*** All present are expected to conduct themselves in accordance with our City's Core Values ***

OFFICIAL NOTICE AND AGENDA

of a meeting of a City Board, Commission, Department Committee, Agency, Corporation, Quasi-Municipal Corporation or Sub-unit thereof.

Notice is hereby given that the CAPITAL IMPROVEMENTS AND STREET MAINTENANCE COMMITTEE of the City of Wausau, Wisconsin will hold a regular or special meeting on the date, time and location shown below.

Meeting of the:	**CAPITAL IMPROVEMENTS AND STREET MAINTENANCE COMMITTEE OF THE CITY OF WAUSAU**
Date/Time:	**Thursday, December 8, 2022 at 5:15 p.m.**
Location:	**City Hall (407 Grant Street, Wausau WI 54403) - COUNCIL CHAMBERS**
Members:	Lou Larson (C), Doug Diny, Gary Gisselman, Chad Henke, Lisa Rasmussen

AGENDA ITEMS FOR CONSIDERATION

1. Approval of minutes of the November 10, 2022 meeting.
2. 2023 Street Reconstruction Projects: Discuss public hearing results and make recommendation.
3. Discussion and possible action on parking restrictions on Torney Avenue from McDonald Street to Townline Road.
4. Discussion and possible action on sale of 123 West Thomas Street. (Bids were opened by the Board of Public Works on December 7, 2022.)
5. Discussion and possible action on Urban Non-Point Source Construction Grant Agreement to convert the Strawberry Fields dry detention pond to a wet pond.
6. Discussion and possible action on sidewalk policy and special assessments.
7. Stormwater Utility Update and Urban Non-Point Source Planning Grant Application Discussion.

Adjournment

LOU LARSON - Committee Chair

Members of the public who do not wish to appear in person may view the meeting live over the internet, live by cable TV, Channel 981, and a video is available in its entirety and can be accessed at https://tinyurl.com/WausauCityCouncil. Any person wishing to offer public comment who does not appear in person to do so, may e-mail lori.wunsch@ci.wausau.wi.us with "CISM public comment" in the subject line prior to the meeting start. All public comment, either by email or in person, if agendized, will be limited to items on the agenda at this time. The messages related to agenda items received prior to the start of the meeting will be provided to the Chair.

This Notice was posted at City Hall and transmitted to the Daily Herald newsroom on 12/01/22 @ 2:45 p.m. Questions regarding this agenda may be directed to the Engineering Department at (715) 261-6740.

It is possible that members of and possibly a quorum of the Common Council and/or members of and possibly a quorum of other committees of the Common Council of the City of Wausau may be in attendance at this meeting to gather information. No action will be taken by any such groups at this meeting other than the committee specifically referred to in this notice.

In accordance with the requirements of Title II of the Americans with Disabilities Act of 1990 (ADA), the City of Wausau will not discriminate against qualified individuals with disabilities on the basis of disability in its services, programs or activities. If you need assistance or reasonable accommodations in participating in this meeting or event due to a disability as defined under the ADA, please call the ADA Coordinator at (715) 261-6590 or ADAServices@ci.wausau.wi.us to discuss your accessibility needs. We ask your request be provided a minimum of 72 hours before the scheduled event or meeting. If a request is made less than 72 hours before the event the City of Wausau will make a good faith effort to accommodate your request.

Distribution List: City Website, Media, Committee Members, Mayor, Council Members, Assessor, Attorney, City Clerk, Community Development, Engineering, Finance, Inspections, Park Dept., Planning, Public Works, County Planning, Police Department, Wausau School District, Becher Hoppe Associates, REI, Judy Bayba, Scholfield Group, Clark Dietz, Inc., Brown and Caldwell, Property owners on Torney Avenue.

CAPITAL IMPROVEMENTS AND STREET MAINTENANCE COMMITTEE

Date of Meeting: November 10, 2022, at 5:15 p.m. in the Council Chambers of City Hall.

Members Present: Lou Larson, Doug Diny, Chad Henke, Lisa Rasmussen, Gary Gisselman

Also Present: Mayor Katie Rosenberg, Eric Lindman, TJ Niksich, Dustin Kraege, Lori Wunsch

In compliance with Chapter 19, Wisconsin Statutes, notice of this meeting was posted and received by the *Wausau Daily Herald* in the proper manner.

Noting the presence of a quorum, at approximately 5:15 p.m. Chair Larson called the meeting to order.

Approval of minutes of the October 13, 2022 meeting

Diny moved to approve the minutes of the previous meeting. Henke seconded and the motion carried unanimously 5-0.

Discussion and possible action on preliminary resolution levying special assessments for 2023 Street Construction Projects

Lindman explained that every year we are required to hold public hearings because of special assessments. Typically, this is brought forward in December after the budget is approved and then to Council. Staff is asking for approval contingent upon budget approval, which would allow us to bring this to Council on November 22nd with the budget. We can then start to prepare for the public hearings, schedule them sooner and get projects out to bid earlier.

Rasmussen moved to approve the list and move the process forward. Seconded by Diny and the motion carried unanimously 5-0.

Construction update for 2022 Projects

Niksich indicated all construction is complete. Other than a few minor hiccups, which are expected with major reconstruction, the projects went well.

Rasmussen asked if the top layer of asphalt had been placed on Bugbee. Niksich confirmed.

Larson said the streets around City Hall are looking nice. He feels there is a need to work on the sign out front. It needs to be cleaned and needs to sparkle because the City of Wausau needs to sparkle.

Adjourn

Henke moved to adjourn the meeting. Diny seconded and the motion carried unanimously 5-0. Meeting adjourned at approximately 5:20 p.m.

Agenda Item No.
2

STAFF REPORT TO CISM COMMITTEE – December 8, 2022

AGENDA ITEM
2023 Street Reconstruction Projects: Discuss public hearing results and make recommendation
BACKGROUND
The Board of Public works will hold hearings on Special Assessments on Dec. 6th, 2022. The hearings allow residents to comment on special assessments on the projects.
FISCAL IMPACT
Special Assessments pay for a portion of the reconstruction project. This year the assessment rate was set at $55 per foot on reconstruction projects.
STAFF RECOMMENDATION
Staff will summarize the results of the public hearings and provide a recommendation at the CISM meeting.
Staff contact: Allen Wesolowski 715-261-6762

BOARD OF PUBLIC WORKS

Date of Meeting: December 6, 2022, at 4:00 p.m. in the Council Chambers

Members Present: Eric Lindman, Anne Jacobson

Also Present: Allen Wesolowski, TJ Niksich, Lori Wunsch

In compliance with Chapter 19, Wisconsin Statutes, notice of this meeting was posted and received by the *Wausau Daily Herald* in the proper manner.

PUBLIC HEARING: 2023 Street Construction Projects
Henrietta Street from Bellis Street to 13th Street
Grant Street from North 6th Street to North 7th Street
10th Avenue from Oak Street to West Wausau Avenue
North 17th Avenue from Stewart Avenue to Elm Street

Lindman explained the purpose of the meeting is to take comments from property owners regarding special assessments. The comments received are forwarded to the Capital Improvements and Street Maintenance Committee (CISM) which will meet December 8, 2022 at 5:15 p.m. CISM will approve, disapprove, or modify the plans or assessments for the project and forward a recommendation to the Common Council. It is anticipated the Common Council will take action at the January 10, 2022 meeting. There were no objections to dispense with the reading of the official hearing notice.

Lindman indicated the 2023 street assessment rate is set at $55 per foot. The sewer lateral is $500 if replaced. Drive approach replacement is estimated at $6.50 per square foot. Replacement of defective sidewalk is estimated at $8.00 per lineal foot and installation of new sidewalk is estimated at $16.00 per lineal foot.

Lindman stated staff from the Engineering Department will be available after the public hearing if there are specific questions about individual properties or the work to be done under the project.

Niksich explained all four projects are similar in scope. They consist of full reconstruction and replacement of utilities. The projects were chosen because the roadways have lasted longer than the typical design life and normal maintenance operations are cost prohibitive. The underlying utilities are failing or near failing. Typically construction season is between May 1 and October 31. We will not allow the contractor to work that entire length. Projects are usually limited to a certain number of days. Large projects typically take three months and smaller projects, similar to Grant Street, typically take a month to 45 days. A letter will be sent prior to construction with what to expect as far as getting to your property, street travel, access to driveways, garbage collection, and temporary water service. Because the water main will be replaced, a temporary water service will be hooked up. The temp service should not affect you other than allowing the contractor to come in to make sure air has been removed from your line. The letter will also include information on newly poured concrete, landscaping, and mail delivery. During the project we will set up temporary mailboxes. Usually a cluster of boxes will be placed in a couple of locations to ensure mail delivery is not interrupted.

Property owners should have received two letters; one informing of the public hearing with estimated assessments and the other requesting basic information on your property, such as if there is a sump pump or sprinkler system and your requested drive approach width. We request that these are returned as soon as possible so we can move forward with design and bid out the projects in January. We also ask for construction access during the project. The main disturbance would be where we connect water and sewer service and would have to go 5’ to 10’ into your property. If sidewalk is replaced there would be a 1’ to 2’ encroachment. The areas will be fully restored with topsoil and seed by the contractor.

At this time, Lindman opened the public hearing and asked for persons in attendance who wished to speak regarding special assessments to come to the podium and give their name, address, and comments.

Jesse Modrzejewski, 1016 Henrietta Street, stated he just had new sidewalk put in and there is nothing wrong with his drive approach. He doesn't want it ripped out and have to pay thousands of dollars again. Niksich indicated if sidewalk is new and not in poor condition it would not be removed. It would be removed if it is in the way of the sewer and water services. If that is the case, the walk would be replaced at no charge to the owner. The approach will likely have to be replaced in order to get new curb. Modrzejewski said there is nothing wrong with it and doesn't want it ruined just because it is easier for the City. If someone is replacing a window, they are not going to rip down a wall because it is easier. He does not understand why his driveway would be ripped up when there is nothing wrong with it. Lindman indicated this meeting is for comments on special assessments. Specific questions can be answered after the meeting. To match grade for the street and for drainage, approaches will most likely have to be torn up. Modrzejewski feels it is just ruining things at the property owner's expense because it is easier for the City.

Jacobson noted comments have been taken and this is not supposed to be an exchange or question and answer session. The points are well taken and noted for the record. Property owners can talk directly with the engineers after the hearing.

Nick Schroeder, 515 North 10th Avenue, asked how people on a fixed income can afford this and why doesn't the City offer an interest free repayment plan on the taxes.

Wesolowski read into record comments received from Lukas Loveland of 1222 Henrietta Street. Loveland is not in favor of the assessments and does not feel he can afford a $4,000 bill.

Matt Krasowski, 117 South 17th Ave, said there is no reason for sidewalk from Stewart Ave to Elm Street to be removed. It is flat and always maintained. He can understand the drive entry but there is no reason to replace the sidewalk. The amount of money charged for his 123' of frontage is pretty substantial; imposing around a $20,000 assessment on his property. He would like the sidewalk and driveway left alone. He just put in new blacktop and doesn't need that ripped up. The curb and gutter is good and he was told the laterals were great when the building was built 10 years ago.

Jason Bombagi, 608 North 10th Ave, said the City redid his lateral in winter when it froze and broke. His approach and sidewalk were redone when Bridge Street was reconstructed. He does not see any reason for his approach or sidewalks to be ripped up.

No further comments were received, and the public hearing was closed.

Lindman moved to adjourn the meeting. Seconded by Jacobson and the motion passed. Meeting adjourned at approximately 4:20 pm.

Agenda Item No.
3

STAFF REPORT TO CISM COMMITTEE – December 8, 2022

AGENDA ITEM

Discussion and possible action on parking restrictions on Torney Avenue from McDonald Street to Townline Road

BACKGROUND

The City received a petition (attached) to restrict parking to one side of the street on Torney Avenue from McDonald Street to Townline Road. This block of Torney Avenue was reconstructed in the Summer of 2022. The current cross section consists of 2-10 foot lanes and 2 foot mountable curb and gutter. This represents 24 feet from back of curb to back of curb.

Typical street reconstruction which allows parking on both sides of the street is 33 feet back of curb to back of curb.

FISCAL IMPACT

Minimal, installation of signs.

STAFF RECOMMENDATION

Staff recommends approving 'No Parking' on east side of Torney Avenue from McDonald Street to Townline Road. This recommendation is based upon the narrow roadway and the fact the sidewalk is adjacent to the back of curb.

Staff contact: Allen Wesolowski 715-261-6762

ArcGIS Web Map

City of Wausau / DPW

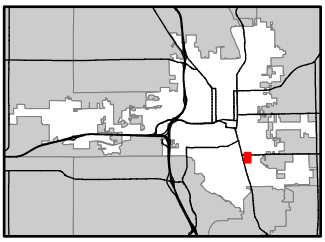
Date Printed: 11/29/2022

0 0.01 0.02

mi

Municipal Boundaries

Parcel



N

NOTES:
1. Duplication of this map is prohibited without the written consent of the City of Wausau DPW / GIS Dept.

2. This map was compiled and developed by the City of Wausau and Marathon County GIS. The City and County assume no responsibility for the accuracy of the information contained herein.

3. City of Wausau
Public Works / GIS Division
407 Grant St
Wausau, WI 54403
www.ci.wausau.wi.us

COPY

PETITION

TO THE MAYOR AND COMMON COUNCIL
OF THE CITY OF WAUSAU, WISCONSIN

RECEIVED
For Office Use
NOV 11 2022
CITY OF WAUSAU
CITY CLERK
Date Received Wausau City Clerk

A Petition For:

- ☐ Alley Vacation
- ☐ Blacktop Paving
- ☐ Curb and Gutter
- ☐ Sanitary Sewer
- ☐ Street Light
- ☐ Street Vacation
- ☐ Storm Sewer
- ☐ Watermain
- ☐ Zoning Change
- ☒ Other as Follows: No Parking Signs on Torney Avenue

The undersigned petitioners respectfully request that your honorable body take such action as will cause the:
We are requesting that there be no parking on the East side of the street at all times or Alternating day Parking but for there to be no parking on one side of the street at all times (Majority Prefers No Parking on East side

Signature of Electors	Print Name Clearly	Print Home Address	Date of Signing
1. Katie Hohenstein	Katie Hohenstein	1331 Torney Ave	11-7-2022
2. [signature]	James Hohenstein	1331 Torney Ave	11-7-2022
3. Tarrie Hutchings	Tarrie Hutchings	1408 Torney	11-7-22
4. Mary Woellner	MARY WOELLNER	1416 Torney Ave	11-7-22
5. Steve Raap	Steve Raap	1344 Torney Ave	11-7-22
6. Soua Yang	Soua Yang	1329 Torney Ave	11-7-22
7. [signature]	David Freda	1836 Torney Ave	11-7-22
8. Craig Kasten	Craig Kasten	1312 TORNEY AVE	11-7-22
9. [signature] Jeanne Kraus	Jeanne Kraus	Neith 1309 Torney Ave	11-7-22
10. Megan Pratt	Megan Pratt	1329 Torney Ave	11-7-2022
11. [signature]	Brian Jacobsen	1337 Torney Ave	11-7-2022
12. Stephany Woller	Stephany Woller	1330 Torney Ave	11-7-2022
13. Anthony Woller	Anthony Woller	1330 Torney Ave	11-7-2022
14. [signature]	Jeff Zernicke	805 Townline rd	11-11-2022
15. Heather Shelbrack	Heather Shelbrack	805 Townline Rd	11-11-2022

AFFIDAVIT OF CIRCULATOR

STATE OF WISCONSIN
CITY OF WAUSAU James Hohenstein being duly sworn disposes and says that he is a resident of the affected area, residing at 1331 Torney Ave Wausau in the City of Wausau; that he is personally acquainted with the persons who have signed the foregoing petition; that he knows them to be residents of the affected area; that they signed the same with full knowledge of the contents thereof; that their respective residents are stated therein; that each signer signed the same on the date stated opposite his name; and that he intends to support the petition.

Filed in the Office of the City Clerk and sworn to before me this 11 day of November, 2022

Kathryn J. Bernarde
Signature of City Clerk or designee

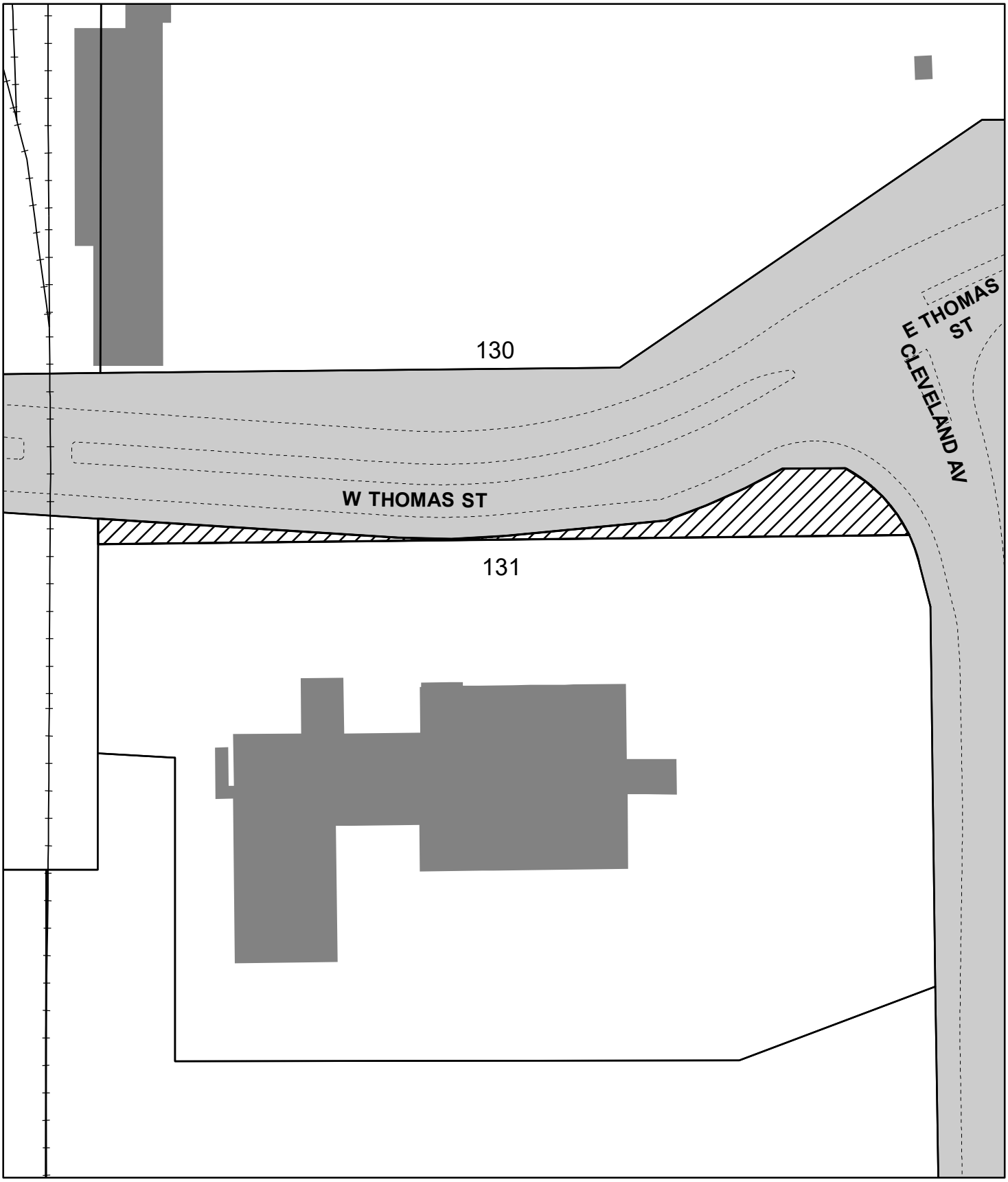
[signature]
(Signature of Circulator)

1331 Torney Ave
(Address of Circulator)

Agenda Item No.
4

STAFF REPORT TO CISM COMMITTEE – December 8, 2022

AGENDA ITEM
Discussion and possible action on sale of 123 West Thomas Street
BACKGROUND
This property was advertised for sale with the bids to be opened by the Board of Public Works on December 7th.
FISCAL IMPACT
Revenue from sale of property and property placed on the tax roll.
STAFF RECOMMENDATION
Staff will provide a summary of bids received and a recommendation at the meeting.
Staff contact: Eric Lindman 715-261-6745



WAUSAU WISCONSIN

N W E S

Map Date: August 26, 2022

City of Wausau

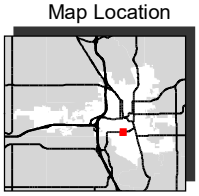
Marathon County Wisconsin

0 50 100 Feet

Legend

- Parcels
- Right of Way
- Road Edge
- Proposed Disposition

Map Location



/citybase/projects/eng/mxds/Proposed_Easement_8x11P.mxd

Agenda Item No.
5

STAFF REPORT TO CISM COMMITTEE – December 8, 2022

AGENDA ITEM

Discussion and possible action on Urban Non-Point Source Construction Grant Agreement to convert the Strawberry Fields dry detention pond to a wet pond

BACKGROUND

The City has applied for, and has been awarded, partial project funding for the Strawberry Fields Dry to Wet Pond Conversion project. The project will convert an existing dry detention basin located near the cul-de-sac at S. 50th Avenue to a wet retention basin. This project will allow greater pollutant capture and assist the city in meeting the TMDL requirements of lowing Total Phosphorous discharge.

FISCAL IMPACT

The total grant award is for $149,000, of which $103,099 is obligated to construction and $45,901 is obligated to design services. Total project costs are estimated to be $470,739.

STAFF RECOMMENDATION

Staff recommends approval of the grant agreement.

Staff contact: TJ Niksich 715-261-6748

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
101 S. Webster Street
Box 7921
Madison WI 53707-7921

Tony Evers, Governor
Preston D. Cole, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

November 15, 2022

►REQUIRES IMMEDIATE ACTION◄
Urban NPS & Stormwater Mgmt. Program
Grant# USC37291Y23
Grant Amount: $149,000.00

Thomas J. Niksich, Project Engineer
City of Wausau
407 Grant St.
Wausau, WI 54403

Dear Mr. Niksich:

Congratulations! On behalf of the Governor, we are pleased to forward to you a grant agreement for financial assistance for the following project: ***Strawberry Fields Dry to Wet Pond Conversion.***

This grant, and any reimbursements made under it, is governed by very specific statute and administrative code provisions. Accordingly, please read the grant documents thoroughly, paying particular attention to the Scope and Conditions sections for eligibility, grantee requirements and reimbursement provisions. There are also a number of activities where you must obtain prior departmental review and authorization before proceeding.

You are obligated to submit a final report, using the Department's BMP Implementation Tracking System (BITS), prior to submitting your final reimbursement request for the projects completed under this grant; before and after photographs are a required component for construction projects.

On January 26, 2023, DNR and UW-Madison Division of Extension will hold a grant administration webinar from 1:30 to 3:30 p.m. to provide information about seeking reimbursement from DNR, amending your grant, submitting the final report, etc. All grantees receiving CY 2023 grant awards must attend the webinar or view the webinar recording prior to submitting the first reimbursement request for their grant. Webinar registration information is included in the email from DNR with your grant agreement.

To accept this grant, please review the agreement and email a scanned copy signed by the authorized government official, along with the completed *Grantee Contact Page*, and evidence that your community has committed the necessary funding for the local share, to DNRCFANONPOINTGRANTS@wisconsin.gov **by March 1, 2023.**

Please review this grant thoroughly and if you have any questions, contact your Regional Nonpoint Source Coordinator, Terry Kafka, at (715) 498-0432. Thank you for your continued cooperation with Wisconsin's Runoff Management Grant Programs.

Sincerely,

for Jim Ritchie, Director
Bureau of Community Financial Assistance

Enclosure(s)

C (e-copy): Terry Kafka, Regional Nonpoint Source Coordinator, DNR West Central Region
Corinne Johnson, Nonpoint Source Program Grant Manager, CF/2

PROJECT CONTACT PAGE

INSTRUCTIONS: In the spaces below, insert contact information for the person **most directly involved** with this particular project. The Department will contact the person named for all matters related to this project.

Grant No.	USC37291Y23
Governmental Unit	City of Wausau
Project Contact Name	
Project Contact Title	
Project Contact Mailing Address	
Project Contact Phone Number (direct):	( ) Extension:
Project Contact Email Address:	

Address to which reimbursement checks should be sent if different than contact information above:

Name	
Title	
Mailing Address	
Phone Number (direct):	( ) Extension:
Email Address:	

If information provided on this page -- or any information in Part 1 of the grant agreement changes during the grant period, please provide the updated information to DNR Nonpoint Source Program Grant Manager and the DNR Regional Nonpoint Source Coordinator.

Please complete this contact page and email it with the signed grant agreement to: DNRCFANONPOINTGRANTS@wisconsin.gov.

State of Wisconsin
Department of Natural Resources
Bureau of Community Financial Assistance (CF/2)
PO Box 7921
Madison, Wisconsin 53707-7921

WISCONSIN URBAN NONPOINT SOURCE WATER POLLUTION ABATEMENT
& STORMWATER MANAGEMENT GRANT PROGRAM
CONSTRUCTION GRANT AGREEMENT

Form 8700-328 (rev. 07/2021)

Notice: By signing and dating this grant agreement, grantees indicate concurrence with terms of this agreement, authorized under ss. 281.65 and 283, Wis. Stats., and chs. NR 151, 153, 154, and 243, Wis. Adm. Code. Signed agreement must be returned to the address above within 30 days so that funds will be reserved for this project. Failure to return a signed agreement will result in denial of grant funds. Personally identifiable information collected will be used for program administration and may be made available to requesters as required under Wisconsin's Open Records Law [ss. 19.31 - 19.39, Wis. Stats.].

PART 1. GRANT ADMINISTRATION INFORMATION

Grant Number USC37291Y23	**Grant Award Date** November 15, 2022		
Grantee (Unit of Government) City of Wausau			**Total Grant Amount** $149,000
Project Name Strawberry Fields Dry to Wet Pond Conversion		**Grant Period** From January 1, 2023 Through December 31, 2024	
Authorized Government Official Eric Lindman, Director of Public Works		**Grantee Contact** Thomas J. Niksich, Project Engineer	
Government Official Address 407 Grant St.		**Contact's E-mail Address** thomas.niksich@ci.wausau.wi.us	
City, ZIP Code, County Wausau, 54403, Marathon County		**Contact's Telephone Number** (715) 261-6748	
Name of Department Regional Nonpoint Source Coordinator, Phone Number and Email Address Terry Kafka, (715) 498-0432, Terence.Kafka@wisconsin.gov			**DNR Region** West Central Region

PART 2. ELIGIBLE COST-SHARE BUDGET DATA

Note: Line items cannot be exceeded without grant agreement amendment.

Budget Line Item Description	State Cost-Share Amount	Cost-Share Percentage
1. CONSTRUCTION	$103,099.00	31.7%
2. ENGINEERING/DESIGN	$45,901.00	31.7%
Total Maximum Grant Amount	$149,000.00	

PART 3. PURPOSE AND SCOPE

This grant provides cost-share funding and authorizes reimbursement by the DEPARTMENT for the above-named project as described in the grant application submitted for the grant period in Part 1 above. Reimbursements may be made for eligible work performed and expenses incurred for the following Best Management Practices consistent with the project budget identified in Part 2 above.

[U6] Urban Practice Design
[U14] Wet Detention Pond

PART 4. CONDITIONS

A. General Conditions

A.1. The Wisconsin Department of Natural Resources (DEPARTMENT) and the GRANTEE identified in Part 1 above mutually agree to perform this agreement in accordance with the Urban Nonpoint Source Water Pollution Abatement and Storm Water Management Grant Program and ss. 281.66 and 283, Wis. Stats., and chs. NR 151, 154, 155, and 216, Wis. Adm. Code, and with the project proposal, application, terms, promises, conditions, plans, specifications, estimates, procedures, maps and also any assurances attached and made a part of this agreement.

A.2. This agreement, together with any referenced parts and attachments, shall constitute the entire agreement and previous communications or covenants pertaining to this agreement are superseded. Any revisions to this agreement must be made by written amendment, signed by both parties, prior to the termination date of this agreement, whether

for changes in scope, grant period, or cost. Requests to extend the grant period must be made 45 days or more before the end of the grant period in Part 1.

A.3. Failure by the GRANTEE to comply with the terms of this agreement shall not cause the suspension of all obligations of the State if, in the judgment of the Secretary of the DEPARTMENT, such failure was due to no fault of the GRANTEE. In such case, any amount required to settle at minimum costs any irrevocable obligations properly incurred shall be eligible for reimbursement under this agreement, at the DEPARTMENT's discretion.

A.4. Eligibility for cost-sharing reimbursement is governed by the provisions of s. NR 154.04 and ch. NR 155, Wis. Adm. Code. Cost-share rates and applicability may be further limited by departmental contract approval(s), which may restrict the cost-share amount due to the eligibility requirements of the statute and codes.

A.5. The amount listed in Part 2 above is the maximum amount the DEPARTMENT may reimburse under this agreement.

A.6. Neither the GRANTEE nor any landowner may adopt any land use or practice that reduces the effectiveness or defeats the purposes of any BMP installed under this agreement.

A.7. The GRANTEE:

1. Agrees to comply with all applicable Federal, Wisconsin, and local laws in fulfilling the terms of this agreement. In particular, GRANTEE agrees to comply with all applicable local and state contract and bidding requirements. GRANTEE should consult its legal counsel with questions concerning contracts and bidding. For assistance, GRANTEE may consult Procurement Guide for Local Governments Receiving DNR Grants.

2. Agrees to obtain all necessary and appropriate permits prior to commencement of construction.

3. Shall ensure that DEPARTMENT representatives have access to land on which grant-funded activities are being planned or installed, before, during and after BMP installation.

4. Promises, in consideration of the promises made by the DEPARTMENT, to execute the project described in accordance with this agreement.

5. May decline the offer of financial assistance provided through this agreement, in writing, at any time prior to the start of the project and before expending any funds. After the project has been started or funds expended, this agreement may be rescinded, modified, or amended only by mutual agreement in writing.

6. Agrees that its employees or agents are not employees or agents of the DEPARTMENT for any purpose, including Worker's Compensation.

7. Agrees, to save, keep harmless, defend and indemnify the DEPARTMENT and all its officers, employees and agents, against any and all liability claims, costs of whatever kind and nature, for injury to or death of any person or persons, and for loss or damage to any property (state or other) occurring in connection with or in any way incident to or arising out of the occupancy, use, service, operation or performance of work in connection with this agreement or omissions of GRANTEE's employees, agents or representatives.

8. Agrees to reimburse the DEPARTMENT of any and all funds the DEPARTMENT deems appropriate in the event the GRANTEE fails to comply with the conditions of this agreement or project proposal as described, or fails to provide public benefits as indicated in the project application, proposal description or this agreement. In addition, should the GRANTEE fail to comply with the conditions of this agreement, fail to progress due to non-appropriation of funds, or fail to progress with or complete the project to the satisfaction of the DEPARTMENT, all obligations of the DEPARTMENT under this agreement may be terminated, including further project cost payment.

9. Agrees, in connection with the performance of work under this agreement, not to discriminate against any employee or applicant for employment because of age, race, religion, color, disability, handicap, sex, physical condition, developmental disability as defined in s. 51.01(5), Wis. Stats., sexual orientation or national origin. This provision shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation; and selection for training, including apprenticeship. Except with respect to sexual orientation, the GRANTEE further agrees to take affirmative action to ensure equal employment opportunities, as required by law. The GRANTEE

agrees to post in conspicuous places available, for employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of the nondiscrimination clause.

10. Agrees that accounting for project funds shall conform to generally accepted accounting principles and practices, and that GRANTEE shall maintain a financial management system in compliance with s. NR 155.29, Wis. Adm. Code, and separate from all other GRANTEE activities, for this agreement.

11. Agrees that all consultant and construction contracts must be approved by the DEPARTMENT in order to determine reimbursement eligibility and conformity with practice technical standards and storm water permitting requirements.

12. Agrees that project design must be approved by the DEPARTMENT before construction begins.

13. Shall comply with the cost containment and procurement procedures in the applicable administrative codes governing this agreement.

14. Agrees to obtain prior DEPARTMENT approval before entering into a cost-share agreement with landowners and land operators if the best management practice will be constructed on land not owned by the GRANTEE. The cost-share rate offered to the landowner may not exceed the cost-share percentage specified in Part 2 of this agreement. Such agreements and any agreement amendments shall be recorded with the County Register of Deeds and promptly submitted to the DEPARTMENT's Regional Nonpoint Source Coordinator listed in Part 1 above.

15. Shall not issue funds under this agreement to individuals whose names appear on the statewide support lien docket under s. 49.854(2)(b), Wis. Stats. unless the individuals submit to the provider a payment agreement that has been approved by the county child support agency under s. 59.53(5), Wis. Stats., and that is consistent with rules promulgated under s. 49.858(2)(a), Wis. Stats.

16. Agrees to retain and make available to the DEPARTMENT for inspection all fiscal records, including invoices and canceled checks, that support all project costs claimed by the GRANTEE, for three years from the date of final payment by the DEPARTMENT or three years after the end of the Grant period, whichever is later, or for a longer period if required by the DEPARTMENT for audit purposes.

17. Agrees to comply with annual Single Audit requirement, at its own expense, if combined total state and federal grant awards received by the GRANTEE from all sources is $750,000 or more during the calendar year. Annual Single Audit requirements are specified in 2 CFR Part 200 Uniform Administrative Requirements, Cost Principles, & Audit Requirements for Federal Awards (referred to as Uniform Guidance) and the Wisconsin State Single Audit Guidelines found at: http://www.doa.state.wi.us/Divisions/budget-and-finance/financial-reporting/state-controllers-office/state-single-audit-guidelines issued by the Wisconsin Department of Administration (DOA), State Controller's Office.

18. Agrees to request reimbursement of grant-eligible activities only, as listed in Part 3, for expenses incurred during the grant period specified in Part 1.

19. Agrees to complete and submit project progress reports to the DEPARTMENT Regional Nonpoint Source Coordinator, identified in Part 1 of this agreement, with each request for partial grant reimbursement.

20. Agrees, within 60 days of grant expiration date, to complete and submit a final report, using the DEPARTMENT's "BMP Implementation Tracking System" (BITS), and complete and submit a final request for grant reimbursement to the DEPARTMENT's Regional Nonpoint Source Coordinator for review and approval.

21. Should consider following methods for controlling, transporting and disposing of aquatic invasive plants and animals and water in which they may be contained, as described in the DEPARTMENT's Manual Code 9183.1 *Boat, Gear, and Equipment Decontamination and Disinfection* and available on the DEPARTMENT's website at: http://dnr.wi.gov/topic/invasives/disinfection.html.

A.8. The DEPARTMENT:

1. Promises, in consideration of the covenants and agreements made by the GRANTEE, to obligate for the GRANTEE the amount identified in Part 2 above and to tender to the GRANTEE that portion of the obligation that

is required to pay the DEPARTMENT's share of the costs based on the cost-share percentage listed in Part 2 above for eligible project work performed and expenses incurred during the grant period noted in Part 1 above.

2. Agrees that the GRANTEE shall have sole control of the method, hours worked, and time and manner of any performance under this agreement other than as specifically provided in this document. The DEPARTMENT reserves the right only to inspect the job site or premises for the sole purpose of ensuring that the project is progressing or has been completed in compliance with the agreement. The DEPARTMENT takes no responsibility of supervision or direction of the performance of the agreement to be performed by the GRANTEE or the GRANTEE's employees or agents. The DEPARTMENT further agrees that it will exercise no control over the selection and dismissal of the GRANTEE's employees or agents.

3. Shall not reimburse GRANTEE for engineering design costs until installations of associated BMPs have been completed and certified by the GRANTEE as installed in accordance with the grant program standards and specifications of ch. 154, Wis. Admin. Code.

4. Shall not issue final reimbursement to the GRANTEE unless GRANTEE has submitted the Final Report and the Final Report has been approved by the DEPARTMENT Regional Nonpoint Source Coordinator.

B. Special Conditions

B.1. **Environmental Protection**. The GRANTEE is responsible for following all federal and state regulations for detecting and managing contaminated soils or solid waste encountered during installation of the best management practices funded under this grant. If such materials are encountered, the grantee shall immediately contact the DNR Regional Nonpoint Source Coordinator. The DEPARTMENT may terminate this grant if it determines that installation and operation of the BMP may facilitate movement of hazardous substances to waters of the state.

B.2. **Natural Heritage Concerns**. If historical/cultural artifacts are unearthed or environmental hazards are discovered during any earth disturbance under this agreement activity, GRANTEE must immediately stop construction activities and notify the DEPARTMENT's Regional Nonpoint Source Coordinator to determine the appropriate response.

B.3. **Enforcement.** As stipulated in the application for this project noted in Part 1 above, the GRANTEE is responsible for enforcing all local ordinance obligations for construction erosion and post-construction runoff and implementing the storm water local program indicated under the Multiplier section of the application.

B.4. **Land Acquisition**. This grant authorizes cost-sharing reimbursement, not to exceed the amount in the Land Acquisition budget line and the cost-share percentage set forth in Part 2 above, on the actual eligible purchase price of land required for construction of the best management practice. Value of land for grant purposes is determined by appraisal. Appraisals must be approved by the DEPARTMENT **prior** to any acquisition, and maximum eligible costs are limited to the amount authorized by the DEPARTMENT's appraisal approval letter. See s. NR 155.25, Wis. Adm. Code, for grant-specific land acquisition requirements and "Land Acquisition Guidelines for Local Governments" for uniform land acquisition requirements for all DEPARTMENT grant programs.

PART 5. INELIGIBLE COSTS

1. Costs incurred, or work performed, either prior to or after the grant period (page 1, Part 1), unless specifically authorized in the grant *Purpose and Scope* (Part 3).
2. Costs which are inconsistent with the grant application or this grant agreement,
3. Costs related to operation and maintenance of BMPs.
4. Costs specified in s. NR. 155.15(2), Wis. Adm. Code.

FOR THE GRANTEE
By:

Authorized Government Official

Title

Date Signed

FOR THE STATE OF WISCONSIN
By: Corrine Johnson

for Jim Ritchie, Director
Bureau of Community Financial Assistance

November 15, 2022
Date Signed

(Printed Name, If Different Than Authorized Government Official on P.1)

When returning the signed grant, you must also include evidence of your community's local share of the grant project costs – such as a copy showing its inclusion in the municipal budget, or other evidence that the community has, in fact, committed the necessary funding to complete the project. Alternatively, you may certify that commitment below.

Certification provided as an alternative to evidence of local share:

I, the undersigned, hereby certify and attest that the GRANTEE has incorporated the "local share" of funding for the project covered by this grant within the municipal budget or has otherwise made provisions to provide the local share.

Authorized Government Official

Resolution Number Authorizing Expenditure

Agenda Item No.

6

STAFF REPORT TO CISM COMMITTEE – December 8, 2022

AGENDA ITEM

Discussion and possible action on sidewalk policy and special assessments

BACKGROUND

The City has a sidewalk maintenance program that includes an annual sidewalk repair project that replaces defective sidewalk. The Engineering Department logs complaints from residents who call in to complain about heaved or broken sidewalk. Engineering inspects the complaint and puts it on a replacement list for the upcoming year. The typical annual budget for this project is $150,000. The Engineering Department bids this work out and inspects the work on a yearly basis. The policy has been to assess 25% of the cost of the sidewalk replacement to the abutting property owner. The 25% assessment does not apply to concrete sidewalk that is cracked or heaved due to a boulevard tree. However, the vast majority of the cracking or heaving of the sidewalk is due to boulevard trees. Also, if it is sidewalk on the long side of a corner lot, it is not assessed. Therefore, a majority of the sidewalk that is replaced is not assessed. In 2022, the total bid contract award for sidewalk replacement was $188,400. The assessed amount to abutting property owners was $8,812. This amounts to less than 5% of the contract amount being assessed.

On street reconstruction projects a small amount of sidewalk replacement is billed out as a special assessment. This small amount is due to the fact most of the sidewalk removed is done for laterals, trees, or grade changes.

Public hearings are not held for this sidewalk replacement program, instead, parcel owners are asked to sign a waiver of special assessment. The response to these waivers is not 100%, in most cases a 2nd or 3rd letter and waiver form is sent to get a response.

Engineering is asking CISM to change the policy and not assess any portion of the sidewalk replacement. The amount of effort to track, record, document and bill this small amount of assessment may be better spent on other projects.

FISCAL IMPACT

The amount of assessment collected will vary from year to year based upon the amount of boulevard tree damage and corner lots. The last 4 years of assessment collected for the sidewalk replacement project is as follows:

2022:	$8,812
2021:	$12,570
2020:	$6,253
2019:	$4,955

The amount of assessment collected on street reconstruction can vary widely from year to year. That data was not collected for this report.

STAFF RECOMMENDATION

Staff recommends revising the policy to not assess for defective sidewalk replacement

Staff contact: Allen Wesolowski 715-261-6762

Agenda Item No.
7

STAFF REPORT TO CISM COMMITTEE – December 8, 2022

AGENDA ITEM

Stormwater Utility Update and UNPS Planning Grant Application Discussion

BACKGROUND

At the October CISM meeting city staff presented on the background and benefits of a stormwater utility. The CISM committee requested additional information and costs to update the existing stormwater feasibility study. Strand and Associates has provided a proposal to apply for an Urban Non-Point Source (UNPS) Grant to assist the city in meeting permit requirement and updating the city feasibility study.

A Stormwater Utility Feasibility Study Update is the first step towards setting up a Stormwater Utility. The estimated cost for this study is $20,000-$35,000 and could be partially paid for by the UNPS grant. However, to complete the study more accurately, and to assist the city in meeting permit compliance, several other studies and/or analysis should be completed. These would also be eligible for UNPS grant assistance and include city owned pond maintenance, WinSLAMM modeling, BMP analysis, water quality trading analysis, and leaf credit analysis. In total, the grant application to complete each study/analysis would be for $85,000, which the city would be required to match.

FISCAL IMPACT

$8,900

STAFF RECOMMENDATION

For discussion only.

Staff contact: TJ Niksich 715-261-6748

Professional

Engineering

Services

WDNR UNPS Planning Grant Application for Stormwater Quality Management Plan Update

Proposal

City of Wausau, WI

November 28, 2022

STRAND ASSOCIATES®

Table of Contents

STRAND ASSOCIATES®
Excellence in Engineering
Since 1946

Strand Associates, Inc.®
910 West Wingra Drive
Madison, WI 53715
(P) 608.251.4843
www.strand.com

November 28, 2022

Mr. TJ Niksich, P.E.
Project Engineer
City of Wausau Engineering Department
407 Grant Street
Wausau, WI 54403

Re: Proposal for WDNR UNPS Planning Grant Application for Stormwater Quality Management Plan Update for TMDL Compliance

Dear Mr. Niksich:

Thank you again for the opportunity to discuss stormwater quality issues in the City of Wausau. We want to thank you for hiring our firm for preparation of the successful WDNR Urban Nonpoint Source and Stormwater (UNPS) Construction grant that will partially fund – design in 2023 and construction in 2024 – the Strawberry Fields Dry to Wet Detention Basin Conversion project. This basin will assist the City as an initial step toward Wisconsin River Total Maximum Daily Load (TMDL) related to total phosphorus (TP) reduction. Specifically, we understand that the City would like to pursue a WDNR UNPS Planning grant application to fund a stormwater quality management plan update for Wisconsin River TMDL compliance.

Through discussions and visits with you over the last couple of years, including a virtual meeting with you on October 24, 2022, we have developed an excellent understanding of the City's goals for the update. Following is a summary of some initial thoughts we have on TMDL compliance in the City. We also include *Project Team* and *Project Experience-Stormwater Quality* sections in this SOQ for the City's review. We have also included our proposal for the grant application as well as cost ranges for potential stormwater quality management plan components, seeking to maximize the City's grant opportunity.

Stormwater Quality Issues – TMDL Compliance

The City has a Municipal Separate Storm Sewer Systems (MS4) permit (WI-S050075-3), MS4 permit-compliant stormwater programs, and a citywide stormwater quality model and stormwater quality management plan update that was completed in 2018. It is our understanding that the City's stormwater quality model shows compliance with the NR 151 required 20 percent total suspended solids (TSS) reduction (30.6 percent) but shows significant TP reduction gaps (shown in the table below) that will need to be closed by implementation of stormwater best management practices (BMPs) and likely some level of water quality trading.

TMDL Reachshed	Existing Conditions TP reduction (%)	TMDL-Required TP reduction (%)	TP Reduction Gap for TMDL Compliance (%)	TP Reduction Gap for TMDL Compliance (lbs)
154	19.2	68.6	49.4	1,154
156	23.0	68.6	45.6	1,085
265	21.6	68.6	47.0	167
290	28.0	68.6	40.6	135
291	67.0	68.6	1.6	11
292	55.2	68.6	13.4	41
Total	**28.1**	**68.6**	**40.5**	**2,593**

Per Appendix C of the City's MS4 permit, the City has a number of options for TMDL compliance related to TP reduction, as follows: full compliance, participation in an approved Adaptive Management Plan, or compliance over multiple terms per a TMDL Implementation Plan submitted by April 26, 2023 (48 months after approval of the Wisconsin River TMDL). For compliance over multiple permit terms, the City shall submit a TMDL Implementation Plan with recommendations and schedule for making progress toward achieving compliance. The proposed schedule shall aim to achieve at least 10 percent (259 lbs.) of the overall TP reduction gap (2,593 lbs.) by the end of the next permit term. The current permit term is May 1, 2019, to April 30, 2024, and the next permit term will likely be May 1, 2024, to April 30, 2029. It is our understanding that the City's current stormwater quality plan provides information necessary to submit a TMDL Implementation Plan by April 26, 2023.

One of the first implementation steps will be the design and construction of the Strawberry Fields Dry to Wet Detention Basin Conversion project funded by the successful 2022 WDNR UNPS Construction grant application. This project is one of the stormwater BMPs identified in Table 4-1 of the City's stormwater management plan update. As can be seen in Table 4-1 below, there are nine potential stormwater BMPs (five dry-to-wet-pond conversions and four new wet ponds) in each of the six TMDL reaches. We show the locations of these BMPs on *Figure 1* at the end of this letter. Note that we have placed NBMP1 at an assumed location (northeast of the 84th Street/Industrial Drive intersection) serving subbasin O-11-WI, as Appendix E is missing a figure for that location. It should be noted that Table 4-1 includes a footnote that indicates the costs in the table are planning-level cost estimates for comparison purposes only and should not be used for budgeting. Likewise, the figures in Appendix E are concepts, not including preliminary contours that could be used to establish a preliminary design-level opinion of probable construction cost.

Table 4-1. Analysis of Potential New Regional Wet Detention Ponds
Stormwater Management Plan Update, City of Wausau, WI

TMDL Reach-shed	Potential New Wet Pond ID	Land Owner-ship	Analyzed Drainage Area (ac)	Site Space Available (ac)	WDNR Wetland Indicators [1]	Site Environ-mental Conditions [2]	Endangered Species Screening [3]	Drainage Area TP			Est. Capital Cost*		Comments
								Existing Load (lb/yr)	Post-treatment Load (lb/yr)	Load Reduction (lb/yr)	($)	($/lb TP)	
154	dSb5	Public	29.6	N/A	No	No	No	16.2	7.4	8.8	$222,200	$25,200	Dry pond retrofit; Strawberry Fields development;
156	NBMP15	Private	16.6	2.6	No	No	No	7.8	3.8	4.0	$607,100	$152,300	New SW pond; NCT college property
265	dSb16	Private	36.1	N/A	No	No	No	18.8	11.6	7.3	$132,200	$18,200	Dry pond retrofit in 1-family subdivision
	NBMP10	Private	75.3	0.5	No	No	No	45.8	34.3	11.4	$133,600	$11,700	New SW pond; wetland indicators along creek but not in pond footprint;
290	dSb3	Public	7.1	N/A	No	No	No	4.2	2.9	1.3	$107,900	$85,300	Dry pond retrofit
291	dSb63	Public	18.9	N/A	No	No	No	11.8	5.4	6.5	$197,500	$30,600	Dry pond retrofit
	NBMP1	Public	33.9	1.5	Yes	No	No	29.0	17.8	11.1	$447,400	$40,200	Wetlands indicators, requires field review
	NBMP3	Private	24.8	1.4	No	No	No	10.3	4.5	5.8	$353,200	$61,000	Wetland indicators along nearby channel
292	dSb46	Public	14.6	N/A	No	No	No	7.8	4.8	3.0	$92,600	$30,900	Dry pond retrofit
Total of all potential new regional wet stormwater ponds								151.7	92.5	59.2	$2,293,700	$38,800	

** Planning level cost estimate for comparative purposes only. Should not be used for budgeting. Costs do not include costs associated with land acquisition.*

[1] Based on review of Wisconsin DNR's Surface Water Data Viewer website.

[2] Based on review of Wisconsin DNR's BRRTS website.

[3] Based on review of Wisconsin DNR's NHI website

As part of the WDNR UNPS Construction grant application for the Strawberry Fields Dry to Wet Detention Basin Conversion project, we developed an evaluation matrix to help determine the highest priority BMP when considering the following criteria: reaches with the largest TP reduction gap, potential permitting requirements, public or private ownership, cost-effectiveness for TP removal, and potentially other political reasons as shown in the graphic below. As can be seen, the total potential TP reduction of 59.2 lbs./year contemplated with these projects is well short of the 2,593 lbs./year TP reduction gap. For this reason, the City will need to identify and analyze additional BMPs that will help close the TP reduction

gap. Potential TP reduction initiatives could include additional in-city BMPs, TP Credit for Leaf Collection Program Analysis, enhanced phosphorus removal with chemical treatment (Table 4-3 in the 2018 plan shows potential for 223 lbs./year TP reduction), accounting for new and redevelopment over time, and water quality trading with agricultural lands. It is recommended that the City prepare a stormwater quality management plan update with WDNR UNPS Planning grant funds to further investigate.

City of Wausau
Stormwater Grant Application for Stormwater BMP
Stormwater BMP Evaluation Matrix
Strand Associates, Inc.
11/18/2021

Table 4-1. Analysis of Potential New Regional Wet Detention Basin Ponds
Stormwater Management Plan Update, City of Wausau, WI

								Drainage Area TP			Est. Capital Cost		Comments
TMDL Reachshed	Proposed BMP-Pond ID	Land Ownership	Analyzed Drainage Area (ac)	Site Space Available (ac)	WDNR Wetland Indicators	Site Environmental Considerations	Endangered Species Screening	Existing Load (lb/yr)	Post-treatment Load (lb/yr)	Load Reduction (lb/yr)	Cost ($)	($/lb TP)	
154	dSb5	Public	29.6	N/A	No	No	No	16.2	7.4	8.8	$222,200	$25,200	Dry pond retrofit; Strawberry fields development
290	dSb3	Public	7.1	N/A	No	No	No	4.2	2.9	1.3	$107,900	$85,300	Dry pond retrofit
291	dSb63	Public	18.9	N/A	No	No	No	11.8	5.4	6.5	$197,500	$30,600	Dry pond retrofit
292	dSb46	Public	14.6	N/A	No	No	No	7.8	4.8	3	$92,600	$30,900	Dry pond retrofit
291	NBMP1	Public	33.9	1.5	Yes	No	No	29	17.8	11.1	$447,400	$40,200	New Wet Pond, Wetlands indicators, requires field review

Note: The table above only includes proposed publicly-owned BMPs from Table 4-1. It does not include privately-owned BMPs NBMP15, dSb16, NBMP10, and NBMP3 under the understanding that the City would like to pursue a publicly-owned projects first.

TMDL Reachshed	Existing Conditions TP reduction (%)	TMDL-Required TP reduction (%)	TP Reduction Gap for TMDL Compliance (%)	TP Reduction Gap for TMDL Compliance (lbs)	Rank
154	19.2	68.6	49.4	1,154	1
156	23	68.6	45.6	1,085	2
265	21.6	68.6	47	167	3
290	28	68.6	40.6	135	4
291	67	68.6	1.6	11	6
292	55.2	68.6	13.4	41	5
Total	**28.1**	**68.6**	**40.5**	**2,593**	

Scoring

1-6 (1 high-low)	Public, 2-Priva	1-5 (1 low to 5	1-5 (1 low to 5 hi	1-5 (1 low to	1-5 (1 low to 5	Lower the score the better			
TMDL Reachshed With Largest TP Reduction	Public or Privater Ownership	Potential Permitting Requirements	Load Reduction (lb/yr)	Cost-Effectivenes ss ($/lb TP)	Other Potential Political Factors	Total Score	Rank	Proposed BMP-Pond ID	TMDL Reachshed
1	1	1	2	1		**6**	1	dSb5	154
4	1	1	5	5		**16**	4	dSb3	290
6	1	1	3	2		**13**	2	dSb63	291
5	1	1	4	3		**14**	3	dSb46	292
6	1	5	1	4		**17**	5	NBMP1	291

Likewise, in accordance with the City's Wisconsin Pollutant Discharge Elimination System (WPDES) Permit No. WI-S050075-3 for its Municipal Separate Storm Sewer System, the City is required to periodically inspect existing City-owned BMPs to determine if maintenance is needed to maintain the originally designed pollutant removal operating efficiency of the BMP (see permit Section 2.6.2).

Location	BMP Type	Original Water Depth (feet)	Average Water Depth (feet)	Average Sediment Depth (feet)	Construction Year	Average Sediment Fill Rate (feet/year)	Years Before Less Than 3-Foot Water Depth
Westbridge	Wet Pond	4.50	3.00	1.08	2014	0.135	0.03
Waunakee Business Park–Phase 1	Wet Pond	5.00	3.82	1.56	2000	0.071	11.49
Waunakee Business Park–Phase 2							
Lillian Street	Wet Pond	6.00	4.31	1.49	2005	0.087	15.01
Prairie View	Wet Pond	7.00	4.97	2.17	2005	0.128	15.40
Uniek Uniek (without pts 3 and 6)	Wet Pond	6.50 6.50	4.27 5.76	0.76 0.53	2005 2005	0.045 0.031	28.42 88.53

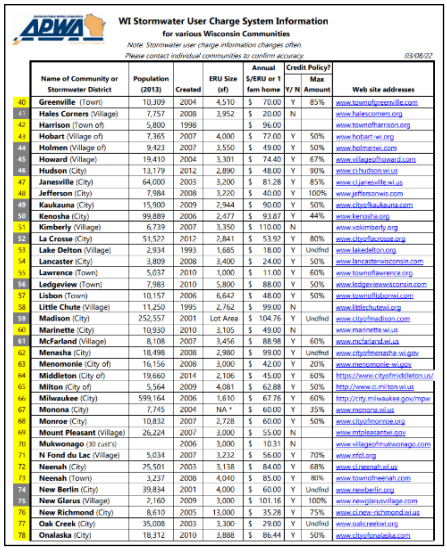
Table 1 Summary of Stormwater BMP Reviews

If the City has not yet established or initiated a program, the upcoming grant application provides an opportunity to include scope related to field assessment/survey of a number of existing BMPs to determine maintenance need. We recently began this process with the Village of Waunakee, as shown in the graphic above and per the project description in the *Project Experience – Stormwater Quality* section.

Stormwater Utility Feasibility Study Update

It is our understanding that the City attempted to implement a stormwater utility via referendum in 2015, but the referendum did not pass. As the City is aware, 2013 Wisconsin Act 20 discusses the stipulations that need to be complied with to implement a stormwater utility. In theory, it appears that a referendum would not be needed if the City commensurately reduced the tax levy equivalent to the amount that would be moved to funding under a stormwater utility and sustained the reduced tax levy amount moving forward.

Regarding increases to the stormwater utility fee over time, our interpretation is that 2013 Wisconsin Act 20 would still apply such that a commensurate reduction in levy would apply. However, we recommend the City consult legal counsel for further interpretation on how this may apply to the City. The need and cost to comply with the Wisconsin River TMDL could be the driver to help justify implementation of a stormwater utility this time around that was not in place back in 2015. Our stormwater utility experience is highlighted in our *Project Experience –Stormwater Quality* section.



WI Stormwater User Charge System Information for various Wisconsin Communities

Note: Stormwater user charge information changes often. Please contact individual communities to confirm accuracy. 03/08/22

	Name of Community or Stormwater District	Population (2013)	Created	ERU Size (sf)	Annual $/ERU or 1 fam home	Credit Policy? Y/N	Credit Policy? Max Amount	Web site addresses
40	**Greenville** (Town)	10,309	2004	4,510	$ 70.00	Y	85%	www.townofgreenville.com
41	**Hales Corners** (Village)	7,757	2008	3,952	$ 20.00	N		www.halescorners.org
42	**Harrison** (Town of)	5,800	1998		$ 96.00			www.townofharrison.org
43	**Hobart** (Village of)	7,365	2007	4,000	$ 72.00	Y	50%	www.hobart-wi.org
44	**Holmen** (Village of)	9,423	2007	3,550	$ 49.00	Y	50%	www.holmenwi.com
45	**Howard** (Village)	19,410	2004	3,301	$ 74.40	Y	67%	www.villageofhoward.com
46	**Hudson** (City)	13,179	2012	2,890	$ 48.00	Y	90%	www.ci.hudson.wi.us
47	**Janesville** (City)	64,000	2003	3,200	$ 81.28	Y	85%	www.ci.janesville.wi.us
48	**Jefferson** (City)	7,984	2008	3,220	$ 40.00	Y	100%	www.jeffersonwis.com
49	**Kaukauna** (City)	15,900	2009	2,944	$ 90.00	Y	50%	www.cityofkaukauna.com
50	**Kenosha** (City)	99,889	2006	2,477	$ 93.87	Y	44%	www.kenosha.org
51	**Kimberly** (Village)	6,739	2007	3,350	$ 110.00	N		www.vokimberly.org
52	**La Crosse** (City)	51,527	2012	2,841	$ 53.92	Y	80%	www.cityoflacrosse.org
53	**Lake Delton** (Village)	2,934	1993	1,685	$ 18.00	Y	Unofficial	www.lakedelton.org
54	**Lancaster** (City)	3,809	2008	3,400	$ 24.00	Y	50%	www.lancasterwisconsin.com
55	**Lawrence** (Town)	5,037	2010	1,000	$ 11.00	Y	60%	www.townoflawrence.org
56	**Ledgeview** (Town)	7,983	2010	5,800	$ 88.00	Y	50%	www.ledgeviewwisconsin.com
57	**Lisbon** (Town)	10,157	2006	6,642	$ 48.00	Y	50%	www.townoflisbonwi.com
58	**Little Chute** (Village)	11,250	1995	2,762	$ 99.00	N		www.littlechutewi.org
59	**Madison** (City)	252,557	2001	Lot Area	$ 104.76	Y	Unofficial	www.cityofmadison.com
60	**Marinette** (City)	10,930	2010	3,105	$ 49.00	N		www.marinette.wi.us
61	**McFarland** (Village)	8,108	2007	3,456	$ 88.98	Y	60%	www.mcfarland.wi.us
62	**Menasha** (City)	18,498	2008	2,980	$ 99.00	Y	Unofficial	www.cityofmenasha-wi.gov
63	**Menomonie** (City of)	16,156	2008	3,000	$ 42.00	Y	20%	www.menomonie-wi.gov
64	**Middleton** (City of)	19,660	2014	2,106	$ 45.00	Y	60%	https://www.cityofmiddleton.us/
65	**Milton** (City of)	5,564	2009	4,081	$ 62.88	Y	50%	http://www.ci.milton.wi.us
66	**Milwaukee** (City)	599,164	2006	1,610	$ 67.76	Y	60%	http://city.milwaukee.gov/mpw
67	**Monona** (City)	7,745	2004	NA *	$ 60.00	Y	35%	www.monona.wi.us
68	**Monroe** (City)	10,832	2007	2,728	$ 60.00	Y	50%	www.cityofmonroe.org
69	**Mount Pleasant** (Village)	26,224	2007	3,000	$ 55.00	N		www.mtpleasantwi.gov
70	**Mukwonago** (30 cust's)		2006	3,000	$ 10.31	N		www.villageofmukwonago.com
71	**N Fond du Lac** (Village)	5,034	2007	3,232	$ 56.00	Y	70%	www.nfdl.org
72	**Neenah** (City)	25,501	2003	3,138	$ 84.00	Y	68%	www.ci.neenah.wi.us
73	**Neenah** (Town)	3,237	2008	4,040	$ 85.00	Y	80%	www.townofneenah.com
74	**New Berlin** (City)	39,834	2001	4,000	$ 60.00	Y	Unofficial	www.newberlin.org
75	**New Glarus** (Village)	2,160	2009	3,000	$ 101.16	Y	100%	www.newglarusvillage.com
76	**New Richmond** (City)	8,610	2005	13,000	$ 35.28	Y	75%	www.ci.new-richmond.wi.us
77	**Oak Creek** (City)	35,008	2003	3,300	$ 29.00	Y	Unofficial	www.oakcreekwi.org
78	**Onalaska** (City)	18,312	2010	3,888	$ 86.44	Y	50%	www.cityofonalaska.com

APWA's stormwater utility database.

Once costs are known for implementation of new stormwater management programs and BMPs required for MS4 and TMDL compliance through completion of an updated stormwater quality management plan, a proposed budget for ongoing and new stormwater-related efforts will be developed. With this information, an updated stormwater utility feasibility study can more efficiently be completed. As stated previously, the WDNR's UNPS planning grant is ideally suited for funding 50 percent of an updated stormwater quality management plan that would include completing the updated stormwater utility feasibility study. Findings of the study can be compared to rates charged by other MS4s subject to TMDLs in the state using the American Public Works Association (APWA) Wisconsin Chapter's stormwater utility database available on-line.

WWTP Issues and Water Quality Trading Clearinghouse

It is our understanding that the City is working towards TMDL compliance at the WWTP by implementing facility upgrades at the plant. It is typical for MS4s and WWTPs to collaborate (as we have done in the City of Marshfield, City of Whitewater, and elsewhere) on TMDL compliance, specifically for phosphorus. When implementing water quality improvements or improved treatment at the WWTP, we can assist the City in evaluating the potential of trading water quality credits from the WWTP to the MS4, or vice versa.

We are also aware of the WDNR and WDOA recently selecting RES, LLC. as a 3rd party entity that will be helping to develop and administer that state's water quality trading clearinghouse. The clearinghouse is touted as removing many of the impediments to water quality trading under the WDNR's current,

somewhat inflexible process. We will continue to track its implementation and potential impact on the City.

Budgeting for this Effort

The following amounts are being provided for budgetary purposes only. These values are based on the range of project costs we have seen for similar efforts that successfully received grant funding in 2017, 2019, and 2021. We suggest that the City initially budget for the Stormwater Quality Plan Update efforts in 2024, as this will provide extra points in the grant application scoring. While we present a Stormwater Quality Management Plan Update cost range based on past efforts in Sheboygan, Marshfield, Manitowoc, Rothschild, La Crosse, and Whitewater, it appears that the City may want to initially budget for a $170,000 project (WDNR share: $85,000; City share: $85,000) for a stormwater quality plan update with stormwater utility rate study. The cost would be further refined as the grant application is prepared and scope items for inclusion in the grant application are agreed upon.

Stormwater Quality Management Plan Update Cost Range	
Preliminary topographic/bathymetric survey of up to 10 City-owned wet ponds to determine maintenance/dredging need	$20,000 to $25,000
Stormwater Program Updates	Not Included
Existing Conditions WinSLAMM Modeling Update for BMPs between 2018 and 2024	$25,000 to $35,000
Alternatives Analysis for TMDL Compliance Plan (BMPs Within City)	$30,000 to $40,000
Alternatives Analysis for TMDL Compliance (agricultural water quality trading)	$10,000 to $15,000
Stormwater Utility Feasibility Study Update	$20,000 to $35,000
TP Leaf Credit for Leaf Management Program Analysis	$15,000 to $20,000
Total	**$120,000 to $170,000**
State Cost Share Range (50%)	$60,000 to $85,000*
Wausau Cost Share Range (50%)	**$60,000 to $85,000**

* Maximum grant amount is $85,000.

If successful, the City will have up to 2 years (January 1, 2024, to December 31, 2025, with possibility for a one time, 1-year extension to December 31, 2026) to spend the grant money and complete its plan. This timing provides the City with an opportunity to set aside funds to complete its compliance plan so it can respond in confidence to the MS4 and TMDL requirements.

Grant Application Proposal

The following is our proposal for preparation of a WDNR UNPS planning grant application for a stormwater quality management plan update. This grant program can fund 50 percent of costs up to $85,000. We propose a lump sum fee of $8,900 for these services. We are confident that the value we provide the City for a quality grant application will be greater than the cost for preparation of the grant application itself, as supported by our proposal. Given an anticipated notice to proceed of January 16, 2023, services are scheduled for completion on April 14, 2023.

Scope of Services

1. Prepare and submit to City a draft version of an Urban Nonpoint Source and Stormwater Planning Grant Application and attachments as a portable document format (PDF) file. Discuss with City potential

stormwater permit-related efforts to be included in the stormwater quality management plan update and their related impact on the grant application score. Provide an anticipated grant application score for the grant application.
2. Provide a sample resolution and examples of letters of support to the City.
3. Correspond with the WDNR about the grant application.
4. Attend virtual meeting with City to discuss the draft grant application.
5. Incorporate City comments, as appropriate, and prepare and submit a final PDF file of the grant application to the City.

City Responsibilities

1. Provide three letters of support from interest groups for inclusion in the grant application.
2. Provide an authorizing resolution for the project.
3. Provide the electronic WinSLAMM files in .mdb format from the City's 2018 Stormwater Management Plan Update.
4. Provide evidence that the local-share project funds are included in an adopted budget or will be in a proposed budget.
5. Submit prepared grant application and corresponding attachments to the WDNR before the April 15, 2023, grant application deadline.

Why Strand?

By working with our firm to assist Wausau in stormwater-related projects, the City will accrue the following major benefits:

- Since 2013, our firm has a 100 percent (23 of 23) success rate in assisting clients in securing WDNR-UNPS Planning Grant funds.
- Since 2012, our firm has an 88 percent (21 of 24) success rate in assisting clients in securing WDNR Design/Construction Grant funds. The three not funded were streambank restoration-type projects that are occasionally funded if the grant program is sufficiently funded (or a lesser number of grant applications are submitted) but typically do not score high within the grant scoring protocol.
- Assisted clients in obtaining 78 grants through the WDNR UNPS grant program since its inception in 2001.
- Currently assisting dischargers impacted by the Northeast Lakeshore, Wisconsin River, Upper Fox and Wolf River, Fox-Des Plaines River, Lake St. Croix, Rock River, and Milwaukee River TMDLs.
- Our wastewater group, through Ryan Yentz, completed a flow metering study with the City in 2020 and is currently working on a smoke testing and manhole assessment study, thus, providing a familiarity with our firm. We also understand the interrelationships between WWTPs and MS4s when it comes to watershed-based TMDL compliance methods. We are in regular contact with City staff and regularly provide information regarding key regulatory issues. Our wastewater department is ranked among the top 20 of wastewater design firms, nationally, by Engineering News Reports and has significant experience in any service with which the City of Wausau WWTP might require assistance.
- Our **Project Manager, Jon Lindert**, one of our senior stormwater engineers, has been a leader in the Wisconsin stormwater community for more than 20 years, as follows:
    - Serves as the stormwater consultant for the North Central Wisconsin Stormwater Coalition's (NCWSC) to provide technical review and guidance regarding Wisconsin River TMDL development and implication to Wausau area MS4s. Jon can apply this knowledge to the City of Wausau for ongoing Wisconsin River TMDL implementation efforts.
    - Served on the WDNR's TMDL/MS4 Urban Stormwater Technical Team that produced the modeling guidance for TMDL Compliance Plans.

  - Recently submitted his application to serve as a team member on the WDNR's Standards Oversight Committee (SOC) for the upcoming technical standard related to enhanced phosphorous removal through chemical addition.
  - Along with other stormwater engineers from our firm, successfully submitted the state's first seven WDNR-approved *TP Credit for Leaf Collection Program Analyses* for TMDL compliance in Whitewater, Stoughton, Monona, Rothschild, Schofield, Weston, and Merrill using the WDNR's original 2018 guidance. We are currently in the process of updating Whitewater's analysis and completing Marshfield's analysis using the WDNR's updated 2022 guidance that allows a larger TP credit (25 percent) for expanded eligible land uses (all residential).
  - Along with other members of our firm, produced the Clean Lakes Alliance Plan that seeks to reduce TP by 50 percent in the Yahara Chain of Lakes with a combination of rural and urban actions.
  - Active member (currently the chairperson) of the Central States Water Environment Association (CSWEA) Stormwater and Watershed Management committee.
  - Serves MS4 communities subject to TMDLs in multiple areas of the state.
- Our *Project Team* and *Project Experience – Stormwater Quality* sections highlight our firm's diverse team and significant experience that will make stormwater-related projects a success.
- Our demonstrated knowledge of the TMDL and funding climates put Wausau at the front of the line for grant funding.
- Staying ahead of the City's stormwater quality and/or quantity issues provides the most benefit to the City as a whole and we expect this will gain approval and confidence from Wausau's elected officials.

What's Next?

With a WDNR UNPS construction grant application deadline of April 15, 2023, we envision preparing a task order in late 2022 such that work on the grant application can begin by mid- to late-January 2023. As part of the process, we will hold a virtual meeting with the City to discuss the status of the City's existing stormwater quality plan and program and stormwater utility in greater detail. This will help us to refine a scope and fee for inclusion in the grant application. The City will also need to pass a resolution stating that the City's share of the funds is available, should the grant be awarded. A strong grant application typically includes letters of support from local environmental or neighborhood groups, so we will work with the City to identify these groups.

Sincerely,

STRAND ASSOCIATES, INC.®

Jon H. Lindert, P.E., LEED® AP
Project Manager/Senior Associate

Michael A. Williams, P.E.
Quality Control Engineer

Ryan M. Yentz, P.E.
Wastewater Engineer

P222.024/JL:MW:RY:tk

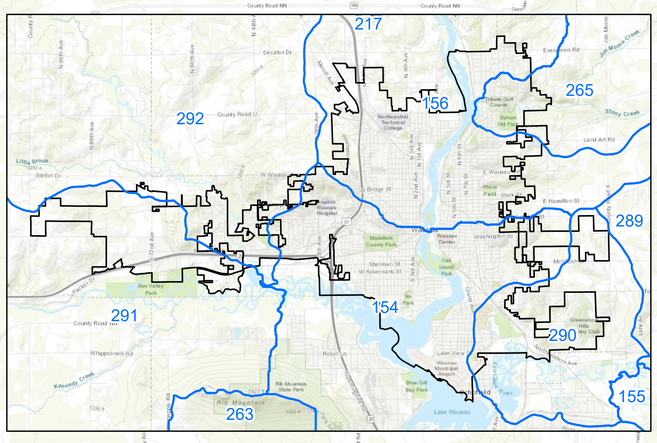
Legend

- City Limits
- Storm Sewer
- SLAMM Basin
- Potential BMP
- Storage Basin
- TMDL Reaches

TMDL Reaches

- 154
- 156
- 265
- 290
- 291
- 292

NBMP1
NBMP3
NBMP15
NBMP10
dSb46
dSb63
dSb16
dSb55
dSb3



WATERSHED MAP

CITY OF WAUSAU
MARATHON COUNTY, WISCONSIN

STRAND ASSOCIATES®

FIGURE 1
P210.902

0 500 1,000 2,000 Feet

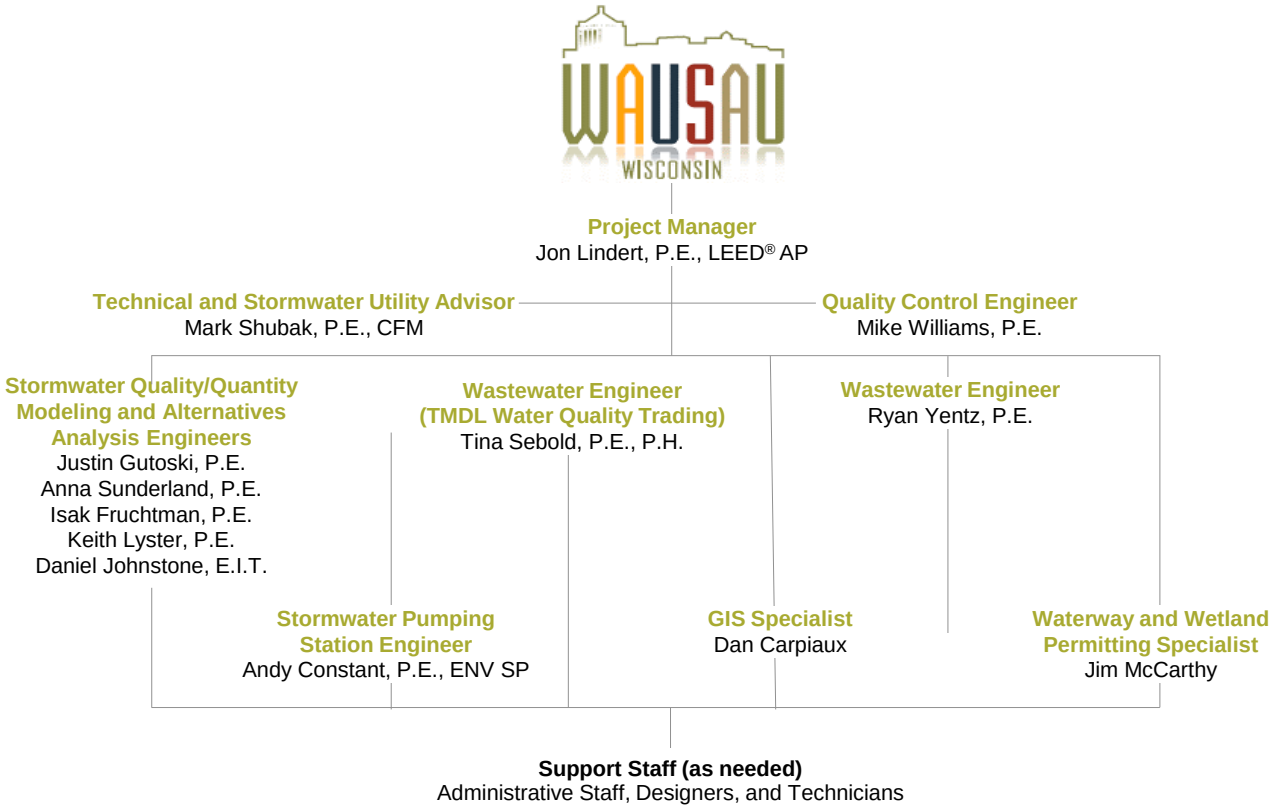
Path: K:\MAD\Work Products\Client\Proposals & SOQs\2021\Green Infrastructure\Wisconsin\Wausau-Grant for BMP (P210.902)\GIS\Maps\Watershed 22x34.mxd User: danc Date: 9/14/2021 Time: 12:56:12 PM

Project Team

Project Team has the Background and Ability to Address All Stormwater Issues

We have assembled a team of professionals with the requisite skill sets to make any stormwater-related City project a success, including experts in stormwater quality and quantity management, streambank restoration, infiltration testing, ecological restoration/wetland biology, and wastewater treatment and water quality trading. Our diverse team is built on the significant experience needed to complete project components cost effectively. Below is an organizational chart of our team followed by a brief description of each team member and their role. We can utilize multiple project managers to fit a particular project, with Jon, Mark, Mike, and Justin generally being somewhat interchangeable.

We have assembled a team of professionals with the requisite skill sets to make any stormwater-related City project a success.



Project Manager

Jon H. Lindert, P.E., LEED® AP, Senior Associate, will serve as Project Manager and be responsible for management, administration, and the day-to-day technical progress of the project. Jon has been with our firm for more than 29 years and is a leading stormwater expert in Wisconsin. His expertise lies in all aspects of stormwater management from planning/analysis to design to construction, including stormwater quality modeling, MS4/TMDL compliance, watershed planning/management, hydrologic/hydraulic modeling, stormwater utilities, floodplain management, MS4 permitting, and design of stormwater conveyance systems, dredging, streambank and natural area restoration, traditional stormwater BMPs (wet ponds, dry ponds, infiltration basins, bioretention basins, rain gardens), and innovative green infrastructure BMPs (regenerative stormwater conveyance, stepped-pool conveyance systems, hydrodynamic separators). ***Many of Jon's projects involve analysis of complex stormwater quality and quantity issues, navigation through complex regulatory requirements, and orchestration of significant***

Jon has been with our firm for more than 29 years and is a leading stormwater expert in Wisconsin.

public involvement plans. Jon is our corporate Technical Advisor on stormwater funding and policy, urban stormwater analysis, and green infrastructure plan development and design. In 2021, he led our team in successful WDNR UNPS Planning grant applications for Stormwater Quality Management Plan Updates for TMDL compliance in Manitowoc, Sheboygan County, Sheboygan Falls, and the Town of Cedarburg.

He served on WDNR's MS4/TMDL Urban Stormwater technical team, assisting in WDNR's development of the MS4/TMDL modeling guidance that was used for modeling updates. He recently submitted his application to serve as a team member on the WDNR's Standards Oversight Committee (SOC) for the upcoming technical standard related to enhanced phosphorous removal through chemical addition. Jon also serves MS4s throughout Wisconsin, including the North Central Wisconsin Stormwater Coalition (NCWSC), providing regulatory advocacy for our clients. As a result, he has developed important relationships with WDNR staff throughout the state, including with Teagan Wagner.

Jon recently completed MS4/TMDL stormwater plan updates following WDNR MS4/TMDL modeling guidance for the Rothschild (including flood control), Sheboygan (including flood control), Monona, Stoughton, Whitefish Bay, Waunakee, and Whitewater. He is working with numerous Wausau-area MS4s on stormwater quality plan updates (Schofield, Kronenwetter, Marathon County, Merrill, Weston, and Marshfield). Jon was also the Lead Stormwater Engineer for the Yahara Clean Engineering Report for the Clean Lakes Alliance that seeks to reduce TP by 50 percent in Madison's Yahara Chain of Lakes via a combination of rural/agricultural and urban actions. Jon's experience includes Madison's Lake Wingra Watershed Management Plan, where he led 13 steering team meetings and three issue team (chlorides and infiltration) meetings over the course of 3 years, resulting in a comprehensive plan for reducing phosphorus and chlorides and increasing the infiltration/spring flow, backed by a behavior-change-based social marketing plan.

Jon performed the hydraulic analysis for our City of Onalaska 100-year stormwater pumping station project and is adept at stormwater pond conversion (dry to wet), rehabilitation, and dredging. Outside of work, Jon is currently the chairperson of the CSWEA Watershed and Stormwater Committee and has served as the President of the Wisconsin Section of ASCE. Jon is a regular technical presenter on stormwater quality topics at the Fox Wolf Watershed Alliance (FWWA), American Public Works Association (APWA), and ASCE conferences.

Technical and Stormwater Utility Advisor

Mark K. **Shubak**, **P**.**E**., **CFM**, **Senior Associate**, has 29 years of practical experience as a stormwater and water resource engineer. His background includes hydrology and hydraulic (H&H) analyses using a variety of software packages; watershed master plan development; design and construction-related services of stormwater conveyance and storage facilities; stormwater utility plan development and implementation; floodplain and floodway studies/mapping; Phase I and II National Pollutant Discharge Elimination System/Wisconsin Pollutant Discharge Elimination System stormwater permitting; stormwater grant writing; municipal plan review; and floodplain and stormwater ordinance development and enforcement.

Mark has 29 years of practical experience as a municipal stormwater and water resource engineer.

Mark's experience centers on stormwater planning and SWU feasibility studies conducted in Sterling, Elgin, and Aurora, Illinois; Clinton, Iowa; and Whitewater, Portage, Stoughton, Lake Mills, and New Glarus, Wisconsin. Mark is well-versed at making sure SWU feasibility planning efforts can efficiently lead to successful implementation. Mark's municipal stormwater experience also includes developing

communitywide and watershed Stormwater Management Master Plans for more than 20 governmental clients, including Sterling and Winnetka, Illinois, and Madison, Whitewater, Stoughton, and Oshkosh, Wisconsin. Recently, Mark served as the Lead Stormwater Engineer for the $100 million Bee Branch Creek Restoration project for the City of Dubuque, Iowa.

Quality Control Engineer

Michael Williams, P.E., has 22 years of experience as a municipal stormwater and water resource engineer. Mike has been involved with design projects involving detailed hydraulic calculations, slope stabilization, streambank restoration and design, watercourse plan development and design, stormwater pump stations, and BMP design measures. Mike has developed stormwater management plans using programs such as PC-SWMM (1D and 2D), XP-SWMM (1D and 2D), StormCAD, HEC HMS, HydroCAD, HEC-RAS and HEC RAS 2D.

Mike has 22 years of experience with stormwater quality and quantity plan development.

He has also been instrumental in providing in depth analysis, design, and preparation of drawings and specifications for streambank and shoreline restoration, storm sewers, stormwater ponds, green infrastructure, and rehabilitation and dredging of existing ponds. Mike has performed detailed stormwater planning and design on projects in several states, including Wisconsin, Illinois, Ohio, and Kentucky. Mike served as a Lead Civil Engineer and Stormwater Management Designer on our Manitowoc, Fond du Lac, Arcadia, La Crosse, Winnetka, Dubuque, and Oshkosh flood mitigation projects. He is currently completing MS4/TMDL stormwater quality management plan updates for La Crosse, Merrill, and Portage, as well as design of the rehabilitation of Swallowtail Pond for Madison.

Depending on project specifics, Mike brings project team members together to provide comprehensive assessment and design related to soil contamination, wetlands, MEP, structural, hydraulics, and stormwater treatment.

Mike is our corporate stormwater modeling trainer, providing training in SWMM and WinSLAMM to stormwater engineers in our 12 offices. Mike is also an active member in the American Public Works Association (APWA) and currently sits on the Water Resources and Engineering and Technology Committees.

Stormwater Quality/Quantity Modeling and Alternatives Analysis Engineers

Justin J. Gutoski, P.E., has vast experience with MS4 and TMDL stormwater regulations in Wisconsin and has 14 years of stormwater quality management plan development experience. In the Rock River Basin TMDL watershed, Justin recently updated the Town of Dunn's stormwater management plan (including WinSLAMM modeling) and updated its stormwater programs for MS4 permit compliance. In the Milwaukee River Basin TMDL watershed, Justin serves as the Town of Brookfield Engineer and will be updating the Town's WinSLAMM modeling and assisting with ongoing MS4 stormwater program implementation and MS4 annual report preparation.

Justin has experience with stormwater quality management plan updates for larger communities in Wisconsin.

He is well versed in BMP design and permitting with recent projects in Monona (wet pond dredging) and Stoughton (dry-to-wet-pond conversion). Justin has recently or is currently serving as the Project Manager for the Manitowoc, Onalaska, Kronenwetter, and Weston Stormwater Quality Management Plan Updates for TMDL Compliance. The City of Waukesha recently hired our team, led by Justin as the project manager, to serve as the City's MS4/TMDL consultant for the upcoming Fox-Des Plaines TMDL, including initial tasks related to catching the City up on stormwater BMP maintenance and protocols.

Anna T. Sunderland, P.E., has 6 years of experience on many municipal, green infrastructure, and stormwater projects. Anna has assisted in the development of MS4/TMDL Stormwater Quality Plan Updates for TMDL Compliance for the City of Marshfield, City of Portage, City of Sheboygan, and City of La Crosse, where she is performing WinSLAMM and XPSWMM modeling and alternatives analysis to reduce pollutant loads and flooding. She has completed stormwater design for both urban and rural corridors and is adept at balancing proposed solutions with existing infrastructure impact minimization.

Anna has 6 years of stormwater engineering experience, including WinSLAMM modeling and WDNR UNPS grant writing.

In addition, Anna was the Lead Stormwater Design Engineer for a green infrastructure and stormwater management project beneath Milwaukee's Marquette Interchange as part of our firm's green infrastructure on-call contract with the Milwaukee Metropolitan Sewerage District. She is currently serving as the Project Manager for the Sheboygan County (Northeast Lakeshore TMDL) and Town of Cedarburg (Milwaukee River TMDL) Stormwater Quality Management Plan Updates funded by successful WDNR UNPS Planning grants written in 2021. In 2020, Anna assisted the City of Sheboygan with a successful WDNR UNPS construction grant application that is funding implementation of the City's highest priority stormwater BMP (dry-to-wet-pond conversion) coming out of the City's stormwater quality plan update

Isak P. Fruchtman, P.E. received his Master of Science in Civil and Environmental Engineering from the UW-Madison and has been involved in many municipal and stormwater projects since joining our firm. He recently worked with Jon and Mike to finish completion of Stormwater Quality Management Plan Updates for the City of Sheboygan and the City of Portage, Wisconsin, where he aided with the stormwater quality modeling and alternatives analysis. Isak provides training to our staff on the use of ArcSLAMM Plus and stormwater utility analysis.

Isak is very knowledgeable in map data creation and conversion and WDNR UNPS Planning grant writing.

Isak is currently serving as the Project Manager for the City of Sheboygan Falls Stormwater Quality Management Plan Update (Northeast Lakeshore TMDL) funded by a successful WDNR UNPS Planning grant written in 2021. He also has experience designing urban stormwater conveyance systems and reviewing stormwater management plans for residential developments. In addition, he has several years of GIS experience in geodatabase design and creation and is highly knowledgeable in map data creation and conversion, coordinate system development, and spatial analysis, which he will use to develop any necessary mapping tools and report products.

Keith Lyster, P.E., received B.S. and M.S. degrees in Civil Engineering from the University of Wisconsin-Madison, with an emphasis in Water Resources Engineering. His professional experience includes H&H analysis of both rural and urban watersheds and preparation of storm sewer models and designs, bridge hydraulic analyses, and stormwater quality plans and permit applications.

Keith assisted Jon, Justin, and Mike on Marathon County, Kronenwetter, and Merrill Stormwater Quality Plan Updates for TMDL Compliance.

Keith has developed stormwater quality management plan updates with WinSLAMM modeling and alternatives analysis for MS4/TMDL-compliance for Marathon County, Kronenwetter, Merrill, Onalaska, and the Town of Omro. Keith's other notable recent projects include watershed analysis and design for our Arcadia, La Crosse, and Monona (Gateway Green) regional and neighborhood-level flood mitigation projects. He recently worked with Mike as the stormwater engineer on the City of Madison Lower Badger Mill Creek watershed study. His experience includes analysis and design of stormwater BMPs for community-wide (for TMDL compliance) and site-specific (for new and redevelopment) stormwater quantity and quality control, including a recent sizable development project for the City of Oshkosh. He is proficient with a variety of modeling software, including FLO-2D, HEC-RAS, HEC-RAS 2D, XP-SWMM, PC-SWMM, HydroCAD, StormCAD, CulvertMaster, and WinSLAMM.

Daniel Johnstone, E.I.T., received a B.S. degree in Biological Systems Engineering from the UW-Madison and joined our firm in 2021. To-date, his experience has included survey, design, stormwater quality and quantity modeling, and permitting for a dry-to wet-detention basin conversion in the City of Sheboygan for Northeast Lakeshore TMDL compliance, as well as an XP-SWMM 2D model in the City of Stoughton for the Academy Street flooding analysis and development of XP-SWMM 2D modeling of the Little Manitowoc River (Fenway Terrace) watershed in the City of Manitowoc.

Dan is currently assisting Jon with the Marshfield and Marathon County Stormwater Quality Plan Updates for TMDL Compliance.

In 2022, Dan assisted in completion of three successful WDNR Urban Nonpoint Source and Stormwater Construction grant applications (and Dane County Urban Water Quality grant applications, if applicable) for our clients to implement stormwater BMPs identified in TMDL Stormwater Quality Plans in Stoughton (hydrodynamic separator), Wausau (Strawberry Fields Dry to Wet Pond conversion), and Whitefish Bay (high-efficiency street sweeper). He is currently assisting Jon with completion of the Marshfield and Marathon County and Justin with the Manitowoc Stormwater Quality Plan Updates for Wisconsin River and Northeast Lakeshore TMDL compliance, respectively. He is also sizing storm sewer and doing an alternatives analysis on a 130-acre watershed in the City of Stoughton. Dan's stormwater skill set is bolstered by his proficiency in XP-SWMM 2D, HydroCAD, WinSLAMM, GeoHECRAS, AutoCAD Civil 3D, and ArcMap.

Wastewater Engineer (TMDL Water Quality Trading)

Tina M. Sebold, P.E., P.H., Senior Associate, has more than 31 years of experience with a wide variety of environmental engineering projects. These projects include WWTP plan development, design, and construction, as well as watershed-based nutrient reduction plan development and implementation and water quality trading with respect to wastewater treatment and agricultural BMP opportunities. Tina represented the Wisconsin River Dischargers Group (WRDG) during the development of the Wisconsin River TMDL. WRDG is a group of communities with WWTPs that discharge to the Wisconsin River that formed a group to track and provide comments on the TMDL with one unified voice. Tina's experience following the TMDL provides a distinct understanding of the TMDL process, load allocations, discharge permit limits, and compliance impacts. Tina is a native of the Marshfield area and has provided phosphorus compliance, WPDES permit review assistance, and watershed-based project assistance to area communities, including Marshfield, Marathon City, and Edgar.

Tina represented the WRDG during the development of the Wisconsin River TMDL.

Wastewater Engineer

Ryan M. Yentz, **P.E.**, has been with our firm for 6 years. Ryan has extensive collection system experience, including direct experience with the City of Wausau as the Project Manager and Lead Project Engineer for the flow metering study completed last year and the smoke testing and manhole assessment study currently in progress. Ryan has also served as Lead Design Engineer and Resident Project Manager for several collection system rehabilitation projects, including current assistance with the Southwest Interceptor design in Wausau, as well as Fond du Lac and Wisconsin Rapids, Wisconsin, and Davenport, Iowa. Inside the fence, Ryan was a Design Engineer for the Salem Lakes, Wisconsin, WWTP Regionalization project where he assisted in design of numerous processes, including preliminary treatment upgrades, clarification and aeration expansion, and UV disinfection upgrades. Ryan's existing relationship with City staff will benefit the project team and facilitate a smooth delivery.

Ryan's field and sanitary sewer collection system experience provides value.

Stormwater Pumping Station Engineer

Andrew B. Constant, P.E., ENV SP, has worked for our firm for 8 years and has quickly gained valuable experience in the design and construction observation of numerous pumping station, force main, roadway, and utility projects. His experience includes pumping station design for Madison Metropolitan Sewerage District (MMSD), La Crosse, Salem, Wisconsin Rapids, Middleton, Westport, and Onalaska, Wisconsin. He has also completed several pumping station and force main assessments for Wisconsin Rapids, Onalaska, and Whitewater, Wisconsin, and in Davenport, Iowa.

Andy has designed many pumping station projects.

Andy is currently working on the assessment and facility planning for 13 lift stations for NEW Water, a division of the Green Bay Metropolitan Sewerage District, and serving as Project Manager on the Madison MSD PS 13 and 14 Rehabilitation projects. In Fond du Lac, Andy is currently assisting Mike and Jon with existing stormwater pump station analysis and the rehabilitation or expansion necessary to divert and treat flows (for enhanced phosphorus reduction through chemical treatment) at a new wet pond in the City of Fond du Lac. His additional project experience includes roadway and utility design, cost estimate and permit application preparation, and shop drawing review for many communities.

GIS Specialist

Daniel A. Carpiaux will serve as the GIS Specialist in charge of developing the necessary mapping and report products. Dan has 20 years of experience in various GIS applications in both the public and private sectors. He is our Lead GIS Analyst and has developed and updated utility databases utilizing ArcGIS for many municipalities. He was involved in GIS system creation and mapping for WisDOT's Stormwater Mapping and Illicit Discharge Detection project. He has extensive experience in geodatabase design/creation and is highly knowledgeable in map data creation and conversion, coordinate systems, GPS technology implementation, 3-D modeling, and database design. His experience includes obtaining existing mapping/data sources and molding them into a usable GIS format with supporting databases. Dan is also well-versed in ArcGIS, AutoCAD, and Microstation.

Dan has 20 years of experience and is our Lead GIS Analyst.

Waterway and Wetland Permitting Specialist

James R. McCarthy is an ecologist with 33 years of experience who conducts our firm's environmental reviews, wetland delineations, habitat assessments, natural landscaping evaluations, and ROW acquisitions. As a trained forest ecologist/arborist and certified wetland specialist, Jim assists each of our offices and disciplines with the evaluation of natural environment impacts, including tree and wetland surveys; resource plan development and review; ecological restoration for wastewater, stormwater, and conveyance corridor reviews; road and trail transportation projects; and other public and private development projects. Jim had a prominent role in the WIS 51/29 Stormwater Management and Ecological Restoration in Wausau and assisted the project team with waterway and wetland permits related to projects necessary for TMDL compliance and flood control.

Jim has 32 years of waterway and wetland permitting and planting design experience.

Project Experience – Stormwater Quality

Expertise is Exemplified Through Extensive Project Experience

Operating within an ever-changing regulatory landscape, our firm brings significant experience with the detailed modeling and alternatives analysis required for MS4 permit and TMDL compliance, having provided MS4/TMDL WinSLAMM modeling and alternatives analysis for municipalities in multiple TMDL areas throughout the state. Not only have we already implemented WDNR's latest MS4/TMDL guidance for numerous communities, but our **Project Manager, Jon Lindert, P.E., LEED® AP**, was on the WDNR Committee that helped create this guidance. Our level of understanding of the current guidance will enable us to understand the City's existing stormwater management plan update and upcoming TMDL compliance options. Likewise, our WDNR UNPS design/construction grant prowess puts our clients at the head of the line for grant dollars to assist in the construction of stormwater BMPs as communities begin implementing their TMDL compliance plans.

We also serve as the MS4 and TMDL consultant for both the North Central Wisconsin Stormwater Coalition (NCWSC) and the Wisconsin River Discharger Group (WRDG) and have been involved in review of the Wisconsin River Basin TMDL. These roles give us an unique understanding of WDNR's statewide TMDL development process and the collaboration necessary between point and nonpoint dischargers. This knowledge will be valuable as we assist the City of Wausau with ongoing Wisconsin River TMDL compliance.

This knowledge will be valuable as we assist the City of Wausau with ongoing Wisconsin River TMDL compliance.

We understand how to foster the partnerships needed to comply with today's water quality regulations, whether through in-municipality compliance, water quality trading, or watershed adaptive management. The projects below describe our experience in the areas necessary, including MS4 and TMDL stormwater quality modeling and plan development; plan, design, and implementation of traditional and green infrastructure best management practices (BMPs); stormwater utilities; and water quality trading and watershed adaptive management. This experience will enable us to provide effective assistance related to stormwater planning for TMDL compliance and demonstrate that we are at the forefront of stormwater-related trends and regulations.

Statewide MS4 Consultant – Various Communities, WI

Overseen by **Project Manager, Jon Lindert, P.E., LEED® AP**, our firm has provided Wisconsin Pollutant Discharge Elimination System (WPDES) MS4-related consulting services for more than 30 communities and agencies throughout Wisconsin, including UW-Madison campuses; WisDOT; and various towns, villages, and cities. We have already or are currently completing MS4/TMDL stormwater plan updates for La Crosse, Sheboygan, Portage, Stoughton, Rothschild, Weston, Merrill, Schofield, Marshfield, Waunakee, Westport, Whitewater, UW-Whitewater, Whitefish Bay, Dunn, Pleasant Springs, Lisbon, and Marathon County.

For most of our MS4 clients, we have been successful in obtaining grant awards to assist in funding MS4 programs (43 planning grants worth $2.2 million and 28 design/construction grants worth $3.1 million).

For each of these municipalities/agencies, we have provided services in one or more of the following areas:

Urban Nonpoint Source and Stormwater (UNPS) grant applications for plan and design/construction programs	WinSLAMM modeling, including infiltration testing of grass swales
TMDL Compliance	Pollution prevention
Public education/outreach and public involvement/participation	Total Phosphorus (TP) Credit for Leaf Collection Program Analysis
Illicit discharge detection and elimination	Stormwater Utility development and administration
Construction site pollution control	Storm sewer system maps
Postconstruction stormwater management	Stormwater BMP Field Reviews for Maintenance Need

Current or Future TMDL	MS4 Community
Wisconsin River	Marshfield, Merrill, Portage, Schofield; Kronenwetter, Weston, Rothschild, and Marathon County; Ongoing WWTP Clients – Merrill, Rib Mountain MSD, Stevens Point, Rhinelander, Marathon City, Edgar, and Marshfield.
Rock River Basin	Whitewater, Stoughton, Monona, Janesville, Waunakee, Hartland, Maple Bluff, Shorewood Hills, Westport (T), Dunn (T), Pleasant Springs(T), UW-Madison, UW-Whitewater; and SW Region WisDOT (TS4).
Milwaukee River Basin	New Berlin, Waukesha, Campbellsport, Fox Point, Whitefish Bay, Lannon, Brookfield (T) and Lisbon (T).
Upper Fox/Wolf River	Fond du Lac, Omro (T), Algoma (T); NE Region WisDOT
Lake St Croix	River Falls, WWTP Clients: River Falls
Illinois-Fox River Basin	Lannon, Bristol, and Pewaukee
Black /La Crosse Rivers	La Crosse, Onalaska; UW-La Crosse Campus
Little Platte/Galena	UW-Platteville Campus and Pioneer Farm
Northeast Lakeshore	Sheboygan, Sheboygan Falls, Manitowoc, Sheboygan County

Project Duration
2001-Present

Project Team
Jon Lindert
Mark Shubak

References
Brian Noe
Town Chairman
Town of Omro
920-279-3181

Aaron Jahncke, P.E.
Village Engineer
Village of Waunakee
608-849-6469

Jarrod Holter, P.E.
City Engineer
City of Onalaska
608-781-9537

References Cont.
Kathy Kalscheur, P.E.
WI DOA
(UW Campuses)
608-267-2710

NCWSC Technical Services and WRDG TMDL Services – WI

Under two separate contracts, we are representing 13 MS4s and 21 municipal WPDES holders (WWTPs) in review of the Wisconsin River Basin TMDL development process. Services for NCWSC provided by **Jon Lindert, P.E., LEED® AP**, include attendance at monthly meetings; completion of authorized efforts and technical reviews of the Wisconsin River Basin TMDL; technical reviews of WDNR regulations, policies, and guidance documents; and review of proposed legislation affecting water quality regulations.

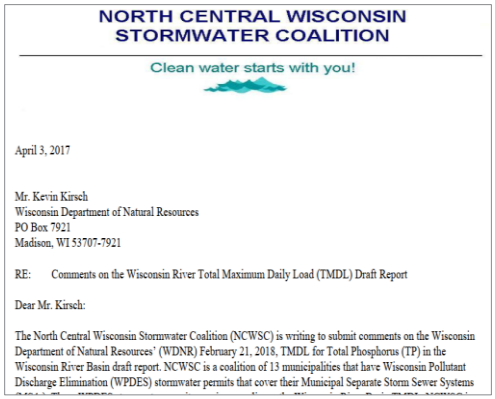
For WRDG, **Tina Sebold, P.E., P.H.**, tracks the Wisconsin River Basin TMDL; provides technical reviews of TMDL development (including reservoir modeling); serves as a representative at WDNR meetings; and coordinates with the Wisconsin River Industrial Dischargers Association (WRIDA – represented by attorney Angela James). Representation services have given us an insight into current WDNR TMDL development and implementation, which we will use while representing Beloit during implementation of the Rock River TMDL.

Project Duration
2013-Present (WRDG)
2016-Present (NCWSC)

Project Team
Jon Lindert
Tina Sebold

References
Jeff Pritchard
NCWSC
715-261-6042

Rich Boden
WRDG
715-345-5259



NORTH CENTRAL WISCONSIN STORMWATER COALITION

Clean water starts with you!

April 3, 2017

Mr. Kevin Kirsch
Wisconsin Department of Natural Resources
PO Box 7921
Madison, WI 53707-7921

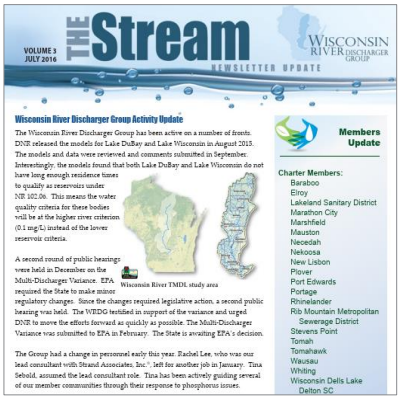
RE: Comments on the Wisconsin River Total Maximum Daily Load (TMDL) Draft Report

Dear Mr. Kirsch:

The North Central Wisconsin Stormwater Coalition (NCWSC) is writing to submit comments on the Wisconsin Department of Natural Resources' (WDNR) February 21, 2018, TMDL for Total Phosphorus (TP) in the Wisconsin River Basin draft report. NCWSC is a coalition of 13 municipalities that have Wisconsin Pollutant Discharge Elimination (WPDES) stormwater permits that cover their Municipal Separate Storm Sewer Systems

Our firm authored WI River TMDL report reviews for NCWSC.

Wisconsin River TMDL representation.



THE Stream
WISCONSIN RIVER DISCHARGER GROUP
VOLUME 3 JULY 2016
NEWSLETTER UPDATE

Wisconsin River Discharger Group Activity Update

The Wisconsin River Discharger Group has been active on a number of fronts. DNR released the models for Lake DuBay and Lake Wisconsin in August 2015. The models and data were reviewed and comments submitted in September. Interestingly, the models found that both Lake DuBay and Lake Wisconsin do not have long enough residence times to qualify as reservoirs under NR 102.06. This means the water quality criteria for these bodies will be at the higher river criterion (0.1 mg/L) instead of the lower reservoir criteria.

A second round of public hearings were held in December on the Multi-Discharger Variance. EPA required the State to make minor regulatory changes. Since the changes required legislative action, a second public hearing was held. The WDDG testified in support of the variance and urged DNR to move the efforts forward as quickly as possible. The Multi-Discharger Variance was submitted to EPA in February. The State is awaiting EPA's decision.

Wisconsin River TMDL study area

The Group had a change in personnel early this year. Rachel Lee, who was our lead consultant with Strand Associates, Inc.®, left for another job in January. Tina Sebold, assumed the lead consultant role. Tina has been actively guiding several of our member communities through their response to phosphorus issues.

Members Update

Charter Members:
Baraboo
Elroy
Lakeland Sanitary District
Marathon City
Marshfield
Mauston
Necedah
Nekoosa
New Lisbon
Plover
Port Edwards
Portage
Rhinelander
Rib Mountain Metropolitan Sewerage District
Stevens Point
Tomah
Tomahawk
Wausau
Whiting
Wisconsin Dells Lake Delton SC

Our firm authored newsletters for WRDG.

Well-Positioned Firm Will Be Your MS4/TMDL Compliance Advocate

Part of successful MS4 and TMDL compliance is developing strong relationships with WDNR staff and other stormwater professionals, staying abreast of the regulatory environment, and understanding how WDNR guidance, policies, and developing trends can assist with compliance. We are well positioned to do so by virtue of our role as a statewide MS4/TMDL consultant, our representation of the NCWSC, the WRDG, the Rock River TMDL Group, and numerous WWTPs; our immersion in statewide watershed groups and professional organizations; our involvement in the statewide TMDL process; and our experience in review of WDNR guidance, standards, and policies. At the forefront of stormwater-related regulatory trends and regulations, we will keep the City apprised of and positioned for upcoming pollutant reduction opportunities. When the City's best interests are not served by WDNR policies, we will advocate for the City with the WDNR to shepherd creative ideas for compliance.

Document	Current Status
WDNR Document Review	Over the last 6 years, review of more than 14 WDNR documents related to construction site erosion control sediment loss calculations, TMDL Guidance for MS4 Permits, (internal drainage, 20 percent standard, WinSLAMM model maintenance, MS4/TMDL modeling guidance), watershed adaptive management (buy-in protocol and impacts to MS4s), reissued MS4 permit, water quality trading guidance, and watershed adaptive management technical handbook.
WDNR Policy / Standards / Guidance Review	Over the last 6 years, review of more than 10 WDNR policies/standards/guidance related to construction site erosion control sediment loss calculations, site evaluation for infiltration technical standard, beta testWinSLAMM v10.3.22, MDV, BMPs in navigable artificial wetlands, vegetated infiltration swale standard (as SOC reviewer), sediment sampling for dredging, UNPS construction grant application changes, bioretention for infiltration technical standard, and artificial wetland exemption.
Wisconsin TMDLs	Review of technical documents, stakeholder meetings, public meeting attendance, and implementation meetings for the Northeast Lakeshore TMDL, Wisconsin River TMDL, Upper Fox/Wolf River TMDL, Milwaukee River TMDL, Lower Fox River TMDL, and Rock River TMDL.
Watershed Groups	• Leadership, presentations, and involvement with MAMSWaP, Yahara WINs, NEWSC/FWWA, • Root-Pike WIN, Waukesha County Stormwater Group, Clean Lakes Alliance, Sweetwater/Clean Rivers Clean Lakes Conference.
Professional Organizations	Leadership, presentations, and involvement with CSWEA, LOM, WAFSCM, NASECA, and APWA.
Committees	• League of Municipalities-MS4 Leaf Management Study Advisory Group (Jon Lindert) • WDNR-Water Quality Trading Advisory Committee (Travis Anderson) • Clean Lakes Alliance-Committee for Strategic Implementation (Jon Lindert) • CSWEA-Watershed and Stormwater Committee (Jon Lindert – Chairperson) • APWA-Water Resources and Engineering and Technology Committees (Mike Williams) • Lake Wisconsin Alliance (Tina Sebold – Secretary)

Stormwater Quality Management Plan, Stormwater Utility Feasibility Study, and Priority Areas Flooding Study – Sheboygan, WI

With previous plans created in 1996, 2001, and 2007 by another consultant, the City of Sheboygan hired our firm to update its stormwater quantity and quality management plans in late 2018. The focus of the study was to update the City's MS4 program to maintain MS4 permit compliance, provide alternatives analysis for Northeast Lakeshore TMDL compliance, and provide XP-SWMM 2d modeling and alternatives analysis to address flooding in the North (250 acres) and South (1,600 acres) Priority Area watersheds in the city. While the City adopted a stormwater utility (SWU) in 2007 to provide a dedicated revenue source for stormwater-related projects, the City Council almost immediately chose to make the SWU dormant because of perceived negative impacts to the business sector. With renewed emphasis on the City's stormwater management program, our study also included performing a SWU feasibility study to evaluate resurrecting a SWU fee structure.

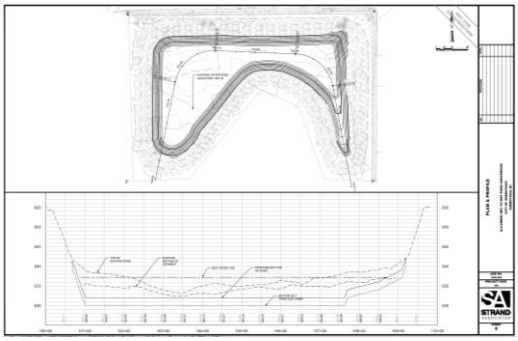
Project Team:
- Jon Lindert
- Mike Williams
- Mark Shubak
- Dan Carpiaux

Client Reference:
Ryan Sazama, P.E.
City Engineer
920-459-3485

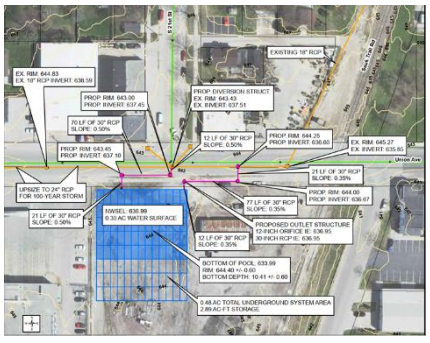
Since the Northeast Lakeshore TMDL was in its development stage at the onset of the project, 40 percent TSS and 27 percent TP TMDL-required reductions were assumed. WinSLAMM modeling showed a City-wide 25.5 percent TSS and 18.1 percent TP reduction under existing conditions, leaving a considerable TSS and TP reduction gap. With release of Northeast Lakeshore TMDL waste load allocations on December 16, 2021, it was found that the TSS and TP TMDL-required reductions ranged from 0 to 65 percent and 15 to 77 percent for the various reaches, respectively. Interestingly, the TSS and TP reduction gaps from the assumed to actual requirements are very similar.

North Priority Area: XP-SWMM 2D analysis showing deficient inlet and conveyance capacity along Union Avenue.

With our final presentation to the City on December 14, 2021, the City is now embarking on a sustained implementation plan focusing on dual purpose flood control and stormwater quality control BMPs funded by the WDNR Urban Nonpoint Source and Stormwater (UNPS&SW) and Municipal Flood Control grants. Fortunately, the City hired us in 2020 to submit a WDNR UNPS&SW grant application that is now funding our 2022 design and 2023 construction of the 2nd Creek dry- to wet-pond conversion to kickstart plan implementation.



2022 preliminary design of 2nd creek dry- to wet-detention basin funded by a WDNR UNPS&SW Construction grant.



North Priority Area: Proposed underground dry/wet pond combination with 10-year pipes.

South Priority Area: Proposed wet pond and 10-year pipes to provide flood and stormwater quality control.

Stormwater Quality Management Plan Update, TP Credit for Leaf Collection, and Basin 16 Flooding Study – Rothschild, WI

Funded by a 2018 WDNR UNPS grant with which we assisted, we were hired to update the Village's 2010 stormwater plan and programs to comply with the Wisconsin River TMDL and new MS4 permit requirements. Our analysis showed that the City is compliant with the MS4 permit-required 20 percent TSS reduction but has fallen short of the Wisconsin River TMDL-required 68.6 percent TP reduction, as shown in the table.

Project Duration
2019-2020

Project Team
Jon Lindert
Justin Gutoski
Tina Sebold

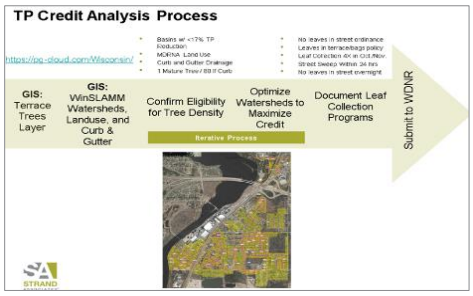
Reference
Tim Vergara
Administrator of Public Works
715-359-3660

Reach	Wisconsin River TMDL-Required Reduction (Site-Specific Criteria) TP	Existing Conditions Modeled Reduction TP	Reduction Gap (%, lbs) TP
154	68.6%	38.2%	30.4% / 49 lbs.
263	68.6%	28.3%	40.3% / 324 lbs.

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
WQT					10.0	20.1	30.1	40.2	50.2	60.3	70.3	80.4	90.4	100.5	110.5	120.6	130.6	140.7	150.7	160.8
Stoney River WP					18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2
George Street WP									8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Forest Street WP													18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
WisDOT WP																	8.1	8.1	8.1	8.1
Industrial Park WP																				
Volkman Street WP																				
Enhanced Street Sweeping		6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
TP Leaf Credit		8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9
Redevelopment at 40 percent TSS Reduction		0.4	0.82	1.2	1.6	2.0	2.5	2.9	3.3	3.7	4.1	4.5	4.9	5.3	5.7	6.1	6.5	7.0	7.4	7.8
Private BMPs	1.2	2.5	3.7	4.9	6.2	7.4	8.6	9.9	11.1	12.3	13.6	14.8	16.0	17.3	18.5	19.7	21.0	21.0	21.0	21.0
Total	**1.2**	**18.6**	**20.2**	**21.9**	**51.8**	**63.5**	**75.2**	**86.9**	**106.5**	**118.2**	**129.9**	**141.6**	**171.3**	**183.0**	**194.7**	**206.4**	**226.1**	**236.5**	**247.0**	**257.5**
									Permit Required (10% of TP Reduction Gap by 2030)	**37.3**										

Rothschild's TMDL Implementation Plan (lbs. TP) for implementation of Alternative #2.

The plan includes comprehensive review of the Village's existing stormwater programs and detailed tables constituting the Village's proposed stormwater programs: public education and outreach, public involvement and participation, illicit discharge detection and elimination, construction site pollutant control, postconstruction stormwater management, pollution prevention, stormwater quality management, and storm sewer system map. We recently completed an alternatives analysis to close the 422 lbs. TP reduction gap, including consideration of various combinations of constructed stormwater BMPs within the village, water quality trading (with agricultural, Rib Mountain MSD WWTP, and private point dischargers), and watershed adaptive management. During the project, the City hired us to prepare a WDNR Urban Nonpoint Source and Stormwater grant (for the purchase of a high-efficiency street sweeper) and an analysis of village total phosphorus (TP) credit for leaf collection activities, following WDNR guidance. Facing repeated flooding in the Basin 16 watershed, we also analyzed the watershed in XP-SWMM 2D and recommended flood control measures to alleviate the flooding complementary to the recommended stormwater quality basins.



Process used for completion of Village's TP lead credit analysis.

TMDL Compliance Alternative #2: Mixed structural / nonstructural BMPs and agricultural water quality trading.

Stormwater Quality Management Plan with Alternatives Analysis, Stormwater Utility Rate Update, and TP Leaf Credit Analysis – Weston, WI

The Village of Weston is a town-sized, fast-growing municipality in the Wausau urbanized area with a historic urban core and urbanizing fringe with numerous public and private BMPs. In 2020, the Village hired us to update its 2009 plan by a previous consultant with WDNR UNPS planning that we assisted in procuring. With the 2009 plan showing a 49.6 percent existing TSS reduction, we rebuilt the model from scratch using WDNR's 2014 MS4/TMDL modeling guidance. The updated existing conditions WinSLAMM Version 10.4.1 model spanning five TMDL reaches showed a village-wide 60 percent TSS reduction and 58.2 percent TP reduction, falling short of the Wisconsin River TMDL-required 68.6 percent TP reduction, including 15 lbs. TP credit for the Village's Leaf Collection program. The resulting TMDL reduction gap of 327 lbs. TP necessitated a comprehensive alternatives analysis on a reach-by-reach basis. To make up this shortage, our alternatives analysis included various combinations of operational and constructed stormwater BMPs within the village, a joint project with two neighboring MS4s, and agricultural water quality trading. Three options are currently in development (slated for completion in December 2021) that will be included in a cost-effective implementation plan for TMDL compliance consisting of various combinations of 12 alternative BMPs. Currently appearing to be the most cost-effective BMP of those considered, the Village will be working with us to prepare a WDNR UNPS Construction Grant application in 2022 to fund a wet detention basin (128 lbs. TP reduction) in WisDOT ROW serving WisDOT, Weston, Rothschild, and Schofield. To help guide the Village's stormwater program into the future, we also completed a SWU rate study to fund stormwater program updates and TMDL compliance costs.

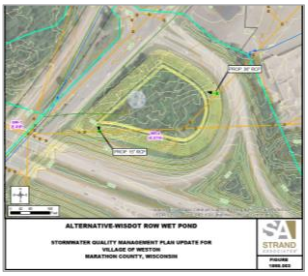
Client Contact:
Michael Wodalski
Director of Public Works
5500 Schoefield Avenue
Weston, WI 54476
715-241-2636

Project Duration:
2020 – 2021

Part of the Project:
- TMDL Water Quality Analysis
- Concept Planning for Stormwater Control Practices at a Watershed Scale
- Cost Estimating
- TMDL/WinSLAMM Training

Pollutant	MS4 Permit Required Reductions (%)	Site Specific Criteria (SSC) Required Reductions (%)	Existing Conditions Reductions (%)	TMDL Pollutant Reduction Gap (%)
TSS	20	NA	153: 52.8 154: 47.8 155: 64.8 263: 59.2 289: 99.3 290: 50.3	NA
TP	NA	153: 68.6 154: 68.6 155: 68.6 263: 68.6 289: 68.6 290: 68.6	153: 42.2 154: 47.1 155: 63.5 263: 53.4 289: 99.2 290: 48.6	153: -26.4 (25.1 lb) 154: -21.5 (128.8 lb) 155: -5.1 (85.9 lb) 263: -15.2 (40.4 lb) 289: +30.6 (32.9 lb) 290: -20.0 (79.6 lb)

Weston's existing conditions results in 6 TMDL reaches.



Proposed joint wet pond with WisDOT, Weston, Rothschild, and Schofield protecting Lake Wausau.

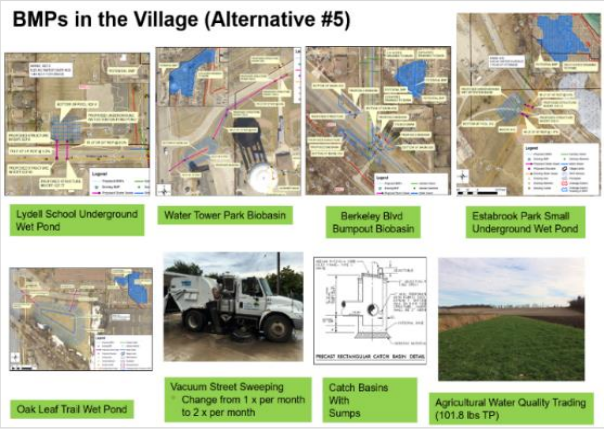
Stormwater Quality Management Plan – Whitefish Bay, WI

With its 2000 and 2006 stormwater quality management plans outdated, the Village hired us to complete a comprehensive update for its fully built-out community. Our WDNR grant-funded plan was completed in December 2017, including updated stormwater programs and modeling for compliance with its North Shore Group permit and the Milwaukee River TMDL. WinSLAMM Version 10.2.1 showed existing TSS and TP reductions (14 to 17 percent TSS and 10 to 12 percent TP) significantly short of the TMDL-required TSS and TP reductions (Reach MI-27: 73 percent TSS/54 percent TP; Reach MI-32: 58 percent TSS/23 percent TP).

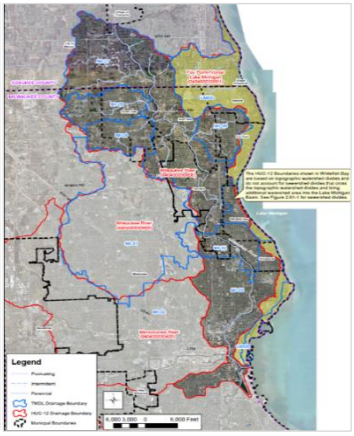
Project Duration
2016-2017

Project Team
Jon Lindert
Mark Shubak
Mike Williams

Reference
John Edlebeck
Director of Public Works
414-962-6690



Village Board workshop alternative five components graphic.



Water quality trading analysis limits.

Alternatives analysis included various combinations of constructed stormwater BMPs within the village (dry-to-wet-pond retrofits, underground wet-detention basins, street sweeping, bioretention) and water quality trading with agricultural lands and other MS4s and private point dischargers.

Five options with costs ranging from $2.3 million ($440/lbs. of TP) to $11.8 million ($3,300/lbs. TP) were developed. A Village Board workshop was held to provide Milwaukee River TMDL history/background and to present the cost effectiveness of the five options to arrive at a preferred alternative.

Reach 64 Alternatives Analysis for TMDL Compliance and TP Leaf Credit Analysis – Monona, WI

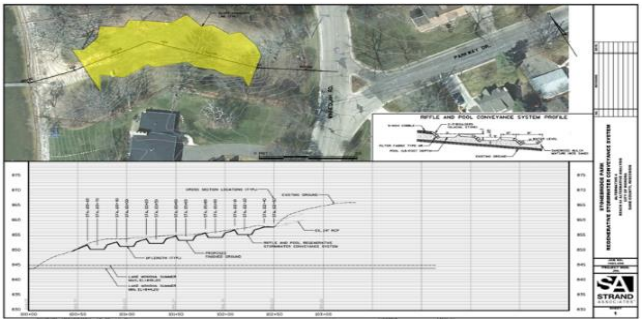
Unique to Madison area communities is the ability to achieve Rock River TMDL compliance through purchase into the Yahara WINs watershed adaptive management program (after achieving a 40 percent TSS and 27 percent TP reduction in each TMDL reach in a community) administered by MMSD. In Monona, a previous consultant determined that the City had achieved those levels in Reaches 65 and 66, but not in Reach 64.

Alternatives Analysis: Cost Effectiveness

								No Grants			With Grants		
Option	WP	UWP	HDS	RSC	<LE	>LE	SS	LCC	Construction Cost (2019)	20-Yr NPW Cost (2019)	$/lb TP Removed (20-Yr NPW)	Construction Cost (2019)	20-Yr NPW Cost (2019)	$/lb TP Removed (20-year NPW)
1	1		1	1			1	1	$2,188,000	$2,947,000	$1,554	$1,333,000	$2,114,000	$1,115
2	2		2	1		1	1	1	$ 4,930,000	$7,154,000	$4,033	$2,771,000	$5,072,000	$2,859
3	2		1	1	1		1	1	$2,684,000	$3,327,000	$2,122	$842,000	$1,397,000	$891
4	1	1	2	1	1		1	1	$2,894,000	$3,775,000	$2,868	$684,000	$1,493,000	$1,134

- WP = Wet Pond
- UWP = Underground Wet Pond
- HDS = Hydrodynamic Separator
- RSC = Regenerative Stormwater Conveyance
- <LE = 1 acre Lagoon Expansion
- >LE = 6 acre Lagoon Expansion
- SS = Enhanced Street Sweeping
- LCC = Leaf Collection Credit

City Council Workshop: slide showing cost effectiveness with and without grants.



Regenerative Stormwater Conveyance (RSC) concept in Stone Bridge Park.

The City hired us because of our ability to analyze innovative and cost-effective stormwater BMPs in a fully built out urban environment to determine how to achieve these levels in Reach 64. Our analysis was completed using our SWEP, revealing traditional and innovative stormwater BMP opportunities. A City Council workshop was held to explain the concepts to the City and the public, including showing the cost effectiveness with and without grants of the preferred alternative. The analysis was completed assuming a TP Leaf Credit from the WDNR – a value that we confirmed with the WDNR in 2020.

Stormwater Quality Management Plan, SWU, and Credit for Leaf Collection – Whitewater and UW-Whitewater (UWW), WI

In our role as the City of Whitewater's consulting City Engineer, we have been involved in grant-funded initiatives to assist with MS4 Permit compliance, including the original Stormwater Quality Management Plan in 2008, SWU implementation in 2008, an updated plan in 2011, design/construction of four wet-detention basins from 2011 to 2017, and completion of an updated plan for Rock River Basin TMDL compliance in 2017 and completion of City TP credit for leaf collection activities in 2020. Stormwater quality management plans have also been completed jointly with UWW.

Project Duration
2018-2020

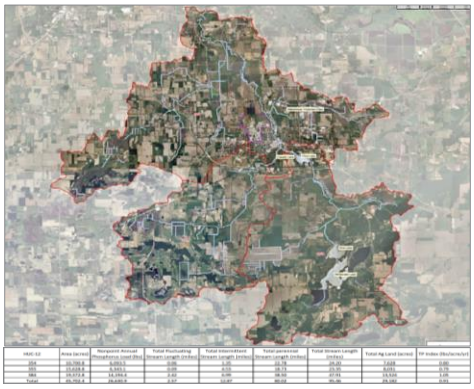
Project Team
Jon Lindert
Mike Williams
Mark Shubak

Reference
Brad Marquardt
Public Works Director
262-473-0139

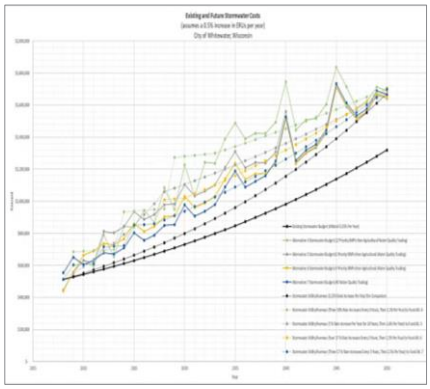
WinSLAMM Version 10.2.1 modeling was completed to show compliance with TSS and TP reductions required by the Rock River TMDL. As shown in the table below, neither the City nor UWW currently comply with TMDL requirements. To close the collective, controlling pollutant reduction gap of 640 pounds of TP, our alternatives analysis included various combinations of constructed stormwater BMPs within the city and UWW, water quality trading (with agricultural, City WWTP, and private point dischargers), and watershed adaptive management. Seven options were developed, with costs ranging from $1 million ($110/lbs. TP) to $33.5 million ($3,800/lbs. TP).

MS4	Rock River TMDL-Required Reduction (Reach 59)		Existing Conditions Modeled Reduction (Reach 59)		Reduction Gap (%, lbs)	
	TSS	TP	TSS	TP	TSS	TP
Whitewater	49%	66%	47.7%	37.2%	1.3%/7,067 lbs.	28.8%/442.5 lbs.
UW-Whitewater	49%	66%	16.6%	12.8%	42.4%/22,968 lbs.	53.2%/95.9 lbs.

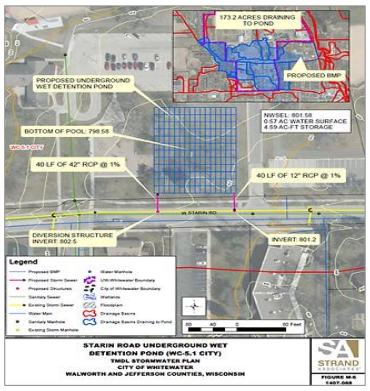
Alternative 5, at a cost of $2.7 million ($310/lbs. TP), was the best-fit alternative for TMDL compliance, as it will most quickly bring UWW to a 40 percent TSS level (enabling participation in water quality trading) with a joint City and UWW underground wet-detention pond. Alternative 5 also included vacuum street sweeping, two wet-detention ponds, a hydrodynamic separator, and remaining pollutant reductions from agricultural water quality trading. This project included significant coordination with the City WWTP. As recommended in our report, we are currently conducting a joint City MS4, City WWTP, and UWW MS4 study to further investigate synergistic opportunities for water quality trading and watershed adaptive management. To help guide the City's stormwater program into the future, we also completed a SWU rate study update in 2017. The City is contemplating rate increases to fund updated stormwater program and TMDL compliance costs. Completion of the *Leaf Collection TP Credit Analyses* in early 2020 revealed that the City is eligible for an annual 19 lbs. TP credit that will reduce needed projects and/or water quality trading to achieve TMDL compliance.



Agricultural water quality trading analysis on a HUC-12 basis completed for upstream and downstream watersheds.



Existing and future stormwater utility rates analysis for seven alternatives.



Underground wet-detention basin serving City and UWW lands.

Stormwater Quality Plan, SWU, and Implementation, and TP Credit for Leaf Collection – Stoughton, WI

The City's original stormwater master plan was completed in 2000, with periodic updates in 2006, 2007, 2009, 2010, and 2011 by a previous consultant. In 2011, the City transitioned from the previous consultant and hired us to perform a SWU feasibility study. The SWU Feasibility Study evaluated alternative funding mechanisms to pay for the City's stormwater management program, including operation, maintenance, and capital improvements, many of which were required by the City's MS4 permit. The SWU was adopted in 2012 after a comprehensive study that included six Stormwater Technical Advisory Committee meetings and public information meetings.

In 2017, we completed the City's MS4/TMDL Stormwater Plan update that was 50 percent funded by a successful 2016 WDNR UNPS planning grant application. Stormwater programs were updated and new modeling in WinSLAMM Version 10.2.1, after WDNR's October 2014 MS4/TMDL modeling guidance showed reach-based existing conditions TSS reductions ranging from 24 to 82 percent and TP reductions ranging from 21 to 58 percent, with Rock River Basin TMDL reach-based requirements ranging from 40 to 62 percent TSS reduction and 27 to 80 percent TP reduction.

As a partner in the Yahara WINs Phosphorus Watershed Adaptive Management project alongside Madison Metropolitan Sewerage District, the City is required to achieve 40 percent TSS and 27 percent TP baseline control per reach (trades only within the reach are allowable) prior to buying in to Yahara WINs for TP credits at $48 per pound. Calculations showed that the City met the Yahara WINs TP baseline in all but Reach 66 – however, it was also short on TSS reduction in Reaches 67 and 68.

To make up this shortage, our alternatives analysis included various combinations of constructed stormwater BMPs within the city, water quality trading with adjacent MS4s and the City of Stoughton WWTP, and buy-in to the Yahara WINs WAM initiative via the Madison Metropolitan Sewerage District (MMSD). Five options were developed, with costs ranging from $2 million ($1,342/lbs. of TP) to $5.2 million ($1,829/lbs. of TP). The City is proceeding with Alternative 2, consisting of construction of two BMPs within the city, enhanced street sweeping (with 2019 UNPS grant for high-efficiency street sweeper), and 38 pounds TP credit for leaf collection (per 2020 analysis), prior to buy-in to Yahara WINs. The two BMPs will be constructed with WDNR UNPS design/construction grants in 2020 and 2022, bringing the City into full TMDL compliance by the end of 2022. To help guide the City's stormwater program into the future, we also completed a SWU rate study to fund stormwater program updates and TMDL compliance costs.

Pollutant	Yahara WINs Buy-In Required Reductions (%)	Rock River TMDL Required Reductions (%)	MS4 Modeled Conditions Community-Wide Reduction (%)	Yahara WINs Buy-In Pollutant Reduction Gap (%)	Yahara WINs Buy-In Pollutant Reduction Gap (lbs)	TMDL Pollutant Reduction Gap (%)	TMDL Pollutant Reduction Gap (lbs)
TSS	40%	Reach 66: 62% Reach 67: 40% Reach 68: 51% Reach 69: 53%	50.2% 33.0% 24.2% 82.1%	-10.2% 7.0% 15.8% -42.1%	-1,104 38,974 24,224 -1,942	11.8% 7.0% 26.8% -29.1%	1,265 38,974 41,134 -1,342
TP	27%	Reach 66: 54% Reach 67: 27% Reach 68: 65% Reach 69: 80%	49.6% 27.7% 21.2% 57.6%	-22.6% -0.7% 5.8% -30.6%	-7.1 -11.0 24.3 -5.4	4.4% -0.7% 43.8% 22.4%	1.4 -11.0 184.8 4.0
Note: Negative (-) numbers in the table above indicate that the requirement has been met or there is excess pollutant reduction compared to that required.							

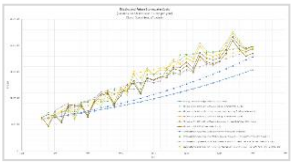
Summary of Yahara WINs and Rock River TMDL requirements and existing conditions modeling.

Project Duration
2011-2020

Project Team
Jon Lindert
Mark Shubak
Mike Williams
Justin Gutoski

Reference
Rodney Scheel
Director of Planning and Development
608-873-6619

TMDL compliance achieved through enhanced street sweeping, two stormwater BMPs, TP credit for leaf collection, and Yahara WINs buy-in.



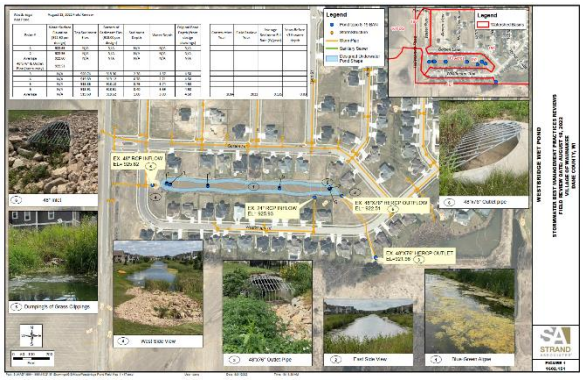
Stormwater utility rate update analysis to fund updated stormwater programs and TMDL compliance.

Stormwater BMP Field Reviews for Needed Maintenance – Waunakee, WI

With public ownership of more than 50 wet detention basins and two bioretention basins, the Village hired us to initiate a program to review five wet detention basins in the field in 2022. These field reviews are part of the Village's MS4 permit-compliant program to periodically inspect existing Village-owned BMPs to determine if maintenance is needed to maintain the originally designed pollutant removal operating efficiency of the BMP. The Village intends to annually inspect between five and 10 ponds. The field reviews included topographic survey of the inlet and outlet elevations, water surface elevation, and five sediment depth probes from a boat. Field collected data along with review of original design/record drawings allowed for an average sediment fill rate to be determined and a projection of the number of years before less than 3-foot of water depth would be experienced. It is at 3 feet or less of storage depth that the WDNR would expect the Village to dredge the pond, per WDNR Technical Standard 1001 (Wet Detention Pond). Of the five ponds reviewed, only one required immediate attention. The Village is moving forward with design of the Westbridge Pond dredging in 2023, with construction budgeted for 2024.

Project Team:
- Jon Lindert
- Daniel Johnstone
- Dan Carpiaux

Client Reference:
Aaron Jahncke, P.E.
Village Engineer
608-849-6469



Westbridge Pond: Field review findings GIS deliverable.

Location	BMP Type	Original Water Depth (feet)	Average Water Depth (feet)	Average Sediment Depth (feet)	Construction Year	Average Sediment Fill Rate (feet/year)	Years Before Less Than 3-Foot Water Depth
Westbridge	Wet Pond	4.50	3.00	1.08	2014	0.135	0.03
Waunakee Business Park–Phase 1	Wet Pond	5.00	3.82	1.56	2000	0.071	11.49
Waunakee Business Park–Phase 2							
Lillian Street	Wet Pond	6.00	4.31	1.49	2005	0.087	15.01
Prairie View	Wet Pond	7.00	4.97	2.17	2005	0.128	15.40
Uniek Uniek (without pts 3 and 6)	Wet Pond	6.50 6.50	4.27 5.76	0.76 0.53	2005 2005	0.045 0.031	28.42 88.53

Table 1 Summary of Stormwater BMP Reviews

Stormwater BMP field review summary with maintenance needs status.

Flood Control Study with TMDL Compliance Components – Fond du Lac, WI

Beset with flat topography throughout the city, the City's storm sewers drain to an array of stormwater pump stations that lift flows to area waterways. With much of the system constructed in the 1950s and before, the City is experiencing end of useful life issues with some of the storm sewers and stormwater pump stations. Coupled with climate change, the city has experienced more frequent severe flooding, most recently in July 2020.
In 2022, the City hired us to embark on a path to perform flood control studies on four of the highest flooding priority areas within the city. Likewise, as a MS4-permitted community subject to the Upper Fox and Wolf Basins TMDL, the City is actively investigating opportunities for TSS and TP treatment at areas identified in its 2019 Stormwater Quality Management Plan Update. As such, one of the priority areas includes investigation of a wet detention pond adjacent to a stormwater pumping station, including enhanced phosphorus treatment through chemical treatment to precipitate out dissolved phosphorus similar to the designed system we designed and was recently constructed for the Fontana-Walworth Water Pollution Control Commission (see project description herein).

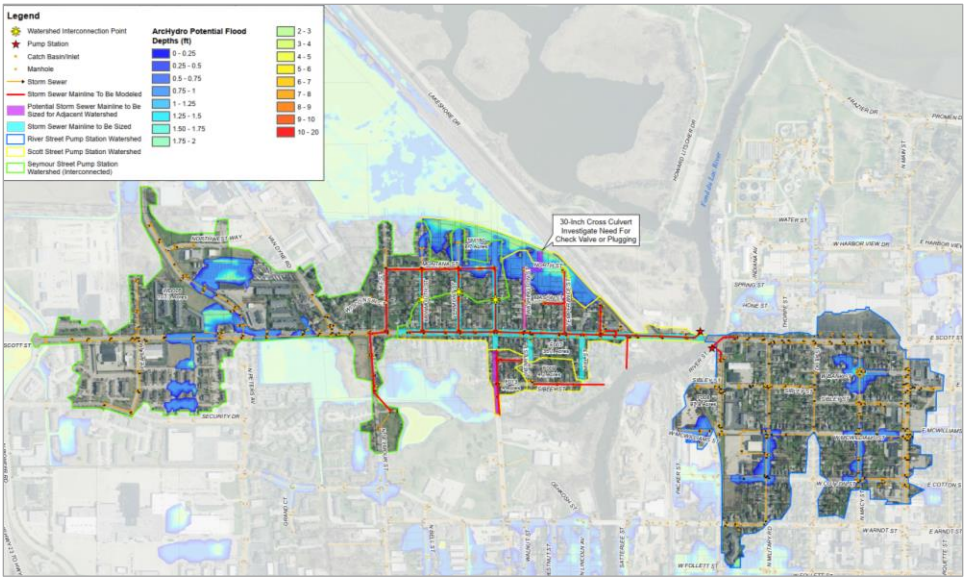
The city stormwater system is also highly interconnected and of critical importance to accounting for tailwater conditions that could affect performance in priority areas. We used a simplified approach of incorporating interconnections to address this concern while being aware of limited project budgets.

The studies include comprehensive XP-SWMM 2D modeling to understand existing conditions flood extents as well as alternatives analysis to identify solutions, including conveyance, overland flow route, stormwater pump station, storage, wet detention with enhanced phosphorus removal, and compensatory storage improvements. These studies will be completed by the end of 2023.

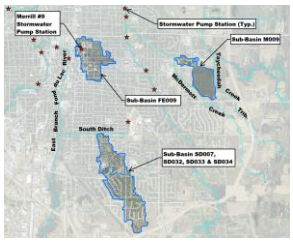
Project Team:
- Jon Lindert
- Mike Williams
- Mark Shubak
- Dan Carpiaux

Client Reference:
Chris Johnson, P.E.
City Engineer
920-322-3449

Scott Street priority area study includes investigation of upsized storm sewer to new stormwater pump station and new wet detention basin with enhanced phosphorus removal through chemical addition.



Scott Street Priority Area: Interconnected watershed strategy and internally drained areas analysis.



Locations of the three southeast priority areas, each with unique flooding issues and mitigation opportunities.

Yahara CLEAN Engineering Report – Clean Lakes Alliance – Dane County, WI

The Yahara Chain of Lakes is a series of four lakes (Mendota, Monona, Waubesa, and Kegonsa) situated in the greater City of Madison metropolitan area. These waters experience significant eutrophication because of high nutrient loading from both urban and rural sources. Resultant algae blooms, bacteria, and other water quality issues have caused frequent beach closures and a general decline in mid-summer lake usage. The Yahara CLEAN (Capital Lakes Environmental Assessment and Needs) partnership began in 2008 as a result of these water quality issues. The nonprofit Clean Lakes Alliance was formed in 2010 to further the goals and objectives of the partnership. We were hired in 2011 to develop a plan to reduce the annual TP loads to the lakes by 50 percent.

Project Duration
2011-2012

Project Team
Jon Lindert
Tina Sebold

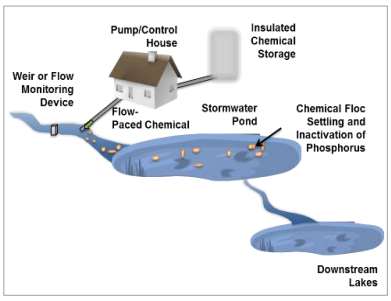
Reference
James Tye
Executive Director
608-255-1000

The project consisted of an assessment and ranking of more than 70 rural and urban action items in terms of cost effectiveness/relative cost, ability to implement the action item immediately, social acceptance, pollutant reduction, and benefits visible to the public. Further refinement of the Top 10 ranked actions resulted in the identification of both traditional techniques (e.g., maintain permitted urban stormwater facilities, improve urban leaf management, increase rural conservation practices, enhance rural nutrient management) and innovative techniques (e.g., urban pond chemical treatment, rural event-based in-stream chemical treatment, rural companion cropping, rural community manure digesters with phosphorus export from the watershed) to achieve a 50 percent reduction in phosphorus.

The Yahara CLEAN Strategic Action Plan for Phosphorus Reduction was rolled out at the 2012 North American Lake Management Society conference, detailing a $78.6 million plan (after deducting $49.5 million for private business investment in community manure digesters). The plan included 29 percent urban actions (38 percent of cost at $29.8 million) and 71 percent rural actions (62 percent of cost at $48.8 million) and relies on a diverse group of public and private partnerships for implementation.

The report was developed under the direction of the Strategic Direction Committee (comprised of individuals from the CLA, Kothe Real Estate Partners, Lands' End, the WDNR, Dane County, the MMSD, Dane County Land and Water Resources Department, UW Center for Limnology, City of Madison, Thermo Fisher Scientific, and W.F. Baird & Associates), in addition to producer participation and the Department of Agriculture, Trade and Consumer Protection (DATCP).

Stormwater Quality Plan for the Yahara Chain of Lakes.



Chemical stormwater treatment analysis that started the discussion in Wisconsin in concert with UW-Limnology researchers.

Opportunities for TP reduction include a mix of urban and rural actions.

Lake Wingra Watershed Management Plan – Madison, WI

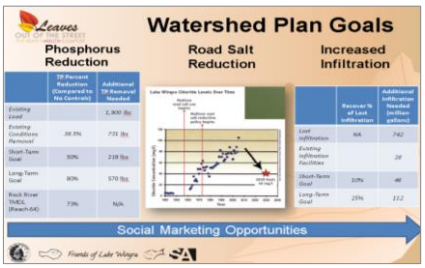
Working with the City of Madison and the Friends of Lake Wingra, we developed a plan to reverse the effects of urbanization (high nutrients, high chloride content, and reduced spring flow) on Lake Wingra, a premier muskie lake in the heart of Madison. The engineering plan was supported by a social marketing plan to facilitate behavior change in the watershed. The plan analyzed and identified innovative opportunities for TP load reductions, incremental increase in infiltration and groundwater recharge, and chloride reduction to provide solid implementation costs.

The social marketing implementation plan included project stakeholder engagement (e.g., landowners, land managers, primary decision makers, agency staff, key citizen leaders, citizen groups, and those responsible for critical actions) in the planning process to develop a social marketing strategy for critical actions. It also includes completion of a social marketing Pilot Project (Leaf Collection Improvement by Bagging Leaves) for one of the critical actions that includes the following elements: identify barriers and partnerships, recruit partners, obtain baseline data, and implement and evaluate a pilot project.

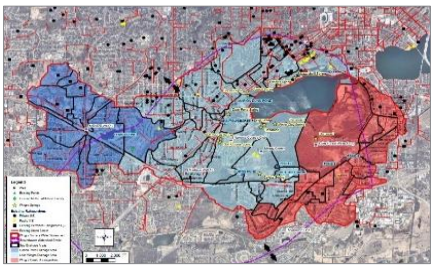
Project Duration
2015-2016

Project Team
Jon Lindert
Tina Sebold
Dan Carpiaux

Reference
Greg Fries, P.E.
Principal Engineer
608-267-1199



Watershed plan goals set stage for mix of innovative and traditional BMPs.



Highly urban 5.7-square-mile Lake Wingra Watershed.

Summary of leaf collection pilot project components.

Green Infrastructure Project Experience

Today's full-service stormwater engineering firm must be well-versed in plan development, design, and implementation of traditional and green infrastructure BMPs to serve clients comprehensively. The project descriptions included below highlight our significant experience in these areas, including experience with green infrastructure, stormwater treatment trains, bioretention, streambank restoration, and hydrodynamic separators.

Various green infrastructure designs.

We have completed numerous green infrastructure plans for MS4/TMDL compliance and consent decrees for CSO control compliance. Each of these plan development efforts included extensive consideration, analysis, and incorporation of green infrastructure, alongside more traditional treatment systems. The following table highlights the communities we have assisted in these efforts. It should be noted that Wisconsin is the only state that requires a communitywide stormwater quality numeric limit as part of an MS4 permit. Our CSO control experience is focused on larger, southern Midwest communities because of the prevalence of combined sewer systems in those areas.

Our firm has been at the forefront of innovative green infrastructure plan development and implementation. The true test of a plan is the number of its recommendations (BMPs) implemented. We have designed and constructed 672 green infrastructure BMPs – 60 rain gardens, 38 porous pavement projects, 226 bioretention basins/swales, 160 planter boxes/tree wells, 20 infiltration basins, 6 infiltration trenches, 81 wet-detention basins, 22 wetland creations, 26 hydrodynamic separators, 27 extended detention basins, and 6 rainwater reuse projects – stemming from 125 planning projects throughout the Midwest. These 125 projects included many unique applications of green infrastructure. Additional information regarding these 125 projects is available upon request.

Project Type	Communities	
MS4/TMDL Control	See above project description for State-Wide MS4 Consultant-Various Communities (Wisconsin) project	
CSO Control	Milwaukee Metropolitan Sewerage District (MMSD)	City of Cincinnati, OH
	Louisville Metropolitan Sewer District, KY	Metropolitan Sewerage District of Greater Cincinnati (MSDGC)
	Northeast Ohio Regional Sewer District – Cleveland, OH	Sanitation District No. 1 of Northern Kentucky (SD1) – Fort Wright, KY

Innovative Green Infrastructure – Milwaukee Metropolitan Sewerage District, WI

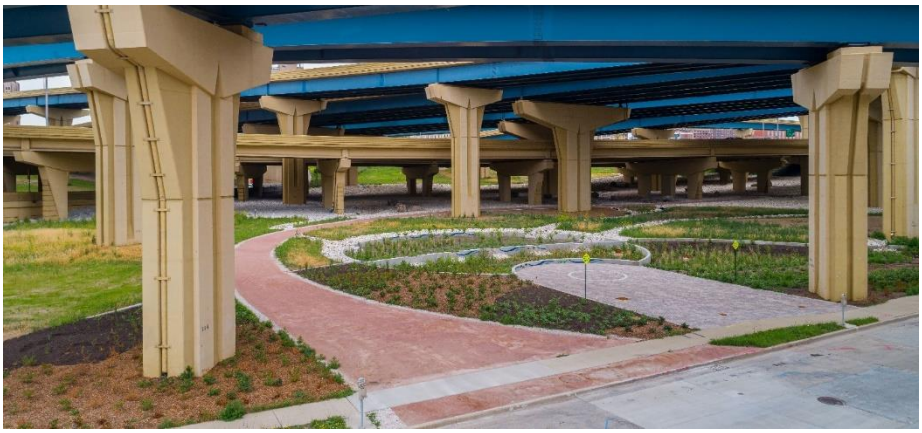
We have supported the Milwaukee Metropolitan Sewerage District (MMSD) and its 2035 Vision objectives since 2015, through multiple contracts.

- **GI Standard Specifications and Plan Templates** – Green Infrastructure Desktop Tool was created to assist with the selection of appropriate green infrastructure strategies and provide initial sizing calculations, allowing for proficient development of a site analysis, typical details, standard specifications, and operation and maintenance (O&M) checklists.

The Green Infrastructure Desktop Tool provides streamlined design.

- **Green Infrastructure On-Call** – Site-specific green infrastructure designs were generated for multiple public entities. Specifically, Silver Spring Park green infrastructure design was completed within the Village of Whitefish Bay and included a workshop at a garden club meeting to implement practical solutions. We provided design services for green infrastructure beneath the Marquette Interchange to store and treat runoff from the overpasses. This design included coordination with the public, City of Milwaukee, MMSD, WisDOT, WDNR, and various other stakeholder groups.

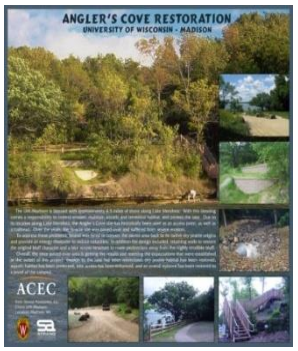
- **Watercourse On-Call** – We completed multiple tasks to support MMSD. Most helpful to this project were efforts toward Invasive Species Management and Planting Plans to protect the integrity of green infrastructure projects for the long-term.



Green infrastructure beneath Milwaukee's Marquette Interchange shows how innovative design can be applied in constrained urban areas.

Project Team:
- Anna Sunderland
- Isak Fruchtman
- Jon Lindert
- Dan Carpiaux

Client Reference:
Andy Kaminski
Project Manager
Milwaukee Metropolitan Sewerage District
414-225-2219



2006 ACEC Wisconsin Engineering Excellence Best of State Award.

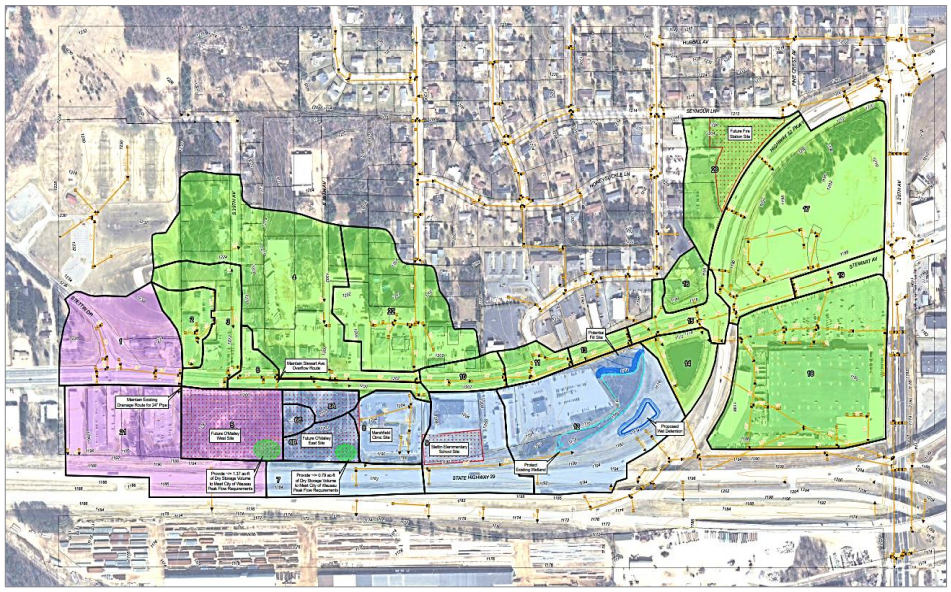
Stewart Avenue Detention Basin Stormwater Study – Wausau, WI

The City hired us to study the watershed (originally constructed in 2006 as part of our stormwater quality management analysis and design for the STH 51/29 corridor reconstruction) for quality and quantity, as there had been recent area redevelopment and improvements made to Stewart Avenue. The detention pond now serves a 106-acre watershed (originally 50 acres). Results from this study showed that the existing detention basin was providing a 55.6 percent TSS reduction under current conditions, which would be reduced to 50.4 percent upon full watershed development. Results also revealed that under full-development conditions, a 0.5-acre expansion of the wet pond would increase performance to 51.5 percent TSS reduction. We also analyzed the potential for future developments (or redevelopment) to provide local stormwater quality and quantity improvements rather than regionally at the Stewart Avenue Detention Basin. It is our understanding that the City has proceeded with implementation of our recommendations.

Project Duration
2015

Project Team
Mark Shubak
Mike Williams
Jon Lindert

Reference
TJ Nicksich, P.E.
Stormwater Director
715-261-6748



Stewart Avenue detention basin watershed.

Traffic-Calming Biobasin Bump-outs – Aurora, IL

We helped the City of Aurora develop a long-term control plan for its CSOs. As part of this plan, green infrastructure was identified as a potential solution to reduce the quantity of stormwater runoff entering the combined sewer system, as well as reduce pollutant loading in the system that could eventually overflow to surface waters in the city. The City subsequently applied for and was awarded a $1.2 million grant to implement green infrastructure in the combined sewer area. We provided planning and engineering services for design of rain garden bump-outs at 28 different intersections across the city. Each rain garden was unique because of its location, utilization of different hydraulic patterns for feeding the rain garden, and method for controlling stormwater runoff rates.

Rain garden and bump-out at bike path crossing.

Bump-outs also provide the added benefit, sought by the City, of implementing traffic calming in the residential neighborhoods. The rain gardens were landscaped with low-maintenance, deep-rooted plantings conducive to the urban environment in which they are used.

Size of Project Area
54 acres

Construction Costs
$1.8 million

Completion Date
2014

Urban Agriculture Zone (UAZ) and Fairhill/MLK Green Infrastructure – Northeast Ohio Regional Sanitary District (NEORSD), Cleveland, OH

The first of two projects coming out of our Green Infrastructure Design Services contract with NEORSD, the UAZ and Fairhill/MLK projects involved sewer separation and state-of-the-art bioretention basins serving 66-acre and 59-acre watersheds, respectively. Each project included new storm sewer (UAZ: 9,200 LF, Fairhill/MLK: 8,900 LF), leading to flow splitters that take low flows to the bioretention basins (four at UAZ, one at Fairhill/MLK) and high flows to the combined sewer.

Low flows are pretreated in hydrodynamic separators (Suntree NSBB) prior to upflow level spreading (UAZ) and energy dissipation/level spreading header (Fairhill/MLK). Comprehensive sampling and material management specifications were provided for extensive contaminated soils encountered on the UAZ site. Both projects included comprehensive native restoration and long-term maintenance plans.

Size of Project Area
125 acres

Construction Costs
$6.3 million

Completion Date
2017

UAZ: 3,500-square-foot west bioretention basin serving low flows from 19-acre watershed with pretreatment and upflow level spreader.

Fairhill/MLK: 19,700-square-foot bioretention basin serving 59-acre watershed with pretreatment, energy dissipation, and level spreading header.

WIS 51/29 Stormwater Management and Ecological Restoration – Wausau, WI

As the lead consultant for WisDOT's corridor management team, we were hired to prepare an eco-friendly stormwater management plan for major transportation improvements ($249 million) in the Wausau area. We prepared a holistic plan that controlled peak flows and provided stormwater quality benefits through seven wet detention basins, two infiltration basins, grass-lined swales, and 40 acres of wetland treatment/mitigation. We provided monitoring of the wetland mitigation sites, as required by the wetland permitting process.

Size of Project Area
3,283-acre watershed

Construction Costs
$3 million

Completion Date
2007

Wetland mitigation with macrotopography.

Trillium Lane wetland restoration.

Ecological Restoration of Stormwater Infrastructure – UW-Madison Arboretum, WI

The UW-Madison Arboretum is a treasured natural landscape within the heart of the City of Madison that is threatened by surrounding urban stormwater runoff. The **Secret Pond and Channel Restoration** project is one of five eco-friendly stormwater pond rehabilitation projects designed by our firm to treat stormwater entering the UW-Madison Arboretum from a 2,000-acre, fully urbanized watershed to protect Lake Wingra.

After considering numerous restoration alternatives, impacts to UW-Madison Arboretum lands, viewsheds, stormwater quality improvement, flood conveyance, and cost, a stormwater treatment train approach, including the following elements was chosen for design: wet detention basin (Manitou Pond) with littoral shelves, re-meandered natural stone- and turn reinforcement mat (TRM)-lined channel, and wetland stilling basin (Secret Pond). Our restoration plan included waterfowl control and a 3-year native vegetation maintenance provisions tracked alongside UW-Arboretum, our firm, and restoration contractor. This project received the *APWA Wisconsin Public Works Project of the Year Award in 2012.*

Project Team
- Mike Williams
- Jon Lindert

Client Reference:
Rhonda James
UW-Madison
608-263-3032

Project Highlights
- Ecological restoration
- Alternatives analysis
- Aesthetic components
- Deep well dewatering
- Habitat enhancement
- Dredging and sediment sampling
- Hydrodynamic separator
- Permitting
- Stakeholder and community outreach
- 3-Year native vegetation maintenance

Secret Pond with irregular wetland edge and littoral shelf enhances nutrient removal.

Natural channel replaced highly erodible stormwater ditch to protect downstream wetlands and Lake Wingra.

Considered the birthplace of ecological restoration when restored in 1935, Curtis Prairie is downstream of a 167-acre urban watershed, including the Beltline. As such, the 47-year-old Curtis Pond, upstream failed concrete flume, and downstream reed canary grass infestation needed restoration. The **Curtis Pond Restoration** project identified in our 2001 Stormwater Infrastructure Assessment considered numerous alternatives for access and restoration, prior to consensus on the final design elements: access skirting Curtis Prairie for construction and long-term maintenance access, flume replacement with 100-year storm sewer, upstream hydrodynamic separator, clay liner for groundwater protection, invasive species management with low-ground bearing pressure excavation equipment, trenchless rehabilitation of a 36-inch corrugated metal pipe, restored Arizona crossing, and native buffer restoration in the South Arboretum. From 2021 to 2023, we are tracking the restoration contractor's progress in meeting 3-year warranty provisions. This project received the *APWA Wisconsin Public Works Project of the Year Award in 2022.*

Hydrodynamic separator (coanda screen) pretreatment device treating Beltline flows prior to discharge to Curtis Pond.

Invasive species (reed canary grass) management through 10-inch deep scrape, native seeding and native plugs.

Curtis Pond dredging supported by NR 528 and NR 347-compliant sediment sampling and sediment disposal plan.

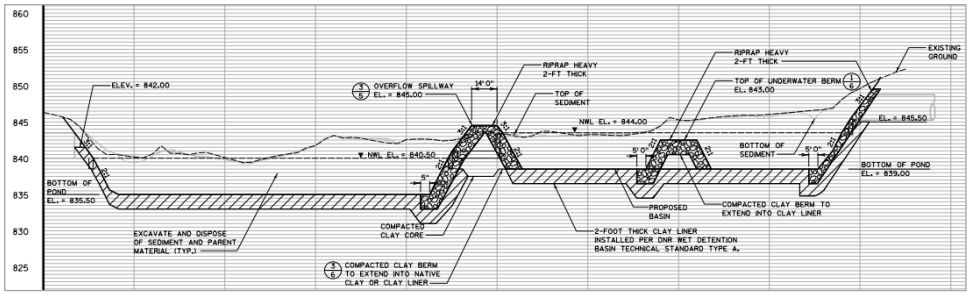
Bioswale to Wet Detention Basin Conversion Project – Stoughton, WI

An existing industrial park bioswale located in the southeastern portion of the City of Stoughton was identified as an alternative to retrofit to a wet pond in the 2018 Stormwater Quality Management Plan to increase total suspended solids (TSS) and total phosphorus (TP) reduction. The proposed project will help the City reduce the pollutant reduction gap for the Rock River Basin total max daily load (TMDL) limits that were set for TSS and TP by the United States Environmental Protection Agency (USEPA) and the WDNR.

In 2018, we were successful in assisting the City in obtaining a WDNR urban nonpoint source construction grant and Dane County Urban Water Quality Grant to help fund the design and construction of the retrofit project. The total amount received from the WDNR grant was $135,000, a little more than 35 percent of the construction and engineering cost. The Dane County grant was a total of $100,000, which was approximately 26 percent of the construction and engineering costs.

Based on the existing topography, the detention basin was split into two cells separated by an overflow spillway and compacted clay berm. Each pond cell was designed to include 5 feet of sediment storage. Within the upstream cell, an underwater berm was included to create a forebay area for ease of maintenance as well as to avoid some utility pole guy wires.

An overflow structure was designed on the upstream cell near the overflow spillway to control flow from the upstream to downstream cell during a rain event. A 2-foot-thick compacted clay liner extends 1.5 feet vertically above the normal water level for each cell. The liner meets the WDNR wet detention basin technical standard Type A liner.



The wet detention basin design maximized the available space on the City-owned parcel, increasing the pollutant reduction.

A comprehensive restoration plan was carefully thought out to prevent erosion at key points within the basin footprint while providing ease of maintenance for the City. Heavy riprap was placed at the detention basin inlet, outlet, underwater berm, and overflow spillway, as the upstream 166-acre drainage area can produce flows up to 350 cubic feet per second (cfs) during a 100-year event. The side slopes above the overflow spillway/berm were restored with a turf reinforcement mat system. Native plant plugs were spaced one plug every 1-lineal foot at 1-foot vertical above the normal water level of both detention basin cells in nonriprap areas.

Side slopes above the overflow spillway/berm were restored with a turf reinforcement mat system.

Project Duration
2018-2020

Project Team
Jon Lindert
Justin Gutoski

Reference
Rodney Scheel
Director of Planning and Development
608-873-6619

Installation of a dewatering system allowed for workable conditions while excavating within the online detention basin.

Side slopes from the normal water level to 3 feet vertically above the normal water level included native restoration that consisted of 6 inches of topsoil, wet detention basin seed mix, and erosion control mat.

Watershed Study and WWTF Experience Lays Groundwork for Collaboration Between Point and Nonpoint Sources Through Water Quality Trading, Watershed Adaptive Management, and MDV

An understanding of the interrelationship between point (MS4s and WWTPs) and nonpoint (agricultural) sources is required to leverage the WDNR's water quality trading and watershed adaptive management MS4/TMDL compliance options. The table below lists eight select projects that demonstrate our experience in these areas.

Project	Client	Project Specifics
Multidischarger Variance Watershed Project	Village of Marathon City, WI	Watershed project with Combined Animal Feeding Operation (CAFO) to develop projects with TP offsets for the multidischarger variance (MDV). Ongoing work with farm to identify permanent/transition offsets to water quality trades for future WPDES permit compliance.
Yahara Clean Engineering Report	Clean Lakes Alliance, Dane County, WI	See project description above.
Water Quality Trading Plan	Village of Brooklyn, WI	$3 million saved in WWTP upgrades by annual generation of 500 lbs. of TP credit by agricultural buffer strips implementation in the watershed.
Treatment and NPS Nutrient Reduction Planning	WTRR Facility, Fond du Lac, WI	Comprehensive analysis of brick-and-mortar solutions, water quality trading, and watershed adaptive management compliance options.
Phosphorus Compliance Assistance	WWTP, Stoughton, WI	Comprehensive analysis with 30-year present-worth cost-benefit analysis confirming cost effectiveness of compliance through Yahara WINs watershed adaptive management program participation.
Innovative Water Quality Trade	FWWPCC	See project description below.
Streambank Restoration Water Quality Trade	City of Stoughton, WI	500 feet of streambank restoration along the Rock River provides 29 lbs. of TP credit each year.
Effluent Phosphorus Compliance Plan	City of Whitewater, WI	Holistic citywide phosphorus compliance plan considering the City WWTF, City MS4, and UWW MS4 needs. This joint study looks at how best to meet phosphorus reduction requirements contained in WPDES permits for each entity. The following compliance techniques are being considered (standalone or in combination): WWTF process optimization, multidischarger variance, constructed BMPs within the MS4s, water quality trading, and watershed adaptive management.

Enhanced Phosphorus Stormwater Treatment – Fontana-Walworth Water Pollution Control Commission, WI

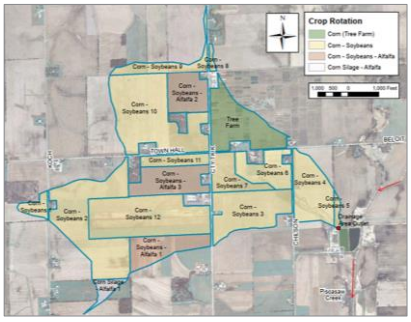
Faced with Wisconsin Pollutant Discharge Elimination System (WPDES) permit limits at the Wastewater Treatment Facility (WWTF) changing from 1.0 milligrams per liter (mg/L) to 0.075 mg/l, the Fontana-Walworth Water Pollution Control Commission engaged us to perform phosphorus planning looking at brick and mortar ($7 million), water quality trading, watershed adaptive management, and multidischarger variance (MDV) solutions. The plan revealed an alternative $2 million innovative water quality trade involving repurposing of on-site sewage lagoons (that was unused for 34 years) to divert and treat stormwater runoff from 917 acres of adjacent agricultural lands.

Project Team
- Jon Lindert
- Mark Shubak

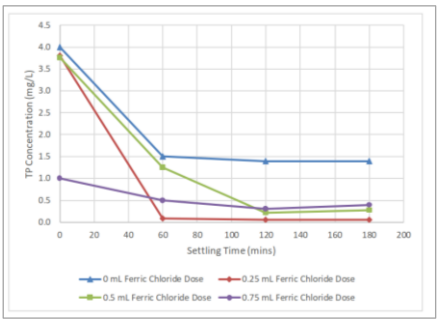
Reference
Doug York
Superintendent
262-736-4473

This innovative plan resulted in a $5 million cost savings and provides 2,900 to 3,400 lbs. TP reduction credit before trade ratio application following WDNR guidance. The sediment basins are dosed with ferric chloride based on bench-scale testing to increase TP removal and include post-construction verification monitoring. It also includes water quality trade on 211 acres of adjacent commission-owned land that was converted from row crop to cover crop (alfalfa).

With a WDNR-approved Water Quality Trading Plan, design proceeded in 2019 and construction was completed in 2021. Features of the design include an influent flow diversion structure, dredging of the wastewater lagoons, including sediment sampling to determine disposal options, ferric chloride dosing, an intermediate structure, and effluent structure. Monitoring (at influent and effluent) has begun and the actual TP reduction performance of the system will be reported in the WDNR-required annual water quality trading reporting.

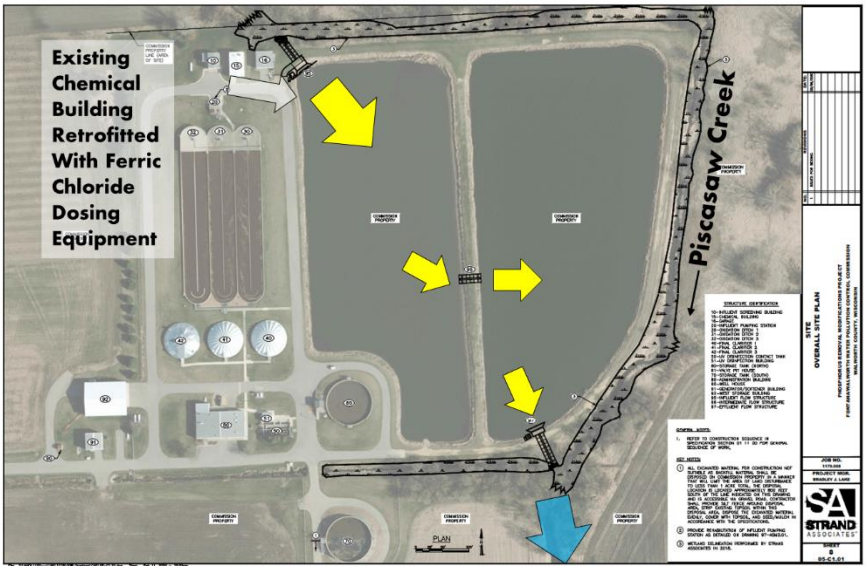


917-acre agricultural watershed draining past wastewater plant.



Bench-scale testing TP reduction results for north drainage basin.

2020 construction – influent flow structure diverts upstream flows to basins.



Design included influent, intermediate, and effluent control structures that routed flow through repurposed, dredged sewage lagoons to protect Piscasaw Creek.

Pre-project picture illustrates contrast between discharge of treated WWTP effluent to creek and stormwater runoff from agricultural watershed.

Proven Record of SWU Success Provides Guidance and Eliminates Learning Curve

We have provided SWU consulting services for more than 35 municipal clients throughout the Midwest. As a result of our involvement, we have become thoroughly familiar with the rules, regulations, and credit policies and programs used by communities to successfully implement stormwater management efforts.

Our designated team members played critical roles on the successful stormwater projects identified in the adjacent table.

CLIENT (Municipality/Utility)	SWU Feasibility	SWU Implementation	MS4	SWMP	SW Ordinances	Funding	Watershed Plans	Water Quality Plans	Best Management Practices	Stakeholder Groups	Inventory/Modeling/GIS	NPDES Negotiations
Algoma, WI	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Aurora, IL	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Brazil, IN	✓					✓						
Bristol, WI	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Brookfield, WI	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Chillicothe, OH	✓										✓	
Clermont County, OH	✓	✓			✓	✓					✓	
Clinton, IA	✓											
Dodgeville, WI	✓		✓	✓			✓	✓	✓	✓	✓	
Elgin, IL	✓									✓	✓	
Fort Wayne, IN	✓	✓			✓	✓			✓		✓	✓
Frankfort, KY	✓		✓		✓				✓	✓	✓	✓
Franklin County, KY	✓		✓		✓		✓		✓	✓	✓	✓
Georgetown, KY	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Hartland, WI	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Henderson, KY	✓	✓	✓	✓	✓				✓	✓		✓
Hope, IN	✓	✓			✓	✓				✓		
Huntingburg, IN		✓		✓	✓							
Janesville, WI	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lake Mills, WI	✓		✓	✓	✓		✓	✓	✓	✓	✓	
Lancaster, WI	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	
Lisbon, WI		✓	✓	✓	✓	✓	✓	✓			✓	
Maumee, OH	✓										✓	
Merrillville, IN	✓	✓			✓	✓						
Montgomery County Engineer, OH	✓		✓	✓	✓						✓	
New Castle, IN	✓	✓			✓							
New Glarus, WI	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Onalaska, WI	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Paducah, KY	✓			✓	✓	✓	✓		✓	✓	✓	
Paragon, IN	✓	✓		✓	✓	✓				✓	✓	
Pleasant Springs, WI	✓		✓	✓	✓	✓		✓			✓	
Portage, WI	✓		✓		✓					✓	✓	
Prairie du Sac, WI	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Sterling, IL	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stoughton, WI	✓	✓	✓	✓	✓	✓			✓	✓	✓	
Waunakee, WI	✓		✓	✓	✓	✓		✓	✓			
Whitewater, WI	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wilmington, OH	✓		✓	✓							✓	

CITY OF ONALASKA

415 MAIN STREET
ONALASKA, WISCONSIN 54650-2953
www.cityofonalaska.com

Engineering/Public Works Dept.
PHONE: (608) 781-9537
FAX: (608) 781-9506

April 18, 2022

To Whom It May Concern:

The City of Onalaska has worked on numerous storm water related projects with Strand Associates, Inc. Strand prepared the City's Stormwater Quality Management Plan (and 2021 WinSLAMM modeling and program updates) to obtain MS4 Permit compliance and meet Wis. DNR Stormwater Regulations. Strand also prepared a Stormwater Utility Feasibility Study which led to a Stormwater Utility Implementation Project. The City of Onalaska has relied upon the expertise and professionalism from the Strand team to achieve multiple stormwater permits, projects and goals over the past eighteen (18) years. Strand has been crucial to the City's success for a number of reasons including: staff knowledge, quality of work, creative ideas, working relationships with regulatory agencies and trying to find solutions that work for the City of Onalaska.

Some points that stand out:

- Formation of Stormwater Utility Task Force: Strand recommended the City assemble a variety of community leaders and stakeholder to go over the proposed stormwater utility. This was instrumental in gaining public education and support for the formation of the stormwater utility.

- Grant Funding Opportunities: The City had previously applied for Wis. DNR grant funding for its Stormwater Quality Management Plan through another consultant. Strand was then hired for the next grant cycle and City score went from the low end to one of the highest of those submitted.

- ARRA Funding: Strand was able to perform necessary work to meet ARRA funding requirements for a City stormwater ponding area retrofit project. Strand worked within tight timelines to ensure the project was completed.

- Stormwater Pumping Station Design: Strand worked on hydraulic modeling (XPSWMM 2D) for the proposed pump station to show the city it would be capable of a 1% annual rain event with a smaller sized station and footprint, thereby saving on construction cost for the City. In 2022 this included an updated XPSWMM 2D analysis in the watershed to recommend conveyance, inlet and storage improvement to optimize the system alongside a street reconstruction project.

- Meeting Regulatory Requirements: Strand has worked with the Wis. DNR on the City's behalf on many projects to ensure that innovative means are used to meet stormwater requirements for City projects, including the use of maximum extent practicable.

- Stormwater Pond Design: Strand has worked with the city to provide alternatives analysis for modifications to Pond 17 to repair flood damage (FEMA Repair Project) and for expansion of the pond to serve upstream development.

Strand Associates Inc. has been an integral partner in providing stormwater guidance, planning and engineering for the City of Onalaska. I would recommend Strand Associates, Inc. to others needing assistantance in any facet of stormwater engineering.

I you have any questions please contact me at (608) 781-9537 or by e-mail at jholter@onalskawi.gov.

Sincerely,

C. Jarrod Holter, P.E.
City Engineer/Public Works Director