were met, the excess could be internally traded to the Fox River reach. The City could not consider trading any anticipated excess reductions with outside entities until all regional models were completed for the Apple Creek reachshed that 'verified' that the City had met their TMDL reduction requirements. Currently, the models created for Apple Creek do not result in meeting the TMDL reduction requirements, although from a review of all existing practices, it is anticipate that the City will meet and exceed the required reductions.

### **1.1.2 Water Quality Trading with the City of Appleton Wastewater Utility**

Beyond looking at agricultural areas for generating water quality credits, the City also has the potential to consider a trade between the City of Appleton's Wastewater Utility (wastewater utility) and the City's stormwater management program. Excess credits available in the wastewater utility could be purchased by the stormwater management utility to help close the gap on reachshed TMDL compliance. The cost per pound to purchase the credits must be developed and compared to other potential practices to determine the cost effectiveness of the trade and both entities must be willing to have the trade incorporated into their permits and understand the long-term impacts of the trade.

City of Appleton stormwater staff and BC staff met with Chris Stempa, Deputy Director of Utilities for the City of Appleton, on January 27, 2021 to discuss this water quality option. The goals of the meeting included obtaining an understanding of current wastewater utility operations and WPDES permit requirements, review current treatment/discharge levels of total suspended solids (TSS) and total phosphorus (TP) compared to permit limits, and initiate a discussion on potential water quality trading opportunities available to both parties.

The City's wastewater treatment plant discharges to the Lower Fox River Mainstem Downstream Reach. The Lower Fox TMDL evaluated the point loads from the wastewater plant and a TP load allocation was established in the TMDL for daily loadings to the reach of 20.69 lbs/day (7,556 lbs/yr), which is a 43.7%

reduction from their baseline load. The TMDL also allocated a TSS load of 465 bs/day (169,857 lbs/year) which did not result in a TSS load allocation reduction target being established for the wastewater discharge.

### ***Current Wastewater Plant Operations and Opportunities to Trade Excess Load Capacity***

The WPDES permit for the wastewater treatment plant includes discharge limits of 1,322 lbs/day (expressed as a monthly average) and 2,434 lbs/day (expressed as a weekly average) for TSS. The plant is operating under an interim limit of 1.0 mg/L for TP, but the discharge limit will lower to 23 lbs/day (expressed as a six-month average) and 69 lbs/day (expressed on a monthly average) with the issuance of the next permit. These current TSS and pending TP discharge limits are based on the Lower Fox TMDL wasteload allocations for the plant. The current permit for the plant expires on March 31, 2022.

To comply with the lower TP limits in the next permit, the wastewater utility commissioned a plant optimization study to evaluate various technologies available to obtain the target load level for TP. As a result, the wastewater utility has implemented projects over the last few years that have moved them towards compliance with their current WPDES permit TP discharge load target of 23 lbs/6-month average. There is variability depending on seasonality and other factors that impact discharge loads, but a recent range of 14-23 lbs/6-month average has been met. The wastewater utility would like to increase their factor/margin of safety for TP compliance, so are unlikely at this time to be able to entertain a trade of any excess TP.

Total TSS discharge loads have been well below their permit levels and the load allocated to the wastewater utility in the TMDL. Recent discharge loadings for TP and TSS are shown in Table 4-x.

Based on this information and the data presented in Table 4-x, it appears that there may be an opportunity for the stormwater utility to purchase excess TSS capacity/credits available from the wastewater utility. Further clarification from the WDNR on this topic via email noted that a trade ratio of 1.1:1 would be applied, resulting in approximately 124 tons per year of TSS available for trade. The WDNR also noted that both entities would need to have their permits modified to reflect and document that trade. This would mean that the City would need to have their General Stormwater WPDES Permit modified to an Individual Permit.

To develop an estimated value of this trade, the cost for the City for the Leona Street Pond was used as a reference for a recent regional stormwater management facility. The cost to construct the Leona Street Pond was approximately \$1,925,882, per City of Appleton Expense Reporting (includes engineering, land acquisition, and construction related costs – but does not include any ongoing maintenance costs) to remove 16.4 tons/year of TSS (approximately \$117,432/ton). It is important to note that the Leona Street detention facility was constructed with some features such as a deeper wet detention pool to allow for the potential future addition and application of enhanced phosphorus treatment which increases its cost somewhat over some other stormwater facilities. At 124 tons/year, the excess TSS capacity of the Appleton WWTP is the equivalent of building over 7 (~7.56) Leona Street detention facilities. If \$100,000/ton of TSS is used, the present worth value of the 124 tons/year of excess WWTP TSS would be \$12,400,000.

Table 4-x. Appleton Wastewater Treatment Plant Annual TSS and TP Loadings and Available Trade Capacity							
Stormwater Management Plan Update							
City of Appleton, WI							
WPDES Permit TMDL Monthly Average TSS load Allowed				1322 lb/day			
WPDES Permit TMDL Monthly Average TSS load Allowed				63 lb/day			
Year	Avg. Monthly TSS (lbs/day)	Available TSS Based on Avg. Monthly - Permit Allowable (lbs/day)	Annual Available TSS Based on Avg. Monthly - Permit Allowable (lbs/year)	Avg. Monthly TP (lbs/day)	Available TP Based on Avg. Monthly - Permit Allowable (lbs/day)	Annual Available TP Based on Avg. Monthly - Permit Allowable (lbs/year)	Annual Rainfall Total (inches) Note: Average for Appleton is 32 inches
2016	291	1,031	376,320	29	40	14,509	
2017	303	1,013	363,741	13	50	18,409	37.75 7th Wettest Year on Record
2018**	427	895	326,533	40	29	10,511	41.73 3rd Wettest Year on Record
2019*	476	846	308,612	21	48	17,365	49.03 Wettest Year on Record
2020	300	1,022	372,923	19	50	18,411	
5-year Average	361	961	350,826	26	43	15,841	
* Note: February and March 2019 appear to be outliers to the monthly data set. Average Monthly TSS w/o February and March is 330 lbs/day.							
** Note: 2018 had 9 months that were higher than the 5-year average and the 2018 average is approximately double that of the preceding and following year, so this values presented seem conservative.							
WPDES Permit TMDL Monthly Average TSS load Allowed (lbs/day)	Highest Average Annual Monthly TSS Load Last 5 Years (2019) (lbs/day)	Add Monthly Margin of Safety (MOS)	Avg. Monthly TSS with MOS (lbs/day)	Annual Available TSS Based on Highest 5-year Monthly w/MOS - Permit Allowable (lbs/day)	Annual Available TSS Based on Highest 5-year Monthly w/MOS - Permit Allowable (lbs/year)	Annual Available TSS Based on Highest 5-year Monthly w/MOS - Permit Allowable (ton/year)	Effective TSS Available for Trade Based on 1:1 Trade Ratio (ton/year)
1,322	476	20%	572	750	273,828	137	124.47
* Note: A 20% MOS over 2019 Max. Monthly results in approximately a 34% MOS over 2018 (next highest year).							
WPDES Permit TMDL Monthly Average TP load Allowed (lbs/day)	Highest Average Annual Monthly TP Load Last 5 Years (2019) (lbs/day)	Add Monthly Margin of Safety (MOS)	Avg. Monthly TSS with MOS (lbs/day)	Annual Available TSS Based on Highest 5-year Monthly w/MOS - Permit Allowable (lbs/day)	Annual Available TSS Based on Highest 5-year Monthly w/MOS - Permit Allowable (lbs/year)	Annual Available TSS Based on Highest 5-year Monthly w/MOS - Permit Allowable (ton/year)	Effective TP Available for Trade Based on 1:1 Trade Ratio (ton/year)
63	40	20%	48	21	7,577	4	3.44
** Note: 2018 had 9 months that were higher than the 5-year TP average and the 2018 average is approximately double that of the preceding and following year.							

Ultimately the cost or value of the TSS trade from the wastewater utility would need to be negotiated between the wastewater and stormwater utilities in consultation with the City Finance and Legal staff to understand internal logistics. There would also need to be a clear understanding of the benefits to both the wastewater and stormwater utility rate payers for the trade as they ultimately will bear the cost of a trade. Based on the WDNR indicating that the City's stormwater management program would have to change from the General Permit to an Individual Permit, the City is not currently interested in implementing a trade in the near term.

### Other Potential Opportunities for Pollutant Trading

During the meeting, there was also discussion on how the wastewater utility and stormwater utility might consider coordinating together to evaluate and implement a shared trade with a nonpoint (agricultural) source might work. There is interest from the wastewater utility to increase their margin of safety with their TP discharge given the seasonal variability. Additionally, the use of chemical treatment to achieve the TP levels on an ongoing basis is costly and may also provide some potential relief to reduce polymer use and still be able to achieve wastewater plant WPDES permit levels reliably. The balance of the TP reductions realized from a nonpoint source trade could be utilized by the stormwater utility. The wastewater utility does not need additional TSS reductions, so any credits realized in that regard could be available to the stormwater utility.

This alternative to enter into a joint project with the wastewater utility was discussed with the WDNR; however, the WDNR seems to discourage such a joint project because if the project did not achieve the intended objectives, both entities would be found in violation of their respective permit conditions.

### **1.1.3 Water Quality Trading with City of Appleton TMDL Compliant Reachsheds**

The only pollutant trading that the City has considered to date was discussed in the 2014 City of Appleton Citywide Stormwater Management Plan, where excess TSS and TP in TMDL compliant reachsheds were identified as an internal trade opportunity to help close the gap with downstream reachsheds. This continues to be a viable and very cost-effective method to implement a trade since there essentially is no cost because the TSS and TP reductions are already available and in the control of the City. Section 3.3.6 of this report identified reachsheds with excess TSS (See Table 3-7) and TP (See Table 3-8) that can be applied to the Lower Fox Mainstem. The City has confirmed with the WDNR during this study that there is no trade ratio for the City to internally apply credit to a downstream reachshed.



## **Appendix C: Updated Post-Construction Ordinance**



## ARTICLE VI. STORMWATER MANAGEMENT STANDARDS AND PLANNING

### DIVISION 1. IN GENERAL

#### Sec. 20-300. Authority.

(a) This ordinance is adopted by the Common Council of the City of Appleton under the authority granted by §62.234, Wis. Stat. This ordinance supersedes all provisions of a stormwater management ordinance previously enacted under §62.23, Wis. Stat., that relates to stormwater management regulations. Except as specifically provided for in §62.234, Wis. Stat., §62.23, Wis. Stat. applies to this ordinance and to any amendments to this ordinance.

(b) The provisions of this ordinance are deemed not to limit any other lawful regulatory powers of the same governing body.

(c) The Common Council of the City of Appleton hereby designates the Director of Public Works or designee to administer and enforce the provisions of this ordinance.

(d) The requirements of this ordinance do not pre-empt more stringent stormwater management requirements that may be imposed by any of the following:

- (1) WDNR administrative rules, permits or approvals including those authorized under §281.16 and §283.33, Wis. Stat.
- (2) Targeted non-agricultural performance standards promulgated in rules by the WDNR under s. NR 151, Wisconsin Administrative Code.  
(Ord 188-03, §1, 10-21-03; Ord 42-16, §1, 5-1-16; Ord 72-20, §1, 5-1-20)

#### Sec. 20-301. Findings of fact.

The Common Council of the City of Appleton finds that uncontrolled post-construction runoff has a significant impact upon water resources and the health, safety, and general welfare of the City of Appleton and diminishes the public enjoyment and use of natural resources. Specifically, uncontrolled post-construction runoff can:

- (a) Degrade physical stream habitat by increasing streambank erosion, increasing streambed scour, diminishing groundwater recharge, diminishing stream base flows, and increasing stream temperature.
- (b) Diminish the capacity of lakes and streams to support fish, aquatic life, recreational and water supply uses by increasing pollutant loading of sediment, suspended solids, nutrients, heavy metals, bacteria, pathogens, and other urban pollutants.
- (c) Alter wetland communities by changing wetland hydrology and by increasing pollutant loads.
- (d) Reduce the quality of groundwater by increasing pollutant loads.
- (e) Threaten public health, safety, property and general welfare by overtaxing storm sewers, drainage ways, and other drainage facilities.
- (f) Threaten public health, safety, property and general welfare by increasing major flood peaks and volumes.
- (g) Undermine floodplain management efforts by increasing the incidence and levels of flooding.  
(Ord 188-03, §1, 10-21-03; Ord 42-16, §1, 5-1-16; Ord 72-20, §1, 5-1-20)

#### Sec. 20-302. Purpose and intent.

(a) *Purpose.* The purpose of this ordinance is to establish long-term, post-construction runoff management requirements that will diminish the threats to public health, safety, welfare, and the aquatic environment.

Specific purposes are to:

- (1) Further the maintenance of safe and healthful conditions.
- (2) Prevent and control the adverse effects of stormwater; prevent and control soil erosion; prevent and control water pollution; protect spawning grounds, fish and aquatic life; manage building sites, placement of structures and land uses; preserve ground cover and scenic beauty; and promote sound economic growth.
- (3) Control exceedances of the safe capacity of existing drainage facilities and receiving water bodies; prevent undue channel erosion; control increases in the scouring and transportation of particulate matter; and prevent conditions that endanger downstream property.
- (4) Minimize the amount of pollutants discharged from the separate storm sewer to protect waters of the state.

(5) Meet applicable Federal and State requirements and regulations.

(b) **Intent.** It is the general intent of the City of Appleton that this ordinance achieve its purpose through:

- (1) Regulating long-term, post-construction stormwater runoff from land development and redevelopment activities.
- (2) Controlling the quantity, peak flow rates, and quality of stormwater runoff from land development and redevelopment activities.
- (3) Providing services to maintain and enhance the quality of life within the community.

(c) **Implementation.** To this end the City of Appleton will manage post-construction stormwater runoff to protect, maintain and enhance the natural environment; diversity of fish and wildlife; human life; property; and recreational use of waterways within the city of Appleton and its extraterritorial area.

This ordinance may be applied on a site-by-site basis. The City of Appleton recognizes, however, that the preferred method of achieving the stormwater performance standards set forth in this ordinance is through the preparation and implementation of comprehensive, systems-level stormwater management plans that cover hydrologic units, such as watersheds, on a municipal and regional scale. Such plans may prescribe regional stormwater devices, practices or systems, any of which may be designed to treat runoff from more than one site prior to discharge to waters of the State of Wisconsin. Where such plans are in conformance with the performance standards developed under §281.16, Wis. Stat., for regional stormwater management measures, and have been approved by the City of Appleton, it is the intent of this ordinance that the approved plan be used to identify post-construction management measures acceptable for the community.

**Sec. 20-303. Title.**

This ordinance shall be known as the Stormwater Management Standards and Planning Ordinance for the City of Appleton.

**Sec. 20-304. Definitions.**

The following words, terms and phrases when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

**Adequate sod, or self sustaining vegetative cover** means maintenance of sufficient vegetation types and densities such that the physical integrity of the streambank or lakeshore is preserved. Self-sustaining vegetative cover includes grasses, forbes, sedges and duff layers of fallen leaves and woody debris.

**Administering authority** means a governmental employee that is designated by the City of Appleton to administer this ordinance.

**Agricultural facilities and practices** has the meaning given in §281.16(1), Wis. Stats.

**Agricultural use** means bee keeping; commercial feed-lots; dairying; egg production; floriculture; fish or fur farming; forest and game management; grazing; livestock raising; orchards; plant greenhouses and nurseries; poultry raising; raising of grain, grass, mint, and seed crops; raising of fruits, nuts, and berries; sod farming; placing land in federal programs in return for payments in kind; owning land, at least thirty-five (35) acres of which is enrolled in the conservation reserve program under 16 USC 3831 to 3836; participation in the mile production termination program under 7 USC 1446 (d); and vegetable raising (§91.01(1), Wis. Stat.).

**Atlas 14** means the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 Precipitation-Frequency Atlas of the United States, Volume 8 (Midwestern States), published in 2013.

**Average annual rainfall** means a typical calendar year of precipitation as determined by the Wisconsin Department of Natural Resources for users of models such as WinSLAMM or other methodology approved by the City. An average annual rainfall for Green Bay, 1969 (March 29-November 25) is applicable for the City of Appleton.

**Business day** means a day that offices of the City of Appleton are routinely and customarily open for business.

**Cease and desist order** means a court issued order to halt land disturbing construction activity that is being conducted without the required permit or not in conformance with an existing permit.

**City** means the City of Appleton.

**Common plan of development or sale** means a development or sale where multiple separate and distinct land disturbing construction activities may be taking place at different times on different schedules but under one plan. A common plan of development or sale includes, but is not limited to, subdivision plans, certified survey maps, and other developments.

**Concentrated flow channel** means a channel produced by erosion from runoff, or by construction, that would not be removed by tillage operations typically needed to prepare a field for crop production.

**Connected imperviousness** means an impervious surface connected to the water of the state via a separate storm sewer, an impervious flow path, or a minimally pervious flow path.

**Construction site** means an area upon which one or more land disturbing construction activities occur, including areas that are part of a larger common plan of development or sale where multiple separate and distinct land disturbing construction activities may be taking place at different times on different schedules but under one plan.

**Design storm** means a hypothetical discrete rainstorm characterized by a specific duration, temporal distribution, rainfall intensity, return frequency and total depth of rainfall. Rainfall amounts for 24-hour design rainfall events in Appleton are: 100-year, 5.50 inches; 10-year, 3.51 inches; 5-year, 3.01 inches; 2-year, 2.45 inches, and 1-year, 2.14 inches. The distribution shall be NOAA Atlas 14 MSE4.

**Development** means residential, commercial, industrial or institutional land uses and associated roads.

**Direct conduits to groundwater** means wells, sinkholes, swallets, fractured bedrock at the surface, sand or gravel surficial deposits, mine shafts, non-metallic mines, tile inlets discharging to groundwater, quarries, or depressional groundwater recharge areas over shallow fractured bedrock.

**Division of land** means the creation from one or more parcels or building sites of additional parcels or building sites where such creation occurs at one time or through the successive partition within a 5-year period.

**Effective infiltration area** means the area of the infiltration system devoted specifically to active infiltration, excluding areas required for site access, berms, pretreatment, or other area required for the installation, operation, or maintenance of the infiltration device.

**Erosion** means the process by which the land's surface is worn away by the action of the wind, water, ice or gravity.

**Exceptional resource waters** means waters listed in s. NR 102.11, Wisconsin Administrative Code.

**Existing land use condition** means the condition of the development site and the adjacent properties that are present at the time of the stormwater permit application.

**Extraterritorial** means the unincorporated area as defined in Ch. 236, Wis. Stat.

**Fee in lieu** means a payment of money to the City of Appleton in place of meeting all or part of the stormwater performance standards required by this ordinance.

**Filtering layer** means soil that has at least a 3-foot deep layer with at least twenty percent (20%) fines; or at least a five- (5-) foot deep layer with at least ten percent (10%) fines; or an engineered soil with an equivalent level of protection as determined by the regulatory authority for the site.

**Final stabilization** means that all land disturbing construction activities at the construction site have been completed and that a uniform perennial vegetative cover has been established with a density of at least seventy percent (70%) of the cover for the unpaved areas and areas not covered by permanent structures or that employ equivalent permanent stabilization measures.

**Financial guarantee** means a performance bond, maintenance bond, surety bond, irrevocable letter of credit, or similar guarantees submitted to the City of Appleton by the responsible party to assure that requirements of the ordinance are carried out in compliance with the stormwater management plan.

**Governing body** means the Common Council of the City of Appleton.

**Impervious surface** means an area that releases as runoff all or a large portion of the precipitation that falls on it, except for frozen soil. Rooftops, sidewalks, driveways, [bike trails](#), [multi-use trails](#), parking lots, and streets are examples of surfaces that typically are impervious. Gravel surfaces are considered impervious unless specifically designed for infiltration.

**In-fill** means an undeveloped area of land located within an existing urban sewer service area, surrounded by development or development and natural or man-made features where development cannot occur.

**Infiltration** means the entry of precipitation or runoff into or through the soil.

**Infiltration system** means a device or practice such as a basin, trench, rain garden or swale designed specifically to encourage infiltration, but does not include natural infiltration in pervious surfaces such as lawns, redirecting of rooftop downspouts onto lawns, or minimal infiltration from practices, such as swales or road side channels designed for conveyance and pollutant removal only.

**Land disturbing construction activity** means any man-made alteration of the land surface resulting in a change in the topography or existing vegetative or non-vegetative soil cover, that may result in stormwater runoff and lead to increased soil erosion and movement of sediment into waters of the state. Land disturbing construction activity includes clearing and grubbing, demolition, excavating, pit trench dewatering, filling and grading activities, parking lot reconstruction, but does not include parking lot resurfacing.

**Land user** means any person operating, leasing, renting, or having made other arrangements with the landowner by which the landowner authorizes use of his or her land.

**Landowner** means any person holding fee title, an easement or other interest in property, which allows the person to undertake cropping, livestock management, land disturbing construction activity or maintenance of stormwater SMPs on the property.

**Major Stormwater Management Plan** means a Stormwater Management Plan for a subdivision or a plan that proposes the use of one or more devices to meet standards or a non-one or two family site that is not considered a Minor Stormwater Management Plan.

**Maintenance agreement** means a legal document that is filed with the County Register of Deeds as a property deed restriction, and that provides for long-term maintenance of stormwater management practices.

**Maximum extent practicable (MEP)** has the meaning given it in s. NR 151.002(25), Wis. Adm. Code.

**Minor Stormwater Management Plan** means a Stormwater Management Plan for a site that has a regional stormwater facility in place that meets applicable standards, has a 100-year event conveyance system to the regional facility in place, and is free from unusual conditions, including but not limited to, contamination, critical site designation, change in land use, high impervious ratio, or floodplain.

~~**Natural wetlands** means an area where water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and that has soils indicative of wet conditions. These wetlands include existing, mitigated, and restored wetlands.~~

**New development** means development resulting from the conversion of previously undeveloped land or agricultural land uses.

**Non-structural measure** means a practice, technique, or measure to reduce the volume, peak flow rate, or pollutants, in stormwater that does not require the design or installation of fixed stormwater management facilities.

**NRCS** means the Natural Resources Conservation Service of the U.S. Department of Agriculture (USDA) formerly known as the SCS (Soil Conservation Service of the USDA).

**NRCS MSE4 distribution** means a specific precipitation distribution developed by the United States Department of Agriculture, Natural Resources Conservation Service, using precipitation data from Atlas 14.

**Off-site** means lands located outside the subject property boundary described in the permit application.

**On-site** means lands located within the subject property boundary described in the permit application.

**Ordinary high-water mark** has the meaning in s. NR 115.03(6), Wisconsin Administrative Code.

**Outstanding resource waters** means waters listed in s. NR 102.10, Wisconsin Administrative Code.

**Parking lot reconstruction** means removing asphalt to the base course by milling or other construction methods.

**Parking lot resurfacing** means removing a portion of an asphalt surface but leaving at least one inch (1") thickness of asphalt surface in place.

**Peak flow or peak flow discharge rate** means the maximum rate that a unit volume of stormwater is discharged. This is usually expressed in terms of cubic feet per second (cfs).

**Percent fines** means the percentage of a given sample of soil, that passes through a Number 200 sieve, in accordance with the "American Society for Testing and Materials", current standard.

**Performance security** means cash or an irrevocable letter of credit submitted to the City of Appleton by the permit holder to assure that requirements of the ordinance are carried out in compliance with the stormwater management plan and to recover any costs incurred by the City for design, engineering, preparation, checking and review of plans

and specifications, regulations and ordinances; and legal, administrative and fiscal work undertaken to assure and implement such compliance.

**Performance standard** means a narrative or measurable number specifying the minimum acceptable outcome for a facility or practice.

**Permit** means a written authorization made by the City of Appleton to the applicant to conduct land disturbing construction activity or to discharge post-construction runoff to waters of the state.

**Permit application fee** means a sum of money paid to the City of Appleton by the permit applicant for the purpose of recouping expenses incurred by the City in administering the permit.

**Pervious surface** means an area that releases as runoff a small portion of the precipitation that falls on it. Lawns, gardens, parks, forests, or other similar vegetated areas are examples of surfaces that typically are pervious.

**Pollutant** means any dredged spoil, solid waste, incinerator residue, sewage, garbage, refuse, oil, sewage sludge, munitions, chemical wastes, biological materials, radioactive substance, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal and agricultural waste discharged into water as described in §283.01(13), Wis. Stat.

**Pollution** has the meaning in §281.01(10), Wis. Stat.

**Post-construction site** means a construction site following the completion of land disturbing construction activity and final site stabilization.

**Post-development land use condition** means the extent and distribution of land cover types, anticipated to occur under conditions of full development or redevelopment that will influence runoff and infiltration.

**Pre-development condition** means the extent and distribution of land cover types present before the initiation of land disturbing construction activity, assuming that all land uses prior to development activity are managed in an environmentally sound manner.

**Pre-treatment** is the practice of reducing pollutants in stormwater before discharging the stormwater to another pollution control structure.

**Preventive action limit** has the meaning in s. NR 140.05(17), Wisconsin Administrative Code.

**Protective area** means an area of land that commences at the top of the channel of lakes, streams and rivers, or at the delineated boundary of wetlands, and that it is the greatest of the widths as listed in Sec. 20-312(g) of this code, as measured horizontally from the top of the channel or delineated wetland boundary to the closest impervious surface.

**Redevelopment** means areas where development is replacing older development.

**Residential land development** means development that is created to house people, including the residential dwellings as well as all affected portions of the development including lawns, driveways, sidewalks, garages, and access streets. This type of development includes single-family, multi-family, apartment and trailer parks.

**Responsible party** means any person holding fee title to the property or other entity contracted or obligated by other agreement to implement and maintain post-construction stormwater SMPs, or other requirements of this ordinance.

**Runoff** means stormwater or precipitation including rain, snow, or ice melt or similar water that moves on the land surface via sheet or channelized flow.

**Runoff Curve Number or RCNs** means an index that represents the combination of: a hydrologic soil group, land use, land cover, impervious area, interception storage, surface storage, and antecedent moisture conditions. RCNs

convert mass rainfall into mass runoff. The Natural Resources Conservation Service of the USDA defines RCNs in TR-55.

**Sediment** means settleable solid material that is transported by runoff, suspended within runoff or deposited by runoff away from its origination location.

**Separate storm sewer** means a conveyance or system of conveyances including roads with drainage systems, streets, catch basins, curbs, gutters, ditches, constructed channels, or storm drains, which meets all of the following criteria:

- (a) Is designed or used for collecting water or conveying runoff.
- (b) Is not part of a combined sewer system.
- (c) Is not part of a publicly owned wastewater treatment works that provides secondary or more stringent treatment.
- (d) Discharges directly or indirectly to waters of the state.

**Silviculture activity** means activities including tree nursery operations, tree harvesting operations, reforestation, tree thinning, prescribed burning, and pest and fire control. Clearing and grubbing of an area of a construction site is not a silviculture activity.

**Site** means the entire area included in the legal description of the land on which the land disturbing construction activity is proposed in the permit application or has occurred.

**Stop work order** means an order issued by the City of Appleton that requires all construction activity on the site be stopped.

**Stormwater conveyance system** means any method employed to carry stormwater runoff within and from a land development or redevelopment activity to the waters of the state. Examples of methods include: swales, channels, and storm sewers.

**Stormwater management measure** means structural or non-structural practices that are designed to reduce stormwater runoff pollutant loads, discharge volumes and/or peak flow discharge rates.

**Stormwater management plan** means a comprehensive plan provided by the land developer, land owner or permit holder that identifies the measure to be taken to reduce the discharge of pollutants from stormwater, and control the peak flow and volume of runoff after the site has undergone final stabilization, following completion of construction activity.

**Stormwater Management Practice or SMP** means structural or non-structural measures, practices, techniques, or devices employed to avoid or minimize soil, sediment or pollutants carried in runoff to waters of the state.

**Stormwater management system plan** is a comprehensive plan, including SMPs, designed to reduce the discharge of runoff and pollutants from hydrologic units on a regional or municipal scale.

**Targeted performance standard** means a performance standard that applies in a specific area that requires additional practices to meet water quality standards.

**Technical standard** means a document that specifies design, predicted performance, and operation and maintenance specifications for a material, device, or method.

**Top of the channel** means an edge or point on the landscape landward from the ordinary high water mark of a surface water of the state, where the slope of the land begins to be less than twelve percent (12%) continually for at least fifty (50) feet. If the slope of the land is 12 percent (12%) or less continually for the initial fifty (50) feet landward



from the ordinary high water mark, the top of the channel is the ordinary high water mark.

**Total maximum daily load or TMDL** means the amount of pollutants specified as a function of one or more water quality parameters, that can be discharged per day into a water quality limited segment and still ensure attainment of the applicable water quality standard.

**TP** means total phosphorus.

**TP-40** means Technical Paper No. 40, Rainfall Frequency Atlas of the United States, published in 1961.

**TR-55** means the United States Department of Agriculture, Natural Resources Conservation Services (previously Soil Conservation Service), Urban Hydrology for Small Watersheds, Second Edition, Technical Release 55, June 1986, which is incorporated by reference for this chapter.

**Transportation facility** means a highway, a railroad, a public mass transit facility, a public-use airport, a public trail, and also includes any other public work for transportation purposes such as harbor improvements under §85.095(1)(b), Wis. Stat. “Transportation Facility” does not include building sites for the construction of public buildings and buildings that are places of employment that are regulated by the Department pursuant to §281.33, Wis. Stat.

**TSS** means total suspended solids.

**Type II distribution** means a rainfall type curve as established in the “United States Department of Agriculture, Soil Conservation Service, Technical Paper 149, published 1973”.

**Waters of the state** has the meaning in §283.01(20), Wis. Stat.

**WDNR** means the Wisconsin Department of Natural Resources.

**WPDES permit** means a Wisconsin Pollutant Discharge Elimination System permit issued pursuant to Ch. 283, Wis. Stat.

**Wetland functional value** means the type, quality, and significance of the ecological and cultural benefits provided by wetland resources, such as: flood storage, water quality protection, groundwater recharge and discharge, shoreline protection, fish and wildlife habitat, floral diversity, aesthetics, recreation and education.

~~Natural w~~Wetlands means an area where water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and that has soils indicative of wet conditions. These wetlands include existing, mitigated, and restored wetlands.

(Ord 188-03, §1, 10-21-03; Ord 66-10, §1, 4-13-10; Ord 156-11, §1, 1-1-12; Ord 42-16, §1, 5-1-16; Ord 72-20, §1, 5-1-20)

**Secs. 20-305 – 20-310. Reserved.**

## **DIVISION 2. STORMWATER MANAGEMENT**

### **Sec. 20-311. Applicability and jurisdiction.**

(a) **Applicability.** This ordinance applies to all post-construction land development, redevelopment, and infill~~ing~~ sites with one (1) acre or more of land disturbing construction activities, except:

- (1) A post-construction site with less than ten percent (10%) connected imperviousness of the total area based on area of land disturbance, provided the cumulative area of all parking lots, roads, and rooftops

is less than one (1) acre. However, the exemption of this paragraph does not include exemption from the protective area standards of this ordinance.

- (2) Agricultural facilities and practices.
- (3) Nonpoint discharges from silviculture activities.
- (4) Underground utility construction such as water, sewer, and fiberoptic lines. This exemption does not apply to the construction of any above ground structures associated with utility construction.

Notwithstanding these applicability requirements, this ordinance applies to any post-construction site of any size that, in the opinion of the City of Appleton, is likely to result in runoff that exceeds the safe capacity of the existing drainage facilities or receiving body of water, that causes undue channel erosion, that increases water pollution by scouring or the transportation of particulate matter or other pollutants, or that endangers property or public safety.

(b) **Jurisdiction.** This ordinance applies to post-construction land development and redevelopment sites within the boundaries of the City of Appleton and to all lands located within three (3) miles of the corporate limits pursuant to the City's extraterritorial plat approval jurisdiction as set forth in §236.45(2), Wis. Stat., even if plat approval is not involved.

(c) **County and town ordinances.** This ordinance supersedes any county or town stormwater management ordinance for lands annexed to the City after the effective date of the county or town ordinance, except when the county or town ordinance is more restrictive than this ordinance; then the more restrictive provisions set forth in the county or town ordinance shall become part of this ordinance and apply to the annexed lands. In such cases, the City may grant a variance from the more restrictive requirements, provided that the criteria for a variance as set forth in the county or town ordinance is met.

(d) **State agency.** This ordinance is not applicable to activities conducted by a state agency, as defined under §227.01(1), Wis. Stat., and the office of the district attorney, which is subject to the state plan promulgated or a memorandum of understanding entered into under §281.33(2), Wis. Stat.

(e) **Waivers.** Requests to waive the stormwater management plan requirements shall be submitted to the City of Appleton for approval. Written waivers may be granted administratively by the City for stormwater requirements that are required only by the City if it is demonstrated to the satisfaction of the City that it is reasonable to expect that the objectives of this ordinance will be met by the proposed post-construction land development and redevelopment activity without a stormwater management plan or portion thereof.

(f) **Applicability of maximum extent practicable.** Maximum extent practicable applies when a person who is subject to a performance standard of this ordinance demonstrates to the City's satisfaction that a performance standard is not achievable and that a lower level of performance is appropriate. In making the assertion that a performance standard is not achievable and that a level of performance different from the performance standard is the maximum extent practicable, the responsible party shall take into account the best available technology, cost effectiveness, geographic features, and other competing interests such as protection of public safety and welfare, protection of endangered and threatened resources, and preservation of historic properties.  
(Ord 188-03, §1, 10-21-03; Ord 42-16, §1, 5-1-16; Ord 72-20, §1, 5-1-20)

## **Sec. 20-312. Performance standards.**

Unless otherwise provided for in this ordinance, all post-construction land development, redevelopment, and in-filling activities subject to this ordinance shall establish on-site management practices to control the peak flow rates of stormwater discharged from the site, the quality of the discharged stormwater, and the volume of the discharged stormwater as described in this ordinance. Technical standards identified, developed, or disseminated by the WDNR under subchapter V of Chapter NR 151, Wisconsin Administrative Code, shall be used. Where technical standards have not been identified or developed by the WDNR, other technical standards may be used provided that the methods have been approved by the City of Appleton. The responsible party shall implement a post-construction stormwater management plan that incorporates the requirements of this section.

Exceptions to these standards are listed in Sec. 20-312(l) of this ordinance.

(a) **Maintenance of effort.** For redevelopment sites where the redevelopment will be replacing older development that was subject to post-construction performance standards of NR 151 in effect on or after October 1, 2004, the responsible party shall meet the total suspended solids reduction, total phosphorus reduction, peak flow control, infiltration, and protective areas standards applicable to the older development or meet the redevelopment standards of this ordinance, whichever is more stringent.

For non-highway transportation facility redevelopment sites and highway reconstruction where the redevelopment or reconstruction will be replacing older development or highway that was subject to post-construction performance standards of this chapter in effect on or after October 1, 2004, the responsible party shall meet the total suspended solids reduction, total phosphorus reduction, peak flow control, infiltration, and protective areas standards applicable to the older development or highway, or meet the redevelopment or highway reconstruction standards of (d) – (m) of this section, whichever are more stringent.

(b) **Off-site drainage.** When designing stormwater management practices for (d), (e), and (f) of this section, runoff draining to the stormwater management practices from off-site shall be taken into account in determining the treatment efficiency of the practice. Any impact on the efficiency shall be compensated for by increasing the size of the SMP accordingly.

(c) **Separation distances.** Stormwater management practices shall be adequately separated from wells to prevent contamination of drinking water, and the following minimum separation distances shall be met:

- (1) Stormwater infiltration systems and ponds shall be located at least 400 feet from a well serving a community water system unless the Wisconsin Department of Natural Resources concurs that a lesser separation distance would provide adequate protection of a well from contamination.
- (2) Stormwater management practices shall be located with a minimum separation distance from any well serving a non-community or private water system as follows:
  - i. 25 feet to the edge of a stormwater detention pond or basin.
  - ii. 100 feet for a stormwater infiltration basin or system.
  - iii. 8 feet to a stormwater culvert or edge of a ditch that is not a river or stream.

(Ord 72-20, §1, 5-1-20)

(d) **Peak discharge**

(1) The proposed post-construction land use shall not increase peak flow rates of stormwater runoff from that which would have resulted from the same design storm occurring over the site with the land in its pre-development condition. Unless the site is currently woodland, pre-development peak flow rates shall be based on the grassland condition, as defined in Table 1. If the existing site contains a combination of woodland and grassland, a runoff curve number shall be weighted based on land cover using the curve numbers in Table 1. Peak flow rates shall be determined for storms of twenty-four (24) hour duration and recurrence intervals of one (1), two (2), five (5), ten (10), and one hundred (100) years. For proposed conditions, appropriate curve numbers, as described in TR-55 and weighted based on the proposed land cover, shall be used in TR-55 calculations. The composite RCNs as defined in TR-55 should not be used. ~~woodland condition, as defined in Table 1 of this ordinance for storms of twenty-four (24) hour duration and recurrence intervals of one (1), two (2), five (5), ten (10), and one hundred (100) years. Appropriate curve numbers, as described in TR-55 and weighted based on the proposed land cover, shall be used in TR-55 calculations. The composite RCNs as defined in TR-55 should not be used.~~

Table 1  
Maximum Pre-Development Runoff Curve Numbers

Runoff Curve Number	Hydrologic Soil Group			
	A	B	C	D
Woodland	30	55	70	77
Grassland	39	61	71	78
<del>Cropland</del>	<del>55</del>	<del>69</del>	<del>78</del>	<del>83</del>

~~Where the pre-development condition is a combination of the Table 1 land uses, the runoff curve number shall be weighted based on area of land cover.~~

- (2) All stormwater conveyance systems within the post-construction site shall be designed to completely contain the peak storm flows as described herein. Calculations for determining peak flows for conveyance system sizing shall use RCNs based on the existing or future proposed land use for off-site areas (whichever results in the highest peak flows), and the proposed land use for on-site areas.
  - a. For open channel conveyance systems the peak flow from the 100-year, 24-hour storm shall be completely contained within the channel bottom and banks.
  - b. For storm sewer conveyance systems the peak flow from the 5-year storm shall be completely contained within the storm sewers with no surcharging. The peak flow for the 10-year storm shall not surcharge above the permanent pavement surface at the gutter.
  - c. For storms greater than the five- (5-) year event, and up to the 100-year, 24-hour event, conveyance of flow to the appropriate waters of the state shall be within existing or proposed street right-of-ways or recorded drainage easements. In no case shall the depth of water exceed twelve (12) inches at the outer edge of pavement or six (6) inches at the road crown, whichever is less.
  - d. The 100-year storm runoff flow path outside of the storm sewer conveyance system must not impact structural improvements on property.
  - e. Existing flow onto the site cannot be restricted or modified to impact adjacent properties without a written agreement between property owners.
- (3) Determination of peak flow rates and volume of runoff for purposes of meeting the requirements of Sec. 20-312(d)(1) of this ordinance shall be computed by procedures based on the principals and procedures described in TR-55. Other proposed calculation methods must have prior written approval of the City of Appleton.
- (4) The rainfall distributions for the storm events shall be NOAA Atlas 14 MSE4, unless otherwise approved by the City of Appleton. On a case-by-case basis, the City of Appleton may allow the use of TP-40 precipitation depths and the Type II distribution.
- ~~(5) Existing wetlands shall not be incorporated in the proposed stormwater management practice for peak flow control. Peak flow shall be managed prior to discharge to an existing wetland. Should any changes to natural wetlands be proposed, the impact of the proposal on wetland functional values shall be assessed and significant changes to wetland functional values shall be avoided (as defined by s. NR 103, Wisconsin Administrative Code).~~
- (6) Peak stormwater discharge reductions do not apply for a site meeting any one of these requirements:
  - a. Redevelopment post-construction sites less than five (5) acres in size.
  - b. In-fill development areas less than five (5) acres in size.
  - c. Sites that directly discharge to the Fox River without flowing over or through a municipally owned separate storm sewer or stormwater conveyance system.

d. A transportation facility that is part of a redevelopment project.

e. A highway reconstruction site.

(Ord 72-20, §1, 5-1-20)

(e) **Stormwater discharge quality.** Unless otherwise provided for in this ordinance, all post-construction land development, ~~and~~ redevelopment and infill activities subject to this ordinance shall establish on-site management practices to control the quality of stormwater discharged from the post-construction site. The design shall be based on the average rainfall, as compared to no runoff management controls. Total Suspended Solids (TSS) and Total Phosphorus (TP) load reduction is required in accordance with Table 2. On-site management practices shall be used to meet the following minimum standards:

Table 2.  
Total Suspended Solids (TSS) and Total Phosphorus (TP) Load Reduction Requirements

<u>Watershed</u>	<u>New Development, Redevelopment 5 acres or larger and Infill</u>		<u>Redevelopment less than 5 acres and Transportation Facility Redevelopment</u>	
	<u>TSS</u>	<u>TP</u>	<u>TSS</u>	<u>TP</u>
<u>Apple Creek</u>	<u>80.0%</u>	<u>40.5%</u>	<u>52.0%</u>	<u>40.5%</u>
<u>Duck Creek</u>	<u>80.0%</u>	<u>40.5%</u>	<u>52.0%</u>	<u>40.5%</u>
<u>Mud Creek</u>	<u>80.0%</u>	<u>48.2%</u>	<u>42.8%</u>	<u>48.2%</u>
<u>Garners Creek</u>	<u>80.0%</u>	<u>68.6%</u>	<u>59.9%</u>	<u>68.6%</u>
<u>Fox River</u>	<u>80.0%</u>	<u>40.5%</u>	<u>72.2%</u>	<u>40.5%</u>
<u>Bear Creek</u>	<u>84.0%</u>	<u>85.6%</u>	<u>84.0%</u>	<u>85.6%</u>
<u>Lake Winnebago</u>	<u>80.0%</u>	<u>85.6%</u>	<u>40.0%</u>	<u>85.6%</u>

~~(1) All new development, redevelopment, and infill sites shall calculate TSS and TP loads without and with the proposed on-site stormwater management measures using an appropriate computer model. Both the loads and the amounts of removal shall be reported in the plan narrative and included in the computer model submitted for the project.~~

~~(2) Effectiveness of the stormwater management measures shall be evaluated using the latest version of the Source Loading and Management Model for Windows (WinSLAMM). Other models may be used with prior written approval of the City.~~

~~(1) Total suspended solids (TSS). SMPs shall be designed, installed and maintained to control total suspended solids carried in runoff from the post-construction site as follows:~~

~~a. For new development and new transportation facilities, by design, reduce to the maximum extent practicable, the total suspended solids load by eighty percent (80%), based on the average annual rainfall, as compared to no runoff management controls.~~

~~b. For redevelopment less than five (5) acres of disturbed land and highway reconstruction, by design, reduce to the maximum extent practicable, the total suspended solids load by forty percent (40%); based upon the average annual rainfall, as compared to no runoff management controls.~~

~~c. For redevelopment five (5) acres or greater of disturbed land, reduce to the maximum extent practicable, the total suspended solids load by eighty percent (80%), based on the average annual rainfall, as compared to no runoff management controls.~~

~~d. For in fill development by design, reduce to the maximum extent practicable, the total suspended solids load by eighty percent (80%), based on the average annual rainfall, as compared to no runoff management controls.~~

~~e. For non highway transportation facility redevelopment, by design, reduce to the maximum extent practicable, the total suspended solids load by 40% based on average annual rainfall as compared to no runoff management controls.~~

~~(2) Total phosphorus (TP). All new development, redevelopment, and infill sites shall calculate the total phosphorus load and the amount of phosphorus removed with the proposed on-site practices with an appropriate computer model. Both the load and the amount of removal shall be reported in the plan narrative and included in the computer model submitted for the project.~~

~~(3) Effectiveness of the stormwater management measures shall be evaluated using the latest version of the Source Loading and Management Model (WinSLAMM). Other models may be used with prior written approval of the City.~~

(Ord 66-10, §1, 4-13-10; Ord 72-20, §1, 5-1-20)

(f) **Infiltration.** Unless otherwise provided for in this ordinance, all post-construction land development and redevelopment sites subject to this ordinance shall design, install, and maintain on-site stormwater management practices to infiltrate runoff in accordance with the following, to the maximum extent practicable.

(1) *Low imperviousness.* For development up to 40 percent (40%) connected imperviousness, such as parks, cemeteries, and low density residential development, infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 90 percent (90%) of the pre-development infiltration volume, based on an average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than one percent (1%) of the post-construction site is required as an effective infiltration area.

(2) *Moderate imperviousness.* For development with more than forty percent (40%) and up to eighty percent (80%) connected imperviousness, such as medium and high density residential, multi-family development, industrial and institutional development, and office parks, infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least seventy-five percent (75%) of the pre-development infiltration volume, based on an average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than two percent (2%) of the post-construction site is required as an effective infiltration area.

(3) *High imperviousness.* For development with more than eighty percent (80%) connected imperviousness, such as commercial strip malls, shopping centers, and commercial downtowns, infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least sixty percent (60%) of the pre-development infiltration volume, based on an average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than two percent (2%) of the post-construction site is required as an effective infiltration area.

(4) *Pre-development.* The pre-development condition shall be as specified in Table ~~4~~3.

Table 3

<u>Runoff Curve Number</u>	<u>Hydrologic Soil Group</u>			
	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
<u>Woodland</u>	<u>30</u>	<u>55</u>	<u>70</u>	<u>77</u>
<u>Grassland</u>	<u>39</u>	<u>61</u>	<u>71</u>	<u>78</u>
<u>Cropland</u>	<u>55</u>	<u>69</u>	<u>78</u>	<u>83</u>

(5) A model that calculates runoff volume, such as WinSLAMM or other methodology approved by the City shall be used. Other models may be used with prior written approval of the City.

- (6) Before infiltrating runoff, pretreatment shall be required for parking lot runoff and for runoff from new road construction in commercial, industrial, and institutional areas that will enter an infiltration system. The pretreatment shall be designed to protect the infiltration system from clogging prior to scheduled maintenance in accordance with Sec. 20-314 of this ordinance.

Pretreatment may include, but is not limited to, oil/grease separation, sedimentation, biofiltration, filtration, treatment swales or filter strips. It is desirable to infiltrate the cleanest runoff to meet the infiltration standard. To achieve this, the design may propose greater infiltration of runoff from some sources such as roofs, and lesser from dirtier sources such as parking lots.

- (7) For the purpose of this section, turf grass swales are not counted towards the one percent (1%) or two percent (2%) infiltration areas described in subsections (1) and (2).

(8) *Source areas.*

- a. *Prohibitions.* Runoff from the following areas may not be infiltrated and may not qualify as contributing to meeting the requirements of this section unless demonstrated to meet the conditions identified in Sec. 20-312(f)(11):

- i. Areas associated with a tier 1 industrial facility identified in s. NR 216.21(2)(a), Wisconsin Administrative Code, including storage, loading and parking. Rooftops may be infiltrated with the concurrence of the regulatory authority.
- ii. Storage and loading areas of a tier 2 industrial facility identified in s. NR216.21(2)(b), Wisconsin Administrative Code.

NOTE TO USERS: Runoff from the employee and guest parking and rooftop areas of a tier 2 facility may be infiltrated but runoff from the parking area may require pretreatment.

- iii. Fueling and vehicle maintenance areas. Runoff from rooftops and fueling and vehicle maintenance areas may be infiltrated with the concurrence of the regulatory authority.
- b. *Exemptions.* Runoff from the following areas may be credited toward meeting the requirement when infiltrated, but the decision to infiltrate runoff from these source areas is optional:
- i. Parking areas and access roads less than 5,000 square feet for commercial development.
  - ii. Parking areas and access roads less than 5,000 square feet for industrial development not subject to the prohibitions under par a.
  - iii. Redevelopment post-construction sites, except as provided under Sec. 20-312(a), Maintenance of effort.
  - iv. In-fill development areas less than five (5) acres.
  - v. Roads on commercial, industrial and institutional land uses, and arterial residential roads.
  - vi. Transportation facility highway reconstruction and new highways.

(9) *Location of practices.*

- a. *Groundwater limitations.* When permanent infiltration systems are used, appropriate on-site testing shall be conducted to determine if seasonal high groundwater elevation or top of bedrock is within five (5) feet of the bottom of the proposed infiltration system.

- b. *Prohibitions.* Infiltration practices may not be located in the following areas:
  - i. Areas within 1,000 feet upgradient or within 100 feet downgradient of direct conduits to groundwater.
  - ii. Areas within 400 feet of a community water system well as specified in s. NR 811.16(4), Wisconsin Administrative Code or within the separation distances listed in s. NR 812.08, Wisconsin Administrative Code for any private well or non-community well for runoff infiltrated from commercial, including multi-family residential, industrial and institutional land uses, or regional devices for one- and two-family residential development.
  - iii. Areas where contaminants of concern, as defined in s. NR 720.03 (2), Wisconsin Administrative Code, are present in the soil through which infiltration will occur.
- c. *Separation distances.*
  - i. Infiltration practices shall be located so that the characteristics of the soil and the separation distance between the bottom of the infiltration system and the elevation of seasonal high groundwater or the top of bedrock are in accordance with Table 24.

Table 24  
Separation Distances and Soil Characteristics

Source Area	Separation Distance	Soil Characteristics
Industrial, Commercial, Institutional Parking Lots and Roads	5 feet or more	Filtering layer
Residential Arterial Roads	5 feet or more	Filtering layer
Roofs Draining to Subsurface Infiltration Practices	1 foot or more	Native or Engineered soil with particles finer than coarse sand
Roofs Draining to Surface Infiltration Practices	Not applicable	Not applicable
All Other Impervious Source Areas	3 feet or more	Filtering Layer

- ii. Notwithstanding par. b., applicable requirements for injection wells classified under ch. NR 815, Wisconsin Administrative Code shall be followed.
- d. *Infiltration rate exemptions.* Infiltration practices located in the following areas may be credited toward meeting the requirements under the following conditions, but the decision to infiltrate under these conditions is at the Developer's option:
  - i. Where the infiltration rate of the soil measured at the proposed bottom of the infiltration system is less than 0.6 inches per hour using a scientifically credible field test method.
  - ii. Where the least permeable soil horizon to five (5) feet below the proposed bottom of the



infiltration system using the U.S. Department of Agriculture method of soils analysis is one of the following: sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, or clay.

(10) *Alternate use.* Where alternate uses of runoff are employed, such as for toilet flushing, laundry, or irrigation or storage on green roofs where an equivalent portion of the runoff is captured permanently by rooftop vegetation, such alternate use shall be given equal credit toward the infiltration volume required by this section.

(11) *Groundwater standards.*

- a. Infiltration systems designed in accordance with this section shall, to the extent technically and economically feasible, minimize the level of pollutants infiltrating to groundwater and shall maintain compliance with the preventive action limit at a point of standards application in accordance with s. NR 140, Wisconsin Administrative Code. However, if site-specific information indicates that compliance with a preventive action limit is not achievable, the infiltration SMP shall not be installed or shall be modified to prevent infiltration to the maximum extent practicable.
- b. Notwithstanding paragraph (a), the discharge from SMPs shall remain below the enforcement standard at the point of standards application.

(Ord 72-20, §1, 5-1-20)

(g) ***Protective areas.*** Protective area means an area of land that commences at the top of the channel of lakes, streams and rivers, or at the delineated boundary of wetlands, and that is the greatest of the widths described below, as measured horizontally from the top of the channel or delineated wetland boundary to the closest impervious surface. However, in this section, protective area does not include any area of land adjacent to any stream enclosed within a pipe or culvert, such that runoff cannot enter the enclosure at this location.

(1) Protective areas are:

- a. For outstanding resource waters and exceptional resource waters, seventy-five (75) feet.
- b. For perennial and intermittent streams identified on a United States geological survey 7.5-minute series topographic map, or a county soil survey map, whichever is more current, fifty (50) feet.
- c. For lakes, 50 feet.
- d. For wetlands not subject to par. e. or f., 50 feet.
- e. For highly susceptible wetlands, 75 feet. Highly susceptible wetlands include the following types: calcareous fens, sedge meadows, open and coniferous bogs, low prairies, coniferous swamps, lowland hardwood swamps, and ephemeral ponds.
- f. For less susceptible wetlands, ten percent (10%) of the average wetland width, but no less than ten (10) feet nor more than thirty (30) feet. Less susceptible wetlands include: degraded wetland dominated by invasive species such as reed canary grass; cultivated hydric soils, and any gravel pits, or dredged material or fill material disposal sites that take on the attributes of a wetland.
- g. In pars. d. to f., determinations of the extent of the protective area adjacent to wetlands shall be made on the basis of the sensitivity and runoff susceptibility of the wetland in accordance with the standards and criteria in s. NR 103.03, Wisconsin Administrative Code.
- h. Wetland boundary delineation shall be made in accordance with s. NR 103.08(1m), Wisconsin Administrative Code. This paragraph does not apply to wetlands that have been completely filled in compliance with all applicable state and federal regulations. The protective area for wetlands that have been partially filled in compliance with all applicable state and federal regulations shall be measured from the wetland boundary delineation after fill has been placed. Where there is a legally

authorized wetland fill, the protective area standard need not be met in that location.

- i. For concentrated flow channels with drainage areas greater than 130 acres, 10 feet.
  - j. Notwithstanding pars. a. to i., the greatest protective area width shall apply where rivers, streams, lakes, and wetlands are contiguous.
- (2) This section applies to post-construction sites located within a protective area, except those areas exempted pursuant to sub. 5.
- (3) The following requirements shall be met:
- a. Impervious surfaces shall be kept out of the protective area entirely or to the maximum extent practicable. The stormwater management plan shall contain a written site-specific explanation for any parts of the protective area that are disturbed during construction.
  - b. Where land disturbing construction activity occurs within a protective area, and where no impervious surface is present, adequate sod or self-sustaining native vegetative cover of seventy percent (70%) or greater shall be established and maintained. The self-sustaining vegetative cover shall be sufficient to provide for bank stability, maintenance of fish habitat and filtering of pollutants from upslope overland flow areas under sheet flow conditions. Non-vegetative materials, such as rock riprap, may be employed on the bank as necessary to prevent erosion, such as on steep slopes or where high velocity flows occur.
  - c. Stormwater management practices such as filter strips, treatment swales, or wet detention basins, that are designed to control pollutants from nonpoint sources may be located in the protective area.
- (4) A protective area established or created after the adoption date of this ordinance shall not be eliminated or reduced, except as allowed in subd. (5)b., c., or d below.
- (5) Protective areas do not apply to:
- a. Redevelopment post-construction sites, including non-highway transportation redevelopment sites, provided the minimum requirements within subd. (4) above are satisfied.
  - b. Structures that cross or access surface waters such as boat landings, bridges and culverts.
  - c. Structures constructed in accordance with §59.692(1v), Wis. Stat.
  - d. Post-construction sites, including transportation facilities, from which runoff does not enter the surface water, including wetlands, without first being treated by a SMP, except to the extent that vegetative ground cover is necessary to maintain bank stability.
  - e. Infill development less than five (5) acres.
- (Ord 66-10, §1, 4-13-10; Ord 42-16, §1, 5-1-16; Ord 72-20, §1, 5-1-20)

(h) **Fueling and vehicle maintenance areas.** Fueling and vehicle maintenance areas shall, to the maximum extent practicable, have SMPs designed, installed, and maintained to reduce petroleum within runoff, such that the runoff that enters waters of the state contains no visible petroleum sheen. A combination of the following SMPs may be used: oil and grease separators, canopies, petroleum spill cleanup materials, or any other structural or non-structural method of preventing or treating petroleum in runoff.

- (1) This ordinance applies to:
- a. New fueling and vehicle maintenance areas approved after the effective date of this ordinance.

- b. Any modifications to existing fueling and vehicle maintenance areas regardless of the size of the disturbed area. SMPs installed as part of a site modification shall, to the maximum extent practicable, be designed and operated to treat all stormwater leaving the site so that the stormwater contains no visible petroleum sheen.
- c. Transportation and non-highway transportation sites.

(2) A stormwater management plan per Sec. 20-313 of this ordinance, a maintenance agreement per Sec. 20-314 of this ordinance and a stormwater permit per Sec. 20-321 of this ordinance are required.  
(Ord 66-10, §1, 4-13-10; Ord 42-16, §1, 5-1-16; Ord 72-20, §1, 5-1-20)

(i) **General considerations for stormwater management measures.** The following considerations shall be observed in on-site and off-site runoff management.

- (1) Natural topography and land cover features such as natural swales, natural depressions, native soil infiltrating capacity and natural groundwater recharge areas shall be preserved and used, to the extent possible, to meet the requirements of this section.
- (2) Overland flow for all stormwater facilities shall be provided to prevent exceeding the safe capacity of downstream drainage facilities and prevent endangerment of downstream property or public safety.
- (3) Overland flow paths from adjoining properties to an offsite facility must be maintained.
- (4) Low impact development techniques and green infrastructure should be included to the extent possible. These techniques include but are not limited to: increasing the time of concentration by lengthening the flow path and increasing the roughness of the flow path, using native, deep rooted vegetation instead of turf grasses and deep tilling onsite compacted soil.

(Ord 66-10, §1, 4-13-10; Ord 42-16, §1, 5-1-16; Ord 72-20, §1, 5-1-20)

(j) **Location and regional treatment option.**

- (1) The SMPs may be located on-site or off-site as part of a regional stormwater device, practice or system, but shall be installed in accordance with s. NR 151.003 Wisconsin Administrative Code.
- (2) Post-construction runoff within a non-navigable surface water that flows into a SMP, such as a wet detention pond, is not required to meet the performance standards of this ordinance. Post-construction SMPs may be located in non-navigable surface waters.
- (3) Post-construction runoff shall meet the post-construction performance standards prior to entering navigable surface water.
  - a. To the maximum extent practicable, SMPs shall be located to treat runoff prior to discharge to navigable surface waters.
  - b. Post-construction SMPs for such runoff may be located in a navigable surface water if allowable under all other applicable federal, state and local regulations such as s. NR 103, Wisconsin Administrative Code and Chapter 30, Wis. Stat.
- (4) The City of Appleton may approve off-site management measures provided that all of the following conditions are met:
  - a. The post-construction runoff is covered by a stormwater management system plan that is approved by the City of Appleton and that contains management requirements consistent with the purpose and intent of this ordinance.
  - b. The off-site facility meets all of the following conditions:

- i. The facility is in place.
  - ii. The facility is designed and adequately sized to provide a level of stormwater control equal to or greater than that which would be afforded by on-site practices meeting the performance standards of this ordinance.
  - iii. The facility has a legally obligated entity responsible for its long-term operation and maintenance.
  - iv. Permittee must demonstrate that the proposed post-construction land development or redevelopment activity has received permission to use the off-site facility.
  - v. Permittee must also demonstrate the flow path to the off-site facility will not result in negative impacts to structural improvements on the property.
  - vi. Permittee must provide easements of all overland flow paths up to and including the overland flow path of the 100-year storm.
- (5) Where a regional treatment option exists such that the City of Appleton exempts the applicant from all or part of the minimum on-site stormwater management requirements, the applicant may be required to pay a one-time fee in an amount determined by the City of Appleton. In determining the fee for post-construction runoff, the City may consider an equitable distribution of the cost for land, engineering design, construction, and maintenance of the regional treatment option.
- (6) The discharge of runoff from a SMP, such as a wet detention pond, or after a series of such SMPs, is subject to this ordinance.
- (Ord 72-20, §1, 5-1-20)

(k) ***Additional requirements.*** The City of Appleton may establish stormwater management requirements more stringent than those set forth in this ordinance if the City determines that the requirements are needed to control stormwater quantity or control flooding, comply with federally approved total maximum daily load requirements, or control pollutants associated with existing development or redevelopment.

(l) ***Swale treatment for transportation facilities.***

- (1) ***Applicability.*** Except as provided in Sec. 20-312(i)(2) of this ordinance, transportation facilities that use swales for runoff conveyance, pollutant removal and infiltration meet the stormwater discharge quality requirements of this section, if the swales are designed to the maximum extent practicable to do all of the following:
- a. Be vegetated. However, where appropriate, non-vegetative measures may be employed to prevent erosion or provide for runoff treatment, such as rock riprap stabilization or check dams. It is preferred that tall and dense vegetation be maintained within the swale because of its greater effectiveness at enhancing runoff pollutant removal.
  - b. Swales shall comply with sections V.F. (Velocity and Depth) and V.G. (Swale Geometry Criteria) with a swale treatment length as long as that specified in section V.C. (Pre-Treatment) of the Wisconsin Department of Natural Resources technical standard 1005 “Vegetated Infiltration Swales”, dated May 2007, or a superseding document. Transportation facility swale treatment does not have to comply with other sections of technical standard 1005.

(2) ***Other requirements.***

- a. The City of Appleton may, consistent with water quality standards, require other provisions of this section be met on a transportation facility with average daily traffic of vehicles greater than two

thousand five hundred (2,500) per day and where the initial surface water of the state that the runoff directly enters is any of the following:

- i. An outstanding resource water.
- ii. An exceptional resource water.
- iii. Waters listed in s. 303(d) of the Federal Clean Water Act that are identified as impaired in whole or in part, because of nonpoint source impacts.
- iv. Waters where targeted performance standards are developed under s. NR 151.004, Wisconsin Administrative Code, to meet water quality standards.

- b. The transportation facility authority shall contact the City to determine if additional SMPs beyond a water quality swale are needed under this subsection.

(Ord 66-10, §1, 4-13-10; Ord 42-16, §1, 5-1-16; Ord 72-20, §1, 5-1-20)

(m) Innovative stormwater management systems that do not meet Sec. 20-312(d), (e) or (f) of this ordinance must be reviewed and accepted by the City before installation.

(188-03, §1, 10-21-03; Ord 42-16, §1, 5-1-16)

### **Sec. 20-313. Stormwater management plans.**

#### **(a) *Plan requirements.***

- (1) The stormwater management plan required under Sec. 20-321 of this ordinance shall contain any such information the City of Appleton may need to evaluate the characteristics of the area affected by land development and redevelopment activities, the potential impacts of the proposed activity upon the quality and quantity of stormwater discharges, the potential impacts upon water resources and drainage systems and the effectiveness and acceptability of proposed stormwater management measures in meeting the performance standards set forth in this ordinance.
- (2) All initial and final site investigations, geotechnical reports, plans, designs, computations and drawings for stormwater management measures and plans submitted for review shall be stamped by a professional engineer registered in the State of Wisconsin and be prepared in accordance with accepted engineering practice and in accordance with criteria set forth by the City of Appleton.
- (3) Plan submittal shall include a digital version of the WinSLAMM \*.mdb file(s) and a digital representation of post-construction drainage area(s) to each individual treatment practice in ESRI GIS Shapefile or Geodatabase format, Autodesk AutoCAD (\*.dwg), or other format approved by the City.
- (4) Wetland evaluations and delineations shall be prepared by a qualified professional and submitted with any State and/or Federal concurrence letter(s).

#### **(b) *Minimum content.*** The stormwater management plan shall contain at a minimum the following information:

- (1) Name, address and telephone number for the following and their designees: landowner; developer; project engineer for practice design and certification; person(s) responsible for installation of stormwater management practices; and person(s) responsible for maintenance of stormwater management practices prior to the transfer, if any, of maintenance responsibility to another party.
- (2) A proper legal description of the property proposed to be developed in Outagamie County Coordinate System and referenced to the U.S. Public Land Survey system or to block and lot numbers within a recorded land subdivision plat.
- (3) Pre-development site conditions, including:

- a. One or more site maps of current site conditions at a scale of not less than one (1) inch equal one hundred (100) feet. The site maps shall show the following: site location and legal property description; predominant soil types and hydrologic soil groups; existing cover type and condition; topographic contours of the site; topography and drainage network including enough of the contiguous properties to show runoff patterns onto, through, and from the site; watercourses that may affect or be affected by runoff from the site; flow path and direction for all stormwater conveyance sections; watershed boundaries used in hydrology determinations to show compliance with performance standards; lakes, streams, wetlands, channels, ditches, and other watercourses on and immediately adjacent to the site; limits of the 100-year floodplain; location of wells and wellhead protection areas covering the project area and delineated pursuant to s. NR 811.16, Wisconsin Administrative Code.
  - b. Hydrology and pollutant loading computations as needed to show compliance with performance standards. All major assumptions used in developing input parameters shall be clearly stated. The geographic areas used in making the calculations shall be clearly cross-referenced to the required map(s).
- (4) Post-construction site conditions, including:
- a. Explanation of the provisions to preserve and use natural topography and land cover features to minimize changes in peak flow runoff rates and volumes to surface waters and wetlands.
  - b. Explanation of any restrictions on stormwater management measures in the development area imposed by wellhead protection plans and ordinances.
  - c. One or more site maps at a scale of not less than one (1) inch equals one hundred (100) feet showing the following: post-construction pervious areas including vegetative cover type and condition; impervious surfaces including all buildings, structures and pavement; post-construction topographic contours of the site; post-construction drainage network including enough of the contiguous properties to show runoff patterns onto, through and from the site; locations and dimensions of drainage easements; locations of maintenance easements specified in the maintenance agreement; flow path and direction for all stormwater conveyance sections; location and type of all stormwater management conveyance and treatment practices, including the on-site and off-site tributary drainage areas; location and type of conveyance system that will carry runoff from the drainage and treatment practices to the nearest adequate outlet such as a curbed street, storm drain, or natural drainage way; watershed boundaries used in hydrology and pollutant loading calculations and any changes to lakes, streams, wetlands, channels, ditches and other watercourses on and immediately adjacent to the site.
  - d. Hydrology and pollutant loading computations as needed to show compliance with performance standards. The computations shall be made for each discharge point in the development and the geographic areas used in making the calculations shall be clearly cross-referenced to the required map(s). The plan shall include a table summarizing the drainage area, pre-project and post-project loadings and removal efficiencies for each treatment practice. If the project includes off-site drainage areas those areas shall be incorporated into the modeling to determine treatment practice effectiveness but shall be listed separately in the table. A development cannot take credit for off-site areas and reductions without a written agreement from the off-site landowner(s).
  - e. Results of investigations of soil and groundwater required for the placement and design of stormwater management measures.
  - f. Detailed drawings including cross-sections and profiles of all permanent stormwater conveyance and treatment practices.
- (5) A description and installation schedule for the stormwater management practices needed to meet the

performance standards in Sec. 20-312 of this ordinance.

- (6) A maintenance plan and inspection report form developed for the life of each stormwater management practice including the required maintenance activities and maintenance activity schedule.
- (7) An explanation of the technical basis used to select the stormwater management practices.
- (8) If maximum extent practicable is requested for any of the requirements of this ordinance, the plan shall include a written, site-specific explanation of why the standard cannot be met.
- (9) Other information requested in writing by the City of Appleton to determine compliance of the proposed stormwater management measures with the provisions of this ordinance.

(Ord 72-20, §1, 5-1-20)

(c) **Alternate requirements.** The City of Appleton may prescribe alternative submittal requirements for applicants seeking an exemption to on-site stormwater management performance standards under Secs. 20-312(d), (e) or (f) of this ordinance.

(d) **Modifications.** When a change in land use or stormwater management practice occurs at a site with an approved stormwater management plan, a modified stormwater management plan must be submitted to the City for review and approval before those changes in practice occur. Plan modifications shall be modeled in the latest version of WinSLAMM unless otherwise approved by the City.

(Ord 188-03, §1, 10-21-03; Ord 66-10, §1, 4-13-10, Ord 42-16, §1, 5-1-16, Ord 72-20, §1, 5-1-20)

#### **Sec. 20-314. Maintenance agreement.**

(a) **Maintenance agreement required.** The maintenance agreement required for stormwater management practices under Sec. 20-321(b) of this ordinance shall be an agreement between the City of Appleton and the responsible party to provide for perpetual maintenance of stormwater practices. The agreement shall be recorded with the appropriate (Outagamie, Winnebago, or Calumet) County Register of Deeds, as a property deed restriction so that it is binding upon all subsequent owners of land served by the stormwater management practices.

(Ord 66-10, §1, 4-13-10; Ord 42-16, §1, 5-1-16)

(b) **Agreement provisions.** The responsible party shall maintain stormwater management practices in accordance with the stormwater practice maintenance provisions contained in the approved stormwater management plan submitted under Sec. 20-321(b) of this ordinance. This maintenance agreement includes:

- (1) Identification of the stormwater facilities and designation of the drainage area served by the facilities.
- (2) A schedule for regular maintenance of each aspect of the stormwater management system consistent with the stormwater management plan as required under Sec. 20-321 of this ordinance.
- (3) Identification of the responsible party(ies), organization or city, county, town or village responsible for long-term maintenance of the stormwater management practices identified in the stormwater management plan as required under Sec. 20-321 of this ordinance.
- (4) Requirement that the responsible party(ies), organization(s), or city, county, town or village shall maintain stormwater management practices in accordance with the schedule included in Sec. 20-314(b)(2) of this ordinance.
- (5) Authorization for the City of Appleton to access the property to conduct inspections of stormwater practices as necessary to ascertain that the practices are being maintained and operated in accordance with the approved stormwater management plan. The City of Appleton shall maintain public records of the results of the site inspections, shall inform the responsible party for maintenance of the inspection results and shall specifically indicate any corrective actions required to bring the stormwater management practice into proper working condition and a reasonable time frame during which the

corrective action must be taken.

- (6) Authorization for the City of Appleton to perform the corrected actions identified in the inspection report if the responsible party does not make the required corrections in the specified time period. The City of Appleton shall charge the responsible party(ies) identified in the maintenance agreement for the cost of such work and shall place a lien on the property by the City of Appleton, which may be collected as special charges pursuant to subchapter VII, §66(16).

(c) **Modification of agreement.** This maintenance agreement may be modified by mutual agreement of the responsible party and the City of Appleton. The modification date shall be the date the modified maintenance agreement is recorded with the appropriate (Outagamie, Winnebago, or Calumet) County Register of Deeds, as a property deed restriction so that the modified agreement is binding upon all subsequent owners of the land served by the stormwater management practices.

The maintenance agreement shall be modified when there are changes in land use or stormwater management practices at the site. The modified plan shall be submitted and approved by the City before changes in practices occur. (Ord 66-10, §1, 4-13-10)

(d) **Long term maintenance stormwater management report.**

- (1) Every property owner that has been granted a ~~stormwater~~stormwater management permit, constructed on-site stormwater management practices and signed and recorded the required maintenance agreement, shall submit to the Director of Public Works a report on the condition of the site's stormwater management devices and a certification that the SMPs are functioning per the approved plan.

- (2) Owners shall be notified by the City of the requirements and the deadline for reporting.

The report and certification shall be completed and sealed by a Professional Engineer currently licensed in the State of Wisconsin, on forms provided by the City.

- (3) The requirement that the report and certification be sealed by a Professional Engineer may be omitted in the case of a stormwater management plan consisting solely of storm sewer inlet filters and/or catch basin sumps, provided that the applicant can provide the appropriate documentation of cleaning activities and dated photos.

- (4) For sites with more extensive stormwater management systems, the requirements may include, but are not limited to:

- a. Photos of the management device at the time of inspection. This shall include photos of existing conditions and photos after the completion of any required maintenance.
- b. Bathometric survey.
- c. Topographic survey.
- d. Infiltration testing.
- e. Completed inspection forms.
- f. Documentation of the completion of the required annual maintenance, including copies of receipts (actual prices paid need not be reported) from agents hired to perform the work and the date the work was completed.

- (5) Upon receipt of the report and certification, if requested on the cover letter accompanying the report or by separate email, City Engineering staff shall provide an email response to the contact listed on the reporting forms stating that the report was received. This response from the City shall be made within



20 working days of receiving the report.  
(Ord 72-20, §1, 5-1-20)

(e) **Termination of agreement.** The maintenance agreement shall be terminated at such time that responsibility for maintenance of the stormwater management practice is legally transferred to the City of Appleton or agency acceptable to the City of Appleton, through a written, binding agreement. The termination date of the maintenance agreement required under Sec. 20-314(a) of this ordinance shall be the date upon which the legal transfer of maintenance responsibility to the City of Appleton or agency is made effective.  
(Ord 188-03, §1, 10-21-03; Ord 66-10, §1, 4-13-10; Ord 42-16, §1, 5-1-16; Ord 72-20, §1, 5-1-20)

**Secs. 20-315 – 20-320. Reserved.**

### DIVISION 3. PERMITTING AND FEES

**Sec. 20-321. Permitting requirements, procedures, and fees.**

(a) **Permit required.** No responsible party may undertake a land disturbing construction activity except One- and Two-family residential lots, without receiving a post-construction runoff permit from the City of Appleton prior to commencing the proposed activity.

(b) **Permit application and fee.** Unless specifically excluded by this ordinance, any responsible party desiring a permit (permit holder) shall submit to the City of Appleton a permit application made on a form provided by the City of Appleton for that purpose.

- (1) Unless otherwise excepted by this ordinance, a permit application must be accompanied by a stormwater management plan, narrative and drawings, grading plan, utility plan, landscape plan, non-refundable permit review fee and an operation and maintenance plan and agreement as set forth in Table 35. The initial submittal and the final approved plan shall be stamped by an engineer licensed in the State of Wisconsin ~~in a hard copy format~~. The initial and final submittals shall include one stamped hard copy of the drawings and all documents in .pdf format.

Table 35

Land Development Activity	Permit	Stormwater Mgmt Plan	Grading & Drainage Plan	Maintenance Agrm
Agricultural Use	--	--	--	--
Non-Residential	X	X	X	X
1 & 2 Family Residential on 1 acre or greater lot	X	X	X	--
Multi-Family Residential	X	X	X	X
Subdivision Development	X	X	X	X

- (2) The stormwater management plan shall be prepared to meet the requirements of Sec. 20-313 of this ordinance and the maintenance agreement shall be prepared to meet the requirements of Sec. 20-314 of this ordinance.
- (3) Plan revisions occurring after initial plan approval shall be submitted for review with an application, applicable changes to drawings, calculations, and the Operation and Maintenance Agreement. Fees shall be per (4) below.
- (4) Fees for the above-noted permits will include a non-refundable one hundred dollar (\$100) application fee and will be the actual costs incurred by the City. The application fee shall be credited toward the actual costs incurred by the City. Fees shall be payable within thirty (30) days of receipt of an invoice from the City. An invoice will be sent any time an applicant fails to resubmit a plan revision for ninety

(90) days or more.

(Ord 66-10, §1, 4-13-10; Ord 157-11, §1, 1-1-12, Ord 42-16, §1, 5-1-16)

(c) **Review and approval of permit application.** The City of Appleton will review any complete permit application that is submitted with the required fee. The following procedure will be used:

- (1) For a Major Stormwater Management Plan, within thirty (30) business days of the receipt of a complete permit application, including all documents as required by Sec. 20-321(b)(1) of this ordinance, the City of Appleton shall inform the applicant whether the application, plan and maintenance agreement are approved or disapproved. The City of Appleton shall base the decision on requirements set forth in Secs. 20-312, 20-313 and 20-314 of this ordinance.
- (2) For a Minor Stormwater Management Plan, within fifteen (15) business days of receipt of a complete permit application, including all documents as required by Sec. 20-321(b)(1) of this ordinance, the City of Appleton shall inform the applicant whether the application, plan and maintenance agreement are approved or disapproved. The City of Appleton shall base the decision on requirements set forth in Secs. 20-312, 20-313 and 20-314 of this ordinance.
- (3) If the stormwater permit application, stormwater management plan and maintenance agreement are approved, or if an agreed upon payment of fees in lieu of stormwater management practices are paid, the City of Appleton shall issue the permit.
- (4) If the stormwater permit application, stormwater management plan or maintenance agreement are disapproved, the applicant may revise the stormwater management plan or agreement, or may appeal the decision of the City of Appleton as provided for in Sec. 20-327 of this ordinance.
- (5) If additional information is submitted, the City of Appleton shall have thirty (30) business days from the date the additional information is received for a Major Stormwater Management Plan and fifteen (15) business days for a Minor Stormwater Management Plan to inform the applicant that the plan and maintenance agreement are either approved or disapproved.
- (6) Failure by the City of Appleton to inform the permit applicant of a decision within the timelines listed above shall be deemed to mean approval of the submittal and applicant may proceed as if permit has been issued.

(Ord 157-11, §1, 1-1-12, 42-16, §1, 5-1-16)

(d) **Stormwater practice installation and maintenance performance security.** The City of Appleton may, at its discretion, require the submittal of a cash escrow, letter of credit, or performance security prior to issuance of the permit to ensure that the stormwater practices are installed and maintained by the responsible party as required by the stormwater management plan. The amount of the installation performance security shall be determined by the City of Appleton, not to exceed the total estimated construction cost of the stormwater management practices approved under the permit unless otherwise specified in the permit.

The amount of the maintenance performance security shall be determined by the City of Appleton, not to exceed ten- (10-) years of the maintenance costs estimated in the stormwater plan. The performance security shall contain forfeiture provisions for failure to complete work specified in the stormwater management plan.

Conditions for the release of performance security are as follows:

- (1) The installation performance security shall be released in full only upon submission of “as built plans” and written certification by the design engineer that the stormwater practice(s) were installed and function as intended in accordance with the approved plan and other applicable provisions of this ordinance. The City of Appleton may make provisions for a partial pro-rata release of the performance security based on the completion of various development stages including the final inspection of landscaping material.

- (2) The maintenance performance security, minus any costs incurred by the City of Appleton to conduct required maintenance, design, engineering, preparation, checking and review of designs, plans and specifications; supervision and inspection to ensure that construction is in compliance with applicable plans, specifications, regulations and ordinances; and legal, administrative and fiscal work undertaken to assure and implement such compliance, shall be released at such time that the responsibility for practice maintenance is passed on to another private entity, via an approved maintenance agreement, or to the City of Appleton.

(e) **Permit conditions.** All permits issued under this ordinance shall be subject to the following conditions, and holders of permits issued under this ordinance shall be deemed to have accepted these conditions. The City of Appleton may suspend or revoke a permit for violation of a permit condition, following written notification of the responsible party. An action by the City of Appleton to suspend or revoke this permit may be appealed in accordance with Sec. 20-327 of this ordinance.

- (1) Compliance with this permit does not relieve the responsible party of the responsibility to comply with other applicable federal, state and local laws and regulations.
- (2) The responsible party shall design, install, and maintain all structural and nonstructural stormwater management measures in accordance with the approved stormwater management plan, maintenance agreement, and this permit.
- (3) The responsible party shall notify the City of Appleton at least three (3) business days before commencing any work in conjunction with the stormwater management plan, and within five (5) business days upon completion of the stormwater management practices.

If required as a special condition, the permit holder shall make additional notification according to a schedule set forth by the City of Appleton so that practice installations can be inspected during construction.

- (4) Completed stormwater management practices must pass a final inspection to determine if they are in accordance with the approved stormwater management plan and ordinance. The inspection must be made by the City of Appleton, or other competent professionals. The City of Appleton shall notify the permit holder in writing of any changes required in such practices to bring them into compliance with the conditions of this permit. The responsible party is further required to submit an as-built plan and a certificate of completion, stating the completion of the permitted work is in accordance with the stormwater management plan, City of Appleton, state and federal requirements. The certificate must be signed by the design engineer.
- (5) The responsible party shall notify the City of any significant modifications it intends to make to an approved stormwater management plan. The City of Appleton may require that the proposed modifications be submitted for approval prior to incorporation into the stormwater management plan and execution by the responsible party.
- (6) The responsible party shall maintain all stormwater management practices specified in the approved stormwater management plan until the practices either become the responsibility of the City of Appleton, or are transferred to a subsequent responsible party as specified in the approved maintenance agreement.
- (7) The responsible party authorizes the City of Appleton to perform any work or operations necessary to bring stormwater management measures into conformance with the approved stormwater management plan, and consents to placing associated costs upon the tax roll as a special lien against the property which may be collected as special charges pursuant to §66.0627, Wis. Stat., by the City of Appleton or to charging such costs against the letter of credit or cash bond posted for the project.
- (8) If so directed by the City of Appleton, the responsible party shall repair at the permit holder's own expense all damage to adjoining municipal facilities and drainage ways caused by runoff, where such damage is caused by activities that are not in compliance with the approved stormwater management

plan.

(9) The responsible party shall permit property access to the City of Appleton or its designee for the purpose of inspecting the property for compliance with the approved stormwater management plan and this permit.

(10) Where necessary, it shall be the responsibility of the permit holder to obtain any appropriate easements or other necessary property/interests with affected property owners concerning the prevention of endangerment to property or public safety. Issuance of this permit does not create or affect any such rights.

(11) The owner is subject to the enforceable actions detailed in Sec. 20-326 of this ordinance if the responsible party fails to comply with the terms of this permit.

(Ord 66-10, §1, 4-13-10; Ord 42-16, §1, 5-1-16)

(f) **Permit duration.** The responsible party must start the permit activities within one (1) year of the date the permit is issued. An extension of one (1) year may be granted by the Director, provided a written request is submitted to the Director prior to the expiration date for the initial permit. If permit activities are not started, then a new permit application and fee may be required.

(Ord 6610, §1, 4-13-10)

(g) **Fee in lieu of on-site stormwater management practices.** Where the City of Appleton waives all or part of the minimum on-site stormwater management requirements under Sec. 20-313(c) of this ordinance, or where the waiver is based on the provision of adequate stormwater facilities provided by the City of Appleton downstream of the proposed development or redevelopment, as provided for under Sec. 20-312 of this ordinance, the applicant shall be required to pay a fee in an amount as determined by the City of Appleton pursuant to §66.0617, Wis. Stat. and any other applicable law.

(Ord 188-03, §1, 10-21-03; Ord 42-16, §1, 5-1-16)

**Secs. 20-322 – 20-325. Reserved.**

#### **DIVISION 4. ENFORCEMENT AND APPEALS**

##### **Sec. 20-326. Enforcement and penalties.**

(a) Any land disturbing construction activity or any post-construction runoff initiated after the effective date of this ordinance by any person, firm, association or corporation subject to the ordinance provisions shall be deemed a violation unless conducted in accordance with the requirements of this ordinance.

(b) The City of Appleton shall notify the responsible party or owner by certified mail of any non-complying land disturbing construction activity or post construction runoff. The notice shall describe the nature of the violation, remedial actions needed, a schedule for remedial action and additional enforcement action, which may be taken.

(c) Upon receipt of written notification from the City of Appleton, the responsible party or owner shall correct work that does not comply with the stormwater management plan or other provisions of this permit. The responsible party or owner shall make corrections as necessary to meet the specifications and schedule set forth by the City of Appleton in the notice.

(d) If the violations to a permit issued pursuant to this ordinance are likely to result in damage to properties, public facilities, or waters of the state, the City of Appleton may enter the land and take emergency actions necessary to prevent such damage. The costs incurred by the City of Appleton plus interest and legal costs shall be billed to the responsible party or owner.

(e) The City of Appleton is authorized to post a stop work order on all land disturbing construction activity that

is in violation of this ordinance, or to request the Appleton City Attorney to obtain a cease and desist order.

(f) The City of Appleton may revoke a permit issued under this ordinance for non-compliance with ordinance provisions.

(g) Any permit revocation, stop work order or cease and desist order shall remain in effect unless retracted by the City of Appleton or by a court of competent jurisdiction.

(h) The City of Appleton is authorized to refer any violation of this ordinance, or of a stop work order or cease and desist order issued pursuant to this ordinance to the Appleton City Attorney for the commencement of further legal proceedings.

(i) Any person, firm, association or corporation who does not comply with the provisions of this ordinance shall be subject to the general penalty provisions of the Appleton Municipal Code Sec. 1-16. Each day that the violation exists shall constitute a separate offense.

(j) Violations of this ordinance deemed to be a public nuisance shall be subject to abatement under Sec. 12-32 of the City of Appleton Municipal Code or compliance with this ordinance may be enforced by injunctive order in any court with jurisdiction. It shall not be necessary to prosecute for forfeiture or a cease and desist order before resorting to injunctive proceedings.

(k) When the City of Appleton determines that the holder of a permit issued pursuant to this ordinance has failed to follow practices set forth in the stormwater management plan submitted and approved pursuant to Sec. 20-321 of this ordinance, or has failed to comply with schedules set forth in said stormwater management plan, the City of Appleton or a party designated by the City of Appleton may enter upon the land and perform the work or other operations necessary to bring the condition of said lands into conformance with requirements of the approved plan. The City of Appleton shall keep a detailed accounting of the costs and expenses of performing this work. These costs and expenses shall be deducted from any performance or maintenance security posted pursuant to Sec. 20-321 of this ordinance. Where such a security has not been established, or where such a security is insufficient to cover these costs, the costs and expenses shall be entered on the tax roll as a special charge against the property. (Ord 188-03, §1, 10-21-03; Ord 42-16, §1, 5-1-16)

#### **Sec. 20-327. Appeals.**

(a) **Appeals.** The Utilities Committee of the Appleton Common Council shall hear and recommend to Council appeals where it is alleged that there is error in any order, decision or determination made by the City of Appleton in administering this ordinance. The Committee shall use the rules, procedures, duties and powers authorized by statute in hearing and recommending appeals.

Upon appeal, the Committee may recommend to Council relief from the provisions of this ordinance that are not contrary to the public interest or provisions of state regulations, and where owing to special conditions a literal enforcement of this ordinance will result in unnecessary hardship.

(b) **Who may appeal.** Appeals to the Utilities Committee of the City of Appleton may be taken by any aggrieved person or by an officer, department, board or bureau of the City of Appleton affected by any decision of the City of Appleton. Written appeals shall be filed with the City Clerk. The Utilities Committee will make a recommendation within forty-five (45) calendar days of filing of the appeal. If the Utilities Committee takes no action within forty-five (45) calendar days, the appeal will automatically be sent to Council with a recommendation for approval. Either party may file a written request for a time extension with the City Clerk. (Ord 188-03, §1, 10-21-03; Ord 42-16, §1, 5-1-16)

#### **Secs. 20-328 – 20-330. Reserved.**

## **DIVISION 5. SEVERABILITY**

### **Sec. 20-331. Severability.**

If any section or portion thereof shall be declared by a decision of 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 not affect the validity of all other provisions, sections or portion thereof of the ordinance which shall remain in full force and effect.

(Ord 188-03, §1, 10-21-03; Ord 42-16, §1, 5-1-16)

## **DIVISION VI. EFFECTIVE DATE.**

### **Sec. 20-332. Effective date.**

This ordinance is in full force and effect on ~~May 1, 2016~~August 1, 2022.  
(Ord 188-03, §1, 10-21-03; Ord 42-16, §1, 5-1-16)

## Appendix D: Implementation Plan

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**TMDL COMPLIANCE SUMMARY AND IMPLEMENTATION PLAN**

**APPLE CREEK  
Lower Fox TMDL**

Assessment Date: December 2021

	TSS tons/yr	TP lbs/yr	TSS %	TP %
No Controls Loads (per 2020-2021 Citywide Stormwater Plan)	332.3	2277.2		
<b>TMDL REDUCTION TARGETS</b>	<b>173</b>	<b>922</b>	<b>52.0%</b>	<b>40.5%</b>
With Controls Current Load Reductions (per 2020-2021 Citywide Stormwater Plan)	231.8	1099.3	69.7%	48.3%
Remaining Loads (per 2020-2021 Citywide Stormwater Plan)	100.6	1177.9		
Reduction Requirements Achieved?	<b>YES</b>	<b>YES</b>		
Tradeable Loads (positive value) or remaining gap (negative value)	<b>59.0</b>	<b>177.1</b>		

BENCHMARK	DESCRIPTION OF MEASURE	IMPLEMENTATION DATE	IMPACTED AREA (ac)	INCREMENTAL MEASURE TREATMENT				CUMULATIVE REACHED REDUCTION				City Cost Planning Information	
				TSS Tons/yr	TP lbs/yr	TSS %	TP %	TSS Tons/yr	TP lbs/yr	TSS %	TP %		
1	Complete Regional Practice WinSLAMM Models (12) <sup>1</sup>	2022	N/A	0.0	0.0	0.0%	0.0%	231.8	1,099.3	69.7%	48.3%	\$ 36,000	Prorate cost by # of models / 21
2	Implement Ordinance Change	2023	Citywide	0.0	0.0	0.0%	0.0%	231.8	1,099.3	69.7%	48.3%	\$ -	No City Cost Impact
3	Apply Internal Trade of TSS and TP Credit to Lower Fox River (DS) (80% of excess to be conservative)	2023	N/A	-47.2	-141.6	-14.2%	-6.2%	184.6	957.7	55.5%	42.1%	\$ 2,500	Could be a minimal cost to update tables and coordinate with WDNR
4	Complete Multi-Family SWU GIS/Billing Database Update <sup>2</sup>	2026	Citywide	0.0	0.0	0.0%	0.0%	184.6	957.7	55.5%	42.1%	\$ 14,286	Prorate cost by 1/7
5	Complete Leaf Management Implementation <sup>3</sup>	2026	1	0.0	0.0	0.0%	0.0%	184.6	957.7	55.5%	42.1%	\$ 313,929	Prorate cost by 1/7 (Total Capital Cost 2021-2025, includes CEA Payments)
6	Municipal Services Building Expansion Phase 1 Completion <sup>4</sup>	2026	Citywide	0.0	0.0	0.0%	0.0%	184.6	957.7	55.5%	42.1%	\$ 285,714	Prorate cost by 1/7
7	Complete Commercial/Industrial SWU GIS/Billing Database Update <sup>2</sup>	2028	Citywide	0.0	0.0	0.0%	0.0%	184.6	957.7	55.5%	42.1%	\$ 14,286	Prorate cost by 1/7
8	Detailed Leaf Collection Analysis	2028	Citywide	0.0	0.0	0.0%	0.0%	184.6	957.7	55.5%	42.1%	\$ 5,000	Prorate cost by 1/7
9	Expand Street Cleaning Equipment to all High Efficiency	2030	3388	1.2	5.5	0.4%	0.2%	185.9	963.2	55.9%	42.3%	\$ 115,586	Prorate cost by 1/7 (2021 capital cost inflated 3%/year for 9 years)
10	Redevelopment Impacts (includes Plamann Park SMPs/County Agrmt) <sup>5</sup>	2020-2030	34	1.1	3.6	0.3%	0.2%	186.9	966.8	56.2%	42.5%	\$ -	No City Cost Impact
11	Municipal Services Building Expansion Phase 2 Completion <sup>6</sup>	2031	Citywide	0.0	0.0	0.0%	0.0%	186.9	966.8	56.2%	42.5%	\$ 328,571	Prorate cost by 1/7
12	Citywide Plan Update Completed	2031	Citywide	0.0	0.0	0.0%	0.0%	186.9	966.8	56.2%	42.5%	\$ 25,000	Prorate cost by 1/8
13	Redevelopment Impacts <sup>5</sup>	2030-2140	374	11.9	40.0	3.6%	1.8%	198.8	1,006.8	59.8%	44.2%	\$ -	No City Cost Impact
14	Apply Internal Trade of TSS and TP Credit to Lower Fox River (DS) (80% of excess to be conservative)	2140	N/A	-20.8	-67.6	-6.3%	-3.0%	178.0	939.2	53.6%	41.2%	\$ 2,500	Could be a minimal cost to update tables and coordinate with WDNR

Notes:

- <sup>1</sup> Reductions included in current With Controls reductions since model development is not anticipated to make significant changes to current TSS or TP reductions but will confirm attainment of reached goals and amount eligible for internal trading to downstream reachsheds.
- <sup>2</sup> Stormwater Utility GIS/Billing Database Update needed to confirm fair and equitable rates and ability to fund stormwater quality and other program costs.
- <sup>3</sup> Leaf management implementation is of minimal quantifiable load reduction impact due to extent of regional ponds, current reduction level and WDNR guidance, and inability to directly model in series with other practices. Practice is addressing all land uses, not just MDRNA area as currently provided credit through WDNR guidance.
- <sup>4</sup> Municipal Services Building Expansion Required to store and maintain expanded leaf management equipment since equipment is additive, not replacing old equipment.
- <sup>5</sup> Redevelopment impacts are estimate based on potential land available for redevelopment, redevelopment rate of 20 acres per year, and even distribution of redevelopment Citywide - actual redevelopment will be measured with each Citywide Plan update.
- <sup>6</sup> Municipal Services Building Expansion Required to store and maintain expanded street cleaning equipment since equipment is additive, not replacing old equipment.

**\$ 1,143,371 Total Cost**

Note: Costs prorated by 1/7 are spread over 7 of 8 reachsheds and do not include a cost share to Bear Creek reachshed due to the current very low development of that reachshed.



**TMDL COMPLIANCE SUMMARY AND IMPLEMENTATION PLAN**

**DUCK CREEK  
Lower Fox TMDL**

Assessment Date: December 2021

	TSS tons/yr	TP lbs/yr	TSS %	TP %
No Controls Loads (per 2020-2021 Citywide Stormwater Plan)	3.8	33.7		
<b>TMDL REDUCTION TARGETS</b>	<b>2</b>	<b>14</b>	<b>52.0%</b>	<b>40.5%</b>
With Controls Current Load Reductions (per 2020-2021 Citywide Stormwater Plan)	2.8	16.4	73.7%	48.5%
Remaining Loads (per 2020-2021 Citywide Stormwater Plan)	1.0	17.3		
Reduction Requirements Achieved?	<b>YES</b>	<b>YES</b>		
Tradeable Loads (positive value) or remaining gap (negative value)	<b>0.8</b>	<b>2.7</b>		

BENCHMARK	DESCRIPTION OF MEASURE	IMPLEMENTATION DATE	IMPACTED AREA (ac)	INCREMENTAL MEASURE TREATMENT				CUMULATIVE REACHSHED REDUCTION				City Cost Planning Information	
				TSS Tons/yr	TP lbs/yr	TSS %	TP %	TSS Tons/yr	TP lbs/yr	TSS %	TP %		
1	Complete Regional Practice WinSLAMM Models (1) <sup>1</sup>	2022	N/A	0.0	0.0	0.0%	0.0%	2.8	16.4	73.7%	48.5%	\$ 3,000	Prorate cost by # of models / 21
2	Implement Ordinance Change <sup>2</sup>	2023	Citywide	0.0	0.0	0.0%	0.0%	2.8	16.4	73.7%	48.5%	\$ -	No City Cost Impact
3	Complete Multi-Family SWU GIS/Billing Database Update <sup>3</sup>	2026	Citywide	0.0	0.0	0.0%	0.0%	2.8	16.4	73.7%	48.5%	\$ 14,286	Prorate cost by 1/7
4	Complete Leaf Management Implementation <sup>4</sup>	2026	0	0.0	0.0	0.0%	0.0%	2.8	16.4	73.7%	48.5%	\$ 313,929	Prorate cost by 1/7 (Total Capital Cost 2021-2025, includes CEA Payments)
5	Municipal Services Building Expansion Phase 1 Completion <sup>5</sup>	2026	Citywide	0.0	0.0	0.0%	0.0%	2.8	16.4	73.7%	48.5%	\$ 285,714	Prorate cost by 1/7
6	Complete Commercial/Industrial SWU GIS/Billing Database Update <sup>3</sup>	2028	Citywide	0.0	0.0	0.0%	0.0%	2.8	16.4	73.7%	48.5%	\$ 14,286	Prorate cost by 1/7
7	Detailed Leaf Collection Analysis	2028	Citywide	0.0	0.0	0.0%	0.0%	2.8	16.4	73.7%	48.5%	\$ 5,000	Prorate cost by 1/7
8	Expand Street Cleaning Equipment to all High Efficiency	2030	57	0.0	0.1	0.6%	0.3%	2.8	16.5	74.4%	48.9%	\$ 115,586	Prorate cost by 1/7 (2021 capital cost inflated 3%/year for 9 years)
9	Municipal Services Building Expansion Phase 2 Completion <sup>6</sup>	2031	Citywide	0.0	0.0	0.0%	0.0%	2.8	16.5	74.4%	48.9%	\$ 328,571	Prorate cost by 1/7
10	Citywide Plan Update Completed	2031	Citywide	0.0	0.0	0.0%	0.0%	2.8	16.5	74.4%	48.9%	\$ 25,000	Prorate cost by 1/8

Notes:

<sup>1</sup> Reductions included in current With Controls reductions since model development is not anticipated to make significant changes to current TSS or TP reductions but will confirm attainment of reached goals and amount eligible for internal trading to downstream reachsheds.

<sup>2</sup> No redevelopment areas were identified in Duck Creek during the 2021 redevelopment evaluation.

<sup>3</sup> Stormwater Utility GIS/Billing Database Update needed to confirm fair and equitable rates and ability to fund stormwater quality and other program costs.

<sup>4</sup> Leaf management implementation is of minimal quantifiable load reduction impact due to extent of regional ponds, current reduction level and WDNR guidance, and inability to directly model in series with other practices. Practice is addressing all land uses, not just MDRNA area as currently provided credit through WDNR guidance.

<sup>5</sup> Municipal Services Building Expansion Required to store and maintain expanded leaf management equipment since equipment is additive, not replacing old equipment.

<sup>6</sup> Municipal Services Building Expansion Required to store and maintain expanded street cleaning equipment since equipment is additive, not replacing old equipment.

**\$ 1,105,371 Total Cost**

Note: Costs prorated by 1/7 are spread over 7 of 8 reachsheds and do not include a cost share to Bear Creek reachshed due to the current very low development of that reachshed.

**TMDL COMPLIANCE SUMMARY AND IMPLEMENTATION PLAN**

**GARNERS CREEK  
Lower Fox TMDL**

Assessment Date: December 2021

	TSS tons/yr	TP lbs/yr	TSS %	TP %
No Controls Loads (per 2020-2021 Citywide Stormwater Plan)	236.7	1280.0		
<b>TMDL REDUCTION TARGETS</b>	<b>142</b>	<b>878</b>	<b>59.9%</b>	<b>68.6%</b>
With Controls Current Load Reductions (per 2020-2021 Citywide Stormwater Plan)	179.7	717.3	75.9%	56.0%
Remaining Loads (per 2020-2021 Citywide Stormwater Plan)	57.0	562.7		
Reduction Requirements Achieved?	YES	NO		
Tradeable Loads (positive value) or remaining gap (negative value)	37.9	-160.8		

BENCHMARK	DESCRIPTION OF MEASURE	IMPLEMENTATION DATE	IMPACTED AREA (ac)	INCREMENTAL MEASURE TREATMENT				CUMULATIVE REACHSHED REDUCTION				City Cost Planning Information	
				TSS Tons/yr	TP lbs/yr	TSS %	TP %	TSS Tons/yr	TP lbs/yr	TSS %	TP %		
1	Complete Regional Practice WinSLAMM Models (3) <sup>1</sup>	2022	N/A	0.0	0.0	0.0%	0.0%	179.7	717.3	75.9%	56.0%	\$ 9,000	Prorate cost by # of models / 21
2	Implement Ordinance Change	2023	Citywide	0.0	0.0	0.0%	0.0%	179.7	717.3	75.9%	56.0%	\$ -	No City Cost Impact
3	Apply Internal Trade of TSS Credit to Lower Fox River (DS) (80% of excess to be conservative)	2023	N/A	-30.3	0.0	-12.8%	0.0%	149.4	717.3	63.1%	56.0%	\$ 2,500	Could be a minimal cost to update tables and coordinate with WDNR
4	Complete Multi-Family SWU GIS/Billing Database Update <sup>2</sup>	2026	Citywide	0.0	0.0	0.0%	0.0%	149.4	717.3	63.1%	56.0%	\$ 14,286	Prorate cost by 1/7
5	Complete Leaf Management Implementation <sup>3</sup>	2026	0	0.0	0.0	0.0%	0.0%	149.4	717.3	63.1%	56.0%	\$ 313,929	Prorate cost by 1/7 (Total Capital Cost 2021-2025, includes CEA Payments)
6	Municipal Services Building Expansion Phase 1 Completion <sup>4</sup>	2026	Citywide	0.0	0.0	0.0%	0.0%	149.4	717.3	63.1%	56.0%	\$ 285,714	Prorate cost by 1/7
7	Complete Commercial/Industrial SWU GIS/Billing Database Update <sup>2</sup>	2028	Citywide	0.0	0.0	0.0%	0.0%	149.4	717.3	63.1%	56.0%	\$ 14,286	Prorate cost by 1/7
8	Detailed Leaf Collection Analysis	2028	Citywide	0.0	0.0	0.0%	0.0%	149.4	717.3	63.1%	56.0%	\$ 5,000	Prorate cost by 1/7
9	Expand Street Cleaning Equipment to all High Efficiency	2030	1576	0.0	0.1	0.0%	0.0%	149.4	717.3	63.1%	56.0%	\$ 115,586	Prorate cost by 1/7 (2021 capital cost inflated 3%/year for 9 years)
10	Redevelopment Impacts <sup>5</sup>	2020-2030	33	0.5	0.6	0.2%	0.1%	149.8	718.0	63.3%	56.1%	\$ -	No City Cost Impact
11	Municipal Services Building Expansion Phase 2 Completion <sup>6</sup>	2031	Citywide	0.0	0.0	0.0%	0.0%	149.8	718.0	63.3%	56.1%	\$ 328,571	Prorate cost by 1/7
12	Citywide Plan Update Completed	2031	Citywide	0.0	0.0	0.0%	0.0%	149.8	718.0	63.3%	56.1%	\$ 25,000	Prorate cost by 1/8
13	Redevelopment Impacts <sup>5</sup>	2030-2050	66	0.9	1.3	0.4%	0.1%	150.7	719.3	63.7%	56.2%	\$ -	No City Cost Impact
14	Kensington Pond Enhanced Phosphorus Treatment Augmentation <sup>7</sup>	2054-2058	911	11.0	181.0	4.6%	14.1%	161.7	900.3	68.3%	70.3%	\$ 2,572,840	2021 capital cost inflated 3%/year for 35 years
15	Wet Detention Pond Augmented Floc Dredge	2059	Citywide	0.0	0.0	0.0%	0.0%	161.7	900.3	68.3%	70.3%	\$ 703,500	2021 capital cost inflated 3%/year for 35 years
16	Redevelopment Impacts <sup>5</sup>	2050-2140	297	4.1	5.8	1.7%	0.5%	165.9	906.1	70.1%	70.8%	\$ -	No City Cost Impact
17	Apply Internal Trade of TSS and TP Credit to Lower Fox River (DS) (80% of excess to be conservative)	2140	N/A	-19.3	-22.4	-8.1%	-1.8%	146.6	883.7	61.9%	69.0%	\$ 2,500	Could be a minimal cost to update tables and coordinate with WDNR

Notes:

- <sup>1</sup> Reductions included in current With Controls reductions since model development is not anticipated to make significant changes to current TSS or TP reductions but will confirm attainment of reached goals and amount eligible for internal trading to downstream reachsheds.
- <sup>2</sup> Stormwater Utility GIS/Billing Database Update needed to confirm fair and equitable rates and ability to fund stormwater quality and other program costs.
- <sup>3</sup> Leaf management implementation is of minimal quantifiable load reduction impact due to extent of regional ponds, current reduction level and WDNR guidance, and inability to directly model in series with other practices. Practice is addressing all land uses, not just MDRNA area as currently provided credit through WDNR guidance.
- <sup>4</sup> Municipal Services Building Expansion Required to store and maintain expanded leaf management equipment since equipment is additive, not replacing old equipment.
- <sup>5</sup> Redevelopment impacts are estimate based on potential land available for redevelopment, redevelopment rate of 20 acres per year, and even distribution of redevelopment Citywide - actual redevelopment will be measured with each Citywide Plan update.
- <sup>6</sup> Municipal Services Building Expansion Required to store and maintain expanded street cleaning equipment since equipment is additive, not replacing old equipment.
- <sup>7</sup> Assumes Kensington Pond TSS reduction improve from 79.7% to 90% and TP reduction improve from 60% to 85% with enhanced TP treatment augmentation.

**\$ 4,392,712 Total Cost**

Note: Costs prorated by 1/7 are spread over 7 of 8 reachsheds and do not include a cost share to Bear Creek reachshed due to the current very low development of that reachshed.

**TMDL COMPLIANCE SUMMARY AND IMPLEMENTATION PLAN**

**MUD CREEK  
Lower Fox TMDL**

Assessment Date: December 2021

	TSS tons/yr	TP lbs/yr	TSS %	TP %
No Controls Loads (per 2020-2021 Citywide Stormwater Plan)	164.7	868.0		
<b>TMDL REDUCTION TARGETS</b>	<b>71</b>	<b>418</b>	<b>42.8%</b>	<b>48.2%</b>
With Controls Current Load Reductions (per 2020-2021 Citywide Stormwater Plan)	47.1	180.1	28.6%	20.8%
Remaining Loads (per 2020-2021 Citywide Stormwater Plan)	117.7	687.8		
Reduction Requirements Achieved?	<b>NO</b>	<b>NO</b>		
Tradeable Loads (positive value) or remaining gap (negative value)	<b>-23.5</b>	<b>-238.2</b>		

BENCHMARK	DESCRIPTION OF MEASURE	IMPLEMENTATION DATE	IMPACTED AREA (ac)	INCREMENTAL MEASURE TREATMENT				CUMULATIVE REACHSHED REDUCTION				City Cost Planning Information	
				TSS Tons/yr	TP lbs/yr	TSS %	TP %	TSS Tons/yr	TP lbs/yr	TSS %	TP %		
1	Implement Ordinance Change	2022	Citywide	0.0	0.0	0.0%	0.0%	47.1	180.1	28.6%	20.8%	\$ -	No City Cost Impact
2	RGL Warehouse/Lagoons Pond Environmental Investigation	2023	232	0.0	0.0	0.0%	0.0%	47.1	180.1	28.6%	20.8%	\$ 85,000	
3	RGL Warehouse/Lagoons Pond Preliminary Engineering	2024	232	0.0	0.0	0.0%	0.0%	47.1	180.1	28.6%	20.8%	\$ 150,000	
4	RGL Warehouse/Lagoons Pond Land Acquisition and Permitting	2024	232	0.0	0.0	0.0%	0.0%	47.1	180.1	28.6%	20.8%	\$ 3,185,000	
5	RGL Warehouse/Lagoons Pond Final Design	2025	232	0.0	0.0	0.0%	0.0%	47.1	180.1	28.6%	20.8%	\$ 225,000	
6	Complete Multi-Family SWU GIS/Billing Database Update <sup>1</sup>	2026	Citywide	0.0	0.0	0.0%	0.0%	47.1	180.1	28.6%	20.8%	\$ 14,286	Prorate cost by 1/7
7	Complete Leaf Management Implementation <sup>2</sup>	2026	15	0.0	0.6	0.0%	0.1%	47.1	180.7	28.6%	20.8%	\$ 313,929	Prorate cost by 1/7 (Total Capital Cost 2021-2025, includes CEA Payments)
8	Municipal Services Building Expansion Phase 1 Completion <sup>3</sup>	2026	Citywide	0.0	0.0	0.0%	0.0%	47.1	180.7	28.6%	20.8%	\$ 285,714	Prorate cost by 1/7
9	RGL Warehouse/Lagoons Pond Construction Complete (~ 80% of reductions to be conservative)	2027	232	46.0	129.7	27.9%	14.9%	93.0	310.4	56.5%	35.8%	\$ 4,415,790	2021 capital cost inflated 3%/year for 5 years
10	Complete Commercial/Industrial SWU GIS/Billing Database Update <sup>1</sup>	2028	Citywide	0.0	0.0	0.0%	0.0%	93.0	310.4	56.5%	35.8%	\$ 14,286	Prorate cost by 1/7
11	Detailed Leaf Collection Analysis	2028	Citywide	0.0	0.0	0.0%	0.0%	93.0	310.4	56.5%	35.8%	\$ 5,000	Prorate cost by 1/7
12	Apply Internal Trade of TSS Credit to Lower Fox River (US) (80% of excess to be conservative)	2029	N/A	-19.7	0.0	-12.0%	0.0%	73.3	310.4	44.5%	35.8%	\$ 2,500	Could be a minimal cost to update tables and coordinate with WDNR
13	Expand Street Cleaning Equipment to all High Efficiency	2030	1055	1.6	7.2	1.0%	0.8%	74.9	317.6	45.4%	36.6%	\$ 115,586	Prorate cost by 1/7 (2021 capital cost inflated 3%/year for 9 years)
14	Redevelopment Impacts <sup>4</sup>	2020-2030	22	2.6	6.4	1.6%	0.7%	77.5	323.9	47.0%	37.3%	\$ -	No City Cost Impact
15	Municipal Services Building Expansion Phase 2 Completion <sup>5</sup>	2031	Citywide	0.0	0.0	0.0%	0.0%	77.5	323.9	47.0%	37.3%	\$ 328,571	Prorate cost by 1/7
16	Citywide Plan Update Completed	2031	Citywide	0.0	0.0	0.0%	0.0%	77.5	323.9	47.0%	37.3%	\$ 25,000	Prorate cost by 1/8
17	Hillock Court Wet Detention Pond	2034-2038	76	7.5	36.5	4.6%	4.2%	85.0	360.4	51.6%	41.5%	\$ 5,425,891	2021 capital cost inflated 3%/year for 15 years
18	HSDs <sup>6</sup>	2022-2140	37.0	0.7	1.1	0.4%	0.1%	85.7	361.6	52.0%	41.7%	\$ -	Cost not estimated due to inability to schedule improvements
19	Redevelopment Impacts <sup>4</sup>	2030-2140	242	28.8	69.9	17.5%	8.0%	114.5	431.4	69.5%	49.7%	\$ -	No City Cost Impact
20	Apply Internal Trade of TSS Credit to Lower Fox River (DS) (80% of excess to be conservative)	2140	N/A	-35.2	-10.5	-21.3%	-1.2%	79.3	421.0	48.1%	48.5%	\$ 2,500	Could be a minimal cost to update tables and coordinate with WDNR

Notes: **\$ 14,594,052 Total Cost**

<sup>1</sup> Stormwater Utility GIS/Billing Database Update needed to confirm fair and equitable rates and ability to fund stormwater quality and other program costs.

<sup>2</sup> Leaf management implementation is of minimal quantifiable load reduction impact due to extent of regional ponds, current reduction level and WDNR guidance, and inability to directly model in series with other practices. Practice is addressing all land uses, not just MDRNA area as currently provided credit through WDNR guidance.

<sup>3</sup> Municipal Services Building Expansion Required to store and maintain expanded leaf management equipment since equipment is additive, not replacing old equipment.

<sup>4</sup> Redevelopment impacts are estimate based on potential land available for redevelopment, redevelopment rate of 20 acres per year, and even distribution of redevelopment Citywide - actual redevelopment will be measured with each Citywide Plan update.

<sup>5</sup> Municipal Services Building Expansion Required to store and maintain expanded street cleaning equipment since equipment is additive, not replacing old equipment.

<sup>6</sup> HSDs are implemented during road reconstruction projects which are scheduled on a 5-year capital planning basis, therefore, the potential impact of HSD implementation is added to the end of this plan.

Note: Costs prorated by 1/7 are spread over 7 of 8 reachsheds and do not include a cost share to Bear Creek reachshed due to the current very low development of that reachshed.

**TMDL COMPLIANCE SUMMARY AND IMPLEMENTATION PLAN**

**LOWER FOX RIVER MAINSTEM (US)  
Lower Fox TMDL**

Assessment Date: December 2021

	TSS tons/yr	TP lbs/yr	TSS %	TP %
No Controls Loads (per 2020-2021 Citywide Stormwater Plan)	229.1	1390.5		
<b>TMDL REDUCTION TARGETS</b>	<b>165</b>	<b>563</b>	<b>72.2%</b>	<b>40.5%</b>
With Controls Current Load Reductions (per 2020-2021 Citywide Stormwater Plan)	57.9	213.9	25.3%	15.4%
Remaining Loads (per 2020-2021 Citywide Stormwater Plan)	171.2	1176.6		
Reduction Requirements Achieved?	NO	NO		
Tradeable Loads (positive value) or remaining gap (negative value)	-107.5	-349.3		

BENCHMARK	DESCRIPTION OF MEASURE	IMPLEMENTATION DATE	IMPACTED AREA (ac)	INCREMENTAL MEASURE TREATMENT				CUMULATIVE REACHSHED REDUCTION				City Cost Planning Information	
				TSS Tons/yr	TP lbs/yr	TSS %	TP %	TSS Tons/yr	TP lbs/yr	TSS %	TP %		
1	Apply Internal Trade of TSS Credit from Lake Winnebago (80% of excess to be conservative)	2023	N/A	0.9	0.0	0.4%	0.0%	58.8	213.9	25.7%	15.4%	\$ 2,500	Could be a minimal cost to update tables and coordinate with WDNR
2	Implement Ordinance Change	2023	Citywide	0.0	0.0	0.0%	0.0%	58.8	213.9	25.7%	15.4%	\$ -	No City Cost Impact
3	Complete Multi-Family SWU GIS/Billing Database Update <sup>1</sup>	2026	Citywide	0.0	0.0	0.0%	0.0%	58.8	213.9	25.7%	15.4%	\$ 14,286	Prorate cost by 1/7
4	Complete Leaf Management Implementation <sup>2</sup>	2026	112	0.0	4.1	0.0%	0.3%	58.8	217.9	25.7%	15.7%	\$ 313,929	Prorate cost by 1/7 (Total Capital Cost 2021-2025, includes CEA Payments)
5	Municipal Services Building Expansion Phase 1 Completion <sup>3</sup>	2026	Citywide	0.0	0.0	0.0%	0.0%	58.8	217.9	25.7%	15.7%	\$ 285,714	Prorate cost by 1/7
6	Complete Commercial/Industrial SWU GIS/Billing Database Update <sup>1</sup>	2028	Citywide	0.0	0.0	0.0%	0.0%	58.8	217.9	25.7%	15.7%	\$ 14,286	Prorate cost by 1/7
7	Detailed Leaf Collection Analysis	2028	Citywide	0.0	0.0	0.0%	0.0%	58.8	217.9	25.7%	15.7%	\$ 5,000	Prorate cost by 1/7
8	Apply Internal Trade of TSS Credit from Mud Creek (80% of excess to be conservative)	2029	N/A	19.7	0.0	8.6%	0.0%	78.6	217.9	34.3%	15.7%	\$ 2,500	Could be a minimal cost to update tables and coordinate with WDNR
9	Expand Street Cleaning Equipment to all High Efficiency	2030	1664	1.0	15.6	0.5%	1.1%	79.6	233.6	34.8%	16.8%	\$ 115,586	Prorate cost by 1/7 (2021 capital cost inflated 3%/year for 9 years)
10	Redevelopment Impacts <sup>5</sup>	2020-2030	20	2.9	8.7	1.3%	0.6%	82.6	242.3	36.0%	17.4%	\$ -	No City Cost Impact
11	Municipal Services Building Expansion Phase 2 Completion <sup>4</sup>	2031	Citywide	0.0	0.0	0.0%	0.0%	82.6	242.3	36.0%	17.4%	\$ 328,571	Prorate cost by 1/7
12	Citywide Plan Update Completed	2031	Citywide	0.0	0.0	0.0%	0.0%	82.6	242.3	36.0%	17.4%	\$ 25,000	Prorate cost by 1/8
13	Riverview Gardens Wet Detention Pond	2029-2033	198	13.4	65.5	5.8%	4.7%	96.0	307.8	41.9%	22.1%	\$ 1,172,371	2021 capital cost inflated 3%/year for 10 years
14	Redevelopment Impacts <sup>5</sup>	2030-2040	20	2.9	8.7	1.3%	0.6%	98.9	316.5	43.1%	22.8%	\$ -	No City Cost Impact
15	Pierce Park Wet Detention Pond	2039-2043	343	24.2	93.5	10.6%	6.7%	123.1	410.0	53.7%	29.5%	\$ 2,396,381	2021 capital cost inflated 3%/year for 20 years
16	Redevelopment Impacts <sup>5</sup>	2040-2060	40	5.8	17.4	2.5%	1.3%	128.9	427.4	56.3%	30.7%	\$ -	No City Cost Impact
17	Pierce Park Pond Enhanced Phosphorus Treatment Augmentation <sup>6</sup>	2064-2068	343	24.2	146	10.6%	10.5%	153.1	573.4	66.8%	41.2%	\$ 3,457,883	2021 capital cost inflated 3%/year for 45 years
18	HSDs <sup>7</sup>	2022-2140	95	1.4	3.8	0.6%	0.3%	154.5	577.1	67.4%	41.5%	\$ -	Cost not estimated due to inability to schedule improvements
19	Redevelopment Impacts <sup>5</sup>	2060-2140	160	23.3	69.6	10.2%	5.0%	177.8	646.7	77.6%	46.5%	\$ -	No City Cost Impact
20	Apply Internal Trade of TSS and TP Credit to Lower Fox River (DS) (80% of excess to be conservative)	2140	N/A	-9.9	-66.9	-4.3%	-4.8%	167.9	579.9	73.3%	41.7%	\$ 2,500	Could be a minimal cost to update tables and coordinate with WDNR

Notes:

<sup>1</sup> Stormwater Utility GIS/Billing Database Update needed to confirm fair and equitable rates and ability to fund stormwater quality and other program costs.

<sup>2</sup> Leaf management implementation is of minimal quantifiable load reduction impact due to extent of regional ponds, current reduction level and WDNR guidance, and inability to directly model in series with other practices. Practice is addressing all land uses, not just MDRNA area as currently provided credit through WDNR guidance.

<sup>3</sup> Municipal Services Building Expansion Required to store and maintain expanded leaf management equipment since equipment is additive, not replacing old equipment.

<sup>4</sup> Municipal Services Building Expansion Required to store and maintain expanded street cleaning equipment since equipment is additive, not replacing old equipment.

<sup>5</sup> Redevelopment impacts are estimate based on potential land available for redevelopment, redevelopment rate of 20 acres per year, and even distribution of redevelopment Citywide - actual redevelopment will be measured with each Citywide Plan update.

<sup>6</sup> Assumes Pierce Park TSS reduction improve from 45% to 90% and TP reduction improve from 33% to 85% with enhanced TP treatment augmentation.

<sup>7</sup> HSDs are implemented during road reconstruction projects which are scheduled on a 5-year capital planning basis, therefore, the potential impact of HSD implementation is added to the end of this plan.

**\$ 8,136,507 Total Cost**

Note: Costs prorated by 1/7 are spread over 7 of 8 reachsheds and do not include a cost share to Bear Creek reachshed due to the current very low development of that reachshed.

**TMDL COMPLIANCE SUMMARY AND IMPLEMENTATION PLAN**

**LOWER FOX RIVER MAINSTEM (DS)  
Lower Fox TMDL**

Assessment Date: December 2021

	TSS tons/yr	TP lbs/yr	TSS %	TP %
No Controls Loads (per 2020-2021 Citywide Stormwater Plan)	830.6	5015.6		
<b>TMDL REDUCTION TARGETS</b>	<b>600</b>	<b>2031</b>	<b>72.2%</b>	<b>40.5%</b>
With Controls Current Load Reductions (per 2020-2021 Citywide Stormwater Plan)	298.7	1179.9	36.0%	23.5%
Remaining Loads (per 2020-2021 Citywide Stormwater Plan)	532.0	3835.8		
Reduction Requirements Achieved?	<b>NO</b>	<b>NO</b>		
Tradeable Loads (positive value) or remaining gap (negative value)	<b>-301.0</b>	<b>-851.5</b>		

BENCHMARK	DESCRIPTION OF MEASURE	IMPLEMENTATION DATE	IMPACTED AREA (ac)	INCREMENTAL MEASURE TREATMENT				CUMULATIVE REACHSHED REDUCTION				City Cost Planning Information	
				TSS Tons/yr	TP lbs/yr	TSS %	TP %	TSS Tons/yr	TP lbs/yr	TSS %	TP %		
1	Complete Regional Practice WinSLAMM Models (5) <sup>1</sup>	2022	N/A	0.0	0.0	0.0%	0.0%	298.7	1,179.9	36.0%	23.5%	\$ 15,000	Prorate cost by # of models / 21
2	Implement Ordinance Change	2023	Citywide	0.0	0.0	0.0%	0.0%	298.7	1,179.9	36.0%	23.5%	\$ -	No City Cost Impact
3	Apply Internal TSS and TP Trade from Apple Creek and TSS from Garners Creek Credits (80% of excess to be conservative)	2023	N/A	77.5	141.6	9.3%	2.8%	376.1	1,321.5	45.3%	26.3%	\$ 2,500	Could be a minimal cost to update tables and coordinate with WDNR
4	Complete Multi-Family SWU GIS/Billing Database Update <sup>2</sup>	2026	Citywide	0.0	0.0	0.0%	0.0%	376.1	1,321.5	45.3%	26.3%	\$ 14,286	Prorate cost by 1/7
5	Complete Leaf Management Implementation <sup>3</sup>	2026	450	0.0	18.1	0.0%	0.4%	376.1	1,339.6	45.3%	26.7%	\$ 313,929	Prorate cost by 1/7 (Total Capital Cost 2021-2025, includes CEA Payments)
6	Municipal Services Building Expansion Phase 1 Completion <sup>4</sup>	2026	Citywide	0.0	0.0	0.0%	0.0%	376.1	1,339.6	45.3%	26.7%	\$ 285,714	Prorate cost by 1/7
7	Complete Commercial/Industrial SWU GIS/Billing Database Update <sup>2</sup>	2028	Citywide	0.0	0.0	0.0%	0.0%	376.1	1,339.6	45.3%	26.7%	\$ 14,286	Prorate cost by 1/7
8	Detailed Leaf Collection Analysis	2028	Citywide	0.0	0.0	0.0%	0.0%	376.1	1,339.6	45.3%	26.7%	\$ 5,000	Prorate cost by 1/7
9	Expand Street Cleaning Equipment to all High Efficiency	2030	5966	8.1	51.4	1.0%	1.0%	384.3	1,391.1	46.3%	27.7%	\$ 115,586	Prorate cost by 1/7 (2021 capital cost inflated 3%/year for 9 years)
10	Redevelopment Impacts <sup>5</sup>	2020-2030	79	9.0	25.7	1.1%	0.5%	393.2	1,416.7	47.3%	28.2%	\$ -	No City Cost Impact
11	Municipal Services Building Expansion Phase 2 Completion <sup>6</sup>	2031	Citywide	0.0	0.0	0.0%	0.0%	393.2	1,416.7	47.3%	28.2%	\$ 328,571	Prorate cost by 1/7
12	Citywide Plan Update Completed	2031	Citywide	0.0	0.0	0.0%	0.0%	393.2	1,416.7	47.3%	28.2%	\$ 25,000	Prorate cost by 1/8
13	Redevelopment Impacts <sup>5</sup>	2030-2040	79	9.0	25.7	1.1%	0.5%	402.2	1,442.4	48.4%	28.8%	\$ -	No City Cost Impact
14	Wisconsin Avenue Wet Detention Pond	2044-2048	102	13.6	56.7	1.6%	1.1%	415.8	1,499.1	50.1%	29.9%	\$ 4,626,484	2021 capital cost inflated 3%/year for 25 years
15	Redevelopment Impacts <sup>5</sup>	2040-2050	79	9.0	25.7	1.1%	0.5%	424.8	1,524.7	51.1%	30.4%	\$ -	No City Cost Impact
16	Winslow Avenue Wet Detention Pond	2049-2053	153	25.0	75.3	3.0%	1.5%	449.8	1,600.0	54.1%	31.9%	\$ 6,164,580	2021 capital cost inflated 3%/year for 30 years
17	Redevelopment Impacts <sup>5</sup>	2050-2060	79	9.0	25.7	1.1%	0.5%	458.7	1,625.7	55.2%	32.4%	\$ -	No City Cost Impact
18	Leona Street Pond Enhanced Phosphorus Treatment Augmentation <sup>7</sup>	2059-2063	196	2.8	44.0	0.3%	0.9%	461.5	1,669.7	55.6%	33.3%	\$ 2,982,447	2021 capital cost inflated 3%/year for 40 years
19	Redevelopment Impacts <sup>5</sup>	2060-2070	79	9.0	25.7	1.1%	0.5%	470.5	1,695.3	56.6%	33.8%	\$ -	No City Cost Impact
20	MPPS Pond Enhanced Phosphorus Treatment Augmentation <sup>8</sup>	2069-2073	529	10.5	154.0	1.3%	3.1%	481.0	1,849.3	57.9%	36.9%	\$ 4,008,291	2021 capital cost inflated 3%/year for 50 years
21	MPPNE Pond Enhanced Phosphorus Treatment Augmentation <sup>9</sup>	2074-2078	220	3.2	58.0	0.4%	1.2%	484.1	1,907.3	58.3%	38.0%	\$ 4,646,473	2021 capital cost inflated 3%/year for 55 years
22	Redevelopment Impacts <sup>5</sup>	2070-2080	79	9.0	25.7	1.1%	0.5%	493.1	1,933.0	59.4%	38.5%	\$ -	No City Cost Impact
23	Reid GCS Pond Enhanced Phosphorus Treatment Augmentation <sup>10</sup>	2079-2083	225	1.7	52.0	0.2%	1.0%	494.8	1,985.0	59.6%	39.6%	\$ 5,387,056	2021 capital cost inflated 3%/year for 60 years
24	HSDs <sup>11</sup>	2022-2140	581	8.4	16.5	1.0%	0.3%	503.2	2,001.5	60.6%	39.9%	\$ -	Cost not estimated due to inability to schedule improvements
25	Redevelopment Impacts <sup>5</sup>	2080-2140	474	53.8	153.9	6.5%	3.1%	557.0	2,155.4	67.1%	43.0%	\$ -	No City Cost Impact
26	Apply Internal TSS and TP Trade from Apple Creek, Garners Creek, Mud Creek and Lower Fox River (US) and TSS from Lake Winnebago Credits (80% of excess to be conservative)	2140	N/A	89.1	167.3	10.7%	3.3%	646.2	2,322.7	77.8%	46.3%	\$ 2,500	Could be a minimal cost to update tables and coordinate with WDNR

Notes: **\$ 28,937,701 Total Cost**

<sup>1</sup> Reductions included in current With Controls reductions since model development is not anticipated to make significant changes to current TSS or TP reductions but will confirm attainment of reached goals and amount eligible for internal trading to downstream reachsheds.

Note: Costs prorated by 1/7 are spread over 7 of 8 reachsheds and do not include a cost share to Bear Creek reachshed due to the current very low development of that reachshed.

<sup>2</sup> Stormwater Utility GIS/Billing Database Update needed to confirm fair and equitable rates and ability to fund stormwater quality and other program costs.

<sup>3</sup> Leaf management implementation is of minimal quantifiable load reduction impact due to extent of regional ponds, current reduction level and WDNR guidance, and inability to directly model in series with other practices. Practice is addressing all land uses, not just MDRNA area as currently provided credit through WDNR guidance.

<sup>4</sup> Municipal Services Building Expansion Required to store and maintain expanded leaf management equipment since equipment is additive, not replacing old equipment.

<sup>5</sup> Redevelopment impacts are estimate based on potential land available for redevelopment, redevelopment rate of 20 acres per year, and even distribution of redevelopment Citywide - actual redevelopment will be measured with each Citywide Plan update.

<sup>6</sup> Municipal Services Building Expansion Required to store and maintain expanded street cleaning equipment since equipment is additive, not replacing old equipment.

<sup>7</sup> Assumes Leona Street Pond TSS reduction improve from 78.8% to 90% and TP reduction improve from 58.5% to 85% with enhanced TP treatment augmentation.

<sup>8</sup> Assumes MPPS Pond TSS reduction improve from 76% to 90% and TP reduction improve from 51.3% to 85% with enhanced TP treatment augmentation.

<sup>9</sup> Assumes MPPNE Pond TSS reduction improve from 77% to 90% and TP reduction improve from 52% to 85% with enhanced TP treatment augmentation.

<sup>10</sup> Assumes Reid GCS Pond TSS reduction improve from 83% to 90% and TP reduction improve from 56% to 85% with enhanced TP treatment augmentation.

<sup>11</sup> HSDs are implemented during road reconstruction projects which are scheduled on a 5-year capital planning basis, therefore, the potential impact of HSD implementation is added to the end of this plan.

**TMDL COMPLIANCE SUMMARY AND IMPLEMENTATION PLAN**

**BEAR CREEK  
Upper Fox/Wolf TMDL**

Assessment Date: December 2021

	TSS tons/yr	TP lbs/yr	TSS %	TP %
No Controls Loads (per 2020-2021 Citywide Stormwater Plan)	4.6	46.9		
<b>TMDL REDUCTION TARGETS</b>	<b>4</b>	<b>40</b>	<b>84.0%</b>	<b>85.6%</b>
With Controls Current Load Reductions (per 2020-2021 Citywide Stormwater Plan)	1.2	5.4	25.8%	11.4%
Remaining Loads (per 2020-2021 Citywide Stormwater Plan)	3.4	41.5		
Reduction Requirements Achieved?	<b>NO</b>	<b>NO</b>		
Tradeable Loads (positive value) or remaining gap (negative value)	<b>-2.7</b>	<b>-34.8</b>		

BENCHMARK	DESCRIPTION OF MEASURE	IMPLEMENTATION DATE	IMPACTED AREA (ac)	INCREMENTAL MEASURE TREATMENT				CUMULATIVE REACHSHED REDUCTION				City Cost Planning Information		
				TSS tons/yr	TP lbs/yr	TSS %	TP %	TSS tons/yr	TP lbs/yr	TSS % <sup>1</sup>	TP % <sup>1</sup>			
1 Implement Ordinance Change <sup>1</sup>		2023	Citywide	0.0	0.0	0.0%	0.0%	1.2	5.4	25.8%	11.4%	\$	-	No City Cost Impact
2 Citywide Plan Update Completed <sup>1</sup>		2031	Citywide	0.0	0.0	0.0%	0.0%	1.2	5.4	25.8%	11.4%	\$	25,000	Prorate cost by 1/8
												\$	25,000	<b>Total Cost</b>

**Notes:**

<sup>1</sup> The Bear Creek reachshed within City limits includes the City landfill, small areas of development along Spartan Drive, open/natural space, and mostly agricultural land areas that were excluded from the 2021 plan. The next Citywide plan update will evaluate the impact of new development and potentially assess grassed swales and filter strips at the landfill. No redevelopment is currently identified in Bear Creek. As excluded areas of the Bear Creek reachshed within City limits develop, the collective treatment effectiveness associated with new development will show progress towards meeting the TMDL TSS and TP reduction goals. However, based on the current state of development, available land and other factors, it may be challenging to attain the TMDL TSS goal, and there is no (cost-effective) technology currently available to achieve the TMDL TP goal. The 2021 Citywide Plan assessment of Bear Creek has met the requirements of the WPDES Permit.

**TMDL COMPLIANCE SUMMARY AND IMPLEMENTATION PLAN**

**LAKE WINNEBAGO  
Upper Fox/Wolf TMDL**

Assessment Date: December 2021

	TSS tons/yr	TP lbs/yr	TSS %	TP %
No Controls Loads (per 2020-2021 Citywide Stormwater Plan)	47.2	346.6		
<b>TMDL REDUCTION TARGETS</b>	<b>9</b>	<b>297</b>	<b>20.0%</b>	<b>85.6%</b>
With Controls Current Load Reductions (per 2020-2021 Citywide Stormwater Plan)	10.6	52.9	22.4%	15.3%
Remaining Loads (per 2020-2021 Citywide Stormwater Plan)	36.6	293.6		
Reduction Requirements Achieved?	YES	NO		
Tradeable Loads (positive value) or remaining gap (negative value)	1.1	-243.7		

BENCHMARK	DESCRIPTION OF MEASURE	IMPLEMENTATION DATE	IMPACTED AREA (ac)	INCREMENTAL MEASURE TREATMENT				CUMULATIVE REACHSHED REDUCTION				City Cost Planning Information	
				TSS tons/yr	TP lbs/yr	TSS %	TP %	TSS tons/yr	TP lbs/yr	TSS %	TP % <sup>7</sup>		
1	Implement Ordinance Change	2023	Citywide	0.0	0.0	0.0%	0.0%	10.6	52.9	22.4%	15.3%	\$ -	No City Cost Impact
2	Apply Internal Trade of TSS Credit to Lower Fox River (US) (80% of excess to be conservative)	2023	N/A	-0.9	0.0	-1.9%	0.0%	9.7	52.9	20.5%	15.3%	\$ 2,500	Could be a minimal cost to update tables and coordinate with WDNR
3	Complete Multi-Family SWU GIS/Billing Database Update <sup>1</sup>	2026	N/A	0.0	0.0	0.0%	0.0%	9.7	52.9	20.5%	15.3%	\$ 14,286	Prorate cost by 1/7
4	Complete Leaf Management Implementation <sup>2</sup>	2026	169	0.0	7.6	0.0%	2.2%	9.7	60.5	20.5%	17.5%	\$ 313,929	Prorate cost by 1/7 (Total Capital Cost 2021-2025, includes CEA Payments)
5	Municipal Services Building Expansion Phase 1 Completion <sup>3</sup>	2026	Citywide	0.0	0.0	0.0%	0.0%	9.7	60.5	20.5%	17.5%	\$ 285,714	Prorate cost by 1/7
6	Complete Commercial/Industrial SWU GIS/Billing Database Update <sup>1</sup>	2028	Citywide	0.0	0.0	0.0%	0.0%	9.7	60.5	20.5%	17.5%	\$ 14,286	Prorate cost by 1/7
7	Detailed Leaf Collection Analysis	2028	Citywide	0.0	0.0	0.0%	0.0%	9.7	60.5	20.5%	17.5%	\$ 5,000	Prorate cost by 1/7
8	Expand Street Cleaning Equipment to all High Efficiency	2030	427	1.6	7.3	3.4%	2.1%	11.2	67.8	23.8%	19.6%	\$ 115,586	Prorate cost by 1/7 (2021 capital cost inflated 3%/year for 9 years)
9	Redevelopment Impacts <sup>4</sup>	2020-2030	2	0.2	0.8	0.5%	0.2%	11.5	68.7	24.3%	19.8%	\$ -	No City Cost Impact
10	Municipal Services Building Expansion Phase 2 Completion <sup>5</sup>	2031	Citywide	0.0	0.0	0.0%	0.0%	11.5	68.7	24.3%	19.8%	\$ 328,571	Prorate cost by 1/7
11	Citywide Plan Update Completed	2031	Citywide	0.0	0.0	0.0%	0.0%	11.5	68.7	24.3%	19.8%	\$ 25,000	Prorate cost by 1/8
12	HSDs <sup>6</sup>	2022-2140	43	0.5	2.5	1.1%	0.7%	12.0	71.1	25.5%	20.5%	\$ -	Cost not estimated due to inability to schedule improvements
13	Redevelopment Impacts <sup>4</sup>	2030-2140	22	2.5	9.0	5.2%	2.6%	14.5	80.1	30.7%	23.1%	\$ -	No City Cost Impact
14	Apply Internal Trade of TSS Credit to Lower Fox River (DS) (80% of excess to be conservative) <sup>7</sup>	2140	N/A	-4.0	0.0	-8.5%	0.0%	10.4	80.1	22.1%	23.1%	\$ 2,500	Could be a minimal cost to update tables and coordinate with WDNR

Notes:

- <sup>1</sup> Stormwater Utility GIS/Billing Database Update needed to confirm fair and equitable rates and ability to fund stormwater quality and other program costs.
- <sup>2</sup> Leaf management implementation is of minimal quantifiable load reduction impact due to extent of regional ponds, current reduction level and WDNR guidance, and inability to directly model in series with other practices. Practice is addressing all land uses, not just MDRNA area as currently provided credit through WDNR guidance.
- <sup>3</sup> Municipal Services Building Expansion Required to store and maintain expanded leaf management equipment since equipment is additive, not replacing old equipment.
- <sup>4</sup> Redevelopment impacts are estimate based on potential land available for redevelopment, redevelopment rate of 20 acres per year, and even distribution of redevelopment Citywide - actual redevelopment will be measured with each Citywide Plan update.
- <sup>5</sup> Municipal Services Building Expansion Required to store and maintain expanded street cleaning equipment since equipment is additive, not replacing old equipment.
- <sup>6</sup> HSDs are implemented during road reconstruction projects which are scheduled on a 5-year capital planning basis, therefore, the potential impact of HSD implementation is added to the end of this plan.
- <sup>7</sup> Based on the current state of development, available land and other factors, there is no (cost-effective) technology currently available to achieve the TMDL TP goal. The 2021 Citywide Plan assessment of Lake Winnebago has met the requirements of the WPDES Permit.

**\$ 1,107,371**

Note: Costs prorated by 1/7 are spread over 7 of 8 reachsheds and do not include a cost share to Bear Creek reachshed due to the current very low development of that reachshed.

## Appendix E: WPDES General Permit

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**STATE OF WISCONSIN  
DEPARTMENT OF NATURAL RESOURCES**

**GENERAL PERMIT TO DISCHARGE UNDER THE WISCONSIN  
POLLUTANT DISCHARGE ELIMINATION SYSTEM  
WPDES PERMIT NO. WI-S050075-3**

In compliance with the provisions of ch. 283 Wis. Stats., and chs. NR 151 and 216, Wis. Adm. Code, owners and operators of municipal separate storm sewer systems are permitted to discharge storm water from all portions of the

**MUNICIPAL SEPARATE STORM SEWER SYSTEM**

owned or operated by the municipality to waters of the state in accordance with the conditions set forth in this permit.

With written authorization by the Department, this permit will be used to cover a municipal separate storm sewer system initially covered under a previous version of a municipal separate storm sewer system general permit. The **Start Date** of coverage under this permit is the date of the Department letter sent to the municipality authorizing coverage under this permit. The Department is required to charge an annual permit fee to owners and operators authorized to discharge under this permit in accordance with s. 283.33(9), Wis. Stats., and s. NR 216.08, Wis. Adm. Code.

State of Wisconsin Department of Natural Resources  
For the Secretary

By Michael C. Thompson

Michael C. Thompson, Director  
Bureau of Watershed Management  
External Services Division

5/1/19

Date Permit Signed

**PERMIT EFFECTIVE DATE:** May 1, 2019

**EXPIRATION DATE:** April 30, 2024

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## **1. APPLICABILITY CRITERIA**

### **1.1 Permitted Area**

This permit covers all areas under the ownership, control or jurisdiction of the permittee that contribute to discharges from a municipal separate storm sewer system (MS4) that receives runoff from any of the following:

**1.1.1** An urbanized area, adjacent developing areas and areas whose runoff is connected or will connect to a municipal separate storm sewer regulated under subch. I of NR 216, Wis. Adm. Code; or

**1.1.2** An area associated with a municipal population of 10,000 or more and a population density of 1,000 or more per square mile, adjacent developing areas and areas whose runoff is connected or will connect to an MS4 regulated under subch. I of NR 216, Wis. Adm. Code; or

**1.1.3** An area that drains to an MS4 that is designated for permit coverage pursuant to s. NR 216.02(2) or 216.025, Wis. Adm. Code.

### **1.2 Authorized Discharges**

This permit authorizes storm water point source discharges from the MS4 to waters of the state in the permitted area. This permit also authorizes the discharge of storm water co-mingled with flows contributed by process wastewater, non-process wastewater, and storm water associated with industrial activity, provided the discharges are regulated by other WPDES permits or are discharges which are not considered illicit discharges pursuant to section 2.3.1 of this permit.

### **1.3 Water Quality Standards**

**1.3.1** This permit specifies the conditions under which storm water may be discharged to waters of the state for the purpose of achieving water quality standards contained in chs. NR 102 through 105, NR 140, and NR 207, Wis. Adm. Code. For the term of this permit, compliance with water quality standards will be addressed by adherence to the requirements in this permit.

**1.3.2** This permit does not authorize discharges that the Department determines will cause or have reasonable potential to cause or contribute to an excursion above any applicable water quality standards. Where such determinations have been made, the Department may notify the municipality that an individual permit is necessary. However, the Department may authorize coverage under this permit where the storm water management programs required under this permit will include appropriate controls and implementation procedures designed to bring the storm water discharge into compliance with water quality standards.

### **1.4 Outstanding and Exceptional Resource Waters**

**1.4.1** The permittee shall determine whether any part of its MS4 discharges to an outstanding resource water (ORW) or exceptional resource water (ERW). ORWs and ERWs are listed in ss. NR 102.10 and 102.11, Wis. Adm. Code.

**Note:** An unofficial list of ORWs and ERWs may be found on the Department's Internet site at: <https://dnr.wi.gov/topic/SurfaceWater/orwerw.html>

**1.4.2** The permittee may not establish a new MS4 discharge of a pollutant to an ORW or an ERW unless the storm water management programs required under this permit are designed to ensure that any new MS4 discharge of a pollutant to an ORW or ERW will not exceed background concentration levels within the ORW or ERW.

**1.4.3** If the permittee has an existing MS4 discharge to an ORW, it may increase the discharge of pollutants, either at the existing point of discharge or a new location, provided all of the following are met:

- a. The pollutant concentration within the receiving water and under the influence of the existing discharge would not increase as compared to the level that existed prior to coverage under this permit.
- b. The increased discharge would not result in a violation of water quality standards.

**1.4.4** If the permittee has an existing MS4 discharge to an ERW, it may increase the discharge of pollutants if the increased discharge would not result in a violation of water quality standards.

## **1.5 Impaired Waterbodies and Total Maximum Daily Load Requirements**

**1.5.1** By March 31 of each odd-numbered year, the permittee shall determine whether any part of its MS4 discharges to an impaired waterbody listed in accordance with section 303(d)(1) of the federal Clean Water Act, 33 USC § 1313(d)(1)(C), and the implementing regulation of the US Environmental Protection Agency, 40 CFR § 130.7(c)(1). For a permittee that determines that any part of its MS4 does discharge to a listed impaired waterbody but for which there is no United States Environmental Protection Agency (USEPA) approved Total Maximum Daily Load (TMDL) for the pollutant of concern, the permittee shall include a written section in its storm water management program that discusses the management practices and control measures it will implement as part of its program to reduce, with the goal of eliminating, the discharge of pollutants of concern that contribute to the impairment of the waterbody. This section of the permittee's program shall specifically identify control measures and practices that will collectively be used to try to eliminate the MS4's discharge of pollutants of concern that contribute to the impairment of the waterbody and explain why these control measures and practices were chosen as opposed to other alternatives.

**Note:** Every two years, the Department updates and publishes a list of waters considered impaired under the Clean Water Act. The list is updated in even-numbered years. A list of Wisconsin impaired waterbodies may be found on the Department's Internet site at:

<http://dnr.wi.gov/topic/impairedwaters/>

**1.5.2** For a permittee with an MS4 discharge of a pollutant of concern to a waterbody subject to an USEPA approved TMDL under which the permittee is assigned a Wasteload Allocation (WLA), the permittee shall meet the following requirements, in addition to the minimum control measures described within Section 2 of the permit:

- a. Appendix A provides the permit conditions for permittees subject to the Rock River Basin TMDL, Lower Fox River Basin and Lower Green Bay TMDL, Lake St. Croix Nutrient

TMDL, Red Cedar River (Tainter Lake, Menomin Lake) TMDL, or Beaver Dam Lake TMDL. For a permittee subject to any of these TMDLs, the permittee shall comply with the provisions in Appendix A: MS4 Permittees Subject to a TMDL Approved Prior to May 1, 2014 including Applicable Updates.

**b.** Appendix B provides the permit conditions for permittees subject to the Milwaukee River Basin TMDL. For a permittee subject to this TMDL, the permittee shall comply with the provisions in Appendix B: MS4 Permittees Subject to Milwaukee River Basin TMDL.

**c.** Appendix C provides the permit conditions for permittees subject to the Wisconsin River Basin TMDL or any other TMDL approved on or after May 1, 2019. For a permittee subject to any of these TMDLs, the permittee shall comply with the provisions in Appendix C: MS4 Permittees Subject to the Wisconsin River Basin TMDL or a TMDL Approved After May 1, 2019.

**Note:** The reports for Department and USEPA approved TMDLs are available from the Department's Internet site at: <https://dnr.wi.gov/topic/TMDLs/tmdlreports.html>

**1.5.3** After the effective date of this permit, the permittee may not establish a new MS4 discharge of a pollutant of concern to an impaired waterbody or increase the discharge of a pollutant of concern to an impaired waterbody unless the new or increased discharge causes the receiving water to meet applicable water quality standards, or the USEPA has approved a TMDL for the impaired waterbody.

#### **1.6 Wetlands**

The permittee's MS4 discharge shall comply with the applicable wetland water quality standards provisions in ch. NR 103, Wis. Adm. Code.

#### **1.7 Endangered and Threatened Resources**

The permittee's MS4 discharge shall comply with the endangered and threatened resource protection requirements of s. 29.604, Wis. Stats., and ch. NR 27, Wis. Adm. Code.

#### **1.8 Historic Property**

The permittee's MS4 discharge may not affect any historic property that is listed property, or on the inventory or on the list of locally designated historic places under s. 44.45, Wis. Stats., unless the Department determines that the MS4 discharge will not have an adverse effect on any historic property pursuant to s. 44.40(3), Wis. Stats.

#### **1.9 General Storm Water Discharge Limitations**

In accordance with s. NR 102.04, Wis. Adm. Code, practices attributable to municipal, industrial, commercial, domestic, agricultural, land development or other activities shall be controlled so that all surface waters including the mixing zone meet the following conditions at all times and under all flow and water level conditions:

**1.9.1** Substances that will cause objectionable deposits on the shore or in the bed of a body of water, shall not be present in such amounts as to interfere with public rights in waters of the state.

**1.9.2** Floating or submerged debris, oil, scum or other material shall not be present in such amounts as to interfere with public rights in waters of the state.

**1.9.3** Materials producing color, odor, taste or unsightliness shall not be present in such amounts as to interfere with public rights in waters of the state.

**1.9.4** Substances in concentrations or combinations which are toxic or harmful to humans shall not be present in amounts found to be of public health significance, nor shall substances be present in amounts which are acutely harmful to animal, plant or aquatic life.

## **1.10 Obtaining Permit Coverage**

**1.10.1** The owner or operator of an MS4 covered under a previous version of an MS4 permit before the effective date of this permit shall be covered by this permit pursuant to written authorization by the Department.

**Note:** The Department will notify in writing the owner or operator of an MS4 covered under a previous version of an MS4 permit that this permit has been reissued and that the MS4 is covered under it. However, the City of Madison and the City of Milwaukee are not eligible for coverage under this permit.

**1.10.2** Coverage under this permit does not become effective until the Department sends the owner or operator a letter expressly authorizing coverage under this permit.

## **1.11 Transfers**

Coverage under this permit is not transferable to another municipality without the express written approval of the Department. If the permittee's MS4 is annexed into another municipality, the permittee shall immediately notify the Department by letter of the change. If the permittee ceases to own or operate any MS4 regulated under this permit, the Department may terminate its coverage under this permit.

## **1.12 Exclusions**

The following are excluded from coverage and are not authorized under this permit:

### **1.12.1 Combined Sewer and Sanitary Sewer Systems**

Discharges of water from a sanitary sewer or a combined sewer system conveying both sanitary and storm water. These discharges are regulated under s. 283.31, Wis. Stats, and require an individual permit.

### **1.12.2 Agricultural Facilities and Practices**

Discharges from agricultural facilities and agricultural practices. "Agricultural facility" means a structure associated with an agricultural practice. "Agricultural practice" means beekeeping; commercial feedlots; dairying; egg production; floriculture; fish or fur farming; grazing; livestock raising; orchards; poultry raising; raising of grain, grass, mint and seed crops; raising of fruits, nuts and berries; sod farming; placing land in federal programs in return for payments in kind; owning land, at least 35 acres of which is enrolled in the conservation reserve program under 16 USC § 3831 to 3836; and vegetable raising.

**1.12.3 Other Excluded Discharges**

Storm water discharges from industrial operations or land disturbing construction activities that require separate coverage under a WPDES permit pursuant to subchs. II or III of ch. NR 216, Wis. Adm. Code. For example, while storm water from industrial or construction activity may discharge to an MS4, this permit does not satisfy the need to obtain any other permits for those discharges. This exclusion does not apply to the permittee's responsibility to regulate construction sites within its jurisdiction in accordance with sections 2.4 and 2.5 of this permit.

**1.12.4 Indian Country**

Storm water discharges within Indian Country. The federal Clean Water Act requires owners and operators of storm water discharges within Indian Country in Wisconsin to obtain permit coverage directly from the USEPA.

**1.12.5 Non-MS4 Discharge**

Storm water discharges that do not enter an MS4.

**1.13 Compliance with Permit Requirements**

Compliance with the requirements contained in this permit including the applicable appendices shall not be contingent upon receiving financial assistance from the Department or any other public or private grant or loan program.

**2. PERMIT CONDITIONS**

This permit establishes the following measurable goals, with a compliance schedule in section 3, for the permittee to maintain compliance with the minimum control measures for their storm water management program described under sections 2.1 through 2.6. The following permit conditions apply to the permittee, unless the Department issues a written determination that a condition is not appropriate under the circumstances. The permittee shall have a written storm water management program that describes in detail how the permittee intends to comply with the permit requirements for each minimum control measure. The permittee shall begin implementing any updates to its storm water management programs no later than March 31, 2021.

**2.1 Public Education and Outreach**

The permittee shall maintain its public education and outreach program to increase the awareness of storm water pollution impacts on waters of the state and to encourage changes in public behavior to reduce such impacts. The permittee shall implement the following measurable goals:

**2.1.1 Topics.** The permittee shall address all eight topics in Table 1 at least once during the permit term. Permittees that are a County shall address a minimum of six topics each year. Permittees that are a City, Village, Town, or University with a population of 5,000 or more based on the latest U.S. Census shall address a minimum of six topics each year. Permittees that are a City, Village, Town, or University with a population less than 5,000 based on the latest U.S. Census shall address a minimum of four topics each year. Topics may be repeated as necessary. Permittees shall select from the topic areas in Table 1.

**Note:** Universities should average its enrolled student population plus employee population over a recent ten-year period to determine which requirement it should follow for permit compliance. Universities are also expected to undertake public education efforts that reach the entire student body and staff.

**Table 1: Public Education and Outreach Topic Areas and Descriptions**

#	Topic Area	Description
1	Illicit Discharge Detection and Elimination	Promote detection and elimination of illicit discharges and water quality impacts associated with such discharges from municipal separate storm sewer systems.
2	Household Hazardous Waste Disposal/Pet Waste Management/Vehicle Washing	Inform and educate the public about the proper management of materials that may cause storm water pollution from sources including automobiles, pet waste, household hazardous waste and household practices.
3	Yard Waste Management/Pesticide and Fertilizer Application	Promote beneficial onsite reuse of leaves and grass clippings and proper use of lawn and garden fertilizers and pesticides.
4	Stream and Shoreline Management	Promote the management of streambanks and shorelines by riparian landowners to minimize erosion and restore and enhance the ecological value of waterways.



5	Residential Infiltration	Promote infiltration of residential storm water runoff from rooftop downspouts, driveways and sidewalks.
6	Construction Sites and Post-Construction Storm Water Management	Inform and educate those responsible for the design, installation, and maintenance of construction site erosion control practices and storm water management facilities on how to design, install and maintain the practices.
7	Pollution Prevention	Identify businesses and activities that may pose a storm water contamination concern, and educate those specific audiences on methods of storm water pollution prevention.
8	Green Infrastructure/Low Impact Development	Promote environmentally sensitive land development designs by developers and designers, including green infrastructure and low impact development.

**Note:** Additional information on green infrastructure and low impact development may be found on the USEPA’s Internet site at: <https://www.epa.gov/green-infrastructure>

**2.1.2 Delivery mechanism.** The permittee shall use at least four public education delivery mechanisms each year. Permittees that are a City, Village, Town, or University with a population of 5,000 or more based on the latest U.S. census shall use at least two from the Active/Interactive Mechanisms column in Table 2 each year. Permittees that are a City, Village, Town, or University with a population less than 5,000 based on the latest U.S. census shall use at least one from the Active/Interactive Mechanisms column in Table 2 each year. Permittees that are a County shall use at least one from the Active/Interactive Mechanisms column in Table 2 each year.”

**Note:** Universities should average its enrolled student population plus employee population over a recent ten-year period to determine which requirement it should follow for permit compliance. Universities are also expected to undertake public education efforts that reach the entire student body and staff.

**Table 2: Public Education and Outreach Delivery Mechanisms (Active and Passive)**

Active/Interactive Mechanisms	Passive Mechanisms
<ul style="list-style-type: none"> <li>• Educational activities (school presentations, summer camps)</li> <li>• Informational booth at event</li> <li>• Targeted group training (contractors, consultants, etc.)</li> <li>• Government event (public hearing, council meeting)</li> <li>• Workshops</li> <li>• Tours</li> <li>• Other</li> </ul>	<ul style="list-style-type: none"> <li>• Passive print media (brochures at front desk, posters, etc.)</li> <li>• Distribution of print media (mailings, newsletters, etc.) via mail or email</li> <li>• Media offerings (radio and TV ads, press release, etc.)</li> <li>• Social media posts</li> <li>• Signage</li> <li>• Website</li> <li>• Other</li> </ul>

**2.1.3 Target audience.** The permittee shall identify the target audience for each public education and outreach topic. Target audiences may include the general public, public employees, residents, businesses, contractors, developers, industries, and/or other appropriate audiences.

## **2.2 Public Involvement and Participation**

The permittee shall maintain its public involvement and participation program, in compliance with applicable state and local public notice requirements, to notify the public of activities required by this permit and to encourage input and participation from the public regarding these activities. The permittee shall implement the following measurable goals:

**2.2.1 Permit activities.** The permittee shall provide a minimum of one opportunity annually for the public to provide input on each of the following permit activities: annual report, storm water management program, and if applicable, the adoption or amendment of storm water related ordinances.

**2.2.2 Delivery mechanism.** The permittee shall identify the public involvement and participation delivery mechanism for each permit activity in section 2.2.1. Delivery mechanisms may include public workshop, presentation of storm water information, government event (public hearing, council meeting, etc.), citizen committee meeting, or website.

**2.2.3 Volunteer activities.** The permittee shall implement at a minimum one of the following volunteer activities per year: group best management practice (BMP) installation or maintenance, storm drain stenciling, planting community rain garden, clean up event, stream monitoring, citizen committee meeting, public workshop, presentation of storm water information, or other hands-on event.

**2.2.4 Target participants.** The permittee shall identify the targeted participants for each permit activity and volunteer activity. Participants may include general public, public employees, residents, businesses, contractors, developers, industries, and/or other appropriate audience.

## **2.3 Illicit Discharge Detection and Elimination (IDDE)**

The permittee shall continue to implement and enforce its program to detect and remove illicit connections and discharges to the MS4. The permittee shall implement the following measurable goals:

**2.3.1 IDDE ordinance.** An ordinance or other regulatory mechanism to prevent and eliminate illicit discharges and connections to the MS4. At a minimum, the ordinance or other regulatory mechanism shall:

**a.** Prohibit illicit discharges and the discharge, spilling or dumping of non-storm water substances or materials into waters of the state or the MS4.

**b.** Identify non-storm water discharges or flows that are not considered illicit discharges. Categories of non-storm water discharges that are not considered illicit discharges include water line flushing, landscape irrigation, diverted stream flows, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, lawn watering, individual residential car washing, flows from riparian habitats

and wetlands, fire-fighting and discharges authorized under a WPDES permit. However, the occurrence of a discharge listed above may be considered an illicit discharge on a case-by-case basis if the permittee or the Department identifies it as a significant source of a pollutant to waters of the state.

c. Establish inspection and enforcement authority.

**Note:** Chapter NR 815, Wis. Adm. Code, regulates injection wells including storm water injection wells. Construction or use of a well to dispose of storm water directly into groundwater is prohibited under s. NR 815.11(5), Wis. Adm. Code.

**2.3.2 IDDE field screening.** On-going dry weather field screening shall be conducted at 100% of the total major outfalls at least once during the term of the permit. Additionally, the permittee shall select minor outfalls for annual on-going dry weather field screening during the term of the permit. The permittee shall develop a prioritization procedure to assist with selecting minor outfalls and consideration shall be given to hydrological conditions, total drainage area of the site, population density of the site, traffic density, age of the structures or buildings in the area, history of the area and land use types when selecting outfalls for annual field screening. At a minimum, field screening shall be documented and include:

a. Visual Observation - A narrative description of visual observations including color, odor, turbidity, oil sheen or surface scum, flow rate and any other relevant observations regarding the potential presence of non-storm water discharges or illicit dumping.

b. Field Analysis - If flow is observed, a field analysis shall be conducted to determine the presence of illicit non-storm water discharges or illicit dumping. The field analysis shall include sampling for pH, total chlorine, total copper, total phenol and detergents, unless the permittee elects instead to use detergent, ammonia, potassium and fluoride as the indicator parameters. Other alternative indicator parameters may be authorized by the Department in writing.

(1) Field screening points shall, where possible, be located downstream of any source of suspected illicit activity.

(2) Field screening points shall be located where practicable at the farthest manhole or other accessible location downstream in the system. Safety of personnel and accessibility of the location shall be considered in making this determination.

**Note:** The Department's MS4 Illicit Discharge Detection and Elimination guidance document includes several recommendations regarding selection of outfalls for field screening, screening frequency, indicator parameter selection, indicator parameter action levels and documentation. The Illicit Discharge Detection and Elimination guidance is available on the Department's Internet site at: <https://dnr.wi.gov/topic/stormwater/municipal/overview.html>

**2.3.3 IDDE source investigation and elimination.** Written procedures for responding to known or suspected illicit discharges, including an assessment of risks and the establishment to response times. At a minimum, procedures shall be established for:

**a.** Investigating portions of the MS4 that, based on the results of field screening or other information, indicate a reasonable potential for containing illicit discharges or other sources of non-storm water discharges.

**b.** Responding to spills that discharge into and/or from the MS4 including tracking and locating the source of the spill if unknown.

**c.** Preventing and containing spills that may discharge into or are already within the MS4.

**d.** Promoting, publicizing, and facilitating public reporting of illicit discharges or water quality impacts associated with discharges into or from MS4s through a central contact point, including a form, website, email address, and/or telephone number for complaints and spill reporting, and publicize to both internal permittee staff and the public.

**e.** Notifying the Department immediately in accordance with ch. NR 706, Wis. Adm. Code, in the event that the permittee identifies a spill or release of a hazardous substance, which has resulted or may result in the discharge of pollutants into waters of the state. The Department shall be notified via the 24-hour toll free spill hotline at 1-800-943-0003. The permittee shall cooperate with the Department in efforts to investigate and prevent such discharges from polluting waters of the state.

**f.** Detecting and eliminating cross-connections and leakage from sanitary conveyance systems into the MS4.

**g.** Providing the Department with advanced notice of the time and location of dye testing within an MS4. Department notification prior to dye testing is required due to the likelihood that dye observed in waterways will be reported to the Department as an illicit discharge or spill.

**h.** Documentation of the following information:

**(1)** Dates and locations of IDDE screenings conducted in accordance with section 2.3.2.

**(2)** Reports of alleged illicit discharges received, including dates of the reports, and any follow-up actions taken by the permittee.

**(3)** Dates of discovery of all illicit discharges.

**(4)** Identification of outfalls, or other areas, where illicit discharge have been discovered.

**(5)** Sources (including a description and the responsible party) of illicit discharges (if known).

**(6)** Actions taken by the permittee, including dates, to address discovered illicit discharges.

**2.3.4** The permittee shall take appropriate action to remove known illicit discharges from its MS4 system discovered under section 2.3 as soon as possible. If it will take more than 30 days to remove an illicit connection or if the potential illicit discharge is from a facility with WPDES permit coverage, the Department shall be contacted to discuss an appropriate action and/or timeframe for removal. Notwithstanding this 30-day timeframe and notification of the Department, the permittee shall be responsible for any known illicit connections to its MS4 system that are a significant risk to human health and the environment.

**2.3.5** In the case of interconnected MS4s, the permittee shall notify the appropriate municipality within one working day of either of the following:

- a.** An illicit discharge that originates from the permittee's permitted area that discharges directly to a municipal separate storm sewer or property under the jurisdiction of another municipality.
- b.** An illicit discharge that has been tracked upstream to the interconnection point with or outfall from another municipality.

**2.3.6** The name, title and phone number of the individuals responsible for responding to reports of illicit discharges and spills shall be included in the illicit discharge response procedure.

## **2.4 Construction Site Pollutant Control**

The permittee shall continue to implement and enforce its program to reduce the discharge of sediment and construction materials from construction sites. The permittee shall implement the following measurable goals:

**2.4.1 Construction site ordinance.** An ordinance or other regulatory mechanism to require erosion and sediment control at construction sites and establish sanctions to ensure compliance. At a minimum, the ordinance or other regulatory mechanism shall establish or include:

- a.** Applicability and jurisdiction, pursuant to the authority provided to the permittee under Wisconsin statutes, the ordinance shall apply to all construction sites with one acre or more of land disturbance, and to sites of less than one acre if they are part of a larger common plan of development or sale.
- b.** Requirements for design and implementation of erosion and sediment control practices consistent with the criteria of those approved by the Department.

**Note:** Department approved erosion and sediment control technical standards may be found on the Department's Internet site at:

[https://dnr.wi.gov/topic/stormwater/standards/const\\_standards.html](https://dnr.wi.gov/topic/stormwater/standards/const_standards.html)

c. Construction site performance standards equivalent to those in ss. NR 151.11(6m), (7), and (8), and 151.23(4m), (5), and (6), Wis. Adm. Code, to achieve the following measurable goals:

(1) BMPs for construction sites that, by design, discharge no more than 5 tons per acre per year, or to the maximum extent practicable, of the sediment load carried in runoff from initial grading to final stabilization.

(2) BMPs for transportation facilities that, by design, discharge no more than 5 tons per acre per year, or to the maximum extent practicable, of the sediment load carried in runoff from initial grading to final stabilization.

**Note:** The requirements for erosion and sediment control practices, sediment performance standards, and preventive measures for non-transportation facilities can be found in s. NR 151.11(6m), Wis. Adm. Code, and for transportation facilities can be found in NR. 151.23(4m), Wis. Adm. Code.

d. Erosion and sediment control plan requirements for landowners of construction sites equivalent to those contained in s. NR 216.46, Wis. Adm. Code.

e. Inspection and enforcement authority.

f. Requirements for construction site operators to manage waste such as discarded building materials, concrete truck washout, chemicals, litter and sanitary waste at the construction site to reduce adverse impacts to waters of the state.

**Note:** In accordance with section 2.10, when a town demonstrates to the Department that an adequate county ordinance that meets the requirements of this permit is administered and enforced within its town, then the town may be excused from having to adopt its own ordinance. Model ordinances for construction site erosion and sediment control can be found in ch. NR 152, Wis. Adm. Code: [https://docs.legis.wisconsin.gov/code/admin\\_code/nr/100/152](https://docs.legis.wisconsin.gov/code/admin_code/nr/100/152)

**2.4.2 Erosion and sediment control plan review.** Written procedures for construction site plan review which incorporate consideration of potential water quality impacts. Preconstruction erosion control plan reviews shall be conducted for all construction sites with greater than one acre of land disturbance.

**2.4.3 Administrative procedures.** Written procedures for the administration of the construction site pollutant control program including the process for obtaining local approval, managing and responding to complaints, tracking regulated construction sites, and construction site plan receipt and consideration of information submitted by the public.

**2.4.4 Construction site inspections and enforcement.** Written procedures for construction site inspection and enforcement of erosion and sediment control measures. By April 1, 2020, at a minimum, the procedures shall establish:

a. Municipal departments or staff responsible for construction site inspections and enforcement.

**Note:** The Department recommends that municipal construction site inspectors obtain certification as a Soil Erosion Inspector pursuant to s. SPS 305.63, Wis. Adm. Code, for more information:

<https://dsps.wi.gov/Pages/Professions/SoilErosionInspector/Default.aspx>

**b.** Construction site inspection frequency. The permittee shall inspect all construction sites, at a minimum, in accordance with the frequency specified in Table 3 below.

**Table 3: Construction Site Inspection Frequency**

Site	Inspection Frequency
(1) All sites one acre or more in size	<ul style="list-style-type: none"><li>• New projects shall be inspected within the first two weeks of commencement of land disturbing activity</li><li>• All active sites shall be inspected at least once every 45 days</li><li>• All inactive sites shall be inspected at least once every 60 days</li></ul>
(2) Follow up inspection	<ul style="list-style-type: none"><li>• Follow up inspections are required within 7 days of any sediment discharge or inadequate control measure, unless corrections were made and observed by the inspector during initial inspection or corrections were verified via photographs submitted to the inspector</li></ul>
(3) Final inspection	<ul style="list-style-type: none"><li>• Confirm that all graded areas have reached final stabilization and that all temporary control measures are removed, and permanent storm water management BMPs are installed as designed</li></ul>

**c.** Construction site inspection documentation. Compliance with the inspection requirements in 2.4.4.a. and b. above, shall be determined by proper documentation and maintenance of records of an established inspection program designed to inspect all sites.

**Note:** The Department's Construction Site Inspection Report (Form 3400-187) may be used to document inspections. The form can be found on the Department's Internet site at: <https://dnr.wi.gov/topic/Stormwater/construction/forms.html>

**d.** Enforcement mechanisms that will be used to obtain compliance.

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

The permittee shall continue to implement and enforce its program to require control of the quality of discharges from areas of new development, infill, and redevelopment, after construction is completed. The permittee shall implement the following measurable goals:

**2.5.1 Post-construction storm water ordinance.** An ordinance or other regulatory mechanism to regulate post-construction storm water discharges from new development and redevelopment. At a minimum, the ordinance or other regulatory mechanism shall establish or include:

a. Applicability and jurisdiction, pursuant to the authority provided to the permittee under Wisconsin statutes, the ordinance shall apply to construction sites with one acre or more of land disturbance, and sites of less than one acre if they are part of a larger common plan of development or sale.

b. Requirements for design and implementation of post-construction storm water management control practices consistent with the criteria of those approved by the Department.

**Note:** Department approved post-construction storm water management control technical standards may be found on the Department's Internet site at:

[https://dnr.wi.gov/topic/stormwater/standards/postconst\\_standards.html](https://dnr.wi.gov/topic/stormwater/standards/postconst_standards.html)

c. For new development and infill, post-construction performance standards equivalent to those in ss. NR 151.122 through 151.126 and 151.242 through 151.246, Wis. Adm. Code, that meet the measurable goals for pollutant removal and post-construction storm water treatment. Post-construction performance standards for new development and infill may be more restrictive than those required in this section 2.5.1.c. if necessary to comply with federally approved TMDL requirements.

d. For redevelopment, post-construction performance standards equivalent to or more restrictive than those in ss. NR 151.122 through 151.126 and 151.242 through 151.246, Wis. Adm. Code, that meet the measurable goals for pollutant removal and post-construction storm water treatment.

e. Storm water plan requirements for landowners of construction sites equivalent to those contained in s. NR 216.47, Wis. Adm. Code.

f. Long-term maintenance requirements for landowners and other persons responsible for long-term maintenance of post-construction storm water control measures, including requirements for routine inspection and maintenance of privately owned post-construction storm water control measures that discharge to the MS4 to maintain their pollutant removal operating efficiency.

g. Inspection and enforcement authority.

**Note:** In accordance with section 2.10, when a town demonstrates to the Department that an adequate county ordinance that meets the requirements of this permit is administered and enforced within its town, then the town may be excused from having to adopt its own ordinance. Model ordinances for post-construction storm water management can be found in ch. NR 152, Wis. Adm. Code: [https://docs.legis.wisconsin.gov/code/admin\\_code/nr/100/152](https://docs.legis.wisconsin.gov/code/admin_code/nr/100/152)

**2.5.2 Administrative procedures.** Written procedures for the administration of the post-construction storm water management program including the process for obtaining local approval and responding to complaints.



**2.5.3 Storm water management plan review.** Written procedures for post-construction site plan review which incorporate consideration of potential water quality impacts. Post-construction site plan reviews shall be conducted for all construction sites with greater than one acre of land disturbance.

**Note:** The Department recommends that municipal staff reviewing plans obtain training on post-construction plan review.

**2.5.4 Long-term maintenance, inspections and enforcement.** Written procedures that will be used by the permittee through its ordinance jurisdiction, approval process, and authority to, at a minimum, track and enforce the long-term maintenance of storm water management facilities implemented to meet the applicable post-construction performance standards in section 2.5.1.c and d of this permit. The procedures shall include:

- a. A mechanism for tracking regulated sites.
- b. At a minimum, long-term maintenance inspections shall occur once per permit term.
- c. Inspection documentation.
- d. Follow up enforcement with timeframes for corrective maintenance.

## **2.6 Pollution Prevention**

The permittee shall continue to implement its pollution prevention program to prevent or reduce pollutant runoff from the MS4 to waters of the state. The permittee shall implement the following measurable goals:

**2.6.1 Storm water management facilities.** Update and maintain an inventory of municipally owned or operated storm water BMPs such as wet detention ponds, bioretention devices, infiltration basins and trenches, permeable pavement, proprietary sedimentation devices, vegetated swales, or any similar practices or devices used to meet a water quality requirement under this permit. At a minimum, the inventory shall be maintained in a tabular format and contain the following information for each structural storm water facility:

- a. A key corresponding to the location of the BMP on the storm sewer system map required under section 2.8.
- b. The name and a description of the BMP, including the type and year constructed.
- c. A confirmation of whether each of the following elements exist or are not available:
  - (1) An operation and maintenance plan with inspection procedures and schedule.
  - (2) A record drawing.

**Note:** A record drawing is a complete clean set of drawings that accurately reflect how the final practice was built.

**(3)** If using a BMP to meet a water quality requirement in this permit and the BMP is owned by another entity, written documentation exists that the permittee has permission from the owner to use the BMP for this purpose.

**2.6.2** For each BMP inventoried under section 2.6.1, the permittee shall develop and implement a maintenance plan with inspection procedures and schedule to maintain the pollutant removal operating efficiency of the practice in compliance with any water quality requirement under this permit. Documentation of inspections and maintenance activities shall be maintained.

**Note:** Chapter NR 528, Wis. Adm. Code, *Management of Accumulated Sediment from Storm Water Management Structures*, establishes a process to regulate sediment removal and use to help storm water pond owners manage storm water pond sediment. Information on NR 528 and managing accumulated sediment from storm water ponds is available through the Department's Internet site at: <https://dnr.wi.gov/topic/waste/nr528.html>

**2.6.3 Municipally owned public works facilities.** The storm water pollution prevention plans (SWPPPs) for municipal garages, municipal storage areas, and other public works related municipal facilities located within the permitted area shall be maintained and updated annually as needed and shall include the information in sections 2.6.3.a. When a SWPPP is updated, it shall be submitted to the Department with the annual report.

a. SWPPPs shall include the following information:

**(1)** The physical locations of each facility with a key corresponding to the locations on the storm sewer system map required under section 2.8.

**(2)** The contact information for the individuals with overall responsibility for each facility.

**(3)** A map of each facility, drawn to scale, and including the following features:

i. The locations and descriptions of major activities and storage areas.

ii. Identification of drainage patterns, potential sources of storm water contamination, and discharge points.

iii. Identification of nearby receiving waters or wetlands.

iv. Identification of connections to the permittees MS4.

**(4)** A description of procedures, good housekeeping activities, and any BMPs installed to reduce or eliminate storm water contamination.

**(5)** A maintenance plan with inspection procedures and schedule for each facility to identify deficiencies, necessary improvements and/or repairs, assess effectiveness, and address new or unaddressed potential sources of storm water contamination.

**(6) Spills prevention and response standard operating procedures.**

**b.** The permittee is not required to comply with section 2.6.3 if the permittee certifies that the municipal facility qualifies for no exposure with the Department's concurrence.

**(1)** No exposure means that the facility shall have all materials and activities protected by a storm-resistant shelter to prevent exposure to storm water. Materials or activities include material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products or waste products. Material handling activities include the storage, loading and unloading, transportation or conveyance of any raw material, intermediate product, final product or waste product.

**(2)** The permittee shall certify for no exposure for each facility at least once each permit term. The permittee shall submit a letter requesting no exposure, an inspection report of the site, and photos of all materials or activities at the site. The photo locations shall be labeled on an aerial photo diagram.

**2.6.4** Measures to reduce municipal sources of storm water contamination within source water protection areas.

**Note:** Wisconsin's source water assessment program information may be found on the Department's Internet site at:  
<https://dnr.wi.gov/topic/drinkingwater/sourcewaterprotection.html>

**2.6.5 Collection services/Storm sewer system maintenance activities.**

**a. Street sweeping.** If routine street sweeping is utilized to meet a water quality requirement under this permit, the permittee shall maintain documentation of the number and type of equipment used, standard operating procedures, an estimate of the number of lane-miles swept annually, and an estimate of the weight in tons of material collected annually.

**b. Catch basins.** If routine cleaning of catch basins with sumps is utilized to meet a water quality requirement under this permit, the permittee shall maintain documentation of the number of catch basins inspected, the number of catch basins cleaned, standard operating procedures, and an estimate of the weight in tons of material collected annually.

**c. Material handling and disposal.** Material collected under a. and b. of this section shall be handled and stored in a manner that prevents contamination of storm water runoff and shall be disposed of or beneficially reused in accordance with applicable solid and hazardous waste statutes and administrative codes. Non-storm water discharges to waters of the state associated with dewatering and drying material collected under sections a. and b. of this section are not authorized by this permit.

**Note:** Information on managing waste and materials is available on the Department's Internet site at: <https://dnr.wi.gov/topic/Waste/>. Information on WPDES permits for non-storm water discharges is available on the Department's Internet site at: <https://dnr.wi.gov/topic/wastewater/>

**d. Leaf management.** Proper management of leaves and grass clippings from municipally-owned properties and private property. The program may include instructions to private property owners for on-site composting, on-site beneficial reuse, or yard waste drop-off as opposed to a municipal collection program. On-site management and/or drop-off shall be communicated to private property owners in accordance with the public education and outreach program implemented under section 2.1 of this permit. If the permittee has a municipal collection program, collected material shall be handled and stored in a manner that prevents contamination of storm water runoff. For a municipal leaf collection program, the permittee shall maintain the following documentation:

(1) A description of the leaf collection program, including the type of pick-up methodology and equipment used, timing of associated street cleaning, standard operating procedures, schedule and frequency, and instructions for private property owners.

(2) An estimate of the weight in tons of material collected annually.

(3) Municipally operated leaf disposal locations with a key corresponding to the locations on the storm sewer system map required under section 2.8. If the disposal location is outside of the MS4 boundary, then the permittee can provide documentation if the disposal is taken elsewhere.

**Note:** The Department has developed "Interim Municipal Phosphorus Reduction Credit for Leaf Management Programs" guidance to assist permitted MS4s on creditable phosphorus reduction through leaf collection and management. The guidance document may be found on the Department's Internet site at: [https://dnr.wi.gov/topic/stormwater/standards/ms4\\_modeling.html](https://dnr.wi.gov/topic/stormwater/standards/ms4_modeling.html)

**2.6.6 Winter Road Management.** If road salt or other deicers are applied by the permittee or a contractor on behalf of the permittee, no more shall be applied than necessary to maintain public safety. Documentation on deicing activities shall be performed by the permittee or a contractor on behalf of the permittee and include the following:

a. Contact information for the individuals with overall responsibility for winter roadway maintenance.

b. A description of the types of deicing products used.

c. The amount of deicing product used per month.

d. A description of the type of equipment used.

e. An estimate of the number of lane-miles treated with deicing products for the roadways that the permittee is responsible for, and an estimate in acres of the total area of municipally-owned parking lots treated with deicing products by the permittee or contractor.

f. If applicable, snow disposal locations with a key corresponding to the locations on the storm sewer system map required under section 2.8.

**Note:** Snow treatment and disposal guidance for municipalities is available through the Department's Internet site at: <https://dnr.wi.gov/topic/stormwater/publications.html>

g. A description of anti-icing, pre-wetting and brining, equipment calibration, pavement temperature monitoring, and/or salt reduction strategies implemented or being considered, and/or alternative products.

h. Other measurable data or information that the permittee uses to evaluate or modify its deicing activities.

**Note:** The Wisconsin Department of Transportation (WisDOT) Highway maintenance manual - Chapter 6, contains guidelines on winter maintenance including application of road salt and other deicers. Chapter 6 is available on the WisDOT's Internet site at: <https://wisconsin.gov/Pages/doing-bus/local-gov/hwy-mnt/mntc-manual/chapter06.aspx>. The WisDOT highway salt storage requirements are contained in ch. Trans 277, Wis. Adm. Code.

**2.6.7 Nutrient management.** Application of turf and garden fertilizers on municipally controlled properties (such as parks, athletic fields, golf courses), with pervious surfaces over 5 acres each, in accordance with a site-specific nutrient application schedule based on appropriate soil tests.

**Note:** To assist permittees with this requirement, the Department has developed a technical standard for turf nutrient management. These documents may be found on the Department's Internet site at: [https://dnr.wi.gov/topic/stormwater/standards/turf\\_nutrient.html](https://dnr.wi.gov/topic/stormwater/standards/turf_nutrient.html)

**2.6.8 Environmentally sensitive development.** Consideration of environmentally sensitive land development designs for municipal projects, including green infrastructure and low impact development, which shall be designed, installed, and maintained to comply with a water quality requirement under this permit.

**Note:** Additional information on green infrastructure and low impact development may be found on the following USEPA Internet sites:

<https://www.epa.gov/green-infrastructure>  
<https://www.epa.gov/nps/urban-runoff-low-impact-development>

**2.6.9 Internal training and education.** At a minimum, the permittee shall hold one annual training event for appropriate municipal staff and other personnel involved in implementing each of the elements of the pollution prevention program under this section 2.6. Documentation shall be maintained of the date, the number of people attending the training, the names of each person attending and a summary of their responsibilities, and the content of the training. The permittee shall inform contractors performing any services to implement

section 2.6 of the permit requirements and expectations. The permittee shall also inform their elected officials of the permit requirements and expectations.

## **2.7 Storm Water Quality Management**

The permittee shall implement its municipal storm water quality management program. This program shall maintain compliance with the developed urban area performance standards of s. NR 151.13(2)(b)1., Wis. Adm. Code, for those areas of the municipality that were not subject to the post-construction performance standards of ss. NR 151.12 or 151.24, or ss. NR 151.122 through 151.126, or ss. 151.242 through 151.246, Wis. Adm. Code. The permittee shall implement the following measurable goals:

**2.7.1** To the maximum extent practicable, implementation and maintenance of all storm water management practices necessary to meet the more restrictive total suspended solids reduction of either of the following:

**a.** The permittee shall maintain all source area controls, structural storm water management facilities, and non-structural storm water BMPs that the permittee implemented on or before July 1, 2011, to achieve a reduction of 20% or more of total suspended solids carried by storm water runoff from existing development to waters of the state. If the permittee removes or modifies a storm water BMP, the permittee shall continue to achieve the reduction by installing, implementing, and maintaining the necessary storm water BMPs to, at a minimum, equal the same level of treatment. All structural storm water management facilities utilized to meet the requirements in section 2.7.1.a shall be inventoried and maintained in accordance with sections 2.6.1 and 2.6.2.

**b.** A 20% reduction in the annual average mass of total suspended solids discharging from the MS4 to surface waters of the state as compared to implementing no storm water management controls. All source area controls, structural storm water management facilities, and non-structural storm water BMPs implemented to achieve the 20% reduction in total suspended solids shall be maintained. If the permittee removes or modifies a storm water BMP, the permittee shall continue to achieve the 20% reduction by installing, implementing, and maintaining the necessary storm water BMPs to equal, at a minimum, the same level of treatment. All structural storm water management facilities utilized to meet the requirements in section 2.7.1.b shall be inventoried and maintained in accordance with sections 2.6.1 and 2.6.2.

**Note:** The total suspended solids reduction requirement applies to storm water runoff from areas of urban land use and is not applicable to agricultural or rural land uses and associated roads. Additional MS4 modeling guidance for modeling the total suspended solids control is available on the Department's Internet site at: [https://dnr.wi.gov/topic/stormwater/standards/ms4\\_modeling.html](https://dnr.wi.gov/topic/stormwater/standards/ms4_modeling.html). The permittee may elect to meet the applicable total suspended solids standard above on a watershed or regional basis by working with other permittees to provide regional treatment that collectively meets the standard.

## **2.8 Storm Sewer System Map**

The permittee shall maintain its MS4 map. The storm sewer system map shall be updated annually as needed for changes occurring in the permitted area boundaries. The municipal storm sewer system map shall include:

**2.8.1** Identification of waters of the state, name and classification of receiving waters, identification of whether the receiving water is an ORW, ERW or listed as an impaired water under s. 303(d) of the Clean Water Act, storm water drainage basin boundaries for each MS4 outfall, and the municipal separate storm sewer conveyance systems including direction of flow.

**2.8.2** Identification of any known wetlands, endangered or threatened resources, and historical property, as defined in sections 1.6 through 1.8 of this permit, which might be affected.

**2.8.3** Identification of all known MS4 outfalls discharging to waters of the state and other MS4s. Major outfalls shall be uniquely identified.

**2.8.4** Location of any known discharge to the MS4 that has been issued WPDES permit coverage by the Department. A list of WPDES permit holders in the permittee's area may be obtained from the Department.

**2.8.5** Location of municipally owned or operated structural storm water management facilities including detention basins, infiltration basins, and manufactured treatment devices. If the permittee will be taking total suspended solids credit for pollutant removal from privately-owned facilities, they shall be identified.

**2.8.6** Identification of publicly owned parks, recreational areas and other open lands.

**2.8.7** Location of municipal garages, storage areas and other public works facilities.

**2.8.8** Identification of streets.

## **2.9 Annual Report**

The permittee shall submit an annual report for each calendar year to the Department by **March 31 of the following year**. The permittee shall invite the municipal governing body, interest groups and the general public to review and comment on the annual report. The annual report shall include:

**2.9.1** The status of implementing the permit requirements, status of meeting measurable program goals and compliance with permit schedules.

**2.9.2** A fiscal analysis which includes the annual expenditures and budget for the reporting year, and the budget for the next year.

**2.9.3** A summary of the number and nature of inspections and enforcement actions conducted to ensure compliance with the required ordinances.

**2.9.4** Identification of any known water quality improvements or degradation in the receiving water to which the permittee's MS4 discharges. Where degradation is identified, identify why and what actions are being taken to improve the water quality of the receiving water.

**2.9.5** An evaluation of program compliance, the appropriateness of identified BMPs, and progress towards achieving identified measurable goals. Any program changes made as a result of this evaluation shall be identified and described in the annual report. For any identified deficiencies towards achieving the requirements under section 2 of this permit or lack of progress towards meeting a measurable goal, the permittee shall initiate program changes to improve their effectiveness.

**2.9.6** If applicable, notice that the permittee is relying on another municipality or entity to satisfy any of the permit requirements and a description of the arrangement where a permit requirement is being met in this manner.

**2.9.7** A duly authorized representative of the permittee shall sign and certify the annual report and include a statement or resolution that the permittee's governing body or delegated representatives have reviewed or been apprised of the content of the annual report.

**2.9.8.** The annual report and other required reports, and permit compliance documents shall be submitted electronically through the Department's electronic reporting system.

**Note:** The Department's electronic reporting system is Internet-based and available at: <https://dnr.wi.gov/permits/water/>. Municipal storm water permit eReporting information and user support tools can be found at: <https://dnr.wi.gov/topic/stormwater/municipal/eReporting.html>

## **2.10 Cooperation**

The permittee may, by written agreement, implement this permit with another municipality or contract with another entity to perform one or more of the conditions of this permit. The permittee is ultimately responsible for compliance with the conditions of this permit. The permittee may rely on another municipality or contract with another entity to satisfy a condition of this permit if all of the following are met:

**2.10.1** The other municipality or entity implements the required control measure or permit requirement.

**2.10.2** A particular control measure, or component thereof, is at least as stringent as the corresponding permit requirement.

**2.10.3** The other municipality or entity agrees to implement a control measure or permit requirement on the permittee's behalf. This shall be shown by formal written agreement, signed by both parties' authorized representatives. The agreement shall be explicit as to which specific permit conditions are being covered by which municipality or other entity. Copies of current agreements shall be submitted with the annual report or to the Department upon request.

**Note:** If a county is implementing and enforcing adequate storm water ordinances within a town, the town would then not have to adopt its own ordinance. However, the town, as the permittee, is still expected to evaluate how the county is implementing and enforcing the ordinance in the town's permitted area, to verify the county is meeting the permit condition. Another example, if another entity agrees to implement the permit condition of long-term maintenance inspections, the permittee must



evaluate that the entity is completing inspections as agree upon. The permittee should not assume that another entity is implementing a permit condition as required because the permittee remains responsible for compliance with the conditions of this permit.

#### **2.11 Amendments**

The permittee shall amend a program required under this permit as soon as possible if the permittee becomes aware that it does not meet a requirement of this permit. The permittee shall amend its program if notified by the Department that a program or procedure is insufficient or ineffective in meeting a requirement of this permit. The Department notice to the permittee may include a deadline for amending and implementing the amendment.

#### **2.12 Reapplication for Permit Coverage**

To remain covered after the expiration date of this permit, pursuant to s. NR 216.09, Wis. Adm. Code, the permittee shall reapply to the Department at least 180 days prior to the expiration date of this permit for continued coverage under a reissued version of this permit.

### **3. COMPLIANCE SCHEDULE**

The permittee shall comply with the specific permit conditions contained in sections 1 and 2 according to the schedule in this section 3 and Table 4. The permittee shall begin implementing any updates to its storm water management programs no later than March 31, 2021. Required reports and permit compliance documents shall be submitted electronically through the Department's electronic reporting system.

**Note:** The Department's electronic reporting system is Internet-based and available at: <https://dnr.wi.gov/permits/water/>. Municipal storm water permit eReporting information and user support tools can be found at: <https://dnr.wi.gov/topic/stormwater/municipal/eReporting.html>

#### **3.1 Impaired Waterbodies and Total Maximum Daily Loads**

**3.1.1** The permittee shall determine whether any part of its MS4 discharges to an impaired waterbody as required under section 1.5.1 of this permit **by March 31 of each odd-numbered year.**

**3.1.2** If the permittee is subject to TMDL requirements under section 1.5 of this permit, the permittee shall submit information to the Department in accordance with the schedule as required in the applicable appendix of this permit.

#### **3.2 Public Outreach and Education**

The permittee shall submit to the Department the public education and outreach program developed for the term of this permit as required under section 2.1 of this permit **by March 31, 2021.**

#### **3.3 Public Involvement and Participation**

The permittee shall submit to the Department the public involvement and participation program developed for the term of this permit as required under section 2.2 of this permit **by March 31, 2021.**

#### **3.4 Illicit Discharge Detection and Elimination**

The permittee shall submit to the Department the illicit discharge detection and elimination program developed for the term of this permit as required under section 2.3.2 to 2.3.6 of this permit **by March 31, 2021.**

#### **3.5 Construction Site Pollutant Control**

The permittee shall submit to the Department the construction site pollutant control program developed for the term of this permit as required under sections 2.4.2 to 2.4.4 of this permit **by March 31, 2021.**

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

The permittee shall submit to the Department the post-construction storm water management program developed for the term of this permit as required under sections 2.5.2 to 2.5.4 of this permit **by March 31, 2021.**

### **3.7 Pollution Prevention**

**3.7.1** The permittee shall submit to the Department the municipal storm water management facility inventory as required under section 2.6.1 of this permit by **March 31, 2021**. Include with the annual report submittal via the Department's electronic reporting system. When the inventory is updated, it shall be submitted by **March 31 of each year** to the Department.

**3.7.2** The permittee shall submit to the Department the maintenance plan for municipal storm water management facilities as required under section 2.6.2 of this permit by **March 31, 2021**.

**3.7.3** The permittee shall update SWPPPs for municipally owned properties as needed as required under section 2.6.3 of this permit. When a SWPPP is updated, it shall be submitted by **March 31 of each year** to the Department.

### **3.8 Storm Water Quality Management**

The permittee shall report compliance with the developed urban area performance standards as required under section 2.7 of this permit by **March 31 of each year**.

### **3.9 Storm Sewer System Map**

The permittee shall update the storm sewer system map as needed as required under section 2.8 of this permit. When the MS4 map is updated, it shall be submitted by **March 31 of each year** to the Department.

### **3.10 Annual Report**

The permittee shall submit to the Department an annual report as required under section 2.9 of this permit for each calendar year by **March 31 of the following year**. The annual report and other required reports, and permit compliance documents shall be submitted electronically through the Department's electronic reporting system.

**Table 4: Compliance Schedule for Permit Requirements**

PERMIT SECTION	ACTIVITY	COMPLIANCE DATE	COMMENTS
Section 1.5.1	Identify discharges to an impaired waterbody	By March 31 of each odd-numbered year thereafter	All permittees
Section 1.5.2	Total maximum daily load implementation	See applicable Appendix.	Applies to a permittee with an MS4 discharge of a pollutant of concern to a waterbody subject to an USEPA approved TMDL that assigns the permittee a wasteload allocation.
Section 2.1	Public Education and Outreach – Submit public education and outreach program for the permit term with annual report	March 31, 2021	All permittees
Section 2.2	Public Involvement and Participation – Submit public involvement and participation program for the permit term with annual report	March 31, 2021	All permittees
Section 2.3.2 to 2.3.6	Illicit Discharge Detection and Elimination – Submit illicit discharge detection and elimination program for the permit term with annual report	March 31, 2021	All permittees
Section 2.4.2 to 2.4.4	Construction Site Pollutant Control – Submit construction site pollutant control program for the permit term with annual report	March 31, 2021	All permittees
Section 2.5.2 to 2.5.4	Post-Construction Storm Water Management – Submit post-construction storm water management program for the permit term with annual report	March 31, 2021	All permittees
Section 2.6	Pollution Prevention – Section 2.6.1, submit the municipal storm water management facility inventory with annual report	March 31, 2021, and annually thereafter (if updates)	All permittees
	Pollution Prevention – Section 2.6.2, submit the maintenance plan for municipal storm water management facilities with annual report	March 31, 2021	All permittees
	Pollution Prevention – Section 2.6.3, submit SWPPPs for municipally owned properties with annual report	March 31 of each year reporting on previous calendar year (if updates)	All permittees

Section 2.7	Storm Water Quality Management – Report TSS percent reduction	March 31 of each year reporting on previous calendar year	All permittees
Section 2.8	Storm sewer system map - Submit map with annual report	March 31 of each year reporting on previous calendar year (if updates)	All permittees
Section 2.9	Submit Annual Report	March 31 of each year reporting on previous calendar year	All permittees

#### 4. GENERAL CONDITIONS

The conditions in s. NR 205.07(1) and (3), Wis. Adm. Code, are incorporated by reference in this permit. The permittee shall be responsible for meeting these requirements, except for s. NR 205.07(1)(n), Wis. Adm. Code, which does not apply to facilities covered under general permits. Some of these requirements are outlined below. Requirements not specifically outlined below can be found in s. NR 205.07(1) and (3), Wis. Adm. Code.

**4.1 Duty to Comply:** The permittee shall comply with all conditions of the permit. Any act of noncompliance with this permit is a violation of this permit and is grounds for enforcement action or withdrawal of permit coverage under this permit and issuance of an individual permit. If the permittee files a request for an individual WPDES permit or a notification of planned changes or anticipated noncompliance, this action by itself does not relieve the permittee of any permit condition.

**4.2 Enforcement Action:** The Department is authorized under s. 283.89 and 283.91, Wis. Stats., to utilize citations or referrals to the Wisconsin Department of Justice to enforce the conditions of this permit. Violation of a condition of this permit is subject to a fine of up to \$10,000 per day of the violation.

**4.3 Compliance Schedules:** Reports of compliance or noncompliance with interim and final requirements contained in any compliance schedule of the permit shall be submitted in writing within 14 days after the scheduled due date, except that progress reports shall be submitted in writing on or before each schedule date for each report. Any report of noncompliance shall include the cause of noncompliance, a description of remedial actions taken, and an estimate of the effect of the noncompliance on the permittee's ability to meet the remaining scheduled due dates.

#### 4.4 Noncompliance

**4.4.1** Upon becoming aware of any permit noncompliance that may endanger public health or the environment, the permittee shall report this information by a telephone call to the Department regional storm water specialist within 24 hours. A written report describing the noncompliance shall be submitted to the Department regional storm water specialist within 5 days after the permittee became aware of the noncompliance. The Department may waive the written report on a case-by-case basis based on the oral report received within 24 hours. The written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue.

**4.4.2** Reports of any other noncompliance not covered under General Conditions sections 3.3, 3.4.1, or 3.6. shall be submitted with the annual report. The reports shall contain all the information listed in General Conditions section 3.4.1.

**4.5 Duty to Mitigate:** The permittee shall take all reasonable steps to minimize or prevent any adverse impact on the waters of the state resulting from noncompliance with the permit.

**4.6 Spill Reporting:** The permittee shall immediately notify the Department, in accordance with s. 292.11(2)(a), Wis. Stats., which requires any person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance to notify the DNR immediately of any discharge not

authorized by the permit. The discharge of a hazardous substance that is not authorized by this permit or that violates this permit may be a hazardous substance spill. To report a hazardous substance spill, call the DNR's 24-hour HOTLINE at 1-800-943-0003.

**Note:** For details on state and federal reportable quantities, visit:

<https://dnr.wi.gov/topic/Spills/define.html>

**4.7 Proper Operation and Maintenance:** The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the municipality to achieve compliance with the conditions of the permit and the storm water management plan. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with conditions of this permit.

**4.8 Bypass:** The permittee may temporarily bypass a storm water treatment facility if necessary for human safety or maintenance to assure efficient operation. A bypass shall comply with the general storm water discharge limitations in Section 1.9 of this permit. Notification of the Department is not required for these types of bypasses. Any other bypass is prohibited.

**Note:** A discharge from a storm water treatment facility that exceeds the operational design capacity of the facility is not considered a bypass.

**4.9 Duty to Halt or Reduce Activity:** Upon failure or impairment of storm water management practices identified in the storm water management program, the permittee shall, to the extent practicable and necessary to maintain permit compliance, modify or curtail operations until the storm water management practices are restored or an alternative method of storm water pollution control is provided.

**4.10 Removed Substances:** Solids, sludges, filter backwash or other pollutants removed from or resulting from treatment or control of storm water shall be stored and disposed of in a manner to prevent any pollutant from the materials from entering the waters of the state, and to comply with all applicable federal, state, and local regulations.

**4.11 Additional Monitoring:** If a permittee monitors any pollutant more frequently than required by the permit, the results of that monitoring shall be reported to the Department in the annual report.

**4.12 Inspection and Entry:** The permittee shall allow authorized representatives of the Department, upon the presentation of credentials, to:

**4.12.1** Enter upon the municipal premises where a regulated facility or activity is located or conducted, or where records are required to be maintained under the conditions of the permit;

**4.12.2** Have access to and copy, at reasonable times, any records that are required under the conditions of the permit;

**4.12.3** Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under the permit; and

**4.12.4** Sample or monitor at reasonable times, for the purposes of assuring permit compliance, any substances or parameters at any location.

**4.13 Duty to Provide Information:** The permittee shall furnish the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, terminating, suspending revoking or reissuing the permit or to determine compliance with the permit. The permittee shall give advance notice to the Department of any planned changes to the storm water management program which may result in noncompliance with permit requirements. The permittee shall also furnish the Department, upon request, copies of records required to be kept by the permittee.

**4.14 Property Rights:** The permit does not convey any property rights of any sort, or any exclusive privilege. The permit does not authorize any injury or damage to private property or an invasion of personal rights, or any infringement of federal, state or local laws or regulations.

**4.15 Other Information:** Where the permittee becomes aware that it failed to submit any relevant facts in applying for permit coverage or submitted incorrect information in any plan or report sent to the Department, it shall promptly submit such facts or correct information to the Department.

**4.16 Records Retention:** The permittee shall retain records of all monitoring information, copies of all reports required by the permit, and records of all data used to complete the notice of intent for a period of at least 5 years from the date of the sample, measurement, report or application. The permittee shall retain records documenting implementation of the minimum control measures in sections 2.1 through 2.6 of this permit for a period of at least 5 years from the date the record was generated.

**4.17 Permit Actions:** Under s. 283.35, Wis. Stats., the Department may withdraw a permittee from coverage under this general permit and issue an individual permit for the municipality if: (a) The municipality is a significant contributor of pollution; (b) The municipality is not in compliance with the terms and conditions of the general permit; (c) A change occurs in the availability of demonstrated technology or practices for the control or abatement of pollutants from the municipality; (d) Effluent limitations or standards are promulgated for a point source covered by the general permit after the issuance of that permit; or (e) A water quality management plan containing requirements applicable to the municipality is approved. In addition, as provided in s. 283.53, Wis. Stats., after notice and opportunity for a hearing this permit may be suspended, modified or revoked, in whole or in part, for cause. If the permittee files a request for a permit modification, termination, suspension, revocation and reissuance, or submits a notification of planned changes or anticipated noncompliance, this action by itself does not relieve the permittee of any permit condition.

**4.18 Signatory Requirements:** All applications, reports or information submitted to the Department shall be signed by a ranking elected official, or other person authorized by those responsible for the overall operation of the MS4 and storm water management program activities regulated by the permit. The representative shall certify that the information was gathered and prepared under his or her supervision and, based on report from the people directly under supervision that, to the best of his or her knowledge, the information is true, accurate, and complete.

**4.19 Attainment of Water Quality Standards after Authorization:** At any time after authorization, the Department may determine that the discharge of storm water from a permittee's MS4 may cause, have



the reasonable potential to cause, or contribute to an excursion of any applicable water quality standard. If such determination is made, the Department may require the permittee to do one of the following:

**4.19.1** Develop and implement an action plan to address the identified water quality concern to the satisfaction of the Department.

**4.19.2** Submit valid and verifiable data and information that are representative of ambient conditions to demonstrate to the Department that the receiving water or groundwater is attaining the water quality standard.

**4.19.3** Submit an application to the Department for an individual storm water discharge permit.

**4.20 Continuation of the Expired General Permit:** The Department's goal is to reissue this general permit prior to its expiration date. However, in accordance with s. NR 216.09, Wis. Adm. Code, a permittee shall reapply to the Department at least 180 days prior to the expiration date for continued coverage under this permit after its expiration. If the permit is not reissued by the time the existing permit expires, the existing permit remains in effect.

**4.21 Need to Halt or Reduce Activity not a Defense:** It is not a defense for a permittee in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

## 5. DEFINITIONS USED IN THIS PERMIT

Definitions for some of the terms found in this permit are as follows:

**5.1 Department** means the Wisconsin Department of Natural Resources.

**5.2 Development** means residential, commercial, industrial and institutional land uses and associated roads.

**5.3 Erosion** means the process by which the land's surface is worn away by the action of wind, water, ice or gravity.

**5.4 Hazardous substance** means any substance or combination of substances including any waste of a solid, semisolid, liquid or gaseous form which may cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or which may pose a substantial present or potential hazard to human health or the environment because of its quantity, concentration or physical, chemical or infectious characteristics. This term includes, but is not limited to, substances which are toxic, corrosive, flammable, irritants, strong sensitizers or explosives as determined by the Department.

**5.5 Illicit connection** means any man-made conveyance connecting an illicit discharge to a municipal separate storm sewer system.

**5.6 Illicit discharge** means any discharge to a municipal separate storm sewer system that is not composed entirely of storm water except discharges authorized by a WPDES permit or other discharge not requiring a WPDES permit such as landscape irrigation, individual residential car washing, fire fighting, diverted stream flows, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, lawn watering, flows from riparian habitats and wetlands, and similar discharges. However, the occurrence of a discharge listed above may be considered an illicit discharge on a case-by-case basis if the permittee or the Department identifies it as a significant source of a pollutant to waters of the state.

**5.7 Impaired water** means a waterbody impaired in whole or in part and listed by the Department pursuant to 33 USC § 1313(d)(1)(A) and 40 CFR 130.7, for not meeting a water quality standard, including a water quality standard for a specific substance or the waterbody's designated use.

**5.8 Infiltration** means the entry and movement of precipitation or runoff into or through soil.

**5.9 Jurisdiction** means the area where the permittee has authority to enforce its ordinances or otherwise has authority to exercise control over a particular activity of concern.

**5.10 Land disturbing construction activity** means any man-made alteration of the land surface resulting in a change in the topography or existing vegetative or non-vegetative soil cover that may result in storm water runoff and lead to increased soil erosion and movement of sediment into waters of the state. Land disturbing construction activity includes clearing and grubbing, demolition, excavating, pit trench dewatering, filling and grading activities.

**5.11 Maximum Extent Practicable** has the meaning given it in s. NR 151.002(25), Wis. Adm. Code.

**5.12 Major outfall** means a municipal separate storm sewer outfall that meets one of the following criteria:

**5.12.1** A single pipe with an inside diameter of 36 inches or more, or from an equivalent conveyance (cross sectional area of 1,018 square inches) which is associated with a drainage area of more than 50 acres.

**5.12.2** A municipal separate storm sewer system that receives storm water runoff from lands zoned for industrial activity that is associated with a drainage area of more than 2 acres or from other lands with 2 or more acres of industrial activity, but not land zoned for industrial activity that does not have any industrial activity present.

**5.13 Municipality** means any city, town, village, county, county utility district, town sanitary district, town utility district, school district or metropolitan sewage district or any other public entity created pursuant to law and having authority to collect, treat or dispose of sewage, industrial wastes, storm water or other wastes.

**5.14 Municipal Separate Storm Sewer System or MS4** means a conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, constructed channels or storm drains, which meets all of the following criteria:

**5.14.1** Owned or operated by a municipality.

**5.14.2** Designed or used for collecting or conveying storm water.

**5.14.3** Which is not a combined sewer conveying both sanitary and storm water.

**5.14.4** Which is not part of a publicly owned wastewater treatment works that provides secondary or more stringent treatment.

**5.15 New MS4 discharge of a pollutant** means an MS4 discharge that would first occur after the permittee's original date of initial coverage under an MS4 permit to a surface water to which the MS4 did not previously discharge storm water, and does not include an increase in an MS4's discharge to a surface water to which the MS4 discharged on or before coverage under this permit.

**5.16 Outfall** means the point at which storm water is discharged to waters of the state or to a storm sewer (e.g., leaves one municipality and enters another).

**5.17 Permittee** means a person who has applied for and received WPDES permit coverage for storm water discharge. For the purposes of this permit, permittee is the owner or operator of a municipal separate storm sewer system authorized to discharge storm water into waters of the state.

**5.18 Permitted area** means the areas of land under the jurisdiction of the permittee that drains into a municipal separate storm sewer system, which is regulated under a permit issued pursuant to subch. I of NR 216, Wis. Adm. Code.

**5.19 Pollutants of concern** means a pollutant that is causing impairment of a waterbody.

**5.20 Reach** means a specific stream segment, lake or reservoir as identified in a TMDL.

**5.21 Reachshed** means the drainage area contributing runoff to a given reach.

**5.22 Redevelopment** means areas where development is replacing older development.

**5.23 Riparian landowners** are the owners of lands bordering lakes and rivers.

**5.24 Sediment** means settleable solid material that is transported by runoff, suspended within runoff or deposited by runoff away from its original location.

**5.25 Start Date** is the date of permit coverage under this permit, which is specified in the Department letter authorizing coverage.

**5.26 Storm water management practice** means structural or non-structural measures, practices, techniques or devices employed to avoid or minimize soil, sediment or pollutants carried in runoff to waters of the state.

**5.27 Storm Water Pollution Prevention Plan or SWPPP** refers to the development of a site-specific plan that describes the measures and controls that will be used to prevent and/or minimize pollution of storm water.

**5.28 Structural storm water management facilities** are engineered and constructed systems that are designed to provide storm water quality control such as wet detention ponds, constructed wetlands, infiltration basins and grassed swales.

**5.29 Total maximum daily load or TMDL** means the amount of pollutants specified as a function of one or more water quality parameters, that can be discharged per day into a water quality limited segment and still ensure attainment of the applicable water quality standard.

**5.30 Urbanized area** means a place and the adjacent densely settled surrounding territory that together have a minimum population of 50,000 people, as determined by the U.S. bureau of the census based on the latest decennial federal census.

**5.31 Wasteload Allocation or WLA** means the allocation resulting from the process of distributing or apportioning the total maximum load to each individual point source discharge.

**5.32 Waters of the State** has the meaning given it in s. 283.01(20), Wis. Stats.

**5.33 WPDES permit** means a Wisconsin Pollutant Discharge Elimination System permit issued pursuant to ch. 283, Wis. Stats.

## Appendix A: MS4 Permittees Subject to a TMDL Approved Prior to May 1, 2014 including Applicable Updates

### A.1 Applicability and Structure of Appendix.

**A.1.1 Applicability.** In accordance with section 1.5.2.a, this Appendix A applies to permittees subject to a total maximum daily load (TMDL) approved by the United States Environmental Protection Agency (USEPA) prior to May 1, 2014, that includes the following:

- “Total Maximum Daily Loads for Total Phosphorus and Total Suspended Solids in the Rock River Basin,” approved by USEPA September 2011
- “Total Maximum Daily Load and Watershed Management Plan for Total Phosphorus and Total Suspended Solids in the Lower Fox River Basin and Lower Green Bay,” approved by USEPA May 2012
- “Lake St. Croix Nutrient Total Maximum Daily Load,” approved by USEPA August 2012
- “Phosphorus Total Maximum Daily Loads (TMDLs) Tainter Lake and Lake Menomin, Dunn County Wisconsin,” approved by USEPA September 2012

In addition to the TMDLs listed above, Appendix A also applies to the following:

- “Beaver Dam Lake Total Maximum Daily Load for Total Phosphorus,” approved by USEPA August 2018

**Note:** The Beaver Dam Lake TMDL updates allocations from the Rock River Basin TMDL for the City of Beaver Dam and provides higher allocations, lower percent reductions, than those contained in the Rock River Basin TMDL approved in September 2011.

**Note:** If the MS4 area extends into or discharges to other basins with a USEPA approved TMDL, a permittee could be subject to more than one TMDL and thus the requirements under Appendices B and/or C.

**A.1.2 Structure of Appendix.** This appendix is structured to provide permittees with several compliance options. Section A.2 defines full TMDL compliance while sections A.3, A.4, and A.5 provide different compliance options. Section A.3 applies to permittees that submitted a plan meeting the requirements contained in sections 1.5.4.4 and 1.5.4.5 of WPDES Permit No. WI-S050075-2 or WI-S050181-1 and received Department concurrence regarding the plan. Section A.3 also applies to permittees that are participating in an approved adaptive management plan. Section A.4 details requirements for permittees that can comply with the TMDL during this permit term. Section A.5 applies to permittees who have not been able to utilize sections A.3 or A.4. Section A.5 contains two compliance tracks; permittees may choose between the requirements stipulated under section A.5.2 or meet the requirements under section A.5.3. Section A.6 outlines reporting requirements.

### A.2 Full TMDL Compliance.

**A.2.1** USEPA is allowing the Department to evaluate MS4 compliance with TMDL Wasteload Allocations (WLAs) using a percent reduction framework consistent with Wisconsin’s storm

water program. For consistency with existing storm water program requirements, demonstration of TMDL compliance will use the percent reduction measured from the no runoff management controls (no-controls) condition. The percent reduction from no-controls, for each pollutant of concern and reachshed, necessary to meet the TMDL WLAs for the USEPA approved TMDLs are listed in Tables A1-A4. The no-controls modeling condition means taking no (zero) credit for existing storm water control measures that reduce the discharge of pollutants. Existing practices can then be applied and counted toward meeting the TMDL reductions.

**A.2.2** TMDLs may assign a percent reduction for one or more reachsheds for each pollutant of concern (i.e., total suspended solids (TSS) and total phosphorus (TP)). Full TMDL compliance is achieved by the permittee provided all of the following conditions are met:

- a. By October 31, 2023, the permittee submits the necessary data and documentation to the Department that demonstrates that the permittee meets the percent reductions stipulated in Tables A1-A4 for each reachshed that the MS4 discharges to and for each pollutant of concern.
- b. The documentation submitted by the permittee includes the policies, procedures, and regulatory mechanisms that the permittee will employ to ensure that storm water controls and management measures will continue to be operated and maintained so that their pollutant removal efficiency continues to be met.
- c. Based upon the data and documentation and any necessary subsequent information requested by the Department, the permittee receives written concurrence from the Department by April 30, 2024, that the permittee has achieved full TMDL compliance.

### **A.3 Implementation of TMDL Compliance Plan or Participation in an Approved Adaptive Management Plan.**

**A.3.1** If the permittee submitted a TMDL Implementation Plan meeting the requirements contained in sections 1.5.4.4 and 1.5.4.5 of WPDES Permit No. WI-S050075-2 or WI-S050181-1 and has received Department concurrence regarding the plan, the permittee shall implement the plan as its TMDL Compliance Plan.

**A.3.2** In accordance with s. 283.13(7), Wis. Stats., and s. NR 217.18, Wis. Adm. Code, if by the effective date of this permit the permittee has chosen to participate in an Adaptive Management project that has been approved by the Department the permittee shall continue to participate in the implementation of the Adaptive Management project.

**A.4 Compliance During the Term of This Permit.** If the permittee determines that it can meet the requirements stipulated in section A.2.2 by October 31, 2023, the permittee shall meet all the following:

**A.4.1** By March 31, 2020, the permittee shall notify the Department if compliance will be achieved by October 31, 2023.

**A.4.2** Consistent with the reporting requirements contained in section A.6, the permittee shall submit written verification that it has met the applicable requirements contained in section A.2.2.

**A.5 Compliance Over Multiple Permit Terms.** If the permittee cannot meet the requirements stipulated under sections A.3 or A.4, the permittee shall demonstrate continued progress towards compliance with the requirements contained in section A.2.2. During the term of this permit, the following are required:

**A.5.1** By March 31, 2020, if the permittee determines that the applicable requirements contained in section A.2.2 will not be achieved by October 31, 2023, then the permittee shall notify the Department in writing which reachsheds and pollutants of concern are not in compliance with the requirements contained in section A.2.2.

**A.5.2** By October 31, 2021, the permittee shall submit a TMDL Implementation Plan to the Department identifying and describing the actions that the permittee shall undertake, including a proposed schedule and milestones, to achieve the following by the end of the term of this permit:

**a.** A level of reduction that achieves at least 20% of the remaining reduction needed beyond the current 20% TSS reduction required under s. NR 151.13 (2)(b)1.b., Wis. Adm. Code, to achieve full compliance in sediment or TSS.

**b.** A level of reduction that achieves at least 10% of the remaining reduction needed beyond 15% TP reduction to achieve full compliance in TP.

**Note:** The reductions stipulated under section A.5.2 are interim compliance targets set for this permit term. Future permit reduction targets may taper off or vary between municipalities based on individual plans as it is expected that municipalities will rely more on reductions obtained through redevelopment.

**Note:** Unlike full compliance as outlined in section A.2.2, compliance with the reductions stipulated under sections A.5.2.a and A.5.2.b can be achieved utilizing an averaged reduction calculated from individual reductions achieved in one or multiple reachsheds and spanning the entire MS4 area that is impacted by the TMDL.

**Note:** Reductions obtained through a permittee's participation in a water quality trading project, in accordance with s. 283.84, Wis. Stats., and that has been reviewed and approved by the Department, may be counted toward credit in meeting the requirements stipulated under sections A.5.2.a and A.5.2.b. Additional information on water quality trading is available from the Department's Internet site at:

<https://dnr.wi.gov/topic/surfacewater/waterqualitytrading.html>

**Note: Example calculation to meet section A.5.2.a for total suspended solids (TSS)**

“Municipality A” has modeled a no-controls TSS load of 50 tons/year for Reachshed 2 and 100 tons/year for Reachshed 3.

**Determine Calculated Wasteload Allocation**

“Municipality A” has area in Rock River TMDL Reachsheds 2 and 3. From Table A.1, the TMDL requires the following reductions from no controls which under section A.2 must ultimately achieve a mass reduction as follows:

TMDL Reachshed	Modeled TSS from No-Controls (tons/yr)	TMDL TSS Reduction from No-Controls	Ultimate Mass Reduction Required for Full TMDL Compliance (tons/yr)	Calculated Wasteload Allocation (tons/yr)
2	50	40.6%	$50 * 0.406 = 20.3$	$50 - 20.3 = 29.7$
3	100	55.6%	$100 * 0.556 = 55.6$	$100 - 55.6 = 44.4$

**Determine Minimum Control Required under Section NR 151.13(2)(b)1.b., Wis. Adm. Code**

TMDL Reachshed	No Controls TSS (tons/yr)	NR 151 Required Reduction (tons/yr)	NR 151 Allowable Load (tons/yr)
2	50	$50 * 0.20 = 10$	$50 - 10 = 40$
3	100	$100 * 0.20 = 20$	$100 - 20 = 80$
Total		30.0	

**Calculate 20% Additional Reduction from Section NR 151.13(2)(b)1.b., Wis. Adm. Code**

Under section A.5.2.a, “Municipality A” must achieve an additional 20% reduction from the current 20% TSS reduction required under s. 151.13 (2)(b)1.b., Wis. Adm. Code. As shown below, “Municipality A” needs to achieve a 20% reduction of the remaining 45.9 tons results in “Municipality A” needing to achieve an additional 9.18 tons/year in reduction.

Reachshed	NR 151 Allowable Load (tons/yr)	Calculated Wasteload Allocation (tons/yr)	Additional Reduction from NR 151 (tons/yr)	20% Additional Reduction from NR 151 (tons/yr)
2	40	29.7	$40 - 29.7 = 10.3$	$10.3 * 0.2 = 2.06$
3	80	44.4	$80 - 44.4 = 35.6$	$35.6 * 0.2 = 7.12$
Total			45.9	9.18

**Load reduction at the end of permit term**

At the end of the permit term, “Municipality A” should demonstrate a minimum reduction from no controls of 39.18 (30 tons plus 9.18 tons). “Municipality A” has the flexibility to decide how much of that reduction is provided in TMDL Reachshed 2 and/or 3 over the next permit term. “Municipality A” will still require additional reductions in each reachshed over subsequent permit terms to reach the calculated wasteload allocation of 29.7 tons in TMDL Reachshed 2 and 44.4 tons in TMDL Reachshed 3.

**The calculation process is similar for total phosphorus (TP).**



**A.5.3** If the permittee determines by October 31, 2021, that it is unable to achieve the reductions stipulated under sections A.5.2.a and A.5.2.b, the permittee shall meet the following requirements by October 31, 2023:

**Note:** The permittee may optimize deployment of resources between the requirements listed below to maximize reductions for the least cost. In some cases, permittees may already be meeting these requirements.

**a.** Pursuant to the permittee's authority under s. 281.33(6)(a)2., Wis. Stats., the permittee shall create or revise and promulgate a municipal storm water management ordinance applicable to redevelopment that requires compliance with post-construction storm water management performance standards that are stricter than the uniform statewide standards established by the Department. When reporting to the Department under section A.6.3, the permittee shall include a justification for the level of pollutant reduction in the ordinance with an assessment of the progress it achieves towards full compliance with the TMDL. The redevelopment reductions may be adjusted to account for other storm water control measures that may exist. The permittee may also establish TP reduction levels for redevelopment projects.

**Note:** The permittee may enact an ordinance that is municipal-wide, targets individual TMDL reachsheds, or designated areas within the permitted MS4, balancing required TMDL reductions, parcel size, and the impact of other treatment options. Increasing redevelopment reductions is one tool in moving toward TMDL compliance.

**b.** The permittee shall create or revise a municipal ordinance that requires the development and implementation of a maintenance plan for all privately-owned storm water treatment facilities for which the permittee takes a TSS and/or TP reduction credit. The permittee shall develop and implement procedures and measures to verify and track that the storm water treatment facilities are inspected on a regular schedule and maintained in the intended working condition in accordance with the plans. The permittee shall require that maintenance agreements be recorded with the appropriate property records that obligates the current and future owners to implement the maintenance plans.

**c.** The permittee shall revise or promulgate a municipal ordinance that requires the submittal of record drawings for storm water management facility that the permittee takes a TSS and/or TP reduction credit. The permittee shall require submittal of the record drawing prior to close-out of the local permit or upon final approval and shall maintain appropriate records and tracking of the plans.

**d.** If the pollutant of concern is TP, the permittee shall implement, expand, or optimize a municipal leaf collection program coupled with street cleaning to serve areas where municipal leaf collection is not currently provided within the MS4 but for which a phosphorus reduction has been assigned and additional reductions could be achieved.

**Note:** The Department's "Interim Municipal Phosphorus Reduction Credit for Leaf Management Programs" guidance document includes recommendations on how the permittee's municipal leaf collection program should be designed and implemented.

The guidance is available from the Department's Internet site at:  
[https://dnr.wi.gov/topic/stormwater/standards/ms4\\_modeling.html](https://dnr.wi.gov/topic/stormwater/standards/ms4_modeling.html)

- e. Within the MS4 permitted area, the permittee shall inventory the condition of the conveyance systems and outfalls. Where erosion or scour is occurring, the permittee shall develop a schedule to stabilize the identified areas over a 5-year period.
- f. The permittee shall install at least one new structural BMP or enhance one or more existing structural BMPs to reduce a pollutant of concern discharged via storm water runoff to an impaired waterbody for which a WLA has been assigned to the permittee. The permittee shall develop and implement a maintenance plan for each new structural BMP.
- g. The permittee shall conduct an analysis of the current municipal street cleaning program, to determine if additional pollutant loading reductions can be achieved. The permittee shall evaluate optimizing sweeping frequency, targeting of critical areas and time periods, and instituting parking restrictions. If a pollutant reduction can be achieved through optimizing the existing street cleaning program, the permittee shall adopt the optimized program the next calendar year or provide a written explanation to the Department explaining why the optimize street cleaning program is not feasible and provide alternative options to achieve similar pollutant reductions.

**A.6 Reporting Requirements.** For the term of this permit, the permittee shall meet the following reporting requirements:

**A.6.1 Compliance Determination Reporting.** The permittee shall submit the information requested in this appendix in accordance with the following schedule:

- a. By March 31, 2020, for sections A.4.1 and A.5.1.
- b. By October 31, 2021, for section A.5.2.
- c. By October 31, 2023, for sections A.2.2.a and A.5.3.

**A.6.2 Annual Reporting.** For compliance options outlined under sections A.3, A.4, and A.5, the permittee shall include a description and the status of progress toward implementing the identified actions and activities in their MS4 annual reports due by March 31 of each year.

**A.6.3 Final Documentation.** Except for permittees complying with a Department approved adaptive management plan under section A.3.2, by October 31, 2023, the permittee shall submit documentation to the Department to verify that the permittee has completed all actions required under this appendix including the following:

- a. An updated storm sewer system map that identifies:
  - (1) The current municipal boundary. For a permittee that is not a city or village, identify the permitted area.

**Note:** The permitted area for towns, counties and non-traditional MS4s pertains to the area within an urbanized area or the area served by its storm sewer system, such as a university campus.

**(2)** The TMDL reachshed boundaries within the municipal boundary, and the area of each TMDL reachshed in acres within the municipal boundary.

**(3)** The MS4 drainage boundary associated with each TMDL reachshed, and the area in acres of the MS4 drainage boundary associated with each TMDL reachshed.

**b.** The permittee shall submit an updated tabular summary that includes the following for each MS4 drainage boundary associated with each TMDL reachshed as identified under section A.6.3.a and for each pollutant of concern:

**(1)** The permittee's percent reduction needed to comply with its TMDL WLA from the no-controls modeling condition.

**(2)** The modeled MS4 annual average pollutant load without any storm water control measures.

**(3)** The modeled MS4 annual average pollutant load with existing storm water control measures.

**(4)** The percent reduction in pollutant load achieved calculated from the no-controls condition determined under section A.6.3.a(2) and the existing controls condition determined under section A.6.3.a(3).

**(5)** The existing storm water control measures, including the type of measure, area treated in acres, the pollutant load reduction efficiency, and confirmation of the permittee's authority for long-term maintenance of each practice.

**c.** If the updated tabular summary required under section A.6.3.b shows that the permittee is not achieving the requirements stipulated in section A.2, the permittee shall submit an updated written TMDL Implementation Plan to the Department that describes how the permittee will make progress toward achieving compliance. The TMDL Implementation Plan shall include the following information:

**(1)** A list of management options and an implementation schedule that over the next permit term achieves, to the maximum extent practicable, an additional 20% reduction in sediment or TSS and an additional 10% reduction in TP. The percent reductions shall be applied to the difference measured from loading conditions at the end of this permit to the total reductions listed in Tables A1-A4. The reductions can be achieved utilizing an averaged reduction calculated from individual reductions achieved in one or multiple reachsheds and spanning the entire MS4 area impacted by a TMDL.

**Note:** Reductions that occur through stricter redevelopment standards or through water quality trading can be counted toward meeting the reduction requirements under this section.

**Note:** Unlike full compliance as outlined in section A.2.2, interim compliance under this section can be based on an average reduction measured across the MS4 area impacted by a TMDL.

**(2)** Recommendations and options with supporting analysis for storm water control measures that will be installed or implemented in future permit terms to achieve the requirements, to the maximum extent possible, stipulated in section A.2.

**(3)** A proposed schedule for implementation of the recommendations and options identified under section A.6.3.c(1). The proposed schedule may extend into future permit terms.

**(4)** A cost effectiveness analysis for implementation of the recommendations and options identified under section A.6.3.c(1).

**Table A1: Rock River Basin TMDL Load Reductions Necessary to Meet TMDL Wasteload Allocations by TMDL Reachshed**

Reachshed Number (TMDL Subbasin)	Waterbody Name	County	TSS % Reduction from No-controls	TP % Reduction from No-controls
2	South Branch Rock River	Dodge, Fond du Lac, Green Lake	40.6	48.2
3	South Branch Rock River	Dodge, Fond du Lac	55.6	86.9
20	Rock River	Dodge, Jefferson, Washington, Waukesha	40.0	37.2
21	Rock River	Dodge, Jefferson, Washington, Waukesha	40.0	34.3
23	Oconomowoc River	Washington, Waukesha	46.6	35.8
24	Mason Creek	Dodge, Washington, Waukesha	47.2	35.0
25	Oconomowoc River	Jefferson, Waukesha	59.2	73.7
26	Battle Creek	Waukesha	57.4	52.6
27	Oconomowoc River	Jefferson, Waukesha	40.0	27.0
28	Rock River	Dodge, Jefferson	40.0	27.7
29	Rock River	Dodge, Jefferson	44.2	64.2
30	Johnson Creek	Jefferson	40.0	27.0
33	Mill Creek, Beaver Dam Lake	Columbia, Dodge	45.4	48.2
34	Beaver Dam River	Columbia	58.6	86.1
37	Park Creek	Columbia	72.4	75.2
39	Shaw Brook	Columbia	40.0	27.0
45	Mauneshia River	Columbia	44.8	36.5
51	Crawfish River	Columbia	40.0	37.2
54	Rock River	Columbia, Dodge, Jefferson	43.6	71.5
55	Bark River	Waukesha	65.8	76.6
56	Bark River	Jefferson, Waukesha	40.0	40.9

Reachshed Number (TMDL Subbasin)	Waterbody Name	County	TSS % Reduction from No-controls	TP % Reduction from No-controls
59	Steel Brook, Scuppernong River, Bark River	Jefferson, Walworth, Rock	49.0	66.4
60	Rock River	Jefferson, Rock	40.6	48.2
61	Rock River	Dane, Rock	41.2	31.4
62	Pheasant Branch Creek	Dane	82.0	78.1
63	Spring (Dorn) Creek	Dane	46.6	37.2
64	Yahara River, Lake Mendota, Lake Monona	Dane, Columbia	73.0	61.3
65	Nine Springs Creek	Dane	67.6	62.8
66	Yahara River, Lake Waubesa, Lake Kegonsa	Dane	62.2	54.0
67	Yahara River	Dane	40.0	27.0
68	Yahara River	Dane, Rock	50.8	65.0
69	Yahara River	Dane, Rock	52.6	79.6
70	Rock River	Rock	40.6	27.7
71	Rock River	Rock	58.6	48.2
72	Blackhawk Creek	Rock, Walworth	40.0	27.0
73	Blackhawk Creek	Rock	69.4	64.2
74	Rock River	Rock	52.0	39.4
75	Markham Creek	Rock	51.4	38.0
76	Rock River	Rock	57.4	81.8
78	Bass Creek	Rock	40.0	29.9
79	Rock River	Rock	62.2	66.4
80*	Turtle Creek	Rock, Walworth	55.0	62.8
81	Turtle Creek	Rock, Walworth	44.2	41.6
83	Lake Koshkonong	Dane, Jefferson, Rock	55.0	54.0

**Note:** \*MS4 Reachshed 80 reductions are based on Non-Point Source annual average reductions as TMDL had not assigned a separate MS4 reduction for MS4s in this reach.

**Table A2: Lower Fox River Basin and Lower Green Bay TMDL Load Reductions Necessary to Meet TMDL Wasteload Allocations by TMDL Reachshed**

Reachshed Name (Subbasin)	County	Subbasin ID	TSS % Reduction from No-controls	TP % Reduction from No-controls
Lower Green Bay	Brown	LFS7 & LFS8	52%	41%
Lower Fox River Main Stem	Brown, Outagamie, Winnebago	LFM	72%	41%
East River	Brown, Calumet	LF01	52%	41%
Baird Creek	Brown	LF01	52%	41%
Bower Creek	Brown	LF01	52%	41%
Dutchman Creek	Brown	LF02	52%	41%
Ashwaubenon Creek	Brown	LF02	52%	41%
Apple Creek	Brown, Outagamie	LF02	52%	41%
Plum Creek	Brown, Calumet	LF03	52%	41%
Kankapot Creek	Calumet, Outagamie	LF03	52%	41%
Garners Creek	Outagamie	LF03	60%	69%
Mud Creek	Outagamie, Winnebago	LF04	43%	48%
Neenah Slough	Winnebago	LF06	52%	41%
Duck Creek	Brown, Outagamie	LF05	52%	41%
Trout Creek	Brown	LF05	52%	41%

**Note:** % TSS reduction from No Controls = 20 + [0.80 x (% TSS Control Lower Fox TMDL Report)]  
 % TP reduction from No Controls = 15 + [0.85 x (% TP Control Lower Fox TMDL Report)]

**Table A3: Lake St. Croix Nutrient TMDL Load Reductions Necessary to Meet TMDL Wasteload Allocations by TMDL Reachshed**

Waterbody Name	County	WBIC	MS4 TP % Reduction from No Controls
Lake St. Croix	St. Croix, Pierce	2601500	46.0

**Table A4: Red Cedar River (Tainter Lake, Menomin Lake) TMDL Load Reductions Necessary to Meet TMDL Wasteload Allocations by TMDL Reachshed**

Waterbody Name	County	WBIC	MS4 TP % Reduction from No Controls*
Tainter Lake	Dunn	2068000	$\frac{Load_{2025\ No\ Controls} - 1700 \frac{lbs}{yr}}{Load_{2025\ No\ Controls}}$
Lake Menomin	Dunn	2065900	39.2

**Note:** \*The TMDL allocations and necessary reduction are calculated using the 2025 projected MS4 build out area. The 2025 area modeled in a No Controls condition compared against the WLA written in the TMDL yields the percent reduction.



## **Appendix B: MS4 Permittees Subject to Milwaukee River Basin TMDL**

**B.1 Applicability.** In accordance with section 1.5.2.b, this Appendix B applies to permittees subject to a total maximum daily load (TMDL) approved by the United States Environmental Protection Agency (USEPA) that includes the following:

- “Total Maximum Daily Loads for Total Phosphorus, Total Suspended Solids, and Fecal Coliform Milwaukee River Basin, Wisconsin,” approved by USEPA March 2018

**Note:** If the MS4 area extends into or discharges to other basins with a USEPA approved TMDL, a permittee could be subject to more than one TMDL and thus the requirements under Appendices A and/or C.

### **B.2 Full TMDL Compliance for Total Suspended Solids (TSS) and Total Phosphorus (TP) WLAs.**

**B.2.1** USEPA is allowing the Department to evaluate MS4 compliance with TMDL Wasteload Allocations (WLAs) using a percent reduction framework consistent with Wisconsin’s storm water program. For consistency with existing storm water program requirements, TMDL compliance will use the percent reduction basis from the no runoff management controls (no-controls) condition. The percent reduction from no-controls, for TSS and TP for each reachshed, necessary to meet the TMDL WLAs for the USEPA approved TMDLs are listed on Table B1. The no-controls modeling condition means taking no (zero) credit for existing storm water control measures that reduce the discharge of pollutants. Existing practices can then be applied and counted toward meeting the TMDL reductions.

**B.2.2** TMDLs may assign a percent reduction for one or more reachsheds for each pollutant of concern (i.e., total suspended solids (TSS) and total phosphorus (TP)). Full TMDL compliance is achieved by the permittee provided all of the following conditions are met:

- a. By October 31, 2023, the permittee submits the necessary data and documentation to the Department that demonstrates that the permittee meets the percent reductions stipulated in Table B1 for each reachshed that the MS4 discharges to and for each pollutant of concern.
- b. The documentation submitted by the permittee includes the policies, procedures, and regulatory mechanisms that the permittee will employ to ensure that storm water controls and management measures will continue to be operated and maintained so that their pollutant removal efficiency continues to be met.
- c. Based upon the data and documentation and any necessary subsequent information requested by the Department, the permittee receives written concurrence from the Department by April 30, 2024, that the permittee has achieved full TMDL compliance.

**B.3 Participation in an Approved Adaptive Management Plan for Total Suspended Solids (TSS) and Total Phosphorus (TP) WLAs.** In accordance with s. 283.13(7), Wis. Stats., and s. NR 217.18, Wis. Adm. Code, if the permittee chooses to participate in an Adaptive Management project, the permittee shall submit the plan to the Department by March 31, 2022 for approval.

**Note:** Information on adaptive management is available from the Department's Internet site at: <https://dnr.wi.gov/topic/SurfaceWater/AdaptiveManagement.html>

**B.4 TMDL Implementation Plan for Total Suspended Solids (TSS) and Total Phosphorus (TP) WLAs.** If the permittee has chosen not to participate in an adaptive management plan as stipulated in section B.3, the permittee shall perform the following activities:

**B.4.1** By March 31, 2022, the permittee shall determine if the applicable requirements contained in section B.2.2 will be achieved during the term of this permit. The permittee shall notify the Department which reachsheds and pollutants of concern are not in compliance with the requirements contained in section B.2.2 with the tabular summary created under section B.4.2(b) and develop a TMDL Implementation Plan per section B.4.2(c).

**B.4.2** The permittee shall develop and submit the following documentation to meet the requirements stipulated in section B.2.2:

a. By March 31, 2020, an updated storm sewer system map that identifies:

(1) The current municipal boundary. For a permittee that is not a city or village, identify the permitted area.

**Note:** The permitted area for towns, counties and non-traditional MS4s pertains to the area within an urbanized area or the area served by its storm sewer system, such as a university campus.

(2) The TMDL reachshed boundaries within the municipal boundary, and the area of each TMDL reachshed in acres within the municipal boundary.

(3) The MS4 drainage boundary associated with each TMDL reachshed, and the area in acres of the MS4 drainage boundary associated with each TMDL reachshed.

(4) Identification of areas on a map and the acreage of those areas within the municipal boundary that the permittee believes should be excluded from its analysis to show compliance with the TMDL WLA. In addition, the permittee shall provide an explanation of why these areas should not be its responsibility.

**Note:** An example of an area within a municipal boundary that may not be subject to a TMDL WLA for the permittee is an area that does not drain through the permittee's MS4.

(5) Flow paths of storm water through the storm sewer system.

(6) The location and associated drainage basin of structural BMPs the MS4 uses for TSS and TP treatment.

**b.** By March 31, 2022, the permittee shall submit a tabular summary that includes the following for each MS4 drainage boundary associated with each TMDL reachshed as identified under section B.4.2.a(2) and for each pollutant of concern listed in Table B1:

**(1)** The permittee's percent reduction needed to comply with its TSS and TP WLA from the no-controls modeling condition. The no-controls modeling condition means taking no (zero) credit for storm water control measures that reduce the discharge of pollutants.

**Note:** This model run is comparable to the no-controls condition modeled for the developed urban area performance standard of s. NR 151.13, Wis. Adm. Code.

**(2)** The modeled annual average pollutant load without any storm water control measures for each reachshed which the MS4 discharge to.

**(3)** The modeled MS4 annual average pollutant load with existing and current storm water control measures for each reachshed which the MS4 discharges to.

**(4)** The percent reduction in pollutant load achieved calculated from the no-controls condition determined under section B.4.2.b(2) and the existing controls condition determined under section B.4.2.b(3).

**(5)** The existing storm water control measures including the type of measure, area treated in acres, the pollutant load reduction efficiency, and confirmation of the permittee's authority for long-term maintenance of each practice.

**c.** By March 31, 2022, if the tabular summary required under section B.4.2.b shows that the permittee is not achieving the applicable percent reductions needed to comply with section B.2.2, then the permittee shall submit a written TMDL Implementation Plan to the Department that describes how the permittee will make progress toward achieving compliance. The plan shall include the following information:

**(1)** Recommendations and options for storm water control measures that will be considered to reduce the discharge of each pollutant of concern. At a minimum, the following shall be evaluated: all post-construction BMPs for which the Department has a technical standard, optimizing or retrofitting all existing public and private storm water control practices, regional practices, optimization or improvements to existing BMPs, incorporation of storm water control for all road reconstruction projects, more restrictive post-construction ordinances, updated development and redevelopment standards.

**(2)** A proposed schedule for implementation of the alternatives identified under section B.4.2.c(1). The proposed schedule may extend beyond the expiration date of this permit. The schedule should aim to achieve, to the maximum extent practicable, a level of reduction that achieves at least 20% of the remaining reduction needed beyond baseline to achieve full compliance in TSS and a level of reduction that achieves at least 10% of the remaining reduction needed

beyond baseline to achieve full compliance in TP over the next permit term. The reductions can be achieved utilizing an averaged reduction calculated from individual reductions achieved in one or multiple reachsheds and spanning the entire MS4 area impacted by a TMDL.

**Note:** The reductions stipulated under B.4.2.c(2) are interim compliance targets set as a planning target for the next permit term. Future permit reduction targets may taper off or vary between municipalities based on individual plans as it is expected that municipalities will rely more on reductions obtained through redevelopment.

**(3)** A cost effectiveness analysis for implementation of the recommendations and options identified under section B.4.2.c(1).

**Note:** The Department has developed the guidance document “TMDL Guidance for MS4 Permits: Planning, Implementation, and Modeling Guidance.” The guidance is available on the Department’s Internet site:

[https://dnr.wi.gov/topic/stormwater/standards/ms4\\_modeling.html](https://dnr.wi.gov/topic/stormwater/standards/ms4_modeling.html), and is available to assist a permittee with complying with the requirements of section B.4.

**Note:** Reductions obtained through a permittee’s participation in a water quality trading project, in accordance with s. 283.84, Wis. Stats., and that has been reviewed and approved by the Department, can be counted toward credit in meeting the requirements stipulated under section B.4.2.c(2). Additional information on water quality trading is available from the Department’s Internet site at:

<https://dnr.wi.gov/topic/surfacewater/waterqualitytrading.html>

**B.4.3 TMDL Compliance During the Term of This Permit for Total Suspended Solids (TSS) and Total Phosphorus (TP) WLAs.** If the permittee has chosen not to participate in an adaptive management plan as stipulated in section B.3, the permittee shall select and implement a minimum of three of the activities listed below, in addition to the planning requirements contained in section B.4.2, by October 31, 2023:

**Note:** The permittee may optimize deployment of resources between the requirements listed below to maximize reductions for the least cost. In some cases, permittees may already be meeting these requirements.

**a.** Pursuant to the permittee’s authority under s. 281.33(6)(a)2., Wis. Stats., the permittee shall create or revise and promulgate a municipal storm water management ordinance applicable to redevelopment that requires compliance with post-construction storm water management performance standards that are stricter than the uniform statewide standards established by the Department. When reporting to the Department under section B.6.3, the permittee shall include a justification for the level of pollutant reduction in the ordinance with an assessment of the progress it achieves towards full compliance with the TMDL. The redevelopment TSS reduction may be adjusted to account for other storm water controls measures that may exist. The permittee may also establish TP reduction levels for redevelopment projects.

**Note:** The permittee may enact an ordinance that is municipal wide, targets individual TMDL reachsheds, or designated areas within the permitted MS4 balancing required TMDL reductions, parcel size, and the impact of other treatment options. Increasing redevelopment reductions is one tool in moving toward TMDL compliance.

**b.** The permittee shall create or revise a municipal ordinance that requires the development and implementation of a maintenance plan for all privately-owned storm water treatment facilities for which the permittee takes a TSS and/or TP reduction credit. The permittee shall develop and implement procedures and measures to verify and track that the storm water treatment facilities are inspected on a regular schedule and maintained in the intended working condition in accordance with the plans. The permittee shall require that maintenance agreements be recorded with the appropriate property records that obligates the current and future owners to implement the maintenance plans.

**c.** The permittee shall revise or promulgate a municipal ordinance that requires the submittal of record drawings for which the permittee takes a TSS and/or TP reduction credit. The permittee shall require submittal of the record drawing prior to close-out of the local permit or upon final approval and shall maintain appropriate records and tracking of the plans.

**d.** If the pollutant of concern is TP, implement, expand, or optimize a municipal leaf collection program coupled with street cleaning to serve areas where municipal leaf collection is not currently provided within the MS4 but for which a phosphorus WLA has been assigned and additional reductions could be achieved.

**Note:** The Department's "Interim Municipal Phosphorus Reduction Credit for Leaf Management Programs" guidance document includes recommendations on how the permittee's municipal leaf collection program should be designed and implemented. The guidance is available from the Department's Internet site at:  
[https://dnr.wi.gov/topic/stormwater/standards/ms4\\_modeling.html](https://dnr.wi.gov/topic/stormwater/standards/ms4_modeling.html)

**e.** Within the MS4 permitted area, the permittee shall inventory the condition of the conveyance systems and outfalls. Where erosion or scour is occurring, the permittee shall develop a schedule to stabilize the identified areas.

**f.** Install one new structural BMP or enhance one existing structural BMPs to reduce a pollutant of concern discharged via storm water runoff to an impaired waterbody for which a WLA has been assigned to the permittee. The permittee shall develop and implement a maintenance plan for each new structural BMP.

**Note:** This option can be counted each time the permittee installs or enhances a structural BMP to satisfy the required activities. A permittee could meet the requirement if they solely chose this option and installed or enhanced three BMPs.

**g.** Permittee shall conduct an analysis of the current municipal street cleaning program, to determine if additional pollutant loading reductions can be achieved. The permittee shall evaluate optimizing sweeping frequency, targeting of critical areas and time

periods, and instituting parking restrictions. If a pollutant reduction can be achieved through optimizing the existing street cleaning program, the permittee shall adopt the optimized program the next calendar year or provide a written explanation to the Department explaining why the optimize street cleaning program is not feasible and provide alternative options to achieve similar pollutant reductions.

**Note:** The permittee may optimize deployment of resources between the requirements listed above to maximize reductions for the least cost; for example, only increase street sweeping where structural practices do not already exist to treat the runoff for the area.

**B.5 TMDL Compliance and Implementation for Bacteria WLAs.** This section applies to all permittees with a bacteria WLA specified in the Milwaukee River Basin TMDL Final Report dated March 19, 2018. The permittee shall do all of the following:

**B.5.1** As part of its program to address illicit discharges under section 2.3 of this permit, by March 31, 2021, the permittee shall begin to conduct ongoing public education and outreach activities specifically to increase awareness of bacterial pollution problems, potential sources, proper pet waste management, and the impacts of urban wildlife and pests.

**B.5.2** In addition to complying with the requirements in section 2.3 of this permit, the permittee shall comply with the following:

**a.** By March 31, 2022, the permittee shall develop and submit to the Department an inventory of bacteria sources and a map indicating the locations of the potential sources of fecal coliform and *E. coli* entering its MS4. The inventory shall be in a tabular format and include a label code, the name of the source, the physical address or location description of the source, and the ownership of the source (i.e., public or private). The map shall be to scale, identify all municipal streets, and indicate the locations of the sources using the label codes. The permittee shall consider the variation in flow conditions in its identification of potential sources. The inventory and map shall include the following potential sources of bacteria:

- Known or suspected leaking or failing septic systems.
- Sanitary sewer overflow locations.
- Livestock and domesticated animals housed or raised within the MS4 permitted area and discharging to the MS4, but not including household pets.
- Zoos, kennels, animal breeders, pet stores, and dog training facilities.
- Waste hauling, storage, and transfer facilities.
- Areas that attract congregations of nuisance urban birds and wildlife.
- Known or suspected properties with inadequate food or organic waste handling or storage.
- Composting sites or facilities.
- Known or suspected areas with improper human sanitation use.
- Any other source that the permittee or the Department has a reason to believe is discharging bacteria to the MS4.

**b.** By October 31, 2023, the permittee shall develop and submit to the Department a bacteria source elimination plan. The plan shall consist of a strategy and prioritization

scheme to eliminate each source of bacteria identified under section B.5.2.2. The plan shall include the BMPs to be used, cost estimates, sources of funding, and a schedule to eliminate the sources. BMPs identified in the plan may be structural, non-structural, targeted outreach, and/or additional ordinances, but the plan shall include the rationale for using each BMP, the reason for selected a BMP over another, and the expected outcome from implementing each BMP.

**Note:** While the TMDL allocations in the Milwaukee River Basin TMDL are expressed only in terms of fecal coliform, both fecal coliform and *E. coli* have been listed as sources of recreational use impairments that the TMDL was completed to address.

**B.5.3** By March 31, 2023, the permittee shall adopt local ordinances to address the requirements for proper pet waste management, the restrictions on feeding of urban wildlife that are potential sources of bacteria entering the MS4, the requirements for property owners to cooperate with identifying and eliminating illicit sanitary sewerage cross-connections with the MS4, and the requirements for property owners to address other potential sources of bacteria that may enter the MS4 (e.g., refuse management, pest control).

**B.6 Reporting Requirements.** For the term of this permit, the permittee shall meet the following reporting requirements:

**B.6.1 Compliance Determination Reporting.** The permittee shall submit the information requested in this appendix in accordance with the following schedule:

- a. By March 31, 2020, for section B.4.2.a.
- b. By March 31, 2021, for sections B.5.1.
- c. By March 31, 2022, for sections B.4.1, B.4.2.b, and B.5.2.a.
- d. By March 31, 2023, for section B.5.3.
- e. By October 31, 2023, for section B.2.2.a, B.4.3, and B.5.2.b.

**B.6.2 Annual Reporting.** For requirements outlined under sections B.3, B.4, and B.5 the permittee shall include a description and the status of progress toward implementing the identified actions and activities in their MS4 annual reports due by March 31 of each year.

**B.6.3 Final Documentation.** By October 31, 2023, the permittee shall submit documentation to the Department to verify that the permittee has completed all actions required under this appendix including submittal of the TMDL Implementation Plan required under section B.4 and documentation that the three activities selected under section B.4.3 have been completed.

**Table B1: Milwaukee River Basin TMDL Load Reductions Necessary to Meet TMDL Wasteload Allocations by TMDL Reachshed**

**Kinnickinnic River Basin:**

Reachshed (TMDL Subbasin)	Waterbody Name	Waterbody Extents	TSS % Reduction from No-controls	TP % Reduction from No-controls
KK-1	Lyons Park Creek	Entire Length	78.4%	68.1%
KK-2	Kinnickinnic River	From Wilson Park Creek to Lyons Park Creek	77.6%	68.1%
KK-3	South 43rd St. Ditch	Entire Length	76.8%	78.7%
KK-4	Edgerton Channel, Wilson Park Creek, Villa Mann Creek	Entire Length	84.0%	89.4%
KK-5	Holmes Avenue Creek	Entire Length	80.0%	78.7%
KK-6	Cherokee Park Creek	Entire Length	77.6%	69.0%
KK-7	Kinnickinnic River	Estuary to Wilson Park Creek	75.2%	45.0%

**Menomonee River Basin:**

Reachshed (TMDL Subbasin)	Waterbody Name	Waterbody Extents	TSS % Reduction from No-controls	TP % Reduction from No-controls
MN-1	Menomonee River	From Nor-X-Way Channel to Headwaters	66.4%	63.6%
MN-2	Goldendale Creek	Entire Length	63.2%	47.7%
MN-3	West Branch Menomonee River	Entire Length	65.6%	60.1%
MN-4	Willow Creek	Entire Length	64.0%	51.2%
MN-5	Nor-X-Way Channel	Entire Length	70.4%	72.5%
MN-6	Menomonee River and Dretzka Park Creek	From Little Menomonee River to Nor-X-Way Channel	73.6%	69.0%
MN-7	Lilly Creek	Entire Length	70.4%	64.5%
MN-8	Butler Ditch	Entire Length	69.6%	58.3%
MN-9	Little Menomonee River	Entire Length	70.4%	64.5%
MN-10	Menomonee River	From Underwood Creek to Little Menomonee River	67.2%	31.7%
MN-11	Underwood Creek and Dousman Ditch	From South Branch Underwood Creek to Headwaters	72.0%	62.7%



Reachshed (TMDL Subbasin)	Waterbody Name	Waterbody Extents	TSS % Reduction from No-controls	TP % Reduction from No-controls
MN-12	Underwood Creek	From Menomonee River to South Branch Underwood Creek	80.0%	76.1%
MN-13	South Branch Underwood Creek	Entire Length	76.8%	69.8%
MN-14	Menomonee River	From Honey Creek to Underwood Creek	64.8%	49.4%
MN-15	Honey Creek	Entire Length	73.6%	67.2%
MN-16	Menomonee River	From Estuary to Honey Creek	72.0%	49.4%

**Milwaukee River Basin:**

Reachshed (TMDL Subbasin)	Waterbody Name	Waterbody Extents	TSS % Reduction from No-controls	TP % Reduction from No-controls
MI-1	Upper Milwaukee River	From Campbellsport to Headwaters	**	**
MI-2	Upper Milwaukee River	From Kewaskum To Campbellsport and Auburn	73.6%	71.6%
MI-3	West Branch Milwaukee River	Entire Length	77.6%	48.6%
MI-4	Kewaskum Creek	Entire Length	76.8%	55.7%
MI-5	Watercress Creek and East Branch Milwaukee River	Entire Length	73.6%	51.2%
MI-6	Quass Creek and Milwaukee River	Near West Bend	73.6%	86.7%
MI-7	Myra Creek and Milwaukee River	From North Branch Milwaukee River to West Bend	79.2%	67.2%
MI-8	North Branch Milwaukee River	from Adell Tributary to Headwaters	**	**
MI-9	Adell Tributary	Entire Length	**	**
MI-10	Chambers Creek, Batabia Creek, and North Branch Milwaukee River	Near Sherman	**	**
MI-11	Melius Creek	Entire Length	**	**
MI-12	Mink Creek	Entire Length	**	**

Reachshed (TMDL Subbasin)	Waterbody Name	Waterbody Extents	TSS % Reduction from No-controls	TP % Reduction from No-controls
MI-13	Stony Creek, Wallace Creek, and North Branch Milwaukee River	Near Farmington	74.4%	46.8%
MI-14	Silver Creek	Entire Length	**	**
MI-15	Milwaukee River	Near Fredonia	**	**
MI-16	Milwaukee River	Near Saukville	75.2%	77.8%
MI-17	Milwaukee River	From Cedar Creek to Saukville	76.0%	83.1%
MI-18	Cedar Creek	From Jackson Creek to Headwaters	76.8%	71.6%
MI-19	Lehner Creek	Entire Length	77.6%	61.0%
MI-20	Jackson Creek	Entire Length	80.8%	77.8%
MI-21	Little Cedar Creek	Entire Length	80.8%	77.8%
MI-22	Cedar Creek	Near Jackson	76.8%	54.8%
MI-23	Evergreen Creek	Near Jackson	79.2%	53.0%
MI-24	North Branch Cedar Creek and Cedar Creek	From Milwaukee River to Myra Creek	73.6%	79.6%
MI-25	Milwaukee River	From Pigeon Creek to Cedar Creek	81.6%	43.2%
MI-26	Pigeon Creek	Entire Length	90.4%	88.5%
MI-27	Milwaukee River	From Lincoln Creek to Pigeon Creek	72.8%	53.9%
MI-28	Beaver Creek	Entire Length	72.8%	88.5%
MI-29	South Branch Creek	Entire Length	71.2%	87.6%
MI-30	Indian Creek	Entire Length	65.6%	76.1%
MI-31	Lincoln Creek	Entire Length	71.2%	85.8%
MI-32	Milwaukee River	From Estuary to Lincoln Creek	58.4%	23.7%

**Note:** \*\*The TMDL did not assign a percent reduction for these reachsheds because modeling indicated that there is no direct MS4 discharge to this subbasin. If more detailed analysis conducted by the permittee indicates the presence of an MS4 discharge, contact your DNR storm water engineer or specialist for more information on how best to proceed.

## Appendix C: MS4 Permittees Subject to the Wisconsin River Basin TMDL or a TMDL Approved After May 1, 2019

**C.1 Applicability.** In accordance with section 1.5.2.c, this Appendix C applies to permittees subject to a total maximum daily load (TMDL) approved by the United States Environmental Protection Agency (USEPA) that includes the following:

- “Total Maximum Daily Loads for Total Phosphorus in the Wisconsin River Basin,” approved by USEPA April 2019

**Note:** The Wisconsin River Basin TMDL has two sets of allocations. Table J-4 of Appendix J of the TMDL report lists the allocations and corresponding percent reductions based on current water quality criteria and Table K-4 of Appendix K of the TMDL report lists the allocations and corresponding percent reductions based on recommended site-specific criteria. Both tables provide the percent reductions measured from no-controls and the TMDL baseline. Under this permit term, the allocations listed in Appendix J of the TMDL report apply. If the recommended site-specific criteria are approved by USEPA, the allocations and percent reductions listed in Appendix K of the TMDL report will become applicable. However, permittees may use the allocations from either Appendix J or Appendix K of the TMDL report for planning purposes under sections C.3 and C.4 below.

- A TMDL approved by the USEPA on or after May 1, 2019

**Note:** If the MS4 area extends into or discharges to other basins with a USEPA approved TMDL, a permittee could be subject to more than one TMDL and thus the requirements under Appendices A and/or B.

### C.2 Full TMDL Compliance.

**C.2.1** USEPA is allowing the Department to evaluate MS4 compliance with TMDL Wasteload Allocations (WLA) using a percent reduction framework consistent with Wisconsin’s storm water program. For consistency with existing storm water program requirements, TMDL compliance will use the percent reduction measured from the no runoff management controls (no-controls) condition. The percent reduction from no-controls, for each pollutant of concern and reachshed, necessary to meet the TMDL WLAs for the USEPA approved TMDLs are listed in the approved TMDLs. The no-controls modeling condition means taking no (zero) credit for existing storm water control measures that reduce the discharge of pollutants. Existing practices can then be applied and counted toward meeting the TMDL reduction reductions.

**C.2.2** TMDLs may assign a percent reduction for one or more reachsheds for each pollutant of concern (i.e., total suspended solids (TSS) and total phosphorus (TP)). Full TMDL compliance is achieved by the permittee provided all of the following conditions are met:

- a. The permittee submits the necessary data and documentation to the Department that demonstrates that the permittee meets the percent reductions stipulated in the USEPA approved TMDL for each reachshed that the MS4 discharges to and for each pollutant of concern.

b. The documentation submitted by the permittee includes the policies, procedures, and regulatory mechanisms that the permittee will employ to ensure that storm water controls and management measures will continue to be operated and maintained so that their pollutant removal efficiency continues to be met.

c. Based upon the data and documentation and any necessary subsequent information requested by the Department, the permittee receives written concurrence from the Department that the permittee has achieved full TMDL compliance.

**C.3 Participation in an approved Adaptive Management Plan.** In accordance with s. 283.13(7), Wis. Stats., and s. NR 217.18, Wis. Adm. Code, if the permittee has chosen to participate in an Adaptive Management project that has been approved by the Department the permittee shall continue to participate in the implementation of the Adaptive Management project.

**Note:** Information on adaptive management is available from the Department's Internet site at: <https://dnr.wi.gov/topic/SurfaceWater/AdaptiveManagement.html>

**C.4 TMDL Implementation Plan.** If the permittee is not participating in a Department approved adaptive management plan as stipulated in section C.3, a permittee with MS4s discharging to TMDL reachsheds shall do all the following to demonstrate progress towards achieving the TMDL reductions stipulated in section C.2.2 and shall submit the following documentation:

**C.4.1** Within 36 months of the approval date of the TMDL, an updated storm sewer system map that identifies:

a. The current municipal boundary. For a permittee that is not a city or village, identify the permitted area.

**Note:** The permitted area for towns, counties and non-traditional MS4s pertains to the area within an urbanized area or the area served by its storm sewer system, such as a university campus.

b. The TMDL reachshed boundaries within the municipal boundary, and the area of each TMDL reachshed in acres within the municipal boundary.

c. The MS4 drainage boundary associated with each TMDL reachshed, and the area in acres of the MS4 drainage boundary associated with each TMDL reachshed.

d. Identification of areas on a map and the acreage of those areas within the municipal boundary that the permittee believes should be excluded from its analysis to show compliance with the TMDL WLA. In addition, the permittee shall provide an explanation of why these areas should not be its responsibility.

**Note:** An example of an area within a municipal boundary that may not be subject to a TMDL WLA for the permittee is an area that does not drain through the permittee's MS4.

- e. Flow paths of storm water through the storm sewer system.
- f. The location and associated drainage basin of structural BMPs the MS4 uses for TSS and TP treatment.

**C.4.2** Within 36 months of the approval date of the TMDL, the permittee shall submit a tabular summary that includes the following for each MS4 drainage boundary associated with each TMDL reachshed as identified under section C.4.1 and for each TMDL WLA:

- a. The permittee's percent reduction needed to comply with its TMDL WLA from the no-controls modeling condition. The no-controls modeling condition means taking no (zero) credit for storm water control measures that reduce the discharge of pollutants.
- b. The modeled annual average pollutant load without any storm water control measures for each subbasin which the MS4 discharges to as previously identified in section C.4.1.
- c. The modeled annual average pollutant load with existing storm water control measures for each subbasin with the MS4 discharges to as previously identified in section C.4.1.
- d. The percent reduction in pollutant load achieved from the no-controls condition and the existing controls condition.
- e. The existing storm water control measures including the type of measure, area treated in acres, the pollutant load reduction efficiency, and documentation of the permittee's authority for long-term maintenance of each practice.
- f. If applicable, the remaining pollutant load reduction for each pollutant of concern and reachshed to meet the TMDL reduction goals.

**C.4.3** Within 48 months of the approval date of the TMDL, if the tabular summary required under section C.4.2 shows that the permittee is not achieving the applicable percent reductions needed to comply with its TMDL WLA for each TMDL reachshed, then the permittee shall submit a written TMDL Implementation Plan to the Department that describes how the permittee will make progress toward achieving compliance with the TMDL WLA. The plan shall include the following information:

- a. Recommendations and options for storm water control measures that will be considered to reduce the discharge of each pollutant of concern. At a minimum, the following shall be evaluated: all post-construction BMPs for which the Department has a technical standard, optimizing or retrofitting all existing public and private storm water control practices, regional practices, optimization or improvements to existing BMPs, incorporation of storm water control for all road reconstruction projects, more restrictive post-construction ordinances, updated development and redevelopment standards. Focus should be placed on those areas identified in section C.4.2 without any controls.

**b.** A proposed schedule for implementation of the alternatives identified under section C.4.3.a. The proposed schedule may extend beyond the expiration date of this permit. The schedule should aim to achieve, to the maximum extent practicable, a level of reduction that achieves at least 20% of the remaining reduction needed beyond baseline to achieve full compliance in TSS and a level of reduction that achieves at least 10% of the remaining reduction needed beyond baseline to achieve full compliance in TP over the next permit term. The reductions can be achieved utilizing an averaged reduction calculated from individual reductions achieved in one or multiple reachsheds and spanning the entire MS4 area impacted by a TMDL.

**Note:** The reductions stipulated under C.4.3.b are interim compliance targets set as a planning target for the next permit term. Future permit reduction targets may taper off or vary between municipalities based on individual plans as it is expected that municipalities will rely more on reductions obtained through redevelopment. In many some cases, reductions that occur through redevelopment activities as outlined in section C.4.3.d may provide the most economical and practical method toward eventually achieving the reduction goals.

**c.** A cost effectiveness analysis for implementation of the recommendations and options identified under section C.4.3.a.

**Note:** The Department has developed the guidance document “TMDL Guidance for MS4 Permits: Planning, Implementation, and Modeling Guidance.” The guidance is available on the Department’s Internet site: [https://dnr.wi.gov/topic/stormwater/standards/ms4\\_modeling.html](https://dnr.wi.gov/topic/stormwater/standards/ms4_modeling.html), and is available to assist a permittee with complying with the requirements of section C.4.

**Note:** Reductions obtained through a permittee’s participation in a water quality trading project, in accordance with s. 283.84, Wis. Stats., and that has been reviewed and approved by the Department, can be counted toward credit in meeting the requirements stipulated under section C.2.2. Additional information on water quality trading is available from the Department’s Internet site at: <https://dnr.wi.gov/topic/surfacewater/waterqualitytrading.html>

**C.5 Annual Reporting.** For requirements outlined under sections C.3 and C.4 the permittee shall include a description and the status of progress toward implementing the identified actions and activities in their MS4 annual reports due by March 31 of each year.

## Appendix F: WDNR Correspondence

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## Chuck Boehm

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**Subject:** FW: 2 questions on city-wide plan and grant

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**From:** Zimmerman, Jacob L - DNR <[Jacob.Zimmerman@wisconsin.gov](mailto:Jacob.Zimmerman@wisconsin.gov)>

**Sent:** Friday, August 13, 2021 8:07 AM

**To:** Chuck Boehm <[CBoehm@BrwnCald.com](mailto:CBoehm@BrwnCald.com)>; Sue Olson <[Sue.Olson@Appleton.org](mailto:Sue.Olson@Appleton.org)>; Minser, Amy J - DNR <[Amy.Minser@wisconsin.gov](mailto:Amy.Minser@wisconsin.gov)>; Fischer, Anthony R - DNR <[Anthony.Fischer@wisconsin.gov](mailto:Anthony.Fischer@wisconsin.gov)>

**Subject:** RE: 2 questions on city-wide plan and grant

Good Morning Chuck,

I agree with you assessment of the Special Condition in the grant contract. The 3 bullets below are sufficient analysis for stormwater management planning grant purposes.

Let us know if you have any other questions,  
Jake

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Jacob Zimmerman, PE

(262) 888-0578

[Jacob.zimmerman@wisconsin.gov](mailto:Jacob.zimmerman@wisconsin.gov)

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**From:** Chuck Boehm <[CBoehm@BrwnCald.com](mailto:CBoehm@BrwnCald.com)>

**Sent:** Thursday, August 12, 2021 10:54 AM

**To:** Zimmerman, Jacob L - DNR <[Jacob.Zimmerman@wisconsin.gov](mailto:Jacob.Zimmerman@wisconsin.gov)>; Olson, Sue <[sue.olson@appleton.org](mailto:sue.olson@appleton.org)>; Limberg, Suzan C - DNR <[Suzan.Limberg@wisconsin.gov](mailto:Suzan.Limberg@wisconsin.gov)>; Minser, Amy J - DNR <[Amy.Minser@wisconsin.gov](mailto:Amy.Minser@wisconsin.gov)>; Fischer, Anthony R - DNR <[Anthony.Fischer@wisconsin.gov](mailto:Anthony.Fischer@wisconsin.gov)>

**Subject:** RE: 2 questions on city-wide plan and grant

Greetings Jake,

Thank you for your feedback.

Regarding the grant contract requirements question, we wanted to seek confirmation or direction as needed for the grant item B – Special Condition at the top of page 6 of the attached pdf.

To address this item for potential structural stormwater management practices (SMPs) the following items are being conducted:

- Review of WDNR surface viewer data viewer (SWDV) for waterways, mapped wetlands, and wetland indicator soils (no wetland delineations are being conducted, and the presence of indicator soils does not necessarily rule out a potential future SMP at this stage of high level master planning – wetland delineations would be conducted in the future as part of more detailed site planning if a site is identified for implementation consideration)
- Search on NHI portal for endangered resources preliminary assessment (if a site indicated that further actions are required to ensure compliance, those have not currently been conducted but would be conducted in the future as part of more detailed site planning if a site is identified for implementation consideration)
- Review of WDNR BRRTS site for potential contamination issues



We would appreciate a review of our actions and confirmation that they are sufficient for compliance or direction if needed on an expansion of our efforts during this citywide master plan to comply with the grant requirement.

Thanks for your review and support,

**Chuck Boehm, PE**

Director, Client Services

Brown and Caldwell | Milwaukee

T 414.203.2899 | C 262.488.3350 | [CBoehm@brwncald.com](mailto:CBoehm@brwncald.com)



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**From:** Zimmerman, Jacob L - DNR <[Jacob.Zimmerman@wisconsin.gov](mailto:Jacob.Zimmerman@wisconsin.gov)>

**Sent:** Tuesday, August 10, 2021 5:20 PM

**To:** Sue Olson <[sue.olson@appleton.org](mailto:sue.olson@appleton.org)>; Limberg, Suzan C - DNR <[Suzan.Limberg@wisconsin.gov](mailto:Suzan.Limberg@wisconsin.gov)>; Minser, Amy J - DNR <[amy.minser@wisconsin.gov](mailto:amy.minser@wisconsin.gov)>

**Cc:** Chuck Boehm <[CBoehm@BrwnCald.com](mailto:CBoehm@BrwnCald.com)>

**Subject:** RE: 2 questions on city-wide plan and grant

Hi Sue,

For your first question, I don't believe that section A.5.3.a applies to the City. Based upon our records (see attached letter), the City had concurred with TMDL implementation plan prior to the permit being issued. Thus the City is required to follow its plan per Section A.3.1. Permit Section A.5.3 only applies to those permittees who did not have a DNR concurred with plan prior to the permit being issued.

The city still can elect to increase the development and redevelopment pollutant control requirements in the City ordinance, but is not required to at this time. That said, it may be worth evaluating if the City cannot meet the TMDL goals with BMPs on public land alone.

As for the grant contract, can you send me that specific document you are referring to? That will help me give you an answer on "preliminary determinations."

Best,  
Jake

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Jacob Zimmerman, PE

(262) 888-0578

[Jacob.zimmerman@wisconsin.gov](mailto:Jacob.zimmerman@wisconsin.gov)

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**From:** Sue Olson <[Sue.Olson@Appleton.org](mailto:Sue.Olson@Appleton.org)>

**Sent:** Tuesday, August 10, 2021 11:11 AM

**To:** Limberg, Suzan C - DNR <[Suzan.Limberg@wisconsin.gov](mailto:Suzan.Limberg@wisconsin.gov)>; Zimmerman, Jacob L - DNR <[Jacob.Zimmerman@wisconsin.gov](mailto:Jacob.Zimmerman@wisconsin.gov)>; Minser, Amy J - DNR <[Amy.Minser@wisconsin.gov](mailto:Amy.Minser@wisconsin.gov)>

**Cc:** Chuck Boehm <[CBoehm@BrwnCald.com](mailto:CBoehm@BrwnCald.com)>

**Subject:** 2 questions on city-wide plan and grant

Amy, Susy and Jake - I wasn't sure who to send these questions to so sending to all of you. We have two questions on our City-wide stormwater plan update and the associated grant.

1. The MS4 permit Appendix A Section A.5.3.a regarding the ordinance. The first sentence states that we are required to make our ordinance more restrictive than statewide standards. The next sentence states that we are to justify the level of pollutant reduction in the ordinance. The Director has asked for an email from WNRD clarifying whether or not we are required to change our ordinance to the TMDL numbers. At this time our ordinance meets NR 151/216. Originally (2004) it was more restrictive than NR 151/216 but now they are the same.

We are beginning discussions with our Community Development Department (who traditionally oppose further regulation as an obstacle to development and redevelopment) and will then take the conversation to the elected officials. If we are required to include the TMDL numbers in the ordinance, we expect to allow MEP for most projects, since cost effective technology does not yet exist, especially for smaller sites, and economic .

2. The last sentence of the grant contract B -Special Condition. This was not known to us when our scope and application were prepared and will be substantial additional effort and cost. Please provide some guidance to define "preliminary determinations" so that we are able to complete the necessary work prior to submitting our plan to DNR for review.

Thank you!  
Sue

Sue Olson, PE  
Project Engineer  
100 N. Appleton Street  
Appleton, WI 54911  
920-832-6473 direct  
[sue.olson@appleton.org](mailto:sue.olson@appleton.org)

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## Chuck Boehm

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**From:** Zimmerman, Jacob L - DNR <Jacob.Zimmerman@wisconsin.gov>  
**Sent:** Friday, June 4, 2021 2:37 PM  
**To:** Chuck Boehm  
**Cc:** Sue Olson; Doug Joachim  
**Subject:** RE: City of Appleton eReporting Submittal

Good Afternoon,

Based upon the submitted response and our discussion on Wednesday, I do not have any further comments on the draft report. I agree with the proposed modeling methodology and the City can continue with the alternatives analysis and implementation plan develop using the load reduction values in the Draft report. Please let me know if you have any question.

Have a great weekend,  
Jake

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**Jacob Zimmerman, PE**

(262) 888-0578

[Jacob.zimmerman@wisconsin.gov](mailto:Jacob.zimmerman@wisconsin.gov)

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**From:** Chuck Boehm <CBoehm@BrwnCald.com>  
**Sent:** Wednesday, May 26, 2021 3:17 PM  
**To:** Zimmerman, Jacob L - DNR <Jacob.Zimmerman@wisconsin.gov>  
**Cc:** Olson, Sue <sue.olson@appleton.org>; Doug Joachim <djoachim@BrwnCald.com>  
**Subject:** RE: City of Appleton eReporting Submittal

Greetings Jake,

Thanks again for your review and subsequent questions and comments.

I have copied your items from below into the attached MS Word document and hopefully have responses in there that answer your questions. I also have some tables attached (pdf document) that relate back to Question 2. Please take a look and let us know if anything needs further clarification. Feel free to add to the MS Word file to document if our responses are acceptable or if there are follow-up questions or detail needed. We'd be happy to talk anything over with you and we also would like to get some more clarification on the trading component.

Have a great day!

**Chuck Boehm, PE**

Director, Client Services

**Brown and Caldwell** | Milwaukee

T 414.203.2899 | C 262.488.3350 | [CBoehm@brwncald.com](mailto:CBoehm@brwncald.com)



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**From:** Zimmerman, Jacob L - DNR <[Jacob.Zimmerman@wisconsin.gov](mailto:Jacob.Zimmerman@wisconsin.gov)>  
**Sent:** Thursday, May 20, 2021 1:43 PM  
**To:** Chuck Boehm <[CBoehm@BrwnCald.com](mailto:CBoehm@BrwnCald.com)>  
**Cc:** Sue Olson <[sue.olson@appleton.org](mailto:sue.olson@appleton.org)>; Doug Joachim <[djoachim@BrwnCald.com](mailto:djoachim@BrwnCald.com)>  
**Subject:** RE: City of Appleton eReporting Submittal

Good Afternoon,

I've finished up review of the submitted documents and have a few questions and comments which are listed below.

1. Page 3-10, 3<sup>rd</sup> to last paragraph. Can you provide an example where you adjusted the treatment percentage to account for changes in developed area vs creating a new private BMP model?
2. Table 3-7 & 8. Are you meeting the required TSS or TP TMDL load reductions if you exclude the BMPs for which a model is still needed as identified in Table 3-5B at the end of the report? Can you represent the current load reduction without the SMPs that need a model? I ask because you are inquiring about water quality trading, and we require demonstration of load reduction beyond that which is required in the TMDL, so I don't think we can rely on assumed reduction efficiency of the BMPs. All the BMPs used to achieve the TMDL reduction goal will need to be modeled before trading could occur.
3. Table 3-7 & 8. I have note that in the previous report, the City transferred some reduction from Apple Creek to the Lower Fox Mainstem via the municipal cooperation allowance in NR 151. Is that still happening in this update? If so, can you not how many pounds of TSS and TP.
4. How are you computing total load reduction in a reach or BMP contributing area when there are multiple BMPs treating a source area? How are practices in series demonstrated?
  - a. HSDs upstream of a pond
  - b. HSD + Street Sweeping
  - c. Street Sweeping + Pond
  - d. Kensington/Plank Road pond, 3 ponds in series
5. Meade+ Evergreen + Ballard Ponds. Similar to above, are the individual pond models just developed to populate Table 3-5B, but all the ponds in series are actually used to tabulate the reach load reduction? I'm guessing you are doing this on a separate spreadsheet.
6. Ballard Pond. Table 3-5B says the TSS and TP reductions are 87% and 59% respectively. However when you run the model, the TSS and TP reductions are 90.8% and 69.3% respectively. What is causing this difference?
7. No specific issues with the WinSlamm Models for the ponds or HSDs themselves.
8. Post construction ordinance and program documents look good.
9. Remaining items to complete per the scope of services. Please let me know if I missed any of these
  - a. 3.5 2) Graphical depiction of TSS/TP loading/acre
  - b. Tasks 4.0-4.13
  - c. Task 5.0
  - d. Task 7.0
10. As you evaluate the WQT items in more detail, feel free to reach out. I spent time last week talking with Keith Marquardt on both Fox River TMDLs to better familiarize myself and can help you determine where credits can be generated and used.

Please let me know if you would like to discuss any of these comments or you need additional clarification. My schedule is looking pretty good for the next two weeks if you want to set up some time to talk. Note, I will be taking a vacation from 6/8-6/21<sup>st</sup>.

Best,  
Jake

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Jacob Zimmerman, PE

(262) 888-0578

[Jacob.zimmerman@wisconsin.gov](mailto:Jacob.zimmerman@wisconsin.gov)

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**From:** Chuck Boehm <[CBoehm@BrwnCald.com](mailto:CBoehm@BrwnCald.com)>

**Sent:** Thursday, February 25, 2021 3:25 PM

**To:** Zimmerman, Jacob L - DNR <[Jacob.Zimmerman@wisconsin.gov](mailto:Jacob.Zimmerman@wisconsin.gov)>

**Cc:** Olson, Sue <[sue.olson@appleton.org](mailto:sue.olson@appleton.org)>; Doug Joachim <[djoachim@BrwnCald.com](mailto:djoachim@BrwnCald.com)>

**Subject:** City of Appleton eReporting Submittal

Greetings Jake,

I have uploaded the interim draft City of Appleton Citywide Stormwater Management Plan Report that documents our updated TMDL water quality analysis for no-controls and with-controls as discussed in the WDNR eReporting system, and Sue Olson will be submitting it in the near term.

The supporting model files got too large in some instances with the backup pdf documentation to submit through the system, so I will get those posted on OneDrive and you will get a link to access and download the files for your review.

As you look them over, please let us know if you need additional information. Doug Joachim is our model lead and WinSLAMM guru and also keeper of our overall data for the modeling effort and is included on this email and probably the best resource for any model specific questions.

Let me know if this all works OK for you.

Thanks!

**Chuck Boehm**

Director, Client Services

Milwaukee Office Lead

Brown and Caldwell | Milwaukee, WI

[CBoehm@brwncald.com](mailto:CBoehm@brwncald.com)

T 414.203.2899 | C 262.488.3350



**Table 3-7. With-Controls TSS Reduction Results**  
 Stormwater Management Plan Update  
 City of Appleton, WI

Lower Fox River TMDL							
Reachshed	GIS Name	Total Treated Area (acres)	No-Controls TSS Load (tons/year)	With-Controls TSS Load Reduction (tons/year)	TMDL Target TSS Load Reduction %	With-Controls TSS Reduction % (compared to no-controls total load)	Is TSS Load Reduction Target Met?
Apple Creek	Apple Creek	3,388	332.3	233.7	52%	70.3%	Yes
Duck Creek	Duck Creek	57	3.8	2.8	52%	73.7%	Yes
Garners Creek	Garners Creek	1,576	236.7	179.7	60%	75.9%	Yes
Lower Fox River Mainstem (DS)	Lower Fox River (DS)	5,966	830.6	298.7	72%	36.0%	No
Lower Fox River Mainstem (US)	Lower Fox River (US)	1,506	214.3	44.9	72%	21.0%	No
Mud Creek	Mud Creek	1,055	164.7	75.6	43%	45.9%	Yes
<b>Totals</b>		<b>13,548</b>	<b>1,782.5</b>	<b>835.3</b>		<b>46.9%</b>	
Upper Fox-Wolf TMDL							
Reachshed		Total Treated Area (acres)	No-Controls TSS Load (tons/year)	With-Controls TSS Load Reduction (tons/year)	TMDL Target TSS Load Reduction %	With-Controls TSS Reduction % (compared to no-controls total load)	Is TSS Load Reduction Target Met?
Bear Creek	Bear Creek	137	4.6	1.2	84%	25.8%	No
Lake Winnebago	Lake Winnebago	586	62.0	23.6	20%	38.0%	Yes
<b>Totals</b>		<b>723</b>	<b>66.7</b>	<b>24.8</b>		<b>37.2%</b>	

**Table 3-7x. With-Controls TSS Reduction Results Excluding Regional Practices without Documented WinSLAMM Models**  
 Stormwater Management Plan Update  
 City of Appleton, WI

Lower Fox River TMDL							
Reachshed	GIS Name	Total Treated Area (acres)	No-Controls TSS Load (tons/year)	With-Controls TSS Load Reduction (tons/year)	TMDL Target TSS Load Reduction %	With-Controls TSS Reduction % (compared to no-controls total load)	Is TSS Load Reduction Target Met?
Apple Creek	Apple Creek	3,388	332.3	140.8	52%	42.4%	No
Duck Creek	Duck Creek	57	3.8	2.2	52%	57.5%	Yes
Garners Creek	Garners Creek	1,576	236.7	144.3	60%	61.0%	Yes
Lower Fox River Mainstem (DS)	Lower Fox River (DS)	5,966	830.6	187.6	72%	22.6%	No
Lower Fox River Mainstem (US)	Lower Fox River (US)	1,506	214.3	44.9	72%	21.0%	No
Mud Creek	Mud Creek	1,055	164.7	75.3	43%	45.7%	Yes
<b>Totals</b>		<b>13,548</b>	<b>1,782.5</b>	<b>595.2</b>		<b>33.4%</b>	
Upper Fox-Wolf TMDL							
Reachshed		Total Treated Area (acres)	No-Controls TSS Load (tons/year)	With-Controls TSS Load Reduction (tons/year)	TMDL Target TSS Load Reduction %	With-Controls TSS Reduction % (compared to no-controls total load)	Is TSS Load Reduction Target Met?
Bear Creek	Bear Creek	137	4.6	1.2	84%	25.8%	No
Lake Winnebago	Lake Winnebago	586	62.0	23.6	20%	38.0%	Yes
<b>Totals</b>		<b>723</b>	<b>66.7</b>	<b>24.8</b>		<b>37.2%</b>	

**Table 3-8. With-Controls TP Reduction Results**  
 Stormwater Management Plan Update  
 City of Appleton, WI

Lower Fox River TMDL							
Reachshed	GIS Name	Total Treated Area (acres)	No-Controls TSS Load (tons/year)	With-Controls TP Load Reduction (tons/year)	TMDL Target TSS Load Reduction %	With-Controls TP Reduction % (compared to no-controls total load)	Is TSS Load Reduction Target Met?
Apple Creek	Apple Creek	3,388	2,277.2	1,107.9	40.5%	48.6%	Yes
Duck Creek	Duck Creek	57	33.7	16.4	40.5%	48.5%	Yes
Garners Creek	Garners Creek	1,576	1,280.0	717.3	68.6%	56.0%	No
Lower Fox River Mainstem (DS)	Lower Fox River (DS)	5,966	5,015.6	1,179.9	40.5%	23.5%	No
Lower Fox River Mainstem (US)	Lower Fox River (US)	1,506	1,281.0	168.5	40.5%	13.2%	No
Mud Creek	Mud Creek	1,055	868.0	326.5	48.2%	37.6%	No
<b>Totals</b>		<b>13,548</b>	<b>10,755.5</b>	<b>3,516.3</b>		<b>32.7%</b>	
Upper Fox-Wolf TMDL							
Reachshed		Total Treated Area (acres)	No-Controls TSS Load (tons/year)	With-Controls TSS Load Reduction (tons/year)	TMDL Target TSS Load Reduction %	With-Controls TSS Reduction % (compared to no-controls total load)	Is TSS Load Reduction Target Met?
Bear Creek	Bear Creek	137	46.9	5.4	85.6%	11.4%	No
Lake Winnebago	Lake Winnebago	586	456.1	98.3	85.6%	21.6%	No
<b>Totals</b>		<b>723</b>	<b>503.0</b>	<b>103.7</b>		<b>20.6%</b>	



**Table 3-8x. With-Controls TP Reduction Results Excluding Regional Practices without Documented WinSLAMM Models**  
 Stormwater Management Plan Update  
 City of Appleton, WI

Lower Fox River TMDL							
Reachshed	GIS Name	Total Treated Area (acres)	No-Controls TSS Load (tons/year)	With-Controls TP Load Reduction (tons/year)	TMDL Target TSS Load Reduction %	With-Controls TP Reduction % (compared to no-controls total load)	Is TSS Load Reduction Target Met?
Apple Creek	Apple Creek	3,388	2,277.2	697.3	40.5%	30.6%	No
Duck Creek	Duck Creek	57	33.7	12.4	40.5%	36.8%	No
Garners Creek	Garners Creek	1,576	1,280.0	610.4	68.6%	47.7%	No
Lower Fox River Mainstem (DS)	Lower Fox River (DS)	5,966	5,015.6	723.5	40.5%	14.4%	No
Lower Fox River Mainstem (US)	Lower Fox River (US)	1,506	1,281.0	168.5	40.5%	13.2%	No
Mud Creek	Mud Creek	1,055	868.0	324.6	48.2%	37.4%	No
<b>Totals</b>		<b>13,548</b>	<b>10,755.5</b>	<b>2,536.7</b>		<b>23.6%</b>	
Upper Fox-Wolf TMDL							
Reachshed		Total Treated Area (acres)	No-Controls TSS Load (tons/year)	With-Controls TSS Load Reduction (tons/year)	TMDL Target TSS Load Reduction %	With-Controls TSS Reduction % (compared to no-controls total load)	Is TSS Load Reduction Target Met?
Bear Creek	Bear Creek	137	46.9	5.4	85.6%	11.4%	No
Lake Winnebago	Lake Winnebago	586	456.1	98.3	85.6%	21.6%	No
<b>Totals</b>		<b>723</b>	<b>503.0</b>	<b>103.7</b>		<b>20.6%</b>	

# Legend

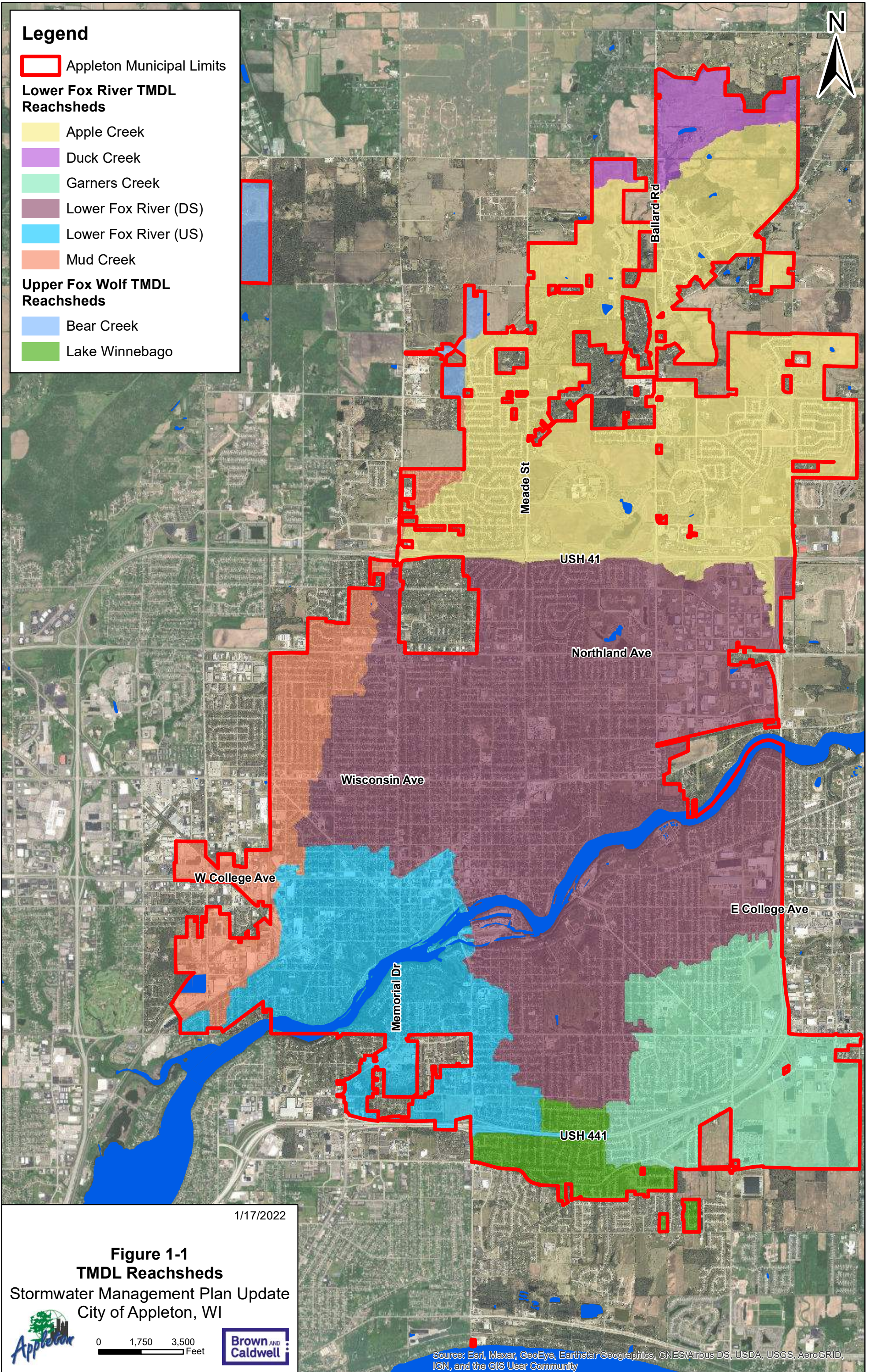
Appleton Municipal Limits

## Lower Fox River TMDL Reachsheds

- Apple Creek
- Duck Creek
- Garners Creek
- Lower Fox River (DS)
- Lower Fox River (US)
- Mud Creek

## Upper Fox Wolf TMDL Reachsheds

- Bear Creek
- Lake Winnebago



1/17/2022

### Figure 1-1 TMDL Reachsheds

Stormwater Management Plan Update  
City of Appleton, WI









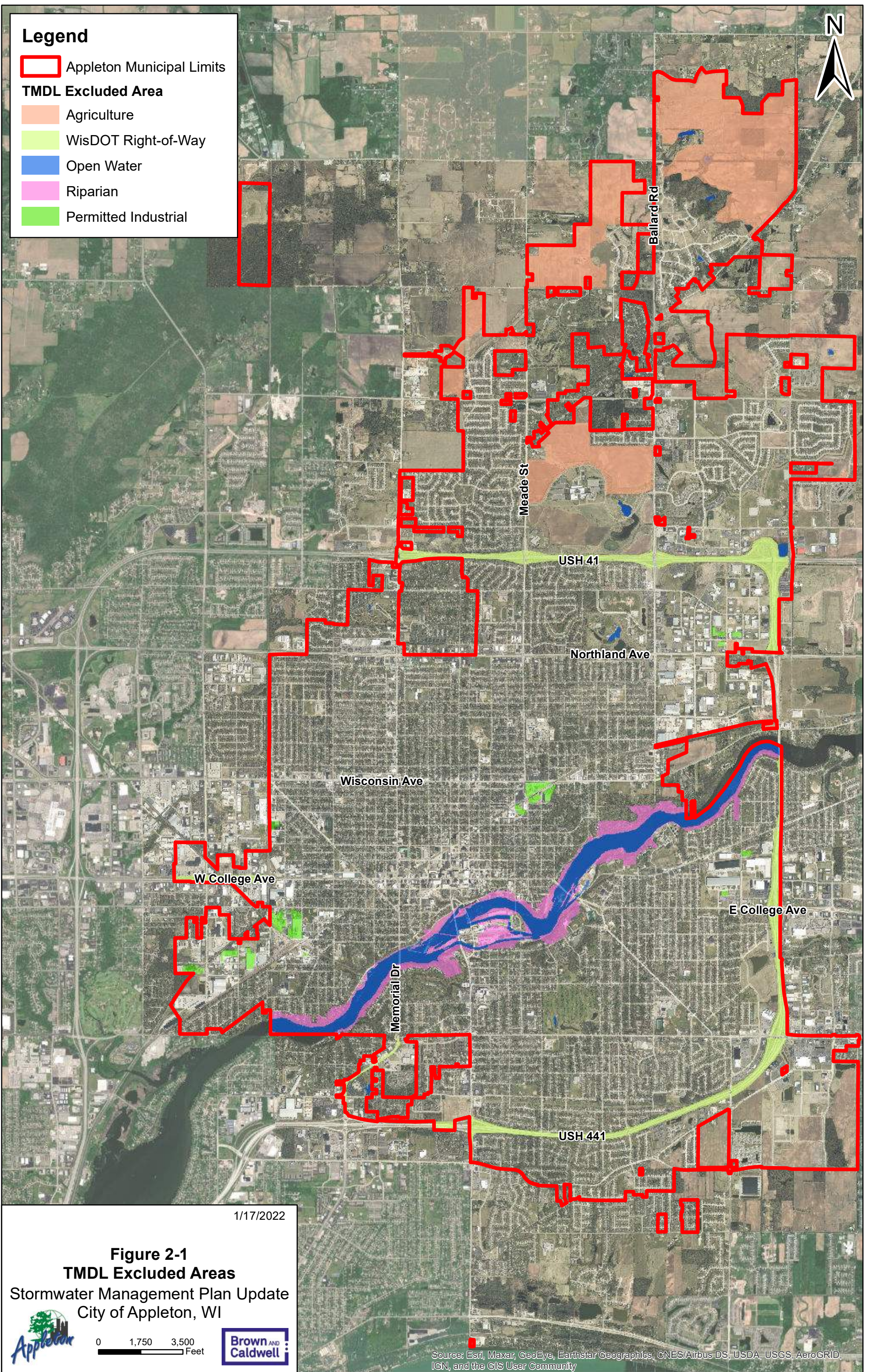
0 1,750 3,500  
Feet



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

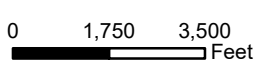
**Legend**

-  Appleton Municipal Limits
- TMDL Excluded Area**
-  Agriculture
-  WisDOT Right-of-Way
-  Open Water
-  Riparian
-  Permitted Industrial



1/17/2022

**Figure 2-1**  
**TMDL Excluded Areas**  
Stormwater Management Plan Update  
City of Appleton, WI



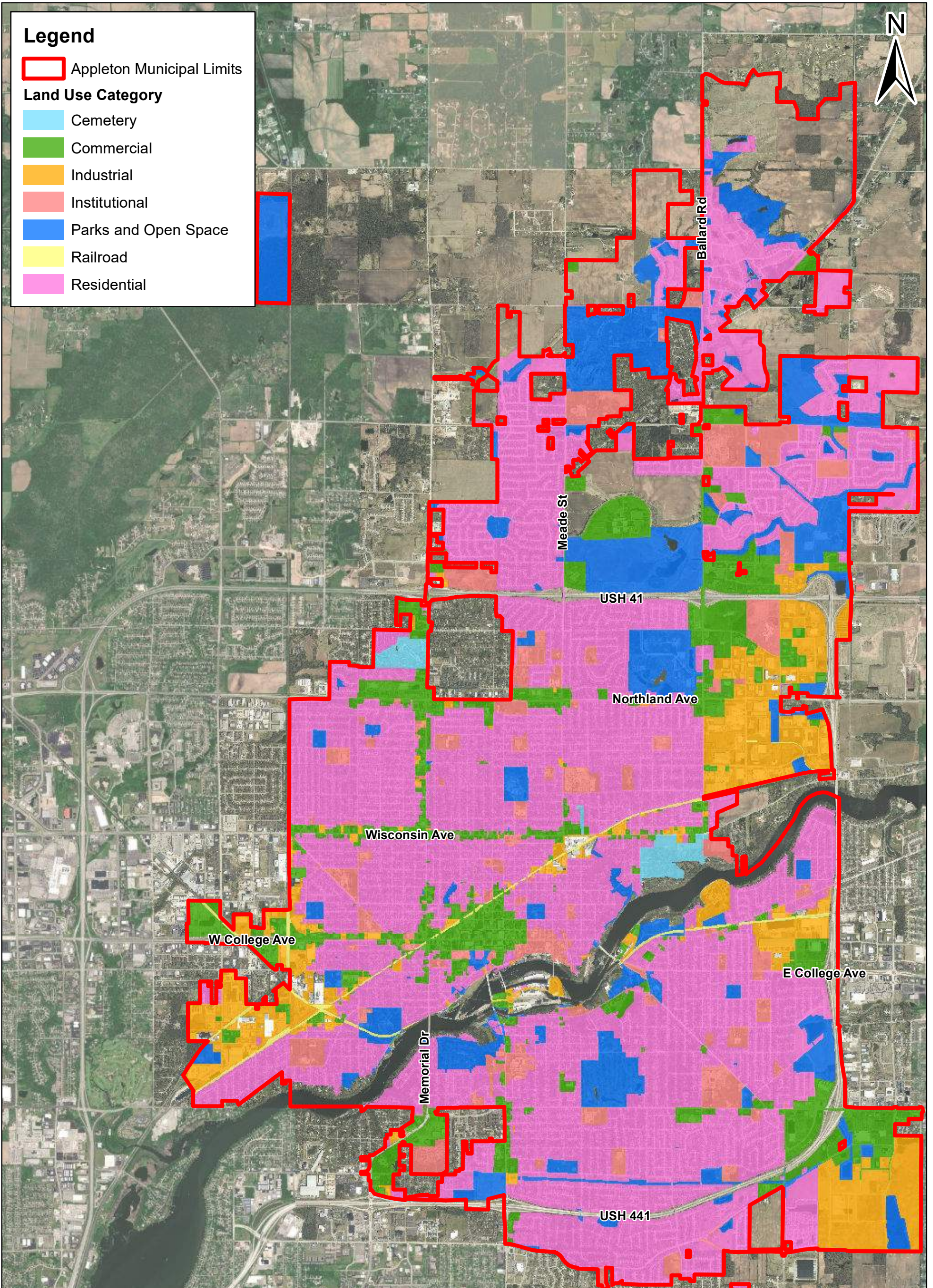
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

Appleton Municipal Limits

**Land Use Category**

- Cemetery
- Commercial
- Industrial
- Institutional
- Parks and Open Space
- Railroad
- Residential



1/17/2022

**Figure 2-2**  
**TMDL Land Use Category**  
Stormwater Management Plan Update  
City of Appleton, WI



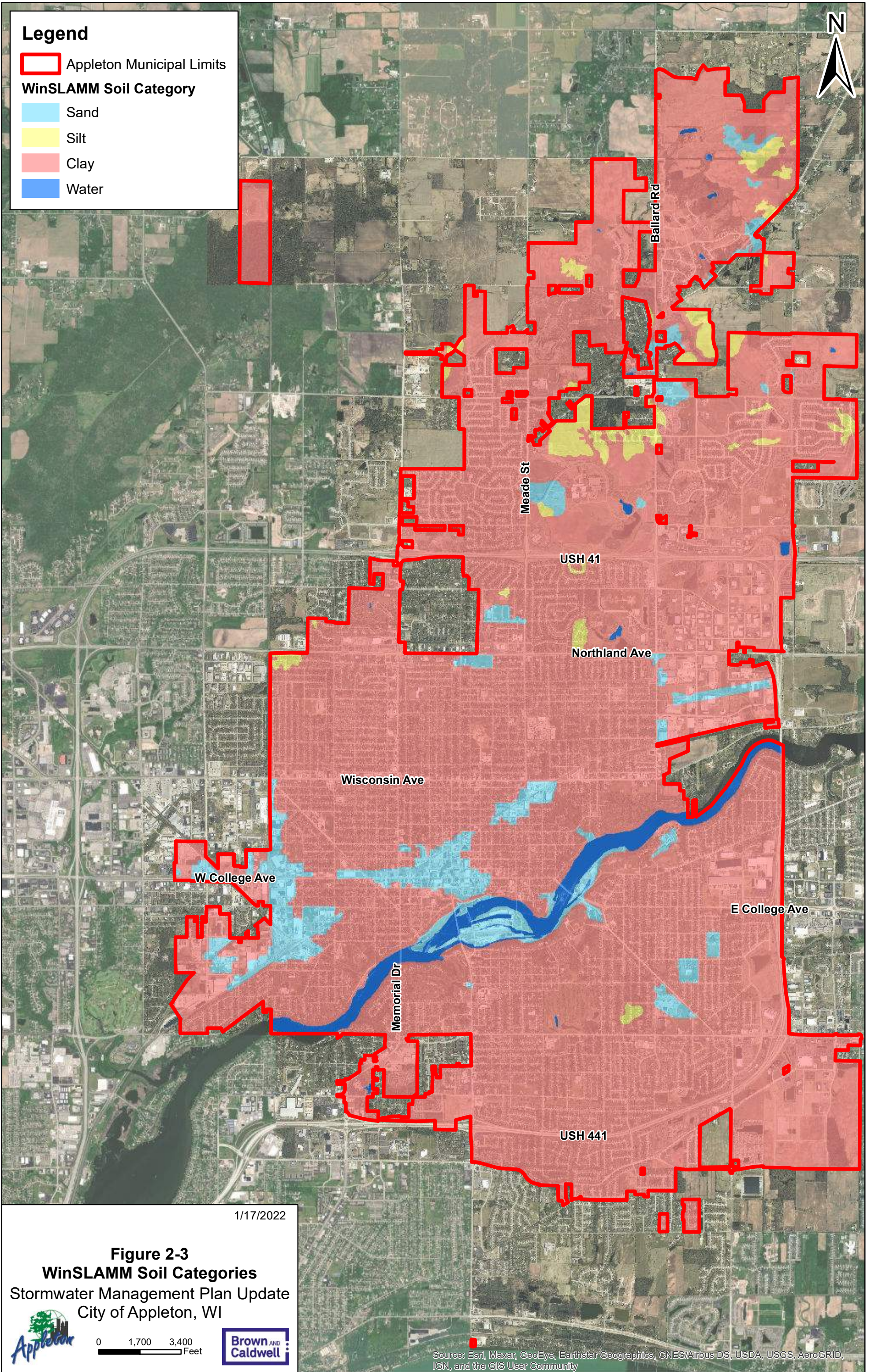
0 1,750 3,500 Feet



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

- Appleton Municipal Limits
- WinSLAMM Soil Category**
- Sand
- Silt
- Clay
- Water



1/17/2022

**Figure 2-3**  
**WinSLAMM Soil Categories**  
Stormwater Management Plan Update  
City of Appleton, WI



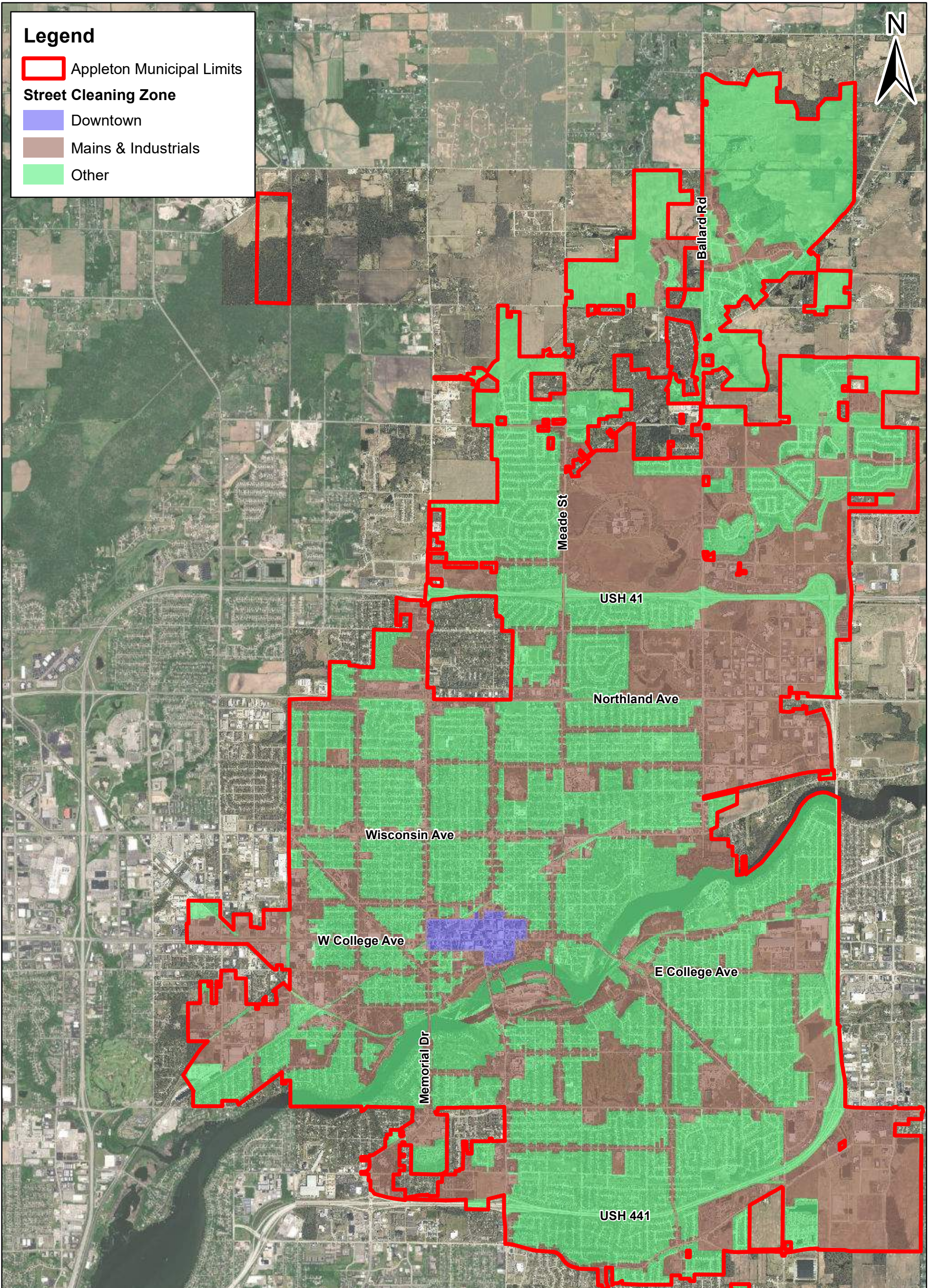
0 1,700 3,400  
Feet



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

- Appleton Municipal Limits
- Street Cleaning Zone**
- Downtown
- Mains & Industrials
- Other



1/17/2022

**Figure 3-1**  
**Street Cleaning Zones**  
Stormwater Management Plan Update  
City of Appleton, WI



0 1,700 3,400  
Feet



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

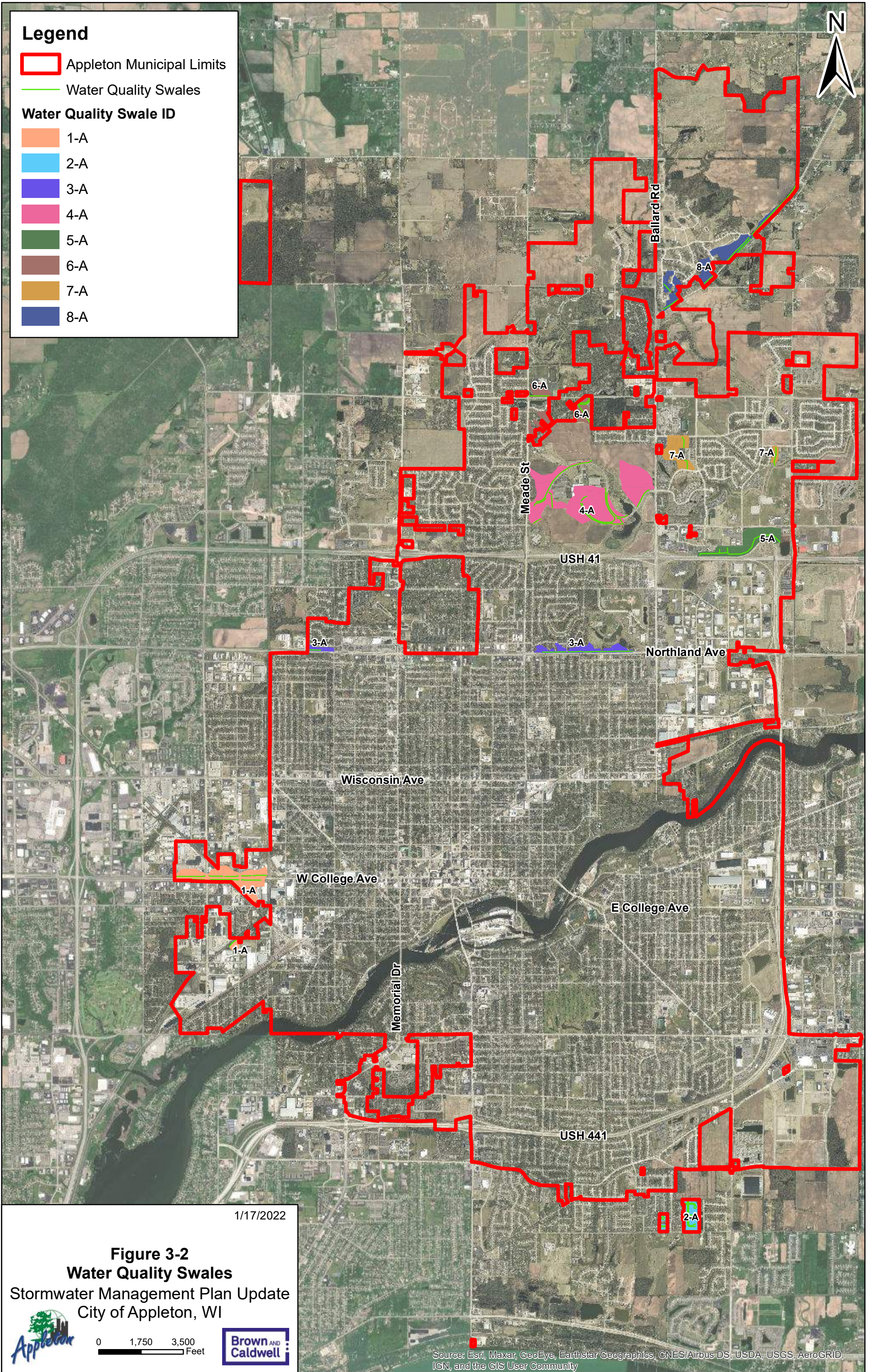
**Legend**

Appleton Municipal Limits

Water Quality Swales

**Water Quality Swale ID**

- 1-A
- 2-A
- 3-A
- 4-A
- 5-A
- 6-A
- 7-A
- 8-A



1/17/2022

**Figure 3-2  
Water Quality Swales**

Stormwater Management Plan Update  
City of Appleton, WI



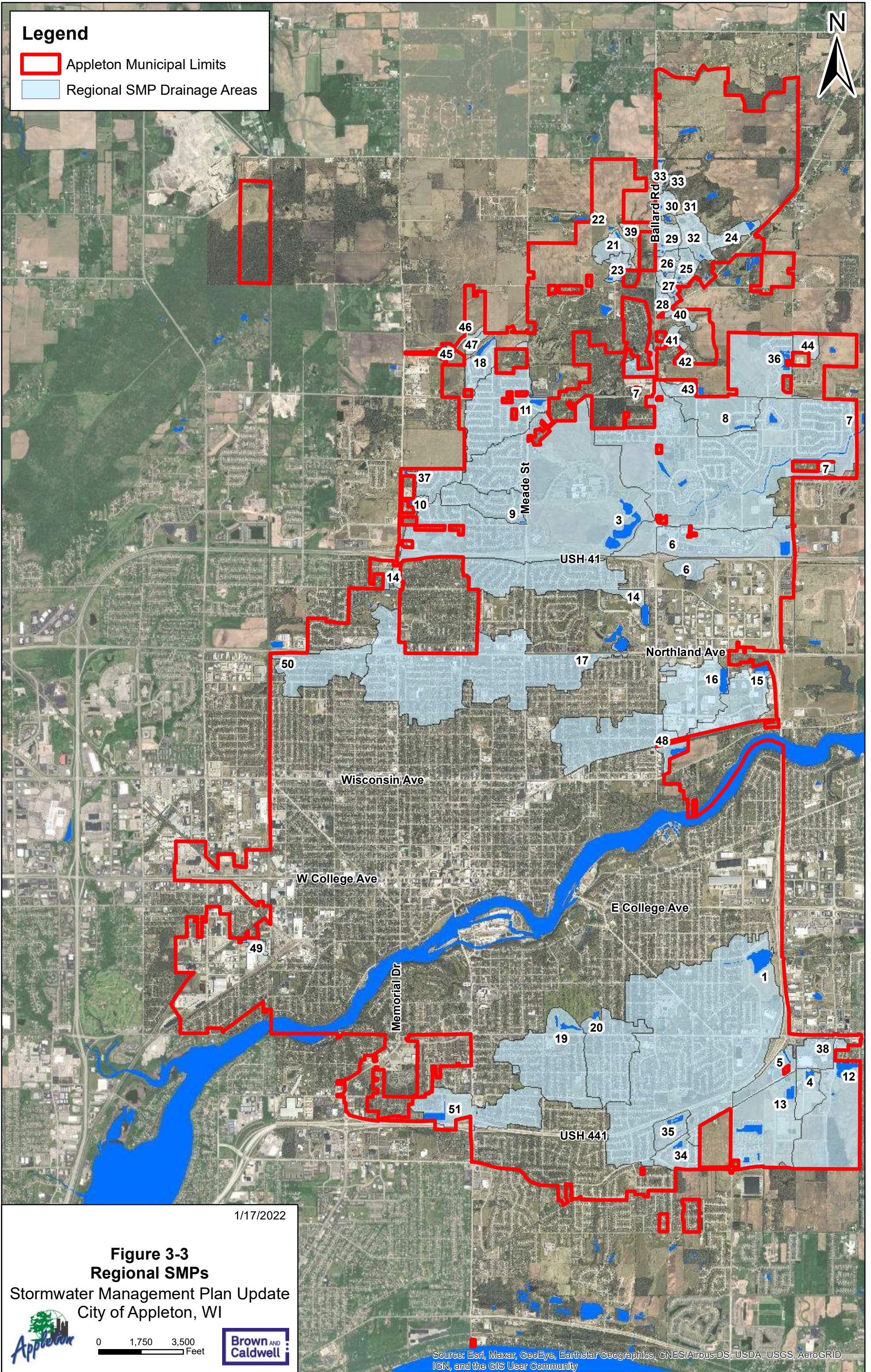
0 1,750 3,500  
Feet



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

- Appleton Municipal Limits
- Regional SMP Drainage Areas



1/17/2022

**Figure 3-3  
Regional SMPs**

Stormwater Management Plan Update  
City of Appleton, WI






0 1,750 3,500  
Feet

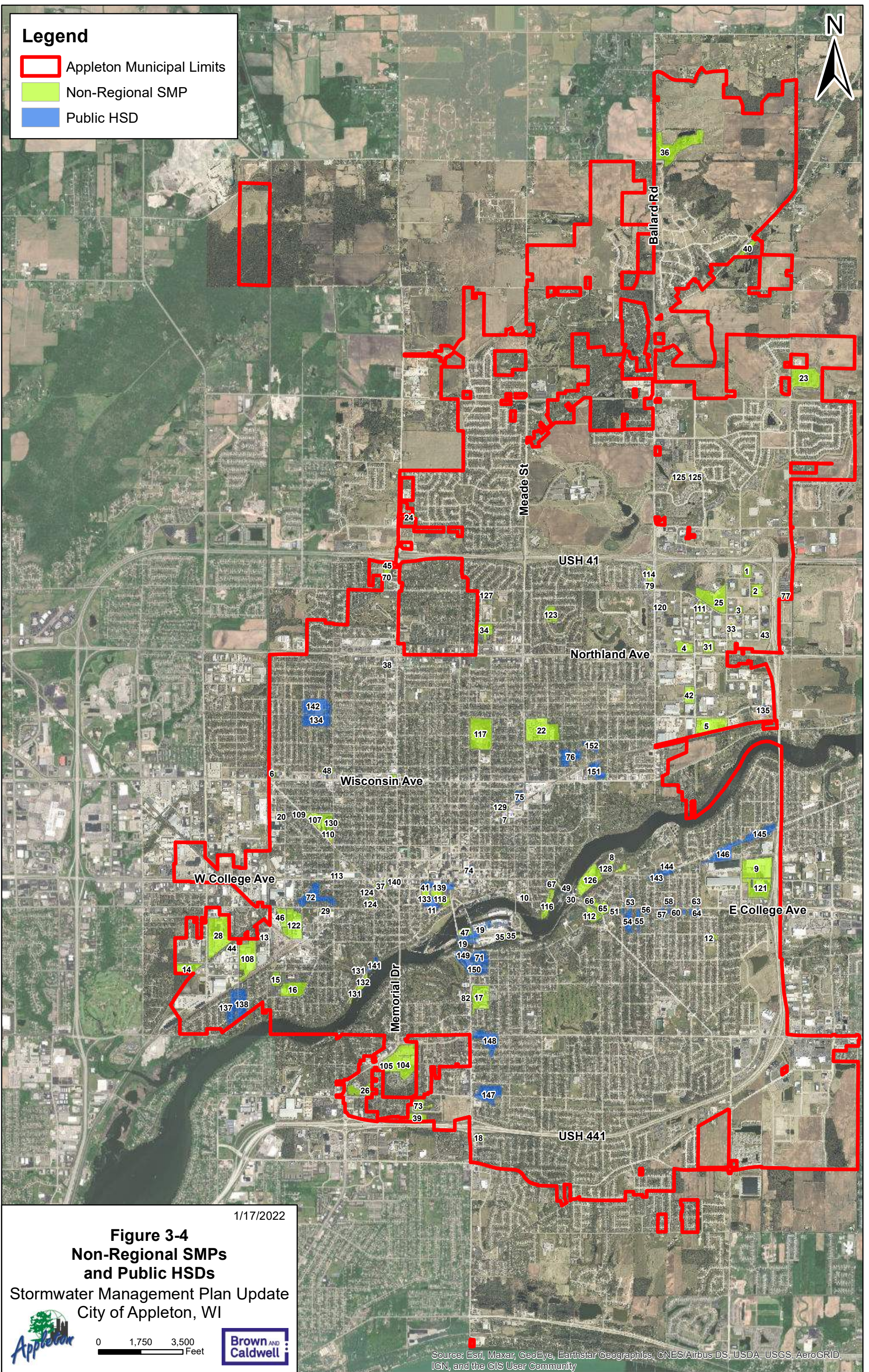


Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**Legend**

-  Appleton Municipal Limits
-  Non-Regional SMP
-  Public HSD



1/17/2022

**Figure 3-4  
Non-Regional SMPs  
and Public HSDs**

Stormwater Management Plan Update  
City of Appleton, WI



0 1,750 3,500  
Feet



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

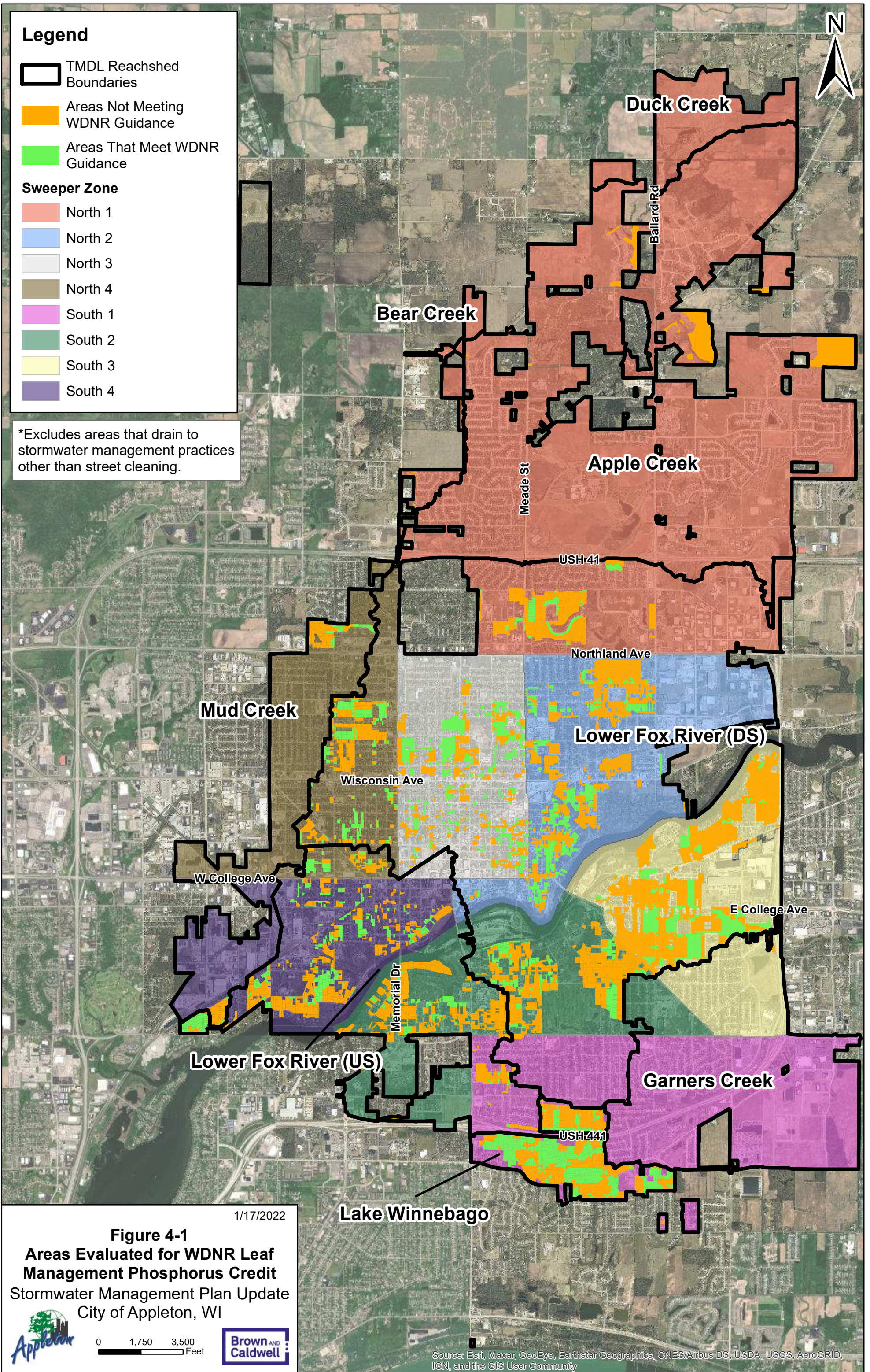
**Legend**

- TMDL Reached Boundaries
- Areas Not Meeting WDNR Guidance
- Areas That Meet WDNR Guidance

**Sweeper Zone**

- North 1
- North 2
- North 3
- North 4
- South 1
- South 2
- South 3
- South 4

\*Excludes areas that drain to stormwater management practices other than street cleaning.



1/17/2022

**Figure 4-1**  
**Areas Evaluated for WDNR Leaf Management Phosphorus Credit**  
Stormwater Management Plan Update  
City of Appleton, WI










0 1,750 3,500 Feet

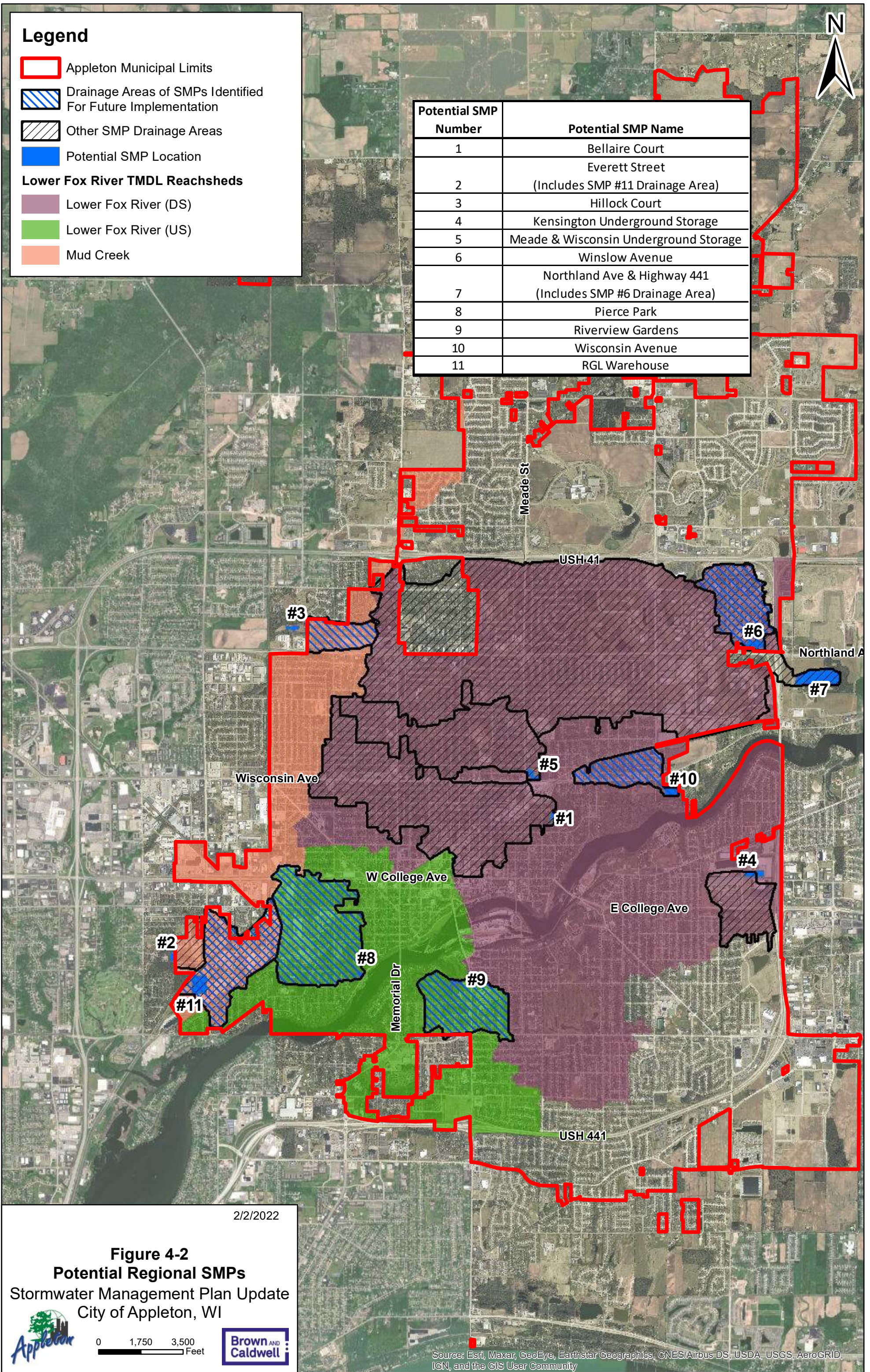


Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

-  Appleton Municipal Limits
  -  Drainage Areas of SMPs Identified For Future Implementation
  -  Other SMP Drainage Areas
  -  Potential SMP Location
- Lower Fox River TMDL Reachsheds**
-  Lower Fox River (DS)
  -  Lower Fox River (US)
  -  Mud Creek

Potential SMP Number	Potential SMP Name
1	Bellaire Court
2	Everett Street (Includes SMP #11 Drainage Area)
3	Hillock Court
4	Kensington Underground Storage
5	Meade & Wisconsin Underground Storage
6	Winslow Avenue
7	Northland Ave & Highway 441 (Includes SMP #6 Drainage Area)
8	Pierce Park
9	Riverview Gardens
10	Wisconsin Avenue
11	RGL Warehouse



2/2/2022

**Figure 4-2**  
**Potential Regional SMPs**  
 Stormwater Management Plan Update  
 City of Appleton, WI



0 1,750 3,500 Feet





Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community


# Legend


 Appleton Municipal Limits

## TMDL Reachsheds


 Lower Fox River (DS)


 Lower Fox River (US)

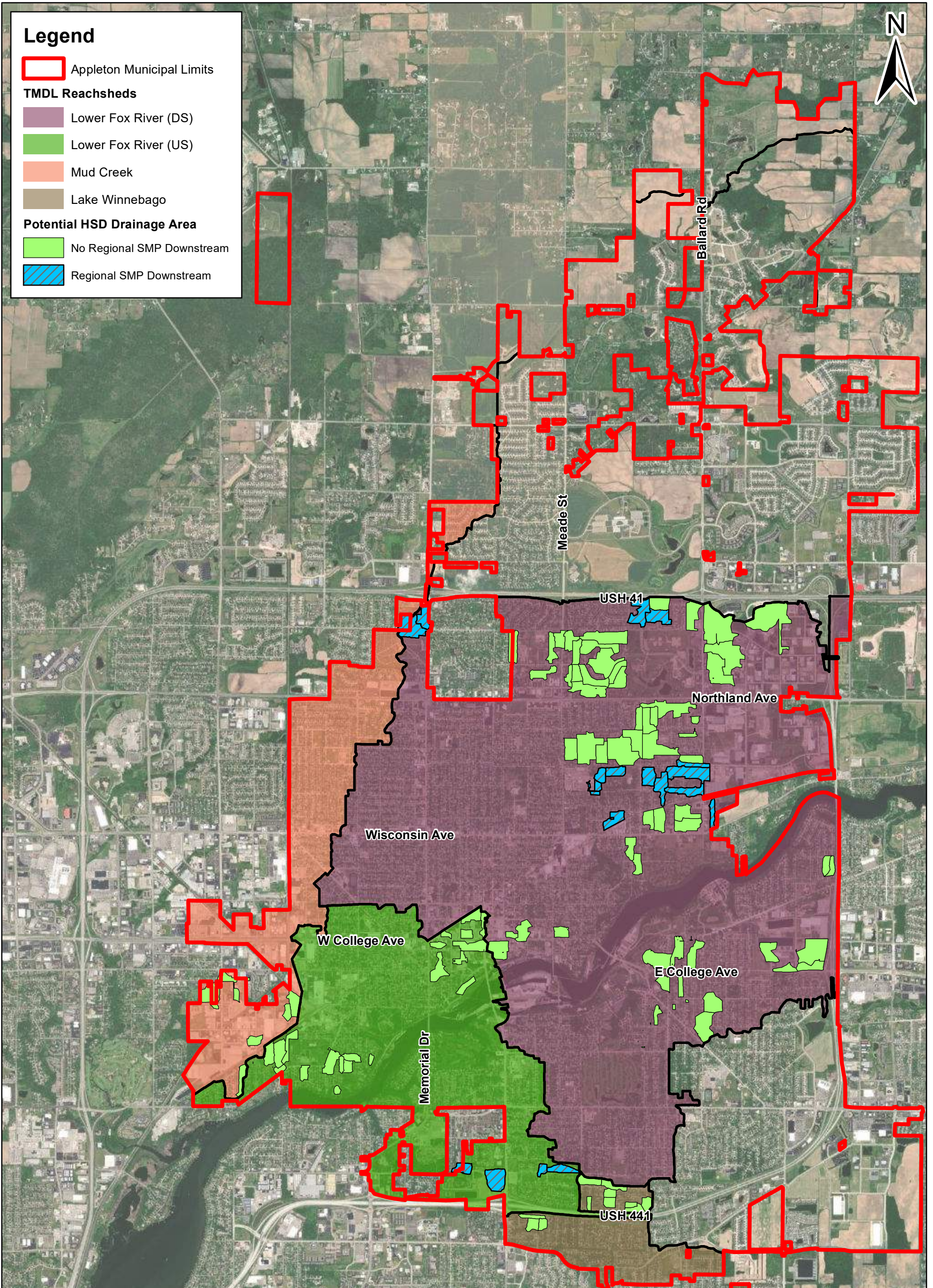
 Mud Creek

 Lake Winnebago

## Potential HSD Drainage Area

 No Regional SMP Downstream

 Regional SMP Downstream



1/17/2022

### Figure 4-3 Potential HSDs

Stormwater Management Plan Update  
City of Appleton, WI



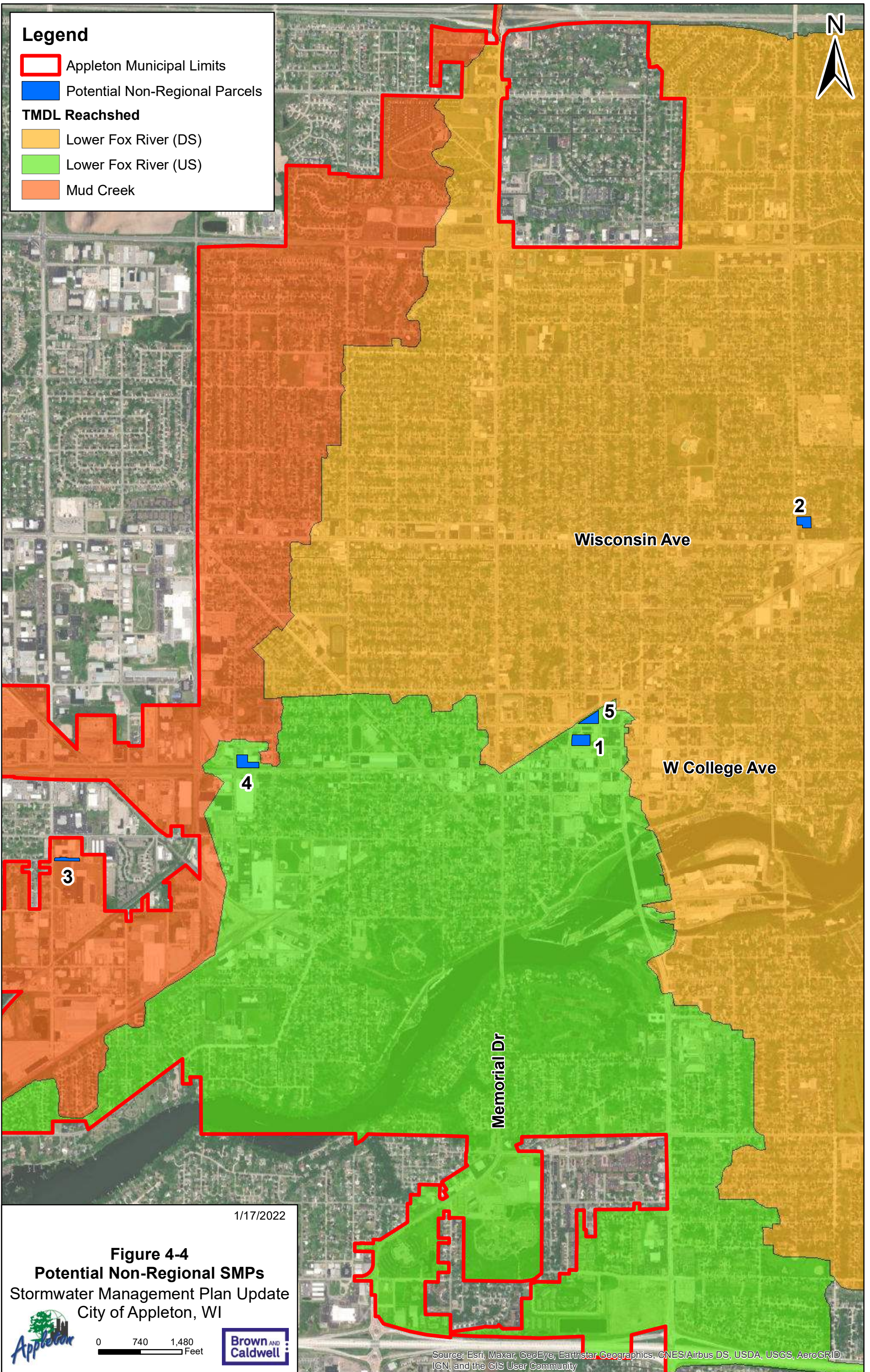
0 1,750 3,500  
Feet



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

-  Appleton Municipal Limits
-  Potential Non-Regional Parcels
- TMDL Reached**
-  Lower Fox River (DS)
-  Lower Fox River (US)
-  Mud Creek



1/17/2022

**Figure 4-4**  
**Potential Non-Regional SMPs**  
Stormwater Management Plan Update  
City of Appleton, WI



0 740 1,480  
Feet



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community




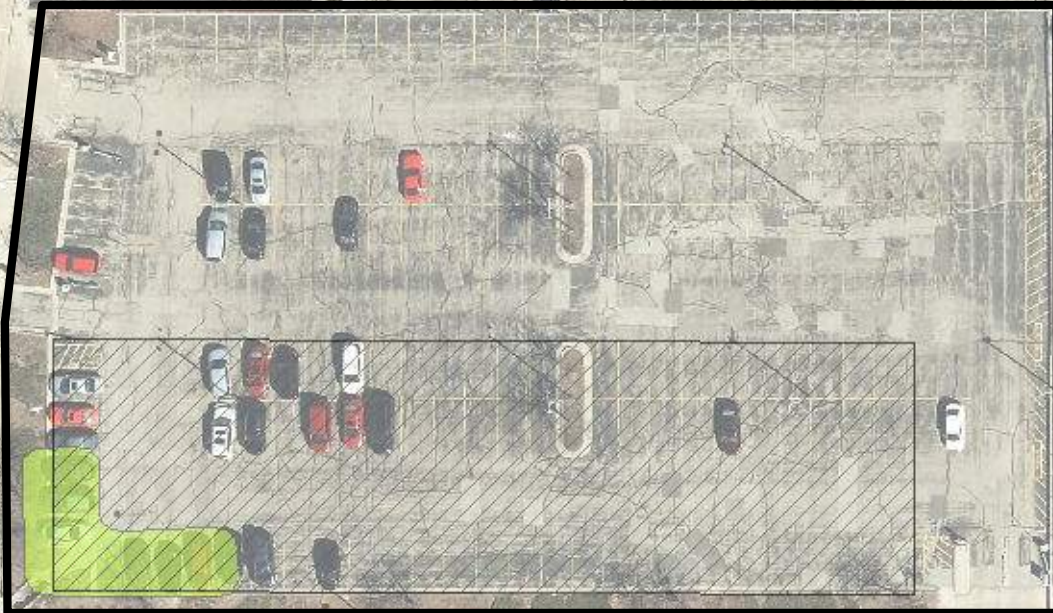
### Legend

 Treated Area

### SMP Type

 Biofilter

 Porous Pavement




10/11/2021

**Figure 4-5**  
**200 E Washington**  
**Potential Non-Regional SMPs**  
Stormwater Management Plan Update  
City of Appleton, WI




0 30 60 Feet



# Legend

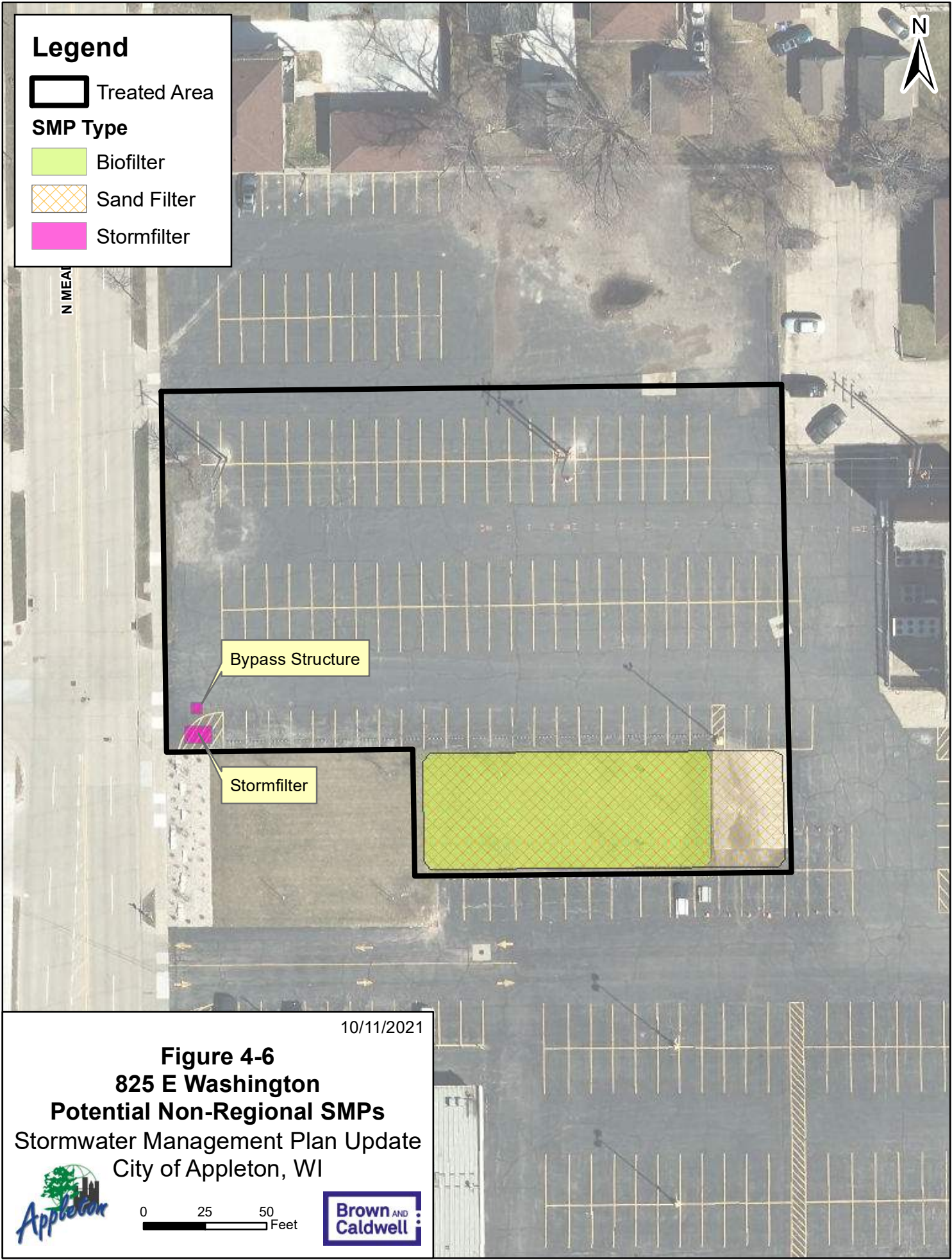
 Treated Area

## SMP Type

 Biofilter

 Sand Filter

 Stormfilter



Bypass Structure

Stormfilter

10/11/2021

### Figure 4-6

### 825 E Washington

### Potential Non-Regional SMPs

Stormwater Management Plan Update

City of Appleton, WI



0 25 50 Feet






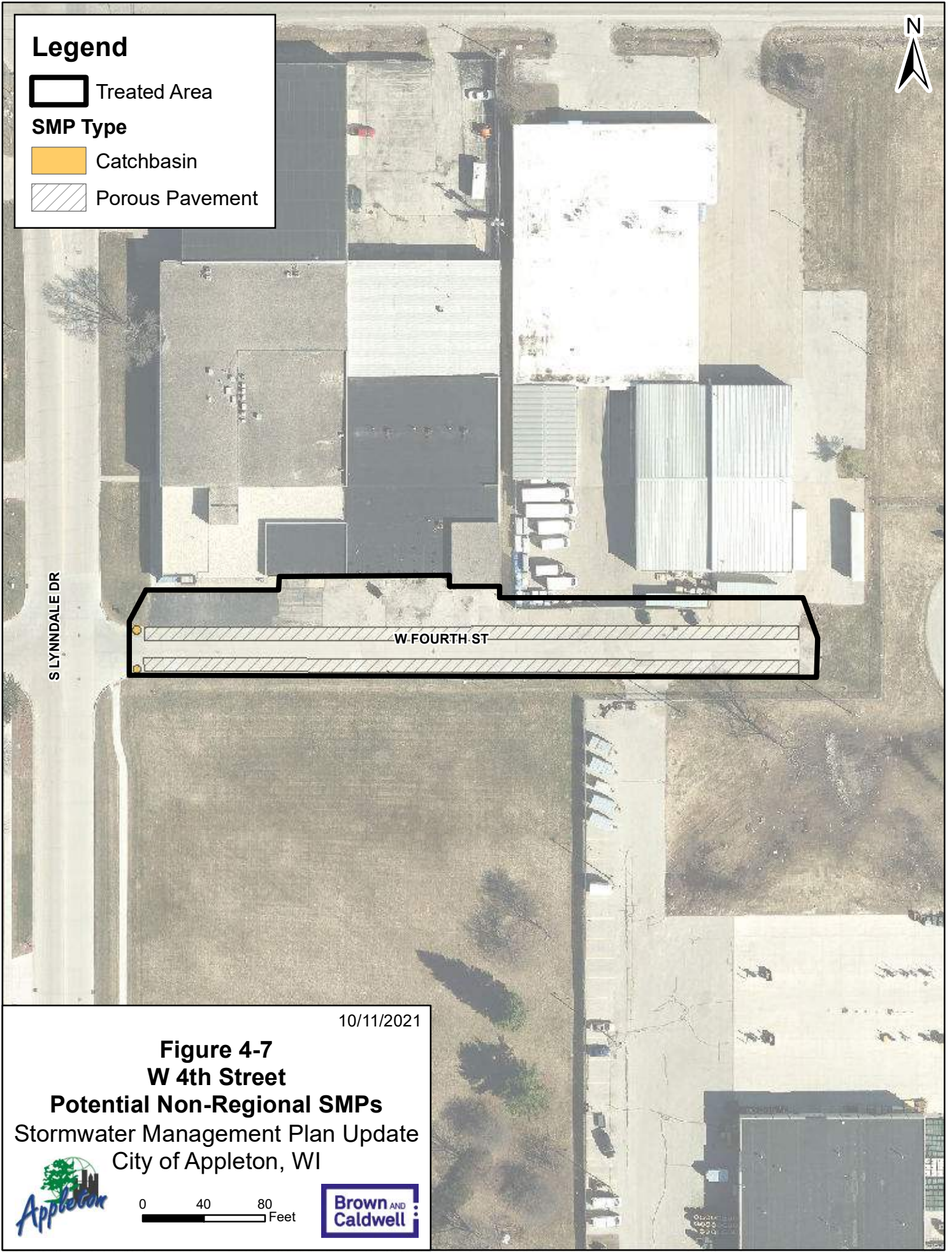
### Legend

 Treated Area

### SMP Type

 Catchbasin

 Porous Pavement



10/11/2021

### Figure 4-7 W 4th Street

### Potential Non-Regional SMPs

Stormwater Management Plan Update  
City of Appleton, WI



0 40 80 Feet





# Legend

 Treated Area

## SMP Type

 Rain Garden

W WASHINGTON ST



W COLLEGE AV

10/11/2021

**Figure 4-8**  
**116 N Linwood**  
**Potential Non-Regional SMPs**  
Stormwater Management Plan Update  
City of Appleton, WI



0 30 60 Feet




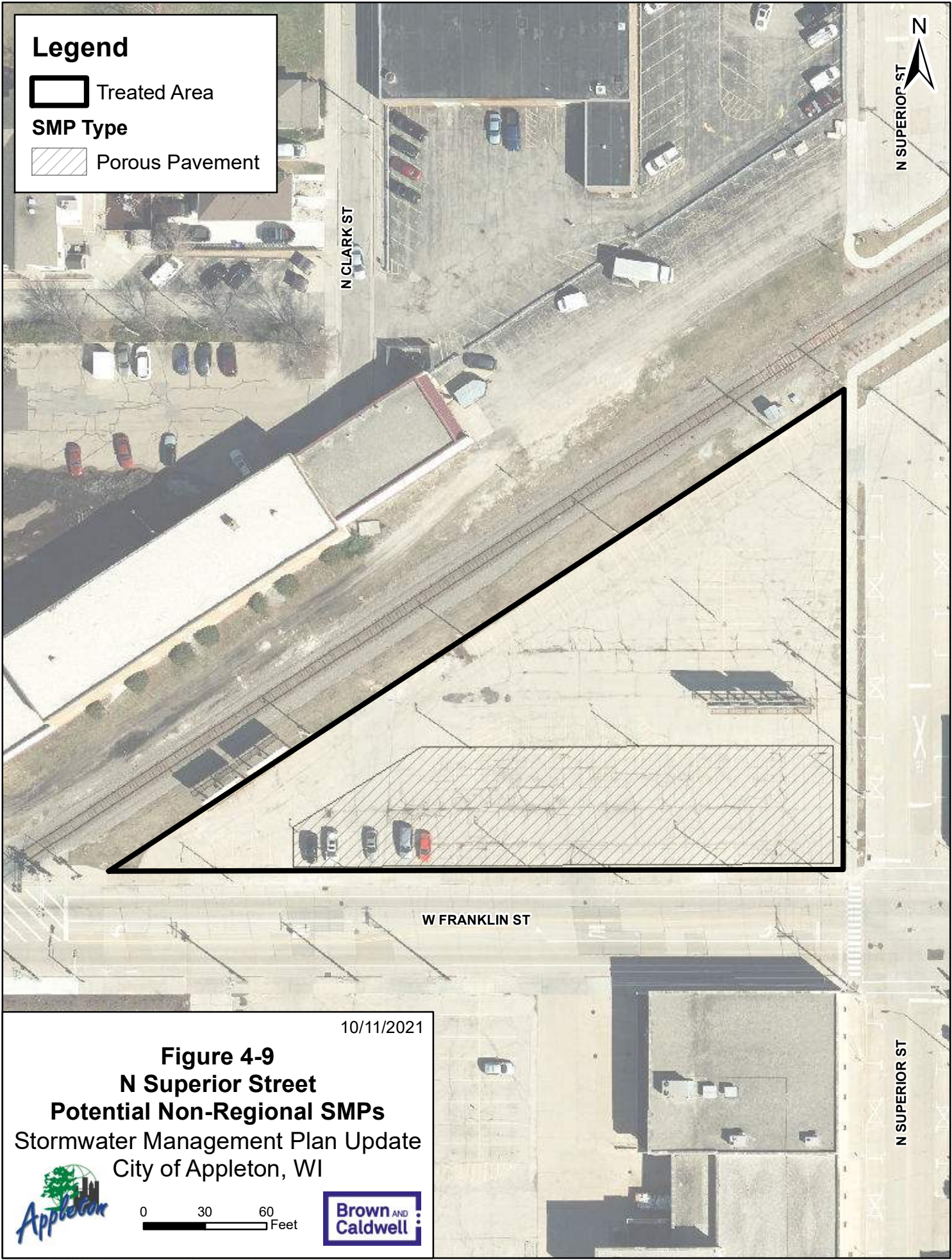
S VICTORIA ST

**Legend**

 Treated Area

**SMP Type**

 Porous Pavement



N CLARK ST

N SUPERIOR ST

W FRANKLIN ST

N SUPERIOR ST

10/11/2021

**Figure 4-9**  
**N Superior Street**  
**Potential Non-Regional SMPs**  
Stormwater Management Plan Update  
City of Appleton, WI



0 30 60 Feet



## Department of Public Works – Inspections Division

### MEMO

**TO:** Utilities Committee

**FROM:** Dale VandeWalle, Plumbing Inspector  
Ross Buetow, Deputy Director of Public Works / City Engineer

**DATE:** August 4, 2022

**RE:** Approve updates to Municipal Code Chapter 4, Article V, Plumbing

---

The Department of Public Works requests approval of updates to Municipal Code Chapter 4, Article V, Plumbing. Attached are both a redlined version of the proposed updates as well as a “completed” version with all proposed revisions adopted. The proposed changes are intended to remove redundant verbiage, add clarity to certain areas, and update the ordinance to follow closely the procedures we use relating to plumbing. The following is a summary of the updates to each section.

#### **Section 4-261:**

- Eliminated the list of definitions by referring to the state statute that actually explains what is considered plumbing
- Added definitions of “private sanitary lateral” to clearly define that which is the responsibility of the property owner. This definition then coincides with the City sanitary policy where it states the City is responsible for the connection at the main, nothing else.
- Added definition of “curb thimble”. There are still several in the City and we no longer allow them. This is addressed in newly created section 4-271 (f)
- Added definition of “clay dam”. We have always required these on new sewer installations, but had no verbiage to back it up.
- Added the definition of a “single family, owner occupied dwelling” to clarify when a homeowner can legally install plumbing. The term is stated in section 145.06 of the Wisconsin State Statutes. This definition just clarifies the intent of the wording.
- Added definitions for “Clearwater, Discharge, Drywell, Groundwater, Stormwater and POWTS.

#### **Section 4-262:**

- Changed DSPS to reflect the entire state plumbing code, not just specific chapters

**Section 4-263:**

- Clarified the inspections performed and the actual procedures that are used.

**Section 4-264:**

- Changed verbiage/eliminated some terminology to correctly state what is occurring.

**Section 4-265:**

- Added “street excavation” to clarify the type of permit obtained.

**4-266:**

- Changed verbiage to specify how we receive complaints. Eliminated wording for processes we do not use or enforce.

**4-267:**

- Clarified which Division inspects various elements of work. Also, that work must be inspected before it is covered.

**4-268:**

- Added requirements to be consistent with the excavation permit we currently require for work in the public right of way.

**4-269:**

- Clarified actual process for data entry and record keeping.
- Clarified process when a lateral is not where indicated by City records
- Clarified who determines which Division approves new sewer connections
- Clarified who sets grades

**4-270:**

- Added verbiage to state that the City can force connection to sewer and water and assess associated costs
- Cleaned up wording relating to water and sewer connections
- Added clarification regarding storm lateral connections.
- Subs. (e and f) added requirements for abandoning a septic tank; abandoning or continuing use of a well once connected to City water.
- Changed responsible party for granting extensions to the City

**4-271:**

- (a) Added “catch all” phrase (or any other pollutant) for discharge possibilities.

- (b) Eliminated 15 day disconnect requirement; cause to connect wording; we do not do things this way; added non-compliance wording to correlate to how we do address violations.
- (e) Did substantial rewrite of this section to include specific discharges that we have encountered. Added sub. 1 Drywells
- (f) Added wording to address curb thimbles (see definitions)

**4-272:**

- No changes; this section was revised in 2016

**4-273:**

- (a) Edited alternate material approval wording
- (b) Updated approved materials by referring to State Plumbing code; clarifies that when buildings are razed and the existing sewer is to be re-used, it must comply with this section
- (c) eliminated; unnecessary plumbing code reference
- (d) added requirement for a “clay dam” (see definitions)
- (f) clarified that all interior plumbing must pass through a backwater valve; (this helps prevent damage claims from sewer back-ups or when contractors are jetting sewers)

**4-274:**

- (a) added details for garage drains for detached garages to address past problems that have arisen and to clarify requirements
- (b) corrected wording to reflect code
- (c) added wording relating to a “dry vent” (see definitions)

**4-275:**

- No changes; this section was revised in 2016

**4-276:**

- Completely new section; added to address grease in our sanitary sewers relating to commercial properties

**4-277:**

- Completely new section; added to address grease in our sanitary sewers relating to residential properties

**4-278:**

- Completely new section: created to clarify minimum water service sizes to commercial and residential buildings.

**4-291:**

- (a) edited a few words
- (b) edited; eliminated process we do not use

**4-292:**

- added well abandonment as requiring a permit

**4-293:**

- edited a few terms

**4-294:**

- edited who is responsible

**4-295:**

- Changed the date at which a permit will be void to be consistent w with another section, 4-75; Added 2 year limitation on permit life

**4-296:**

- No changes

**4-297:**

- (2) Clarified homeowners ability to take over for a cancelled permit to comply with State Statute; (see definition of single family/owner occupied)
- (3) clarified wording
- (4) updated procedure, fee

**4-316:**

- No changes

**4-317:**

- Clarified which plans City could approve

**4-318:**

- Clarified which plans must be approved by the Department of Safety and Professional Services (DSPS) by referring to State Plumbing Code; all reference erased are listed in this section

**4-319:**

- Corrected wording

**4-320:**

- Clarified who could stamp/sign plans

**4-321:**

- Added wording to clarify that work shall not commence until plans are approved by the City or DSPS and what documents shall be submitted for review

**4-322.:**

- Reversed sections (b) and (c)

**4-323:**

- Added that an as-built set of plans is required to be submitted when work is not installed per the approved plans; and fees associated with such changes

**4-324, 4-325**

- No changes to these sections

## ARTICLE V. PLUMBING\*

### DIVISION 1. GENERALLY

#### Sec. 4-261. Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

*A-E* shall mean the Wisconsin Examining Board of Architects, Landscape Architects, Professional Engineers, Designers, Professional Land Surveyors, and Registered Interior.

*Clay dam* shall mean a deposit of soil, normally clay or a mix of clay and other soils, that is placed somewhere on a sanitary lateral leading to a building with a basement to help prevent stormwater collected by the sewer mains from following the lateral into a basement and creating potential for water damage

*Clearwater* shall mean storm water, ground water and wastewater having no impurities or where impurities are below a minimum concentration considered harmful by SPS, including, but not limited to: non-contact cooling water, condensate drainage from refrigeration compressors and air conditioning equipment, drainage of water used for equipment chilling purposes and cooled condensate from steam heating systems.

*Curb Thimble* shall mean a conduit that is run underground from a building through the curb that conveys storm water onto the street.

*Discharge* shall mean water that is directed in such a manner that it flows onto the ground or into a storm sewer system. Discharge includes but is not limited to clearwater, water from sump pumps, and water and snow melt from downspouts and roofs.

*Drywell* shall mean a structure or excavation installed in the ground designed to collect storm water from downspouts, sump pumps, or other sources of storm water.

*Groundwater* shall mean any of the waters of the state, as designated in W.S.A. §281.01(18), as amended from time to time, occurring in a saturated subsurface geological formation of rock or soil.

*Inspections Supervisor* shall mean the City of Appleton Inspections Supervisor or designee.

*Plumbing* has the meaning designated in W.S.A. §145.01(10), as amended from time to time.

*POWTS* shall mean private onsite waste treatment system.

*Private sanitary lateral* shall mean the portion of the sanitary sewer that extends from just inside a building to the connection at the main as defined in the City of Appleton Sanitary Lateral Repair Policy, as amended from time to time.

*Run off* shall mean storm water and precipitation, including rain, snow or ice melt, or similar water that moves on land surface via sheet or channelized flow.

*Sewer service lateral* means that part of the drainage system extending from the property line to the connection with the main sewer.

*Single-Family owner-occupied* shall mean a single-family dwelling that is owned and occupied by the permit applicant. Single Family owner-occupied does not include condominiums, owner-occupied duplexes, or owner-occupied two-family buildings.

*Spring Line* shall mean the point at which a dry vent connects to a drain branch.

*SPS* shall mean the Wisconsin Department of Safety and Professional Services.



*State Plumbing Code* shall mean Wisconsin Administrative Code SPS chapters 380 through 387, as amended from time to time.

*Storm water* shall mean water that originates from rain or snow and includes ice melt.

(Code 1965, §16.02);

**Cross reference(s)**--Definitions and rules of construction generally, §1-2, Utilities, ch. 20.

**State law reference(s)**--Plumbing, W.S.A. §145.01 et seq.; state licensing of plumbers, W.S.A. §145.04(2).

**Sec. 4-262. State plumbing code adopted.**

The Wisconsin Administrative Code SPS chapters 380 through 387 and W.S.A. chapter 145, as amended from time to time, are hereby adopted by reference and made a part of this article. The provisions thereof and of this article shall govern all plumbing, private sewage disposal, and drainage work and no plumbing, private sewage disposal, or drainage work shall be done except in accordance with the adopted codes and this article.

(Code 1965, §16.01; Ord 85-97, §1, 10-15-97)

**Sec. 4-263. Inspection of new work.**

The Inspections Supervisor shall be notified to allow for inspection of work regulated under this article in accordance with requirements of Article II of this chapter. Notification shall include the owner's name, correct address of the property, and name of the master plumber responsible for the installation. Upon approval of the underground piping, the Inspections Supervisor shall identify the approved underground piping with a notice in a visible location. When rough-in work is approved, a tag indicating such approval will be placed on each floor level where plumbing is installed. No work shall be covered without approval from the Inspections Supervisor. Such inspection and approval shall not in any case constitute a guarantee against imperfection by either the City or the Inspections Supervisor.

(Code 1965, §16.11; Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

**Sec. 4-264. Inspection of rental properties, relocated buildings.**

(a) All rentable properties, upon becoming vacant, may be inspected by the Inspections Supervisor and their sanitary condition determined. If the plumbing or any work covered by this article is in an unsanitary condition or a menace to health or safety, the premises shall be repaired and put in a sanitary condition before a new occupant takes possession.

(b) The plumbing in buildings moved from one lot or location to another shall be inspected by the Inspections Supervisor and, when found necessary, tested in a manner satisfactory to the Inspections Supervisor at the expense of the owner. If plumbing is found unsafe or unsanitary, the plumbing shall be repaired or remodeled and made to reasonably comply with this article.

(Code 1965, §16.08; Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

**Sec. 4-265. Permit required for plumbing work in public right-of-way.**

(a) No person shall engage in or work at plumbing in the public right-of-way without the following conditions first being met:

- (1) The applicant shall obtain a street excavation permit from the Department of Public Works.
- (2) The applicant shall file with the City Clerk proof of workers compensation, automobile and general liability insurance equal to or greater than that required by the City and approved by the City's Risk Manager, and it shall be kept in full force and effect for one (1) year after the work has been completed.
- (3) The applicant shall file with the Department of Public Works a permit bond in the penal sum of five thousand dollars (\$5,000.00) executed by the applicant as principal and a surety company authorized to do business in the State of Wisconsin, running in favor of the City so that in the event the City should

suffer any loss or damage by any negligence, malfeasance or misfeasance in the conduct of the work performed under this section shall have the right to institute an action for recovery against the applicant and the surety upon such bond. The bond must further state that the applicant shall fully comply with all provisions of State law and City ordinances as applicable and that the applicant will save and indemnify the City against any costs, expenses or damages which may in any way accrue against the City due to the work performed under this section, and will keep the City harmless against all liabilities, judgments, costs and expenses as a consequence of the work.

(Code 1965, §16.06; Ord 32-92, §1, 3-18-92; Ord 174-93, §1 10-19-93; Ord 53-94, §1, 4-20-94; Ord 118-96, §1, 12-18-96; Ord 101-16, §1, 12-13-16)

#### **Sec. 4-266. Correction of unsanitary installations.**

When complaints are received that work covered by this article is contrary to the ordinances of the city or is a menace to health, the Inspections Supervisor can investigate the cause for complaint on the premises. A report of the findings, suggesting such changes and corrections as are necessary to put the premises in proper sanitary condition shall be made. The Inspections Supervisor thereupon shall direct such changes and corrections to be made as deemed necessary, and set a time for having the changes and corrections done. Failure to comply may result in legal action against the property owner.

(Code 1965, §16.07; Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

#### **Sec. 4-267. Inspection of sewer and water services.**

All sewer service laterals and water service pipes installed on private property shall be inspected by the Inspections Supervisor. The portions of the sewer or water service laterals installed or repaired from the water main to the private property line, shall be inspected by the Inspections Supervisor. No service pipe shall be laid and no opening into or connection with a sewer service lateral, public sewer or water main shall be made, including the relaying, replacing or repairing of the lateral, sewer or water main, except under the observation of the Inspections Supervisor. All work involving sanitary, storm, or water mains and laterals shall be left uncovered until examined and approved.

(Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

**Cross reference(s)**--Water utility, §20-31 et seq.; sewers and waste water disposal, §20-66 et seq.

#### **Sec. 4-268. Street openings.**

- (a) **Requirements.** Openings in any street, alley or public place shall be governed by Chapter 16 and by any specifications or policies on street openings adopted by the Common Council.
- (b) A street excavation permit must be obtained prior to any sewer permit being issued for proposed work in the public right of way.
- (c) DPW staff shall be notified no later than one business day prior to any lane closure or two business days prior to a full road closure.
- (d) Any person obtaining a permit to repair, replace, or install new sanitary, storm, or water laterals shall notify the Inspections Division whenever the work is ready for inspection. All work shall be left uncovered until examined and approved by the Department.

(Code 1965, §16.04; Ord 185-04, §1, 1-1-05)

#### **Sec. 4-269. Connections to public sewer.**

(a) **Record of sewers.** The Department of Public Works shall keep a record in on file , for the purpose of showing the size and location of public sewers and the position of the branches, junctions, laterals, and appurtenances.

(b) **Location of branches; new connections.** Information concerning the location of wye branches in the public sewer or of sewer service laterals shall be furnished by the City Engineer or designee. All reasonable care will be taken to ensure the correctness of such information, but such correctness will not be guaranteed. When, in accordance with the measurement furnished, the junction is not found in the public sewer within a distance of three (3) feet from the flow side of the measurement, permission shall be given by the City Engineer or designee to the plumber applying

therefore to make a new connection. All such connections shall be made in accordance with this Chapter and all other required specifications. No connection with any sewer or any part thereof shall be covered without approval of the Inspections Supervisor or the City Engineer or designee, but such inspection and approval shall not in any case constitute a guarantee against imperfection by either the City or the Director.

(c) **Record of connections.** The Inspections Supervisor or City Engineer shall make a record of all sewer connections, showing the location of the lot, the name of the installer, and the location of the connection. These records shall be entered into the GIS system.

(d) **Minimum depth.** A sewer service lateral or building or house sewer shall, where the depth of the main sewer permits, be installed at a minimum depth in residence districts of ten (10) feet below the established sidewalk grade and in commercial or industrial districts at a minimum depth of twelve (12) feet below the established sidewalk grade. Measurements shall be from the top of the sidewalk to the invert or flow line of the sewer. The grade of a sidewalk, where established, may be obtained from the Department of Public Works upon request. (Code 1965, §16.05; Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

#### **Sec. 4-270. Connection to public sewers and water mains required.**

- (a) Whenever public sewers and water mains are laid along and within any public street, alley or place in the City, the Inspections Supervisor may notify in writing all owners or their agents and occupants of all houses, tenements and other buildings used for human habitation situated on lots or parcels of land abutting upon such street, alley or place which is accessible to such sewer and water main, to connect therewith and to connect all interior plumbing upon their respective lots or parcels of land with the sewer in a sanitary manner in accordance with the state plumbing code within thirty (30) days after service of such a notice. Upon a failure to comply, the Inspections Supervisor may cause such connections to be made and the cost thereof to be levied and collected in the same manner as other taxes pursuant to W.S.A. §281.45.
- (b) In a district zoned commercial, light manufacturing or heavy industrial all buildings other than those used for residential purposes shall be connected to storm sewers, where available, upon order of the Inspections Supervisor.
- (c) Whenever public mini-storm sewers or storm laterals are laid along and within any public street, alley or place in the city and ready for use, property owners shall, upon notice from the City, connect to the lateral provided to their particular property.
- (d) A sewer permit shall be obtained from the Inspections Division by a person licensed with the State to perform such work prior to any work being started. Failure of the property owner to connect within the specified time may result in a notice of noncompliance being issued. All connections shall be made in accordance with the requirements of the State Plumbing Code.
- (e) If any such owner, agent or occupant fails to comply with such notice, the Inspections Supervisor shall cause such connections to be made and the cost thereof assessed as a special tax against the lots or parcels of land and the amount thereof shall be levied and collected in the same manner as other taxes, pursuant to W.S.A. §281.45.
- (f) After connection to a water main and public sewer, no septic system shall be constructed or maintained upon any such lot or parcel and shall be abated upon thirty (30) days written notice for such abatement by the Inspections Supervisor. If not so abated, the Inspections Supervisor shall cause the same to be done and the cost thereof assessed as a special tax against the property and the amount shall be levied and collected in the same manner as other taxes, pursuant to W.S.A. §281.45. The abatement should be conducted pursuant to, Wisconsin Administrative Code SPS 383.33.
- (g) At the time when the property is connected to City water, existing water wells shall either be abandoned or permitted for with the City of Appleton to remain in use. Such uses shall be limited to irrigation or similar non-potable uses and shall not be connected with the City water supply.
- (h) At the time when the property is connected to the City sewer, the septic tank shall be abandoned per state requirements set forth in the Wisconsin Administrative Code SPS 383.33. Prior to abandoning the septic tank, a sewer permit shall be obtained from the Inspections Division. The abandonment process shall be inspected by the Inspections Supervisor.
- (e) The City may extend the time for connection hereunder or may grant temporary relief where strict enforcement of this section would work as unnecessary hardship without corresponding public or private benefit.

(Code 1965, §7.04, § 7.04(1)-(4); Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96; Ord 15-97, §1, 3-5-97; Ord 85-97, §1, 10-15-97; Ord 25-12, §1, 3-7-12; Ord 14-13, §1, 7-8-13)

**Sec. 4-271. Discharge of drains and sewers.**

(a) ***Certain discharges prohibited.*** No person shall discharge domestic sewage, industrial wastes, septic tank effluent, or any other pollutant onto the surface of the ground, into any drainage ditch, into any river or stream or into any storm sewer or drain, or permit such materials to be so discharged.

(b) ***Discharges to storm sewers.*** Roof leaders, surface drains, groundwater drains, foundation footing drains and other clearwater drains shall be connected wherever possible with a storm sewer, but they shall not be connected to a building sewer which discharges into a sanitary sewer or private sewage treatment plant. Air conditioning and clearwater drains not described in this subsection shall also discharge to storm drains or sewers, unless special permission is obtained from the Inspections Supervisor in cases where an unnecessary hardship would result and where the spirit of this subsection would be observed. If stormwater or clearwater is being discharged into a sanitary sewer a notice of non-compliance shall be sent to the owner of the property to eliminate the cross-connection..

(c) ***Discharge to public streets.*** No person shall discharge any clearwater directly into a public street or alley from November 1 to March 31, inclusive. No person shall discharge any clearwater directly into a public street or alley from April 1 to October 31, inclusive, without first obtaining permission from the Public Works Director or an authorized representative.

(d) ***Discharge onto sidewalks.*** No person shall permit the regular discharge of water directly onto any sidewalk or other public area. Such discharge shall constitute a nuisance.

(e) ***Other Discharges:***

(1) **Generally.** Where a storm sewer is deemed available or suitable, the City of Appleton may require a property owner to have their sump pump, downspouts or other similar storm water discharges connected to said storm sewer. Such connections shall be installed as required by this Chapter. Otherwise, storm water may be discharged onto the ground surface a minimum of two feet from the foundation. (Note: this shall include the discharge from downspouts) Discharges or run offs shall not be directed so as to flow onto adjacent property or be allowed to accumulate and create ponds of standing water or other public nuisance. Trenching, channeling, or other alterations whereby the flow of storm water is concentrated and where it adversely affects adjacent property shall also be prohibited.

(2) **Drywells.** If drywells are constructed, the drywell shall be installed in such a manner that any overflow from said drywell does not flow onto adjacent property or create any other nuisance as described in this chapter.

(3) **Garage floor drains.** Garage drains that discharge to grade shall discharge to natural grade and shall not be directed as to flow onto adjacent property. The Discharge from a garage drain shall be kept a minimum of 4 (four) feet from the nearest property line.

Nothing contained in this subsection shall act to relieve a person from complying with the other provisions of this section.

(f) ***Curb thimbles:*** The installation of curb thimbles is prohibited. Existing curb thimbles shall cease to be used in the following instances:

- a. ***The street is reconstructed.***
- b. ***A storm lateral is provided to the property.***
- c. ***The drainage from the thimble creates a public nuisance or hazard.***
- d. ***Upon order from the Inspections Supervisor.***

(Code 1965, §16.09; Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96; Ord 186-04, §1, 1-1-05)

**Sec. 4-272. Sealing of unused sewer and water services.**

(a) All sewer and water laterals or building sewers and water services installed and not immediately used shall be securely sealed so as to be watertight. This shall be done by the use of proper fittings and materials manufactured for that purpose and in a manner approved by the Inspection Division.

(b) Before any building connected to city sanitary sewer or water mains is razed or moved to another location, a permit shall be obtained by a person licensed by the State to perform such work from the Inspection Division to disconnect and seal all sanitary sewer and water services serving the premises. Sealing of the sewer and water laterals shall comply with Sec. 4-188. The water service shall be disconnected and sealed at a location point determined by the Water Utility. The disconnections and sealing thereof shall be approved by the Inspection Division before the work is covered.

(c) All water wells which are temporarily or permanently abandoned shall be sealed by a Wisconsin registered well constructor or pump installer after first obtaining a permit from the Inspection Division. The well shall be sealed and a report filed with the State Board of Health in conformance with the State Well Construction and Pump Installation Code.

(Code 1965, §16.12; Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 176-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96; Ord 102-16, §1, 12-13-16)

**Sec. 4-273. Building sewers and building drains.**

(a) Building drains and subdrains under twelve (12) inches inside diameter shall be constructed of materials listed in Table 384.30-3 of the State Plumbing Code, as updated from time to time. .

(b) All building sanitary sewers shall be constructed of materials listed in Table 384.30-3 of the State Plumbing Code, as updated from time to time. This paragraph applies to all new construction including construction after a building was demolished or razed..

(c) Cleanouts shall be installed to comply with Wisconsin Administrative Code SPS 382.35. .

(d) All sewer service laterals and building sewers shall be bedded in clear stone or any other material approved by Department of Public Works staff to the centerline of the pipe. Bedding material shall be washed gravel with the sand removed, or crushed and screened stone with general fines removed. The size of the bedding stone shall be such that one hundred percent (100%) shall pass a one-half (½) inch sieve. . On new installations, where the building has a basement, a clay dam shall be installed on the lateral leading to the building.

(e) Underground building drains shall be laid on original or firm ground or thoroughly compacted material. Voids between such firm foundation and the bottom of the pipe, along its entire length, shall be filled with bedding stone as specified for building sewers.

(f) An approved backwater valve shall be installed in the sanitary sewer lateral of every new building and shall be accessible to the property owner for service or replacement except as provided below. All interior plumbing waste shall pass through the backwater valve. The required backwater valve shall not be installed in the public right-of-way.

**Exception.** A property owner may apply in writing to the plumbing inspector for an exception to the provision of (f). The application must include evidence of the elevation of both the lowest floor level served by sanitary sewer and the nearest downstream manhole to which the sanitary building drain is or will be connected. The plumbing inspector may approve the exception if the elevation of the lowest floor level served by the sanitary sewer is at least one (1) foot higher than the elevation of the nearest manhole to which the sanitary building drain is or will be connected.

(Code 1965, §16.13; Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96, Ord 36-02, §1, 3-25-02)

**Sec. 4-274. Waste pipes and vents.**

(a) Garage drains shall not be connected to foundation footing drains nor to a clearwater sump. Garage drains run to grade shall be directed so as to not flow onto adjacent property. Drains that discharge to grade must discharge to natural grade.

(b) All vent terminals shall extend at least eight (8) inches above the roof at the centerline of the pipe. The joint where a vent terminal passes through the roof shall be made watertight by the use of flashings as approved by SPS.

(c) Dry vents shall be taken off of the horizontal drain they serve above the spring line and the connection shall be made at an angle of forty-five degrees or greater from the centerline of the pipe being served. See Administrative Code SPS 382.31(15)(b) Appendix (Code 1965, §16.14)

#### **Sec. 4-275. Clearwater inspections.**

(a) The building inspection division shall, when deemed necessary by the Director of Public Works or designee thereof, or upon a reasonable request by the owner of record, conduct an inspection of the premises to ensure compliance with the provisions of the code relating to illegal surface or ground water connections into the sanitary sewer system.

(b) A notice of noncompliance shall be issued by the building inspection division to the owner of record of any building found not to be in compliance with the provisions of the code. The notice shall set forth areas of noncompliance and shall order the owner to bring the building into compliance within an established period of time.

(c) Failure to bring the property into compliance within the applicable compliance period shall constitute a violation of this section and shall be subject to the penalties set forth in Sec. 4-24.

(d) **No warranty.** An inspection meeting compliance only indicates that so far as can be reasonably determined by a visual inspection of the premises and review of City records, the premises meets the requirements of this section. Neither the City nor its inspectors assume any liability in the inspection findings, whether compliant or not, and the City does not guarantee or warrant the condition of the premises inspected.

(e) **Not liable.** The City will not be liable for any unsafe and/or unsanitary conditions that exist in any building inspected for clearwater compliance. However, if any such conditions exist, and are noticed by an inspector, authority shall be granted to issue orders to correct such conditions.

(Ord 187-04, §1, 1-1-05; Ord 160-10, §1, 11-23-10; Ord 10-16, §1, 1-12-16)

#### **Sec. 4-276. Grease traps and separators – Commercial Buildings.**

(a) Installation. Grease traps or separators shall be installed wherever greasy wastes are discharged into a building drain or sewer. Such grease traps or separators shall be designed to adequately serve the fixture(s), shall be placed as near as possible to the fixture(s) from which they receive waste and shall be accessible for easy cleaning.

(b) Maintenance. Grease interceptors shall be maintained and cleaned on a regular basis so as to prevent the escape of grease into sanitary sewer laterals and mains. Regular maintenance of grease traps or separators shall be the responsibility of the owner. A record of all maintenance performed on grease interceptors shall be kept on site and readily accessible to be viewed by the City Inspector.

(c) Penalty. Any costs incurred by the City that are the result of having to clean excessive grease from the sanitary sewers (outside of regular scheduled maintenance) may be passed onto the owner of the property responsible for the excessive grease.

#### **Sec. 4-277 Grease Obstructions -Residential Properties**

(a) Residential property owners shall properly dispose of greasy wastes so it does not cause obstructions to occur in the City's sanitary sewer mains.

- (b) Penalty. Any costs incurred by the City that are the result of having to clean excessive grease from the sanitary sewers (outside of regular scheduled maintenance) may be passed onto the owner of the property responsible for the excessive grease.

**Sec. 4-278. Water Supply Systems and Water Service**

**WATER SERVICE.**

(1) Commercial Buildings

(a) Size. The water service or building supply pipe to any building shall be of sufficient size to provide an ample flow of water under maximum use to all fixtures and points of service. Such size shall be determined by standards set forth in the Wisconsin State Plumbing Code.

(2) Residential Buildings.

- a. Size. The minimum size water service for new residential one and two family constructed dwellings shall be either 1" diameter copper or 1.25" diameter plastic, but in all cases, the service shall be large enough to accommodate the anticipated load of the building it is serving. All water service materials shall comply with Table 384.30-7 of the State Plumbing Code.

**Secs. 4-279 – 4-290. Reserved.**

## **DIVISION 2. PERMITS**

### **Sec. 4-291. Permit Required; exception.**

(a) No plumbing shall be done in the City without a permit being first obtained from the Inspections Supervisor and the paying of the proper fee as provided in this division. Such permits may be issued only to persons duly licensed to do plumbing under the laws of the state. Exception. Any person actually owning and occupying a single-family residence may do plumbing within without a license, provided such person secures a permit and the work fully conforms with all code requirements including workmanship, design and materials. Any person assisting such owner shall be a licensed master plumber. Any plumbing shall conform to all provisions of state law, state codes, and City.

(b) Any person, , before beginning active plumbing work, shall obtain a permit.  
(Code 1965, §16.10(1); Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96; Ord 3-06, §1, 1-10-06)

### **Sec. 4-292. Plumbing fees.**

(a) The following fees shall apply to plumbing permits, and no permit shall be valid until the appropriate fee has been paid:

- (1) The amount of the permit fee for any plumbing, sewer or water permit shall be on file in the Office of the City Clerk;
- (2) The amount of the permit fees for residential one- (1-) and two- (2-) family buildings shall be on file in the Office of the City Clerk;
- (3) The amount of the permit fees for multifamily apartment buildings and commercial or industrial structures shall be on file in the Office of the City Clerk.
- (4) The fees in subsections (1) through (3) of this section apply to new and replacement installations. For repair work on existing installations, the permit fee shall be on file in the Office of the City Clerk.
- (5) The amount of the permit fee for manholes and catch basins installed concurrently with laterals of private main shall be on file in the Office of the City Clerk.
- (6) The amount of the permit fee for the abandonment of a septic tank or POWTS shall be on file in the Office of the City Clerk.
- (7) The amount of the permit fee for a water well shall be on file in the Office of the City Clerk.
- (8) The amount of the permit fee for each fixture or appliance connected to the water supply or sewer, including trapped and untrapped openings in both sanitary and storm sewers, shall be on file in the Office of the City Clerk.

(b) Penalties for installation without a permit include tripling the permit fee prescribed in this section at the time when a permit is obtained. Payment of any fee mentioned in this section, however, shall in no way relieve any person of the penalties that may be imposed for violation of this article.

(c) A callback inspection charge shall be established at thirty-five dollars (\$35.00) per callback for all work requiring inspection under plumbing and sewer permit requirements.  
(Code 1965, §16.10(2); Ord 106-97, §1, 12-17-97; Ord 73-19, §1, 7-30-19)

### **Sec. 4-293. Issuance for new or relocated building.**

No permit for plumbing in a new or relocated building shall be issued until:



(1) The Inspections Supervisor is satisfied that all unused sewer and water services to the premises are sealed;

(2) A sewer permit and building permit have been issued; and

(3) The connection fee when required by §20-3 has been paid.

(Code 1965, §16.10(3)(a); Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

**Sec. 4-294. Persons not eligible for permit.**

No plumbing or sewer permit shall be granted to anyone who has failed to comply with this article. No permit shall be issued to any person or to any master plumber against whom an order issued by the Inspections Supervisor is pending. No permit shall be issued to any person who has been found violating or has willfully violated this article. Bad faith or unreasonable delay in the performance of any work covered by this article or failure to respond promptly to official communications shall be deemed sufficient reason for withholding permits, and the master plumber shall be held responsible for the violation of these regulations by himself or any of his employees.

(Code 1965, §16.10(3)(b); Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

**Sec. 4-295. Expiration.**

All permits issued under this division remain valid contingent upon continuous performance of the work named thereon. Any permit issued pursuant to this division shall be void if the authorized work is suspended or abandoned for a period of six (6) months once work has commenced. A permit will automatically expire on the sooner of completion of the work for which it was issued or two (2) years from date of issuance.

(Code 1965, §16.10(3)(c))

**Sec. 4-296. Cancellation for violation.**

The Inspection Supervisor may cancel a permit issued under this division on any job for violation of the license law or codes and ordinances, and to stop work in any case where installation is not being made in compliance with this article.

(Code 1965, §16.10(3)(d); Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

**Sec. 4-297. Cancellation on request of plumber or owner.**

The Inspection Supervisor may cancel a permit issued under this division upon written request of a master plumber or the owner for which the work is being done; provided that acceptable arrangements shall first be made for reissuance of the permit to another master plumber for proper completion of the work. The original permit shall not be canceled until a master plumber applies for and is granted a permit to complete the work. The procedure for requested cancellation and reissuance of permits shall be as follows:

(1) If the master plumber does not complete the entire installation for which he received a permit, he shall immediately notify the Inspections Supervisor in writing requesting cancellation and detailing the extent of the work he has done.

(2) A person who has hired a master plumber may request cancellation in writing and shall then specify the name of the master plumber he is employing to finish the work. If the permit is for single-family owner-occupied home the owner may obtain the second permit if the work is contained to inside the building. For any exterior work, a licensed plumber shall be hired to complete the job.

(3) Any work being performed under the initial permit shall be stopped until a subsequent permit has been issued for completion.

(4) The original permit fee shall apply to the entire job, except that the applicable minimum permit fees set in the fee schedule shall be paid for the second permit. If additional work is included on the subsequent permit, such work shall be listed and any applicable fee shall apply.

(5) If additional fixtures are roughed-in or installed before final inspection, they shall be added to the original permit on the cost-per-fixture basis.  
(Code 1965, §16.10(3)(e); Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

**Secs. 4-298 – 4-315. Reserved.**

### **DIVISION 3. PLANS**

#### **Sec. 4-316. Applicability of division.**

This division shall apply to all additions and alterations exceeding ten (10) plumbing fixtures as well as to plumbing of all new buildings and shall apply to all cases where there is a change of occupancy or use of a building which requires changes to or intended use of the plumbing so as to comply with this article for that occupancy or use. (Code 1965, §16.10(9), Ord 38-02, §1, 3-25-02)

#### **Sec. 4-317. Plans to be approved by City Inspections Division.**

Plans and specifications for plumbing installation identified in Wisconsin Administrative Code SPS 382 Table 382.20-2 are required to be submitted to the City for review and approval. All non-code-complying portions of the plumbing system installed prior to complete plan approval shall be removed and replaced to comply with SPS standards.

(Code 1965, §16.10(4); Ord 176-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

#### **Sec. 4-318. Plans to be approved by the Department of Safety and Professional Services.**

No permits will be issued to commence work on any plumbing project in classifications requiring SPS approval until SPS approval is received by Inspections Supervisor.

(Code 1965, §16.10(5))

#### **Sec. 4-319. Compliance with approved plans required.**

Actual installation shall conform with the plans approved pursuant to this Chapter. Any changes shall to plans be submitted to the Inspections Supervisor for approval prior to installation. All work must also comply with the approved specifications.

(Code 1965, §16.10(6))

#### **Sec. 4-320. Stamping and signing of plans.**

A Wisconsin registered architect, engineer or plumbing designer shall sign and seal or stamp all plans and accompanying specifications in accordance with chapter A-E 2. A master plumber may design and submit for approval plumbing plans and specifications for a plumbing system which he is to install. Each sheet of plans and specifications the master plumber submits shall be signed, dated and include his state master plumber's license number. Where more than one (1) sheet is bound together into one (1) volume, only the title sheet or index sheet need be signed and dated by the person responsible for their preparation, provided the signed sheet clearly identifies the other sheets comprising the bound volume.

(Code 1965, §16.10(7))

#### **Sec. 4-321. Submission of plans.**

All plans, preliminary or complete, shall be submitted in duplicate. Work shall not commence until written approval for the preliminary or complete plans is received from SPS or the Inspections Division. Sufficient data and information shall be submitted to allow staff to determine if the installation and its performance will meet the requirements of the State Plumbing Code. The data and information shall be a part of or shall accompany all plans submitted for review. Plans shall be examined in the order of their receipt.

(Code 1965, §16.10(8))

#### **Sec. 4-322. Plan examination fees.**

(a) Plan examination fees for preliminary or complete plans shall accompany the plans and specifications when submitted. If the Inspections Division determines upon review of the plans that inadequate fees were provided, the additional fee shall be provided prior to departmental approval. Written approval shall not be granted until all

applicable fees have been paid.

(b) The plan examination fees shall be as established by SPS.

(c) Plan examination fees may be adjusted by ordinance. .

(Code 1965, §16.10(10); Ord 176-93, §1, 10-19-93; Ord 48-94, §1, 4-6-94; Ord 118-96, §1, 12-18-96; Ord 25-12, §1, 3-7-12)

**Sec. 4-323. Revisions.**

After written approval is granted, if the approved plans are changed, a revision with applicable fees shall be submitted by the architect, engineer, designer or master plumber responsible for the design. . If the method of installation differs from the approved design, an as-built drawing shall be submitted by the architect, engineer, designer or master plumber responsible for the design.

(Code 1965, §16.10(11); Ord 176-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

**Sec. 4-324. Liability for defects in work.**

In granting approval of plans, specifications, products, devices or materials, the Inspections Division does not hold itself liable for any defects in construction, nor for any damages that may result from the specific installation.

(Code 1965, §16.10(12); Ord 176-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

**Sec. 4-325. Copy of plans to be kept at construction site.**

The architect, professional engineer, registered designer, owner or plumbing contractor shall keep at the construction site one (1) set of plans bearing the stamp of approval of the respective department.

(Code 1965, §16.10(13))

**Secs. 4-326 – 4-340. Reserved.**

## ARTICLE V. PLUMBING\*

### DIVISION 1. GENERALLY

#### Sec. 4-261. Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

*A-E* shall mean the Wisconsin Examining Board of Architects, Landscape Architects, Professional Engineers, Designers, Professional Land Surveyors, and Registered Interior.

*Clay dam* shall mean a deposit of soil, normally clay or a mix of clay and other soils, that is placed somewhere on a sanitary lateral leading to a building with a basement to help prevent stormwater collected by the sewer mains from following the lateral into a basement and creating potential for water damage

*Clearwater* shall mean storm water, ground water and wastewater having no impurities or where impurities are below a minimum concentration considered harmful by SPS, including, but not limited to: non-contact cooling water, condensate drainage from refrigeration compressors and air conditioning equipment, drainage of water used for equipment chilling purposes and cooled condensate from steam heating systems.

*Curb Thimble* shall mean a conduit that is run underground from a building through the curb that conveys storm water onto the street.

*Discharge* shall mean water that is directed in such a manner that it flows onto the ground or into a storm sewer system. Discharge includes but is not limited to clearwater, water from sump pumps, and water and snow melt from downspouts and roofs.

*Drywell* shall mean a structure or excavation installed in the ground designed to collect storm water from downspouts, sump pumps, or other sources of storm water.

*Groundwater* shall mean any of the waters of the state, as designated in W.S.A. §281.01(18), as amended from time to time, occurring in a saturated subsurface geological formation of rock or soil.

*Inspections Supervisor* shall mean the City of Appleton Inspections Supervisor or designee.

*Plumbing* has the meaning designated in W.S.A. §145.01(10), as amended from time to time.

*Plumbing* means:

~~———— (1) All piping, fixtures, appliances and appurtenances in connection with the water supply and drainage systems within a building and to a point from three (3) to five (5) feet outside of the building.~~

~~———— (2) The construction and connection of any drain or waste pipe carrying domestic sewage from a point within three (3) feet outside of the foundation walls of any building with the service lateral at the curb or other disposal terminal, including private domestic sewage treatment and disposal systems and the alteration of any such system, drain or waste pipe, except minor repairs to faucets, valves, pipes, appliances and removing of stoppages.~~

~~———— (3) The water service piping from a point within three (3) to five (5) feet outside of the foundation walls of any building to the mains in the street, alley or other terminal and the connecting of domestic hot water storage tanks, water softeners and water heaters with the water supply system.~~

~~———— (4) The water pressure system, other than municipal systems as provided in W.S.A. chapter 144.~~

~~———— (5) A plumbing and drainage system so designed and vent piping so installed as to keep the air within the system in free circulation and movement and to prevent with a margin of safety unequal air pressures of such force as~~

~~might blow, siphon or affect trap seals or retard the discharge from plumbing fixtures or permit sewer air to escape.~~  
POWTS shall mean private onsite waste treatment system.

Private sanitary lateral shall mean the portion of the sanitary sewer that extends from just inside a building to the connection at the main as defined in the City of Appleton Sanitary Lateral Repair Policy, as amended from time to time.

Run off shall mean storm water and precipitation, including rain, snow or ice melt, or similar water that moves on land surface via sheet or channelized flow.

*Sewer service lateral* means that part of the drainage system extending from the property line to the connection with the main sewer.

Single-Family owner-occupied shall mean a single-family dwelling that is owned and occupied by the permit applicant. Single Family owner-occupied does not include condominiums, owner-occupied duplexes, or owner-occupied two-family buildings.

Spring Line shall mean the point at which a dry vent connects to a drain branch.

SPS shall mean the Wisconsin Department of Safety and Professional Services.

State Plumbing Code shall mean Wisconsin Administrative Code SPS chapters 380 through 387, as amended from time to time.

Storm water shall mean water that originates from rain or snow and includes ice melt.

(Code 1965, §16.02);

**Cross reference(s)**--Definitions and rules of construction generally, §1-2, Utilities, ch. 20.

**State law reference(s)**--Plumbing, W.S.A. §145.01 et seq.; state licensing of plumbers, W.S.A. §145.04(2).

#### **Sec. 4-262. State plumbing code adopted.**

The Wisconsin ~~State Administrative Plumbing Code adopted by the State Board of Health, Wisconsin Administrative Code~~ SPS chapters ~~382, 383 and 384~~ 380 through 387; and W.S.A. chapter 145, as amended from time to time, are hereby adopted by reference and made a part of this article. The provisions thereof and of this article shall govern all plumbing, private sewage disposal, and drainage work and no plumbing, private sewage disposal, ~~and/or~~ drainage work shall be done except in accordance with the adopted codes and this article.

(Code 1965, §16.01; Ord 85-97, §1, 10-15-97)

#### **Sec. 4-263. Inspection of new work.**

The Inspections Supervisor shall be notified to allow for inspection of work regulated under this article in accordance with requirements of Article II of this chapter ~~and of the State Plumbing Code~~. Notification shall include the owner's name, correct address of the property, and name of the master plumber responsible for the installation. Upon approval of the underground piping, the Inspections Supervisor shall identify the approved underground piping with a notice in a visible location. When rough-in work is approved, a tag indicating such approval will be placed ~~upon the work in the basement and~~ on each floor level where plumbing is installed. No work shall be ~~enclosed on any floor level where such tag is not in place~~ covered without approval from the Inspections Supervisor. Such inspection and approval shall not in any case constitute a guarantee against imperfection by either the City or the Inspections Supervisor.

(Code 1965, §16.11; Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

#### **Sec. 4-264. Inspection of rental properties, relocated buildings.**

(a) All rentable properties, upon becoming vacant, may be inspected by the Inspections Supervisor and their sanitary condition determined. If the plumbing or any work covered by this article is in an unsanitary condition or a

menace to health or safety, ~~the Director shall report to the Health Officer and~~ the premises shall be repaired and put in a sanitary condition before a new occupant takes possession.

(b) The plumbing in buildings moved from one lot or location to another shall be inspected by the Inspections Supervisor and, when found necessary, tested in a manner satisfactory to the ~~Director~~ Inspections Supervisor at the expense of the owner. If plumbing is found unsafe or unsanitary, the plumbing shall be repaired or remodeled and made to reasonably comply with this article.

(Code 1965, §16.08; Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

#### **Sec. 4-265. Permit required for plumbing work in public right-of-way.**

(a) No person shall engage in or work at plumbing in the public right-of-way without the following conditions first being met:

- (1) The applicant shall obtain a street excavation permit from the Department of Public Works.
- (2) The applicant shall file with the City Clerk proof of workers compensation, automobile and general liability insurance equal to or greater than that required by the City and approved by the City's Risk Manager, and it shall be kept in full force and effect for one (1) year after the work has been completed.
- (3) The applicant shall file with the Department of Public Works a permit bond in the penal sum of five thousand dollars (\$5,000.00) executed by the applicant as principal and a surety company authorized to do business in the State of Wisconsin, running in favor of the City so that in the event the City should suffer any loss or damage by any negligence, malfeasance or misfeasance in the conduct of the work performed under this section shall have the right to institute an action for recovery against the applicant and the surety upon such bond. The bond must further state that the applicant shall fully comply with all provisions of State law and City ordinances as applicable and that the applicant will save and indemnify the City against any costs, expenses or damages which may in any way accrue against the City due to the work performed under this section, and will keep the City harmless against all liabilities, judgments, costs and expenses as a consequence of the work.

(Code 1965, §16.06; Ord 32-92, §1, 3-18-92; Ord 174-93, §1 10-19-93; Ord 53-94, §1, 4-20-94; Ord 118-96, §1, 12-18-96; Ord 101-16, §1, 12-13-16)

#### **Sec. 4-266. Correction of unsanitary installations.**

When ~~directed by the Health Officer or upon written and signed complaints are received of any person to the Health Officer~~ that work covered by this article is contrary to the ordinances of the city or is a menace to health, the Inspections Supervisor can shall investigate the cause for complaint on the premises. ~~He A shall report hisof the findings in writing to the Health Officer,~~ suggesting such changes and corrections as are necessary to put the premises in proper sanitary condition shall be made. ~~The Director may also make such report at his own discretion or upon written and signed complaint made to him.~~ The Inspections Supervisor Health Officer thereupon shall direct such changes and corrections to be made as he deems necessary, and fix set a time for having the changes and corrections done. Failure to comply may result in legal action against the property owner.

(Code 1965, §16.07; Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

#### **Sec. 4-267. ~~Supervision~~ Inspection of sewer and water services.**

All sewer service laterals and water service pipes installed on private property shall be inspected by the Inspections Supervisor, except t. hat The portions of the sewer or water service laterals installed or repaired ~~by the City Water Utility~~ from the water main to the private property line, shall be under the supervision of the ~~inspected by the Inspections Supervisor, and n~~ No service pipe shall be laid and no opening into or connection with a sewer service lateral, public sewer or water main shall be made, including the relaying, replacing or repairing of the lateral, sewer or water main, except under the observation of the Inspections Supervisor. his direction. All work involving sanitary, storm, or water mains and laterals shall be left uncovered until examined and approved.

(Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

**Cross reference(s)**--Water utility, §20-31 et seq.; sewers and waste water disposal, §20-66 et seq.

**Sec. 4-268. Street openings.**

- (a) **Requirements.** Openings in any street, alley or public place shall be governed by Chapter 16 and by any specifications or policies on street openings adopted by the Common Council.
- (b) A street excavation permit must be obtained prior to any sewer permit being issued for proposed work in the public right of way.
- (c) DPW staff shall be notified no later than one business day prior to any lane closure or two business days prior to a full road closure.
- (d) ~~(b)~~ Any person ~~receiving-obtaining~~ a permit to ~~connect to a storm sewer repair, replace, or install new sanitary, storm, or water laterals~~ shall notify the Inspections Division whenever the work is ready for inspection. All work shall be left uncovered until examined and approved by the Department.

(Code 1965, §16.04; Ord 185-04, §1, 1-1-05)

**Sec. 4-269. Connections to public sewer.**

(a) **Record of sewers.** The ~~Director-Department~~ of Public Works shall keep a record in ~~a book-card on~~ file ~~or plat~~, for the purpose of showing the size and location of public sewers and the position of the branches, junctions, laterals, and appurtenances.

(b) **Location of branches; new connections.** Information concerning the location of wye branches in the public sewer or of sewer service laterals shall be furnished by the City Engineer or designee. All reasonable care will be taken to ensure the correctness of such information, but such correctness will not be guaranteed. When, in accordance with the measurement furnished, the junction is not found in the public sewer within a distance of three (3) feet from the flow side of the measurement, permission shall be given by the ~~Inspection Supervisor~~ City Engineer or designee to the plumber applying therefore to make a new connection. All such connections shall be made in ~~a manner directed by the Inspection Supervisor~~ accordance with this Chapter and all other required specifications. No connection with any sewer or any part thereof shall be covered without ~~permission approval~~ of the Inspections Supervisor or the City Engineer or designee, but such inspection and approval shall not in any case constitute a guarantee against imperfection by either the City or the Director. ~~The permit shall be at all times upon the work and exhibited to any police or other officer of the City.~~

(c) **Record of connections.** The Inspections Supervisor or City Engineer shall ~~keep-make~~ a record ~~in a book or card file~~ of all sewer connections, showing the location of the lot, ~~the name of the owner~~, the name of the installer, and the location of the connection. These records shall be entered into the GIS system.

(d) **Minimum depth.** A sewer service lateral or building or house sewer shall, where the depth of the main sewer permits, be installed at a minimum depth in residence districts of ten (10) feet below the established sidewalk grade and in commercial or industrial districts at a minimum depth of twelve (12) feet below the established sidewalk grade. Measurements shall be from the top of the sidewalk to the invert or flow line of the sewer. The grade of a sidewalk, where established, may be obtained ~~in the Office of the City Engineer from the Department of Public Works~~ upon request.

(Code 1965, §16.05; Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

**Sec. 4-270. Connection to public sewers and water mains required.**

- (a) Whenever public sewers and water mains are laid along and within any public street, alley or place in the City ~~and ready for use~~, the Inspections Supervisor ~~shall may~~ notify in writing all owners or their agents and occupants of all houses, tenements and other buildings used for human habitation situated on lots or parcels of land abutting upon such street, alley or place which is accessible to such sewer and water main, to connect therewith and to connect all ~~bathrooms, water closets, lavatories, sinks and urinals~~ interior plumbing upon their respective lots or parcels of land with the sewer in a sanitary manner in accordance with the state plumbing code within thirty (30) days after service of such a notice. Upon a failure to comply, the Inspections Supervisor may cause such connections to be made and the cost thereof to be levied and collected in the same manner as other taxes pursuant to W.S.A. §281.45.



(b) In a district zoned commercial, light manufacturing or heavy industrial all buildings other than those used for residential purposes shall be connected to storm sewers, where available, upon order of the Inspections Supervisor.

(c) Whenever public mini-storm sewers or storm laterals are laid along and within any public street, alley or place in the city and ready for use, property owners shall, upon notice from the City, connect to the ~~facility~~ lateral provided to their particular property.

~~(d) All connections shall be in a manner in accordance with the State Plumbing Code. Failure of the property owner to connect within the time period specified in said notice shall result in said connection being made by the City of Appleton and all charges being assessed against the property as a special charge. A sewer permit shall be obtained from the Inspections Division by a person licensed with the State to perform such work prior to any work being started. Failure of the property owner to connect within the specified time may result in a notice of noncompliance being issued. All connections shall be made in accordance with the requirements of the State Plumbing Code.~~

~~(ee) If any such owner, agent or occupant shall fail to comply with such notice, the Inspections Supervisor or the Finance Committee, shall cause such connections to be made and the cost thereof assessed as a special tax against the lots or parcels of land and the amount thereof shall be levied and collected in the same manner as other taxes, pursuant to W.S.A. §144.06281.45.~~

~~(df) After connection to a water main and public sewer, no septic system shall be constructed or maintained upon any such lot or parcel and shall be abated upon thirty (30) days written notice for such abatement by the Inspections Supervisor. If not so abated, the Inspections Supervisor shall cause the same to be done and the cost thereof assessed as a special tax against the property and the amount shall be levied and collected in the same manner as other taxes, pursuant to W.S.A. §144.06281.45. The abatement should be conducted pursuant to, Wisconsin Administrative Code SPS 383.03(2)33.~~

~~(g) At the time when the property is connected to City water, existing water wells shall either be abandoned or permitted for with the City of Appleton to remain in use. Such uses shall be limited to irrigation or similar non-potable uses and shall not be connected with the City water supply.~~

~~(h) At the time when the property is connected to the City sewer, the septic tank shall be abandoned per state requirements set forth in the Wisconsin Administrative Code SPS 383.33. Prior to abandoning the septic tank, a sewer permit shall be obtained from the Inspections Division. The abandonment process shall be inspected by the Inspections Supervisor.~~

(e) The ~~Finance Committee~~ City may extend the time for connection hereunder or may grant temporary relief where strict enforcement of this section would work as unnecessary hardship without corresponding public or private benefit.

(Code 1965, §7.04, § 7.04(1)-(4); Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96; Ord 15-97, §1, 3-5-97; Ord 85-97, §1, 10-15-97; Ord 25-12, §1, 3-7-12; Ord 14-13, §1, 7-8-13)

#### Sec. 4-271. Discharge of drains and sewers.

(a) *Certain discharges prohibited.* No person shall discharge domestic sewage, industrial wastes, ~~or~~ septic tank effluent, or any other pollutant onto the surface of the ground, into any drainage ditch, into any river or stream or into any storm sewer or drain, or permit such materials to be so discharged.

(b) *Discharges to storm sewers.* Roof leaders, surface drains, groundwater drains, foundation footing drains and other clear-water drains shall be connected wherever possible with a storm sewer, but they shall not be connected to a building sewer which discharges into a sanitary sewer or private sewage treatment plant. Air conditioning and clear water drains not described in this subsection shall also discharge to storm drains or sewers, unless special permission is obtained from the Inspections Supervisor in cases where an unnecessary hardship would result and where the spirit of this subsection would be observed. If stormwater or clear-water is being discharged into a sanitary sewer ~~the Inspection Supervisor shall give the offending person fifteen (15) days notice to disconnect. Failure to disconnect after such notice shall authorize the Director to cause disconnection and assessment of the costs of such disconnection against the property involved. The Director may, in the alternative, institute action for violation of this subsection a notice of non-compliance shall be sent to the owner of the property to eliminate the cross-connection.~~

(c) **Discharge to public streets.** No person shall discharge any clear-water directly into a public street or alley from November 1 to March 31, inclusive. No person shall discharge any clear-water directly into a public street or alley from April 1 to October 31, inclusive, without first obtaining permission from the Public Works Director or an authorized representative.

(d) **Discharge onto sidewalks.** No person shall permit the regular discharge of water directly onto any sidewalk or other public area. Such discharge shall constitute a nuisance.

~~—(e) **Other discharges.** Where a storm sewer is not available or suitable, as determined by the City of Appleton Engineering Department, clear water shall be discharged onto the ground surface at least four (4) feet from the foundation of the building (this shall include discharge from downspouts). Such discharge shall not be directed so as to flow on adjacent property nor shall the discharge be allowed to accumulate and create ponds of standing water or other public nuisance. Nothing contained in this subsection shall act to relieve a person from complying with the other provisions of this section.~~

(e) **Other Discharges:**

(1) **Generally.** Where a storm sewer is deemed available or suitable, the City of Appleton may require a property owner to have their sump pump, downspouts or other similar storm water discharges connected to said storm sewer. Such connections shall be installed as required by this Chapter. Otherwise, storm water may be discharged onto the ground surface a minimum of two feet from the foundation. (Note: this shall include the discharge from downspouts) Discharges or run offs shall not be directed so as to flow onto adjacent property or be allowed to accumulate and create ponds of standing water or other public nuisance. Trenching, channeling, or other alterations whereby the flow of storm water is concentrated and where it adversely affects adjacent property shall also be prohibited.

(2) **Drywells.** If drywells are constructed, the drywell shall be installed in such a manner that any overflow from said drywell does not flow onto adjacent property or create any other nuisance as described in this chapter.

(3) **Garage floor drains.** Garage drains that discharge to grade shall discharge to natural grade and shall not be directed as to flow onto adjacent property. The Discharge from a garage drain shall be kept a minimum of 4 (four) feet from the nearest property line.

Nothing contained in this subsection shall act to relieve a person from complying with the other provisions of this section.

(f) **Curb thimbles:** The installation of curb thimbles is prohibited. Existing curb thimbles shall cease to be used in the following instances:

a. **The street is reconstructed.**

b. **A storm lateral is provided to the property.**

c. **The drainage from the thimble creates a public nuisance or hazard.**

d. **Upon order from the Inspections Supervisor.**

(Code 1965, §16.09; Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96, Ord 186-04, §1, 1-1-05)

**Sec. 4-272. Sealing of unused sewer and water services.**

(a) All sewer and water laterals or building sewers and water services installed and not immediately used shall be securely sealed so as to be watertight. This shall be done by the use of proper fittings and materials manufactured for that purpose and in a manner approved by the Inspection Division.

(b) Before any building connected to city sanitary sewer or water mains is razed or moved to another location, a permit shall be obtained by a person licensed by the State to perform such work from the Inspection Division to disconnect and seal all sanitary sewer and water services serving the premises. Sealing of the sewer and water laterals shall comply with Sec. 4-188. The water service shall be disconnected and sealed at a location point determined by the Water Utility. The disconnections and sealing thereof shall be approved by the Inspection Division before the

work is covered.

(c) All water wells which are temporarily or permanently abandoned shall be sealed by a Wisconsin registered well constructor or pump installer after first obtaining a permit from the Inspection Division. The well shall be sealed and a report filed with the State Board of Health in conformance with the State Well Construction and Pump Installation Code.

(Code 1965, §16.12; Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 176-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96; Ord 102-16, §1, 12-13-16)

#### **Sec. 4-273. Building sewers and building drains.**

(a) Building drains and subdrains under twelve (12) inches inside diameter shall be constructed of materials listed in Table 384.30-3 of the State Plumbing Code, as updated from time to time. asphalt-coated cast iron, or copper, except that the Inspection Supervisor may grant permission for the use of other materials for specific reasons upon written request. Written request shall be made to the Inspection Supervisor for approval of materials to be used for building drains and subdrains and for wastes and vents where acid and chemical wastes are to be conveyed.

(b) All building sanitary sewers shall be constructed of materials listed in Table 384.30-3 of the State Plumbing Code, as updated from time to time. This paragraph applies to all new construction including construction after a building was demolished or razed, east iron, SDR 35 or schedule 40 PVC or ABS pipe. No new building or reconstructed building shall be connected to a sanitary sewer lateral unless the lateral is constructed of material complying with this section and the State of Wisconsin Plumbing Code.

(c) Cleanouts shall be installed to comply with Wisconsin Administrative Code SPS 382.35. Every soil or waste stack shall be provided with a cleanout. This cleanout shall be twenty eight (28) to sixty (60) inches above the basement or lowest floor.

(d) All sewer service laterals and building sewers shall be bedded in clear stone or any other material approved by Department of Public Works staff to the centerline of the pipe. Bedding material shall be washed gravel with the sand removed, or crushed and screened stone with general fines removed. The size of the bedding stone shall be such that one hundred percent (100%) shall pass a one-half (½) inch sieve. . On new installations, where the building has a basement, a clay dam shall be installed on the lateral leading to the building.

(e) Underground building drains shall be laid on original or firm ground or thoroughly compacted material. Voids between such firm foundation and the bottom of the pipe, along its entire length, shall be filled with bedding stone as specified for building sewers.

(f) An approved backwater valve shall be installed in the sanitary sewer lateral of every new building and shall be accessible to the property owner for service or replacement except as provided below. All interior plumbing waste shall pass through the backwater valve. The required backwater valve shall not be installed in the public right-of-way.

**Exception.** A property owner may apply in writing to the plumbing inspector for an exception to the provision of (f). The application must include evidence of the elevation of both the lowest floor level served by sanitary sewer and the nearest downstream manhole to which the sanitary building drain is or will be connected. The plumbing inspector may approve the exception if the elevation of the lowest floor level served by the sanitary sewer is at least one (1) foot higher than the elevation of the nearest manhole to which the sanitary building drain is or will be connected.

(Code 1965, §16.13; Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96, Ord 36-02, §1, 3-25-02)

#### **Sec. 4-274. Waste pipes and vents.**

(a) Garage drains shall not be connected to foundation footing drains nor to a clear-water sump. Garage drains run to grade shall be directed so as to not flow onto adjacent property. Drains that discharge to grade must discharge to natural grade.

(b) All vent terminals shall extend at least eight (8) inches above the roof at the centerline of the pipe, ~~but not more than twelve (12) inches above the roof.~~ The joint where a vent terminal passes through the roof shall be made watertight by the use of flashings as approved by SPS-copper or lead flashings. ~~The top of the flashing shall extend over the top of the vent and turn down into the vent.~~

(c) Dry vents shall be taken off of the horizontal drain they serve above the spring line and the connection shall be made at an angle of forty-five degrees or greater from the centerline of the pipe being served. See Administrative Code SPS 382.31(15)(b) Appendix

~~Where the only vent serving a fixture is a wet vent, the unit discharge into such wet vent shall be limited to one (1) fixture unit for a one and one half (1½) inch vent or two (2) fixture units for a two inch vent pipe.~~

~~—(d) Wherever possible, all changes in direction from vertical to horizontal on any vent shall be made above the overflow rim of the fixture. Where a vent is connected to a horizontal soil or waste pipe and is not a wet vent, such vent shall, where impossible to rise vertically, rise at not less than twenty two and one half (22½) degrees until the bottom of the horizontal vent is above the horizontal soil or waste pipe which it serves. The horizontal vent shall have a slope of not less than one fourth (¼) inch per foot, shall be installed with drainage fittings, and shall be provided with a cleanout twenty eight (28) to thirty (30) inches above the floor.~~

~~(Code 1965, §16.14)~~

#### **Sec. 4-275. Clearwater inspections.**

(a) The building inspection division shall, when deemed necessary by the Director of Public Works or designee thereof, or upon a reasonable request by the owner of record, conduct an inspection of the premises to ensure compliance with the provisions of the code relating to illegal surface or ground water connections into the sanitary sewer system.

(b) A notice of noncompliance shall be issued by the building inspection division to the owner of record of any building found not to be in compliance with the provisions of the code. The notice shall set forth areas of noncompliance and shall order the owner to bring the building into compliance within an established period of time.

(c) Failure to bring the property into compliance within the applicable compliance period shall constitute a violation of this section and shall be subject to the penalties set forth in Sec. 4-24.

(d) **No warranty.** An inspection meeting compliance only indicates that so far as can be reasonably determined by a visual inspection of the premises and review of City records, the premises meets the requirements of this section. Neither the City nor its inspectors assume any liability in the inspection findings, whether compliant or not, and the City does not guarantee or warrant the condition of the premises inspected.

(e) **Not liable.** The City will not be liable for any unsafe and/or unsanitary conditions that exist in any building inspected for clearwater compliance. However, if any such conditions exist, and are noticed by an inspector, authority shall be granted to issue orders to correct such conditions.

(Ord 187-04, §1, 1-1-05; Ord 160-10, §1, 11-23-10; Ord 10-16, §1, 1-12-16)

#### **Sec. 4-276. Grease traps and separators – Commercial Buildings.**

(a) Installation. Grease traps or separators shall be installed wherever greasy wastes are discharged into a building drain or sewer. Such grease traps or separators shall be designed to adequately serve the fixture(s), shall be placed as near as possible to the fixture(s) from which they receive waste and shall be accessible for easy cleaning.

(b) Maintenance. Grease interceptors shall be maintained and cleaned on a regular basis so as to prevent the escape of grease into sanitary sewer laterals and mains. Regular maintenance of grease traps or separators shall be the responsibility of the owner. A record of all maintenance performed on grease interceptors shall be kept on site and readily accessible to be viewed by the City Inspector.

(c) Penalty. Any costs incurred by the City that are the result of having to clean excessive grease from the sanitary sewers (outside of regular scheduled maintenance) may be passed onto the owner of the property responsible for the excessive grease.

**Sec. 4-277 Grease Obstructions -Residential Properties**

(a) Residential property owners shall properly dispose of greasy wastes so it does not cause obstructions to occur in the City's sanitary sewer mains.

(b) Penalty. Any costs incurred by the City that are the result of having to clean excessive grease from the sanitary sewers (outside of regular scheduled maintenance) may be passed onto the owner of the property responsible for the excessive grease.

**Sec. 4-278. Water Supply Systems and Water Service ~~WATER SUPPLY SYSTEMS.~~**

**WATER SERVICE.**

(1) Commercial Buildings

(a) Size. The water service or building supply pipe to any building shall be of sufficient size to provide an ample flow of water under maximum use to all fixtures and points of service. Such size shall be determined by standards set forth in the Wisconsin State Plumbing Code.

(2) Residential Buildings.

a. Size. The minimum size water service for new residential one and two family constructed dwellings shall be either 1" diameter copper or 1.25" diameter plastic, but in all cases, the service shall be large enough to accommodate the anticipated load of the building it is serving. All water service materials shall comply with Table 384.30-7 of the State Plumbing Code.

**Secs. 4-2796 – 4-290. Reserved.**

## DIVISION 2. PERMITS

### Sec. 4-291. Permit Required; exception.

(a) No plumbing shall be done in the City without a permit being first ~~issued-obtained therefore by from~~ the Inspections Supervisor and the paying of the proper fee as provided in this division. Such permits may be issued only to persons duly licensed to do plumbing under the laws of the state ~~and bonded as required by §4-265; provided that~~ Exception. aAny person actually owning and occupying a single-family residence may do plumbing ~~therewithin~~ without ~~the a~~ license ~~and bond, although provided~~ such person ~~shall~~ secure a permit and ~~the~~ work ~~shall~~ fully conform with all code requirements ~~as to including~~ workmanship, design and materials. Any person assisting such owner shall be a licensed master plumber. Any plumbing shall conform to all provisions of state law, ~~and~~ state codes, ~~and the~~ City ordinances of the city.

(b) Any person, ~~desiring to do plumbing shall~~, before beginning active plumbing work, ~~shall obtain file a permit with the Inspection Supervisor upon application blanks furnished by the City, a description of the property and the nature of the work to be done. A plan or sketch showing the location and manner of installing the work shall be furnished upon request of the Director. Plumbing plans and specifications for all buildings or structures requiring industrial commission approval shall be presented to the Director before a permit is granted.~~

(Code 1965, §16.10(1); Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96; Ord 3-06, §1, 1-10-06)

### Sec. 4-292. Plumbing fees.

(a) The following fees shall apply to plumbing permits, and no permit shall be valid until the appropriate fee has been paid:

- (1) The amount of the permit fee for any plumbing, sewer or water permit shall be on file in the Office of the City Clerk;
- (2) The amount of the permit fees for residential one- (1-) and two- (2-) family buildings shall be on file in the Office of the City Clerk;
- (3) The amount of the permit fees for multifamily apartment buildings and commercial or industrial structures shall be on file in the Office of the City Clerk.
- (4) The fees in subsections (1) through (3) of this section apply to new and replacement installations. For repair work on existing installations, the permit fee shall be on file in the Office of the City Clerk.
- (5) The amount of the permit fee for manholes and catch basins installed concurrently with laterals of private main shall be on file in the Office of the City Clerk.
- (6) The amount of the permit fee for ~~a the abandonment of a~~ septic tank or POWTS ~~and private disposal system~~ shall be on file in the Office of the City Clerk.
- (7) The amount of the permit fee for a water well shall be on file in the Office of the City Clerk.
- (8) The amount of the permit fee for each fixture or appliance connected to the water supply or sewer, including trapped and untrapped openings in both sanitary and storm sewers, shall be on file in the Office of the City Clerk.

(b) ~~The p~~Penalties for installation without a permit ~~shall be include~~ tripling the permit fee prescribed in this section at the time when a permit is obtained. Payment of any fee mentioned in this section, however, shall in no way relieve any person of the penalties that may be imposed for violation of this article.

(c) A callback inspection charge shall be established at thirty-five dollars (\$35.00) per callback for all work requiring inspection under plumbing and sewer permit requirements.

(Code 1965, §16.10(2); Ord 106-97, §1, 12-17-97; Ord 73-19, §1, 7-30-19)

**Sec. 4-293. Issuance for new or relocated building.**

No permit for plumbing in a new or relocated building shall be issued until:

- (1) The Inspections Supervisor is satisfied that all unused sewer and water services to the premises are sealed;
- (2) A sewer permit and building permit have been issued; and
- (3) The connection fee when required by §20-3 has been paid.

(Code 1965, §16.10(3)(a); Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

**Sec. 4-294. Persons not eligible for permit.**

No plumbing or sewer permit shall be granted to anyone who has failed to comply with this article. No permit shall be issued to any person or to any master plumber against whom an order issued by the Inspections Supervisor is pending. No permit shall be issued to any person who has been found violating or has willfully violated this article. Bad faith or unreasonable delay in the performance of any work covered by this article or failure to respond promptly to official communications shall be deemed sufficient reason for withholding permits, and the master plumber shall be held responsible for the violation of these regulations by himself or any of his employees.

(Code 1965, §16.10(3)(b); Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

**Sec. 4-295. Expiration.**

All permits issued under this division ~~are good- remain valid for a contingent upon~~ continuous performance of the work named thereon. ~~Permits will automatically expire when work ceases for a period of sixty (60) days without good and reasonable cause for such cessation of work. Any permit issued pursuant to this division shall be void if the authorized work is suspended or abandoned for a period of six (6) months once work has commenced.~~ A permit will automatically expire on the sooner of completion of the work for which it was issued or two (2) years from date of issuance.

(Code 1965, §16.10(3)(c))

**Sec. 4-296. Cancellation for violation.**

The Inspection Supervisor may cancel a permit issued under this division on any job for violation of the license law or codes and ordinances, and to stop work in any case where installation is not being made in compliance with this article.

(Code 1965, §16.10(3)(d); Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

**Sec. 4-297. Cancellation on request of plumber or owner.**

The Inspection Supervisor may cancel a permit issued under this division upon written request of a master plumber or the owner for which the work is being done; provided that acceptable arrangements shall first be made for reissuance of the permit to another master plumber for proper completion of the work. The original permit shall not be canceled until a master plumber applies for and is granted a permit to complete the work. The procedure for requested cancellation and reissuance of permits shall be as follows:

- (1) If the master plumber does not complete the entire installation for which he received a permit, he shall immediately notify the Inspections Supervisor in writing requesting cancellation and detailing the extent of the work he has done.
- (2) ~~The A~~ person who has hired ~~the a~~ master plumber may request cancellation in writing and shall then specify the name of the master plumber he is employing to finish the work. If the permit is for single-family owner-occupied home the owner may obtain the second permit if the work is contained to inside

the building. For any exterior work, a licensed plumber shall be hired to complete the job.

- (3) ~~The Any~~ work being performed under the initial permit shall be stopped until a subsequent permit has been issued for completion.
- (4) The original permit fee shall apply to the entire job, except that the applicable minimum permit fee ~~of fifteen dollars (\$15.00) as set in the fee schedule~~ shall be paid for the second permit. If additional work is included on the new subsequent permit, such work shall be listed and ~~the any applicable proper~~ fee shall apply.

- (5) If additional fixtures are roughed-in or installed before final inspection, they shall be added to the original permit on the cost-per-fixture basis.

(Code 1965, §16.10(3)(e); Ord 32-92, §1, 3-18-92; Ord 174-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

**Secs. 4-298 – 4-315. Reserved.**



## DIVISION 3. PLANS

### Sec. 4-316. Applicability of division.

This division shall apply to all additions and alterations exceeding ten (10) plumbing fixtures as well as to plumbing of all new buildings and shall apply to all cases where there is a change of occupancy or use of a building which requires changes to or intended use of the plumbing so as to comply with this article for that occupancy or use. (Code 1965, §16.10(9), Ord 38-02, §1, 3-25-02)

### Sec. 4-317. Plans to be approved by City Inspections Division.

Plans and specifications for plumbing ~~installation identified in Wisconsin Administrative Code SPS 382 Table 382.20-2 are required to be submitted to the City for review and approval. to be installed in or outside of all buildings, structures, parks, areas or complexes in the following classifications shall be submitted to the Inspections Division and written approval received before commencing work:~~

- ~~————(1) Theaters and assembly halls; —~~
- ~~————(2) Schools and other places of instruction;~~
- ~~————(3) Apartment buildings, hotels, motels, resorts and places of detention;~~
- ~~————(4) Factories, offices and mercantile buildings; and~~
- ~~————(5) Private interceptor main sewers. See Wisconsin Administrative Code, Chapter H 62.02(90)(b).~~

~~————All non-code-complying portions of the plumbing system installed prior to complete plan approval shall be removed and replaced to comply with SPS standards.~~  
(Code 1965, §16.10(4); Ord 176-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

### Sec. 4-318. Plans to be approved by ~~State~~ the Department of ~~Safety and Professional Health and Social Services.~~

No permits will be issued to commence work on any plumbing ~~job~~ project in classifications requiring SPS approval until SPS approval is received by Inspections Supervisor. ~~in the following classifications without plan approval from the Plumbing Division of the State Department of Health and Social Services:~~

- ~~————(1) Health care and related facilities. See Wisconsin Administrative Code, sections H 62.15(1) and (2).~~
- ~~————(2) State or municipally owned buildings.~~
- ~~————(3) Reduced pressure zone principle type backflow preventers. See Wisconsin Administrative Code, section H 62.24(2)(a).~~
- ~~————(4) Controlled roof drainage systems. See Wisconsin Administrative Code, section H 62.05(4).~~
- ~~————(5) Mobile and manufactured homes.~~
- ~~————(6) Mobile home parks, water and sewerage systems. See Wisconsin Administrative Code, section H 62.17(1)(a).~~
- ~~————(7) Private domestic sewage treatment and disposal systems serving public buildings and experimental systems serving all buildings. See Wisconsin Administrative Code, section H 62.20(1)(c).~~  
(Code 1965, §16.10(5))

**Sec. 4-319. Compliance with approved plans required.**

Actual installation shall conform with the plans approved pursuant to this ~~Division~~Chapter. Any changes shall to plans be submitted to the ~~respective department~~ Inspections Supervisor for approval prior to installation. All work must also comply with the approved specifications.  
(Code 1965, §16.10(6))

**Sec. 4-320. Stamping and signing of plans.**

~~A Wisconsin registered architect, engineer or plumbing designer shall sign and seal or stamp all plans and accompanying specifications in accordance with chapter A-E 2. All plans and specifications shall be sealed or stamped by a registered architect, engineer or registered plumbing designer in accord with Wisconsin Administrative Code, chapter A-E 1.~~ A master plumber may design and submit for approval plumbing plans and specifications for a plumbing system which he is to install. Each sheet of plans and specifications the master plumber submits shall be signed, dated and include his state master plumber's license number. Where more than one (1) sheet is bound together into one (1) volume, only the title sheet or index sheet need be signed and dated by the person responsible for their preparation, provided the signed sheet clearly identifies the other sheets comprising the bound volume.  
(Code 1965, §16.10(7))

**Sec. 4-321. Submission of plans.**

All plans, preliminary or complete, shall be submitted in duplicate. Work shall not commence until written approval for the preliminary or complete plans is received from SPS or the Inspections Division. Sufficient data and information shall be submitted to allow staff to determine if the installation and its performance will meet the requirements of the State Plumbing Code. The data and information ~~the department. All pertinent data~~ shall be a part of or shall accompany all plans submitted for review. Plans shall be examined in the order of their receipt.  
(Code 1965, §16.10(8))

**Sec. 4-322. Plan examination fees.**

(a) Plan examination fees for preliminary or complete plans shall accompany the plans and specifications when submitted. If the Inspections Division determines upon review of the plans that inadequate fees were provided, the additional fee shall be provided prior to departmental approval. Written approval shall not be granted until all applicable fees have been paid.

~~(b) The plan examination fees shall be as established by SPS.~~

~~(bc) Plan eExamination fees may be adjusted by ordinance, annually in direct proportion with the salary increases granted staff personnel.~~

~~(c) The plan examination fee shall be as established by the Wisconsin Department of Safety and Professional Services. A schedule of said fees shall be on file in the Inspections Division.~~  
(Code 1965, §16.10(10); Ord 176-93, §1, 10-19-93; Ord 48-94, §1, 4-6-94; Ord 118-96, §1, 12-18-96; Ord 25-12, §1, 3-7-12)

**Sec. 4-323. Revisions.**

After written approval is granted, if the approved plans are changed, a revision with applicable fees shall be submitted by and specifications of the plumbing shall not be changed without written consent of the Inspections Division and the architect, engineer, designer or master plumber responsible for the design. If the method of installation differs from the approved design, an as-built drawing shall be submitted by the architect, engineer, designer or master plumber responsible for the design.  
(Code 1965, §16.10(11); Ord 176-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

**Sec. 4-324. Liability for defects in work.**

In granting approval of plans, specifications, products, devices or materials, the Inspections Division does not hold itself liable for any defects in construction, nor for any damages that may result from the specific installation. (Code 1965, §16.10(12); Ord 176-93, §1, 10-19-93; Ord 118-96, §1, 12-18-96)

**Sec. 4-325. Copy of plans to be kept at construction site.**

The architect, professional engineer, registered designer, owner or plumbing contractor shall keep at the construction site one (1) set of plans bearing the stamp of approval of the respective department. (Code 1965, §16.10(13))

**Secs. 4-326 – 4-340. Reserved.**



“...meeting community needs...enhancing quality of life.”

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Department of Utilities  
Appleton Water Treatment Facility  
2281 Manitowoc Road  
Menasha, Wisconsin 54952  
920-832-5945 ph  
920-832-5949 fax

**TO:** Chairperson Vered Meltzer and Members of the Utilities Committee

**CC:** Chris Shaw, Utilities Director

**FROM:** Chris Stempa, Utilities Deputy Director

**DATE:** July 29, 2022

**RE:** *Award Contract to Fiberglass Solutions Inc. for Hypochlorite Fiberglass Reinforced Plastic Tank Relining Services in the amount of \$45,824 plus a 10% contingency of \$4,582 for a total not to exceed of \$50,406*

---

**BACKGROUND:**

Among the chemicals stored at the AWTF for various treatment purposes, sodium hypochlorite is utilized as a cleaning and disinfection chemical. Sodium hypochlorite is housed in three (3) 10,000-gallon fiberglass-reinforced plastic (FRP) bulk sodium hypochlorite storage tanks. The bulk storage tanks were originally manufactured by Raven Industries and installed as part of new construction in 2001. All three bulk storage tanks were relined starting in 2015. Side manways were also installed as part of that relining work.

The next planned relining event was not projected to occur until 2023/2024 based on the chemical makeup and what is typically observed by members in our industry who use FRP tanks to store sodium hypochlorite. However, an inspection of Tank #2 in August 2020 revealed the interior resin coat had degraded to an extent which exposed the first layer of the corrosion barrier. Spot repairs were later performed on the tank with the intent to pursue complete relining services in a subsequent year. The premature degradation of the interior lining of Tank #2 has advanced the relining timeline for all bulk storage tanks.

**QUOTE PROCESS:**

Four qualified firms were selected based upon their ability to provide relining services described in the RFQ. Three firms provided a quote for services with the fourth unable to meet the schedule described within the RFQ. Quotations are summarized in Table 1. Fiberglass Solutions provided the least cost quote and can meet the desired completion date of November 1, 2023.

**Table 1: Summary of Quotations**

<b>Firm</b>	<b>Total Quote</b>
American Fiberglass Tank	\$75,000
ECC Corrosion Inc.	\$68,178
Fiberglass Solutions	\$45,824
GPI Composites	DNP

DNP: Did not provide a complete quote or was non-responsive.

**RECOMMENDATION:**

It is recommended that the Utilities Committee award the contract for FRP tank relining services to Fiberglass Solutions Inc. in the amount of \$45,824 plus a 10% contingency of \$4,582 for a total not to exceed of \$50,406

If you have any questions regarding this project please contact Chris Stempa ph: 832-5945



*"...meeting community needs...enhancing quality of life."*

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Department of Utilities  
Wastewater Treatment Plant  
2006 E Newberry Street  
Appleton, WI 54915  
920-832-5945 tel.  
920-832-5949 fax

**TO:** Chairperson Vered Meltzer and Members of the Utilities Committee

**FROM:** Environmental Programs Coordinator Brian Kreski

**DATE:** **August 2, 2022**

**RE:** *Approve: Sole Source Compost Screening Contractor Services contract to Vandenberg Transportation LLC for a three-year term ending December 31, 2024 in the amount not to exceed \$82,100.*

---

#### **BACKGROUND:**

The Appleton Wastewater Treatment Plant (AWWTP) has operated a biosolids compost facility since the fall of 2010. Since the inception of the Compost Program in 2010, the AWWTP has created a Class A Exceptional Quality biosolid compost meeting Wisconsin Department of Natural Resources (WDNR) regulatory requirements in addition to nationally recognized standards and specifications identified by the US Composting Council's (USCC) Seal of Testing Assurance (STA) Program.

The Biosolids Composting Program processes several feed stock streams including: biosolids, fall leaf, yard and brush materials. By combining what was once considered waste, Biosolids Composting now has become a stabilized nutrient rich material that can be used in a variety of applications including: local landscape and turf projects, highway department projects, city wide projects, bio-filter projects, residential giveaways, and landfill capping projects. The volume produced varies depending on available storage and market demand for the biosolids compost. Over the life of the composting program, screening is used as a final step before sale or giveaway. Staff have either contracted the work or rented the equipment and performed the task in house. Over the past eight years, the most cost-effective/efficient option is to have a contractor provide the services. Vandenberg Transportation has provided the labor and equipment over the last two screening events and showed complete, efficient, and cost-effective services.

The last Compost Screening Contractor Services request for quote (RFQ) process was last completed in 2020. At that time, Vandenberg Trucking was the lowest bid and was 11% less than the next service bidder. Competitor reasons provided by the companies that did not submit a quote for the entire work included the inability to meet necessary qualifications, the inability to be competitive based on process frequency and distance to mobilize equipment, and/or the services being requested were outside of their corporate business model. If approved, language will be developed within the 2022-2024 Vandenberg Trucking contract that allows for an extension by mutual agreement from both parties in recognition of the uniqueness associated with services requested and the limited pool of companies capable of delivering them.

The original 2020 quote tabulation is summarized in Table 1. Firms were asked to quote on specific processing volumes that were established on past compost screening experience. The Compost Program budget and contract award amount (over three years) is based on screening approximately 4,000 to 5,000 cu yards of processed biosolids compost annually.

**Table 1: 2020 Compost Screening Quotes**

Quote: Provide labor and equipment to process 5,000 cu yds of biosolids compost with a 5/8" screen						
	<i>Larger screener</i>	<i>Smaller screener</i>	<i>Larger screener</i>	<i>Smaller screener</i>	<i>Larger screener</i>	<i>Larger screener</i>
<b>Service</b>	<b>Vermeer</b>	<b>Arings</b>	<b>Vandenberg</b>	<b>Bucklins</b>	<b>Hsu</b>	<b>Komptech</b>
5,000 cu yds screened	\$17,400	\$15,400	\$24,700	\$13,400	N/A	\$27,900
Entire work: equip/labor	DNQ	DNQ	<b>\$24,700</b>	\$27,500	\$35,000	N/A

It would seem very reasonable going forward with Vandenberg’s quote even with some moderate increases in cost. Given the complexity, weather delays, staffing, and scheduling related to the composting program, I feel this makes solid business sense to utilize this company and put a multi-year contract in place.

**QUOTATION:**

The proposed fees would represent nominally a 6% increase over the previous year. The 2022 quote from Vandenberg remains under bid for any of the 2020 submittals. With that, the 4% increase over each of the next two years, does not seem excessive given the volatility in consumables, services, and fuel prices. Similar to past contracts, language would exist in the 2022-2024 contract that allows for an extension by mutual agreement from both parties at the end of the contract term. The contract award amount would be based on screening one batch of material (5,000 cu yards each) annually.

**Table 2: Vandenberg Transportation LLC 2022-2024 Contract Services Quote**

<b>Company</b>	<b>Required Quote</b>
Vandenberg Transportation LLC	\$82,100

**RECOMMENDATION:**

Approval of sole source contract to Vandenberg Transportation LLC for a three-year term ending December 31, 2024 in the amount not to exceed \$82,100. If you have any questions regarding this project, please contact Brian Kreski at 920-832-2316.