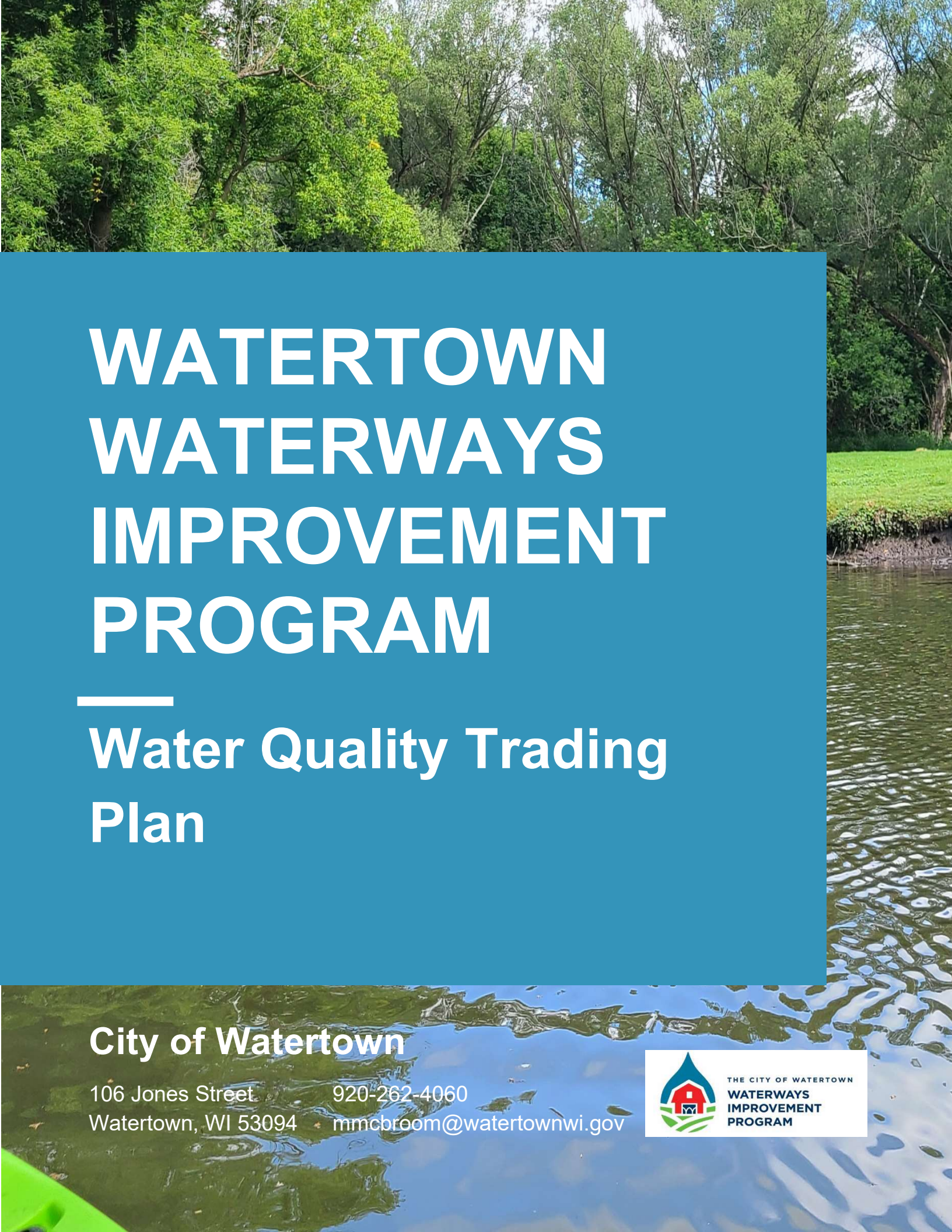


WATERTOWN WATERWAYS IMPROVEMENT PROGRAM

Water Quality Trading Plan

City of Watertown

106 Jones Street
Watertown, WI 53094

920-262-4060
mmcbroom@watertownwi.gov

THE CITY OF WATERTOWN
WATERWAYS IMPROVEMENT PROGRAM

Watertown Waterways Improvement Program (WWIP)

Water Quality Trading Plan

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Overview

Background

The Wisconsin Department of Natural Resources (WDNR) and the United States Environmental Protection Agency (EPA) approved a Total Maximum Daily Load (TMDL) study for the Rock River Basin in September 2011. The TMDL studied how much Total Suspended Solids (TSS) and phosphorus would need to be prevented from entering the Rock River and its tributaries each year to return to healthy, fishable, swimmable conditions that meet water quality standards.

The Municipal Separate Storm Sewer System (MS4) Permit requires the City of Watertown to reduce the amount of TSS and phosphorus reaching local waterways per the pollutant reductions listed in the TMDL. The City's 2014 Storm Water Quality Master Plan estimated the cost of compliance with the TMDL at well over $13 million dollars (in 2014 dollars) unless an alternative approach was used. Since then, the City has determined that a Water Quality Trading program implemented within two local subwatersheds (RR-28 and RR-29) would be the best option for a more cost effective way to meet the TMDL pollutant reductions as compared to strictly using traditional stormwater management practices.

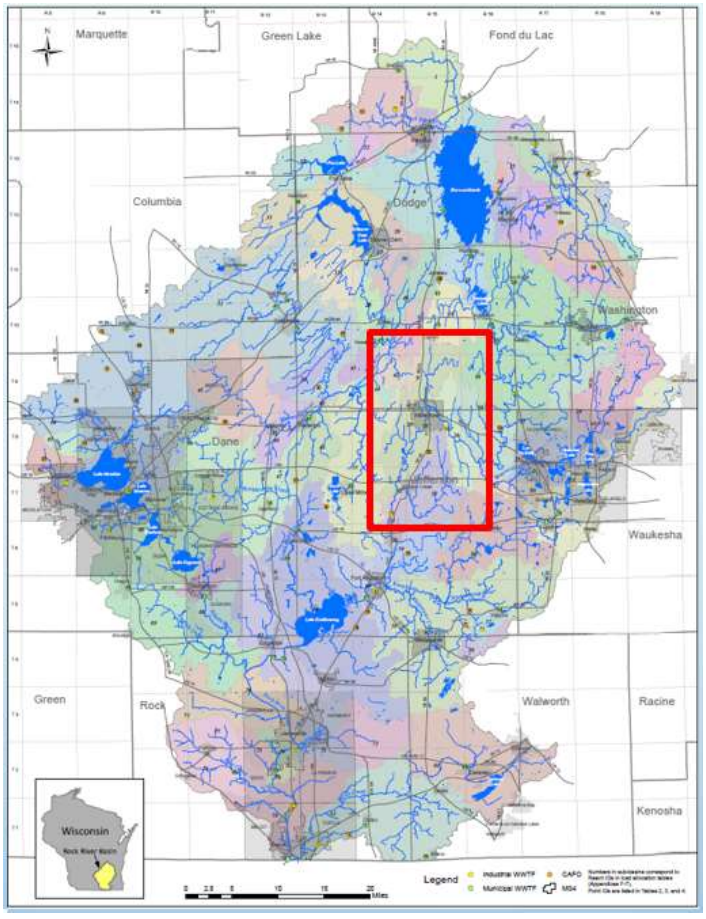
Rock River Basin TMDL Subwatersheds

Three City of Watertown Subwatersheds shown in red box:

RR-28

RR-29

JC-30



Source: Wisconsin Department of Natural Resources

Overall TMDL Implementation Approach

The City's long-term TMDL compliance approach to meet the MS4 Permit will continue to include a variety of options, with Water Quality Trading and strategic stormwater BMP installations being the primary means of MS4 Permit compliance.

A WinSLAMM model update was completed in 2023 as part of the TMDL Implementation Plan, to meet Section A.6.3 of the MS4 Permit. This modeling shows that the City continues to make progress in reducing the amount of Total Suspended Solids (TSS) and phosphorus (TP) reaching the Rock River and local waterways via the City's storm sewer system.

Total Suspended Solids Updated TMDL Modeling Regulatory Results (2023)

Waterway (Reachshed)	TSS Loading – No Controls (lbs)	Existing TSS Reduction (%)	Existing TSS Reduction (lbs)	Required TSS Reduction (%)	Required TSS Reduction (lbs)	Additional Reduction Needed (lbs)
Sinissippi Lake (#28)	431,635	16.04%	69,229	40%	172,654	**103,425**
Middle Rock River (#29)	946,044	21.19%	200,652	44%	416,259	**215,607**
Johnson Creek (#30)	43,954	21.97%	9,657	40%	17,582	**7,925**

Source: Ruekert & Mielke; City of Watertown MS4 Permit No. WI -S050075-3 TMDL Implementation Plan, Oct. 2023

Total Phosphorus Updated TMDL Modeling Regulatory Results (2023)

Waterway (Reachshed)	TP Loading – No Controls (lbs)	Existing TP Reduction (%)	Existing TP Reduction (lbs)	Required TP Reduction (%)	Required TP Reduction (lbs)	Additional Reduction Needed (lbs)
Sinissippi Lake (#28)	1,452	11.59%	168	28%	407	**238**
Middle Rock River (#29)	2,669	16.35%	437	64%	1,708	**1,272**
Johnson Creek (#30)	115	13.80%	16	27%	31	**15**

Source: Ruekert & Mielke; City of Watertown MS4 Permit No. WI -S050075-3 TMDL Implementation Plan, Oct. 2023

The City has completed plans and modeling, implemented strategies and installed urban stormwater runoff practices to control the amount of TSS and phosphorus reaching the Rock River and local waterways for over 10 years.

City of Watertown TMDL Implementation Actions To Date

2014	Completed WinSLAMM Analysis for TMDL
2016	Updated Ch. 288, Stormwater Ordinance
2017	Submitted Water Quality Trading Option to WDNR
2019	Completed Water Quality Trading Analysis
2019	Completed Stormwater Utility Rate Study
2020	Re-Joined Rock River Stormwater Group
2020	Implemented Stormwater Utility Rate Increase
2020	Hired Stormwater Project Manager
2021	Received WDNR Approval for Water Quality Trading
2021	Re-Energized Stormwater Utility Credit Program
2022	Updated/Refined TMDL WinSLAMM Results
2022	Developed iWorQ TMDL Management System
2022	Completed Leaf Collection/Phosphorus Reduction Analysis
2022	Began Discussions with Jefferson County & Rock River Coalition re: a Water Quality Trading Program to meet TMDL Requirements
2023	Signed Intergovernmental Agreement with Jefferson County to Implement Watertown Waterways Improvement Program (WWIP), a local water quality trading program
2023	Submitted Water Quality Trading Notice of Intent
2023	Conducted WWIP Kick-off Meeting with Property Owners
2023	Completed TMDL Implementation Plan to meet MS4 Permit Requirements

With the addition of the Watertown Waterways Improvement Program, a local water quality trading program, the City will continue to make progress in reducing the amount of TSS and phosphorus that is impacting the Rock River and its tributaries.

Water Quality Trading

Water Quality Trading typically involves a permitted entity looking for a more cost-effective way to meet pollution control requirements of a permit. When pollution controls are installed in areas that are not *required* to reduce pollution, the benefits of this pollution control can be traded with an entity that needs to show additional pollution reductions.

The City's MS4 Permit requires TSS and phosphorus reductions in three separate subwatersheds (reachsheds). The cost of installing a pollution control practice in a rural area is typically much cheaper than the cost of a practice to capture the same amount of pollution in an urban area.

Examples of Rural Pollution Control Practices	
Grassed Waterways	Cover Crops
Buffer Strips	Barnyard Management
Streambank Stabilization	Wetland Restoration

The cost of water quality trading will depend largely on the market price of phosphorus per pound. TMDL compliance is measured in pounds of TSS and Phosphorus. The amount that a property owner wants to charge per pound of phosphorus has been estimated to be $35 - $250 per pound (per discussions with WDNR and consultants, 2019-2021). A typical rural pollution control practice may be between $5,000 and $20,000 depending on practice type and size, while an urban stormwater best management practice (BMP) may range from $50,000 to over $3,000,000 (engineering, land acquisition, construction, etc.) (per recommendations in the 2014 Storm Water Quality Master Plan, December 2014).

City of Watertown Engineering Division staff began working with the Jefferson County Land & Water Conservation Department (County) and the Rock River Coalition (RRC) in early 2022 to develop a Water Quality Trading program to meet the City's TMDL requirements of the MS4 Permit. This partnership will lean heavily on the vast expertise and experience of both the County staff and the RRC regarding nonpoint source runoff best management practices, in-field assessments of site conditions, modeling, documentation, outreach, communications and more. Funds were approved in the 2023 Stormwater Utility budget to begin water quality trading in 2023. An Intergovernmental Agreement has been drafted and reviewed by City and County staff and the City Attorney, and has been approved by the City of Watertown Public Works Commission, City of Watertown Common Council and Jefferson County Board.

Local Water Quality Trading to meet TMDL Requirements of the MS4 Permit

The Watertown Waterways Improvement Program (WWIP) is a local water quality trading program designed to reduce excess TSS and Phosphorus identified in the Rock River Total Maximum Daily Load (TMDL) report, dated September 2011, as required by the City of Watertown's Municipal Separate Storm Sewer System (MS4) Permit no. WI-S050075. The backbone of this local water quality trading program is the partnership between the City, Jefferson County Land and Water Conservation Department (County) and the Rock River Coalition (RRC). The experience, expertise, local knowledge and relationships with potential WWIP participants in the target reachsheds is irreplaceable, and is an asset to the program. Wisconsin Department of Natural Resources (WDNR) staff have provided guidance and support during the development of this local water quality trading program.

The structure and roles of partners in the WWIP is as follows:

- City (MS4 permittee): sponsor and funder of the program; credit user
- County: program contact, technical modeling and practice design, inspections and administrative documentation and reporting

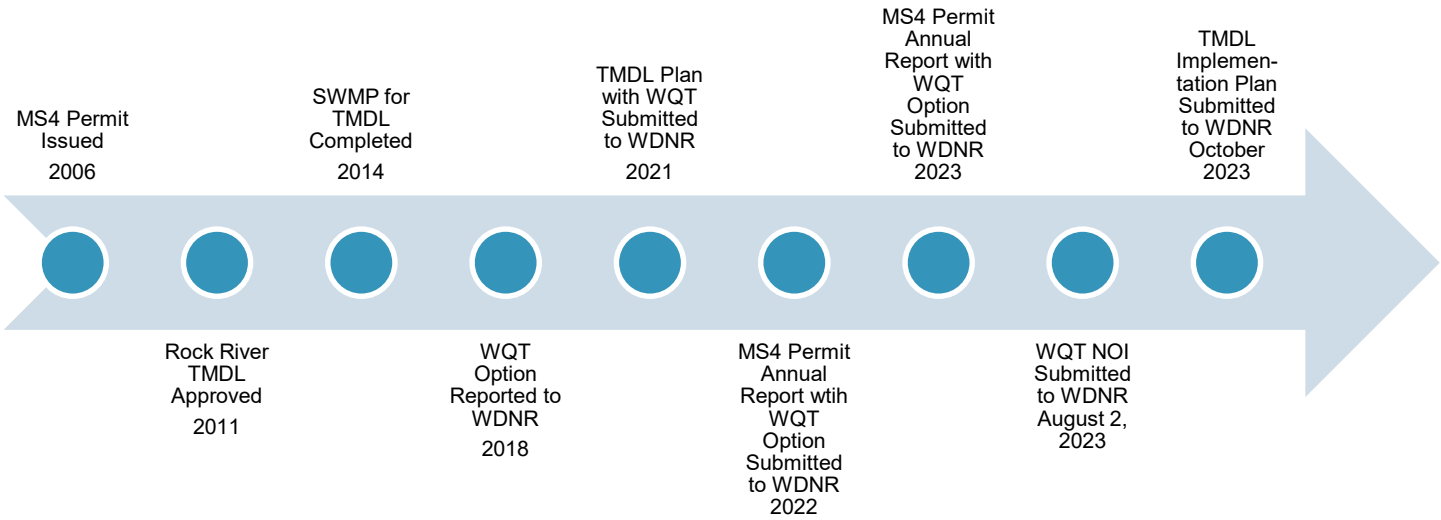
- RRC: marketing and outreach, website support
- Property owners/program participants: credit generator; installation and maintenance
- Wisconsin Department of Natural Resources: regulating agency, compliance guidance

Appendix A of MS4 Permit No. WI-S050075 requires implementation of a plan to reduce pollutants identified in the Rock River TMDL report. The City's TMDL Implementation Plan includes a variety of pollutant reduction approaches, to maximize the City's Stormwater Utility Budget in the most cost-effective way possible. This City's TMDL Implementation Plan includes:

- traditional and green infrastructure stormwater quality treatment systems
- maximizing water quality aspects of flood control measures
- coordination with private property owners and developers
- potential dry pond retrofits
- a municipal leaf collection program
- waterway restoration projects
- water quality trading

The City formally notified the WDNR of the decision to pursue a water quality trading program to meet the TMDL requirements in March 2018, per MS4 Permit No. WI-S050075-2 Section 1.5.4.5. The water quality trading program has also been discussed in MS4 Permit Annual Reports in 2021, 2022 and 2023. The water quality trading Notice of Intent (Form 3400-206) was submitted to WDNR on August 2, 2023. The City's TMDL Implementation Plan for 2024-2029, including the local water quality trading program, to meet Section A.6.3 of the MS4 Permit was submitted on October 27, 2023.

Figure 1: Timeline of Completed TMDL Implementation Milestones

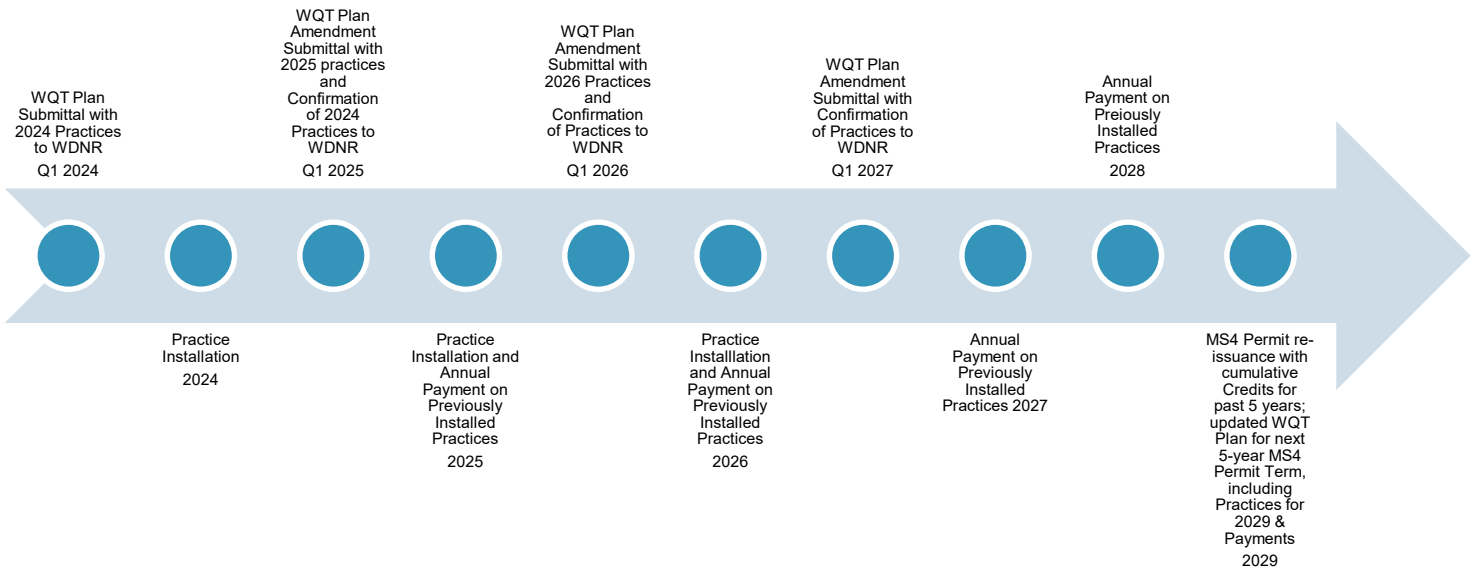


The WWIP officially began with a kick-off meeting to local property owners on August 30, 2023. Multiple property owners have since expressed interest in the program.

Water Quality Trading Plans (WQT Plans) for individual projects are planned to be submitted to WDNR for review and approval annually as new projects are planned for construction. A fall sign-up deadline for the WWIP will be determined, which will allow time for field visits, modeling, and plan development prior to construction the following spring. The WQT Plan has been developed to capture individual project information in the appendices. The City is seeking approval from WDNR of the proposed projects for use in compliance with the MS4 Permit prior to construction, as City staff strive to be good stewards of the City stormwater utility and the funds that are being spent on this water quality trading program.

Credits that are generated by projects in the WWIP will be assigned to the City's TMDL compliance program at the beginning of the subsequent MS4 Permit term. This will allow a few years after construction for the practice to grow and become established prior to the City claiming the TSS and phosphorus credits. The average length of an agreement with the property owner is expected to be 10 years, with the option of renewing the agreement once the existing agreement expires, if the property owner is interested. Developing and installing projects within a 5-year time period in anticipation of claiming those credits beginning with the subsequent 5-year permit term also allows the WWIP partners to plan and budget on 5-year intervals. Staffing, budgets, complimentary urban water quality projects and other factors may be considered as planning evolves for the WWIP.

Figure 2: Example Timeline of Upcoming WWIP Implementation Milestones



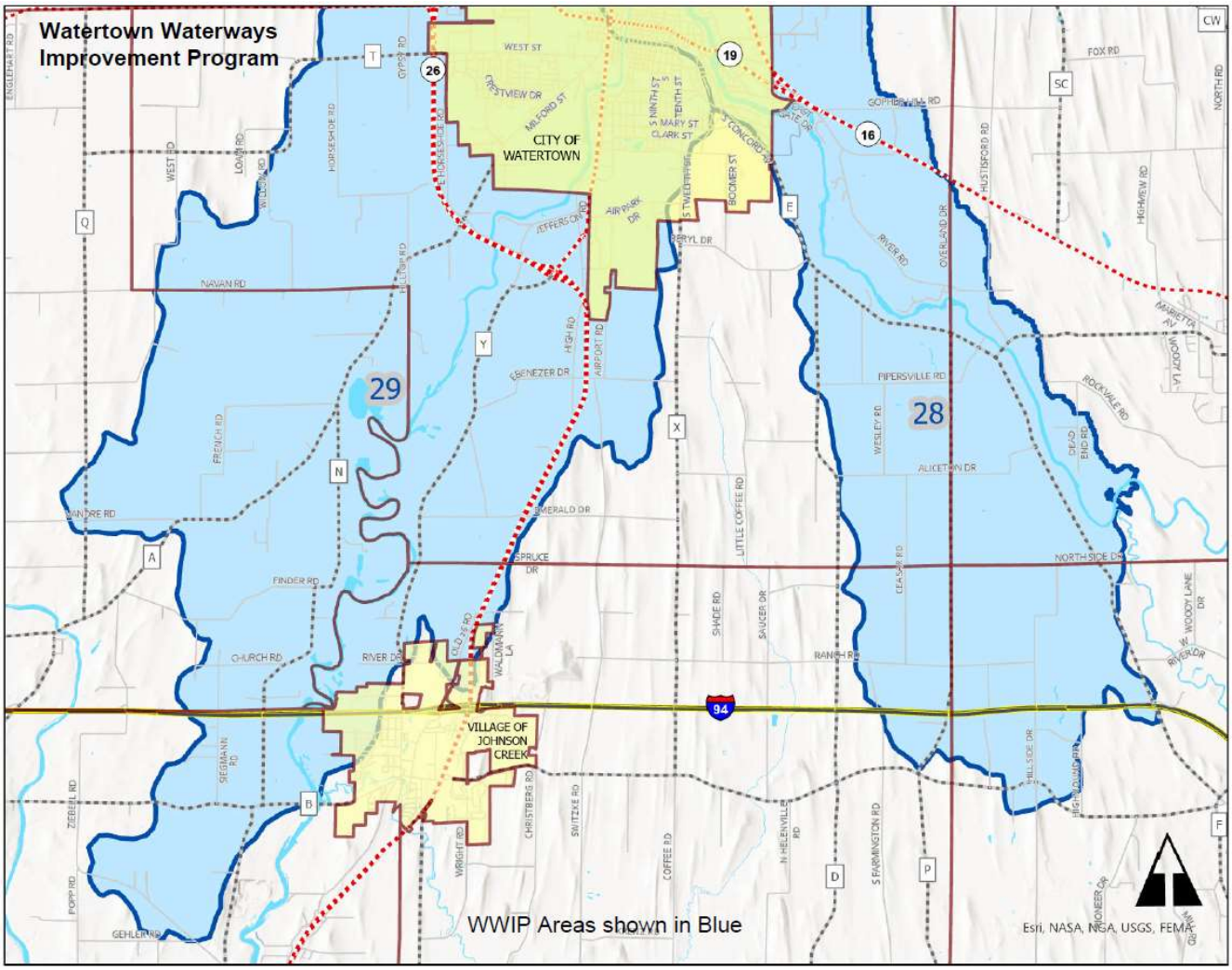
Full compliance with the TMDL requirements in the MS4 Permit is expected to take multiple decades through the City's Water Quality Trading Program. Current projections estimate 30-60 nonpoint source projects will need to be installed in Reachsheds 28 & 29 to meet the TSS and TP reduction goals required by the MS4 Permit. Most of the practices will result in an installation payment and annual payments to the property owner over a period of 10 years

(some projects will only have the installation cost, and some projects may have a slightly different timeframe). If desired, property owners are able to re-enroll the practice in the WWIP after the initial time commitment is over.

The WWIP has been designed to meet the requirements of the WDNR MS4 Permit No. WI-S050075-2 Section 1.5.4.5 (submitted in 2018) and MS4 Permit No. WI-S050075-3 Section A.3. In addition, the WWIP, as part of the overall City of Watertown's TMDL Implementation Plan, meets the requirements of NR216.07(10)(c), Wisconsin Administrative Code, regarding US EPA-approved TMDL. The WWIP has also been developed to meet the requirements of Chapter 283.84, Wisconsin State Statutes, regarding trading of water pollution credits. The pollutant credits generated by the proposed practices will be assigned to the City's TMDL compliance under the subsequent MS4 Permit after the practices have been installed. A summary of the practices and the resulting TSS and phosphorus credits can be provided in tabular format with the MS4 Permit Annual Report, which is submitted by March 31st each year, and in the updated table of WWIP practices with each amended WQT Plan submittal. This approach of submitting the compliance mechanism with the annual report is similar to the format for other compliance subjects within the MS4 Permit. The City intends to continue operating the WWIP and the other required MS4 Permit compliance programs under MS4 Permit No. WI-S050075, and anticipates more specific water quality trading permit language and reporting forms to be included in future versions of MS4 Permit No. WI-S050075.

WWIP 2024-2029 Water Quality Trading Plan Locations, Practice Types and Timeline

The Watertown Waterways Improvement Program (WWIP) is implemented within the Jefferson County portions of Rock River TMDL Reachsheds 28 & 29.



Source: Jefferson County Land and Water Resource Department

See Appendices for site-specific information on individual practices.

Nonpoint source practices that are covered in this program include:

- Harvestable Vegetated Filter Strips
- Vegetated Filter Strips
- Grassed Waterways
- Roof Runoff Structures

Other acceptable practices will be evaluated on a case-by-case basis.

The WWIP will be implemented on a 5-year basis, concurrent with the WDNR-issued MS4 Permit. Annual updates will be made to the WWIP Water Quality Trading Plan when new practices are planned to be implemented in the following year. Practices that are established within the 5-year permit period will be compiled at the end of the 5 years with the re-application for MS4 Permit coverage. The amount of TSS & Phosphorus that is controlled by those practices can then be included in the subsequent MS4 Permit.

Proposed Projects and Credit Locations

The Watertown Waterways Improvement Program (WWIP) is anticipated to result in numerous nonpoint source projects throughout TMDL Reachsheds RR-28 & RR-29 within over multiple decades. The resulting pollutant reductions will be used to meet the requirements of the City of Watertown's Municipal Separate Storm Sewer System (MS4) Permit WI-S050075-3.

Detailed information on currently proposed projects, and updates on any previous projects, can be found in the Appendices.

Inspections and Maintenance, Reporting

Practices will be inspected annually to ensure performance. The property owner is responsible for performing any needed maintenance of the practices. If maintenance is not completed resulting in the practice under-performing, the annual payment from the City to the property owner may be withheld. See the detailed project information in the appendices for site-specific maintenance plans.

Summary

The Watertown Waterways Improvement Program (WWIP) is a local water quality trading program intended to meet the TSS and Phosphorus reduction requirements of the Rock River TMDL study, per the City of Watertown's (MS4) Permit No. WI-S050075. The program is planned to be implemented over multiple decades. This local water quality improvement program draws off the experience, existing relationships and expertise of the partners involved.

The Water Quality Trading Plan (WQT Plan) describing individual proposed projects will be submitted to the WDNR prior to installation for review and approval to use toward the TMDL compliance requirements of the MS4 Permit. Subsequent WQT Plan submittals will include an additional appendix with the upcoming year's proposed projects. This will allow for public notice of the proposed trades once during the year.

Certification of Water Quality Trading Plan

Water Quality Trading Plan prepared by:

Jefferson County Land + Water Conservation Department

Site-specific modeling and project details prepared by:

Jefferson County Land + Water Conservation Department

The undersigned hereby certifies that this water quality trading plan to meet the TMDL requirements of the MS4 Permit is accurate and correct to the best of his/her knowledge.

Authorized Permit Representative:

_____ (signed) 7/23/2024 (date)

Andrew Beyer (printed)

Appendices

A. MS4 Permit-WQT Notice of Intent

B. Management Practice Registration Form (Form 3400-207)

C. Watertown Waterways Improvement Program (WWIP) Brochure

D. Figure A: WWIP Area Location Map

E. Project Status Spreadsheet

F. Figure B: Cumulative Project Sites Location Map

G. 2024 Proposed Projects and Credit Location Details

DRAFT

Appendix A

MS4 Permit – Notice of Intent (August 2023)

State of Wisconsin
Department of Natural Resources
101 South Webster Street
Madison WI 53707-7921
dnr.wi.gov

Notice of Intent to Conduct Water Quality Trading

Form 3400-206 (1/14)

Notice: Pursuant to s. 283.84, Wis. Stats., and ch. NR 217 Wis. Adm. Code, this form must be completed by any WPDES permittee that is using water quality trading as a method of complying with a permit limitation. Failure to complete this form would not result in penalties. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31 - 19.39, Wis. Stats.).

Applicant Information

Permittee Name	Permit Number	Facility Site Number
City of Watertown	WI- S050075-3	31435

Facility Address	City	State	ZIP Code
106 Jones Street	Watertown	WI	53094

Project Contact Name (if applicable)	Address	City	State	ZIP Code
Maureen McBroom	106 Jones Street	Watertown	WI	53094

Project Name: Watertown Waterways Improvement Program (WWIP)

Receiving Water Name	Parameter(s) being traded	HUC 12(s)
Rock River	TSS/Sediment & Phosphorus	070900010608, 070900011103

Is the permittee in a point or nonpoint source dominated watershed? (See PRESTO results - http://dnr.wi.gov/topic/surfacewater/presto.html)
- ○ Point source dominated
- ◉ Nonpoint source dominated

Credit Generator Information

Credit generator type (select all that apply):
- ☐ Permitted Discharge (non-MS4/CAFO)
- ☐ Permitted MS4
- ☐ Permitted CAFO
- ☐ Urban nonpoint source discharge
- ☒ Agricultural nonpoint source discharge
- ☐ Other - Specify:

Are any of the credit generators in a different HUC 12 than the applicant?
- ○ Yes; HUC 12:
- ◉ No
- ○ Unsure

Are any of the credit generators downstream of the applicant?
- ◉ Yes
- ○ No
- ○ Unsure

Will a broker/exchange be used to facilitate trade?
- ◉ Yes; Name: Jefferson County Land & Water
- ○ No
- ○ Unsure

Point to Point Trades (Traditional Municipal / Industrial Discharge, MS4, CAFO)

Discharge Type	Permit Number	Name	Contact Address	Is the point source credit generator currently in compliance with their permit requirements?
○ Traditional ○ MS4 ○ CAFO				○ Yes ○ No ○ Unsure
○ Traditional ○ MS4 ○ CAFO				○ Yes ○ No ○ Unsure
○ Traditional ○ MS4 ○ CAFO				○ Yes ○ No ○ Unsure
○ Traditional ○ MS4 ○ CAFO				○ Yes ○ No ○ Unsure
○ Traditional ○ MS4 ○ CAFO				○ Yes ○ No ○ Unsure

Point to Nonpoint Trades (Non-permitted Agricultural, Non-Permitted Urban, etc.)

List the practices that will be used to generate credits:

Nonpoint source practices including filter strips, grassed waterways, barnyard management, etc.

Method for quantifying credits generated:
- ☐ Monitoring
- ☒ Modeling, Names: Snap Plus
- ☐ Other: _____

Projected date credits will be available: 09/01/2023

The preparer certifies all of the following:

- I am familiar with the specifications submitted for this application, and I believe all applicable items in this checklist have been addressed.
- I have completed this document to the best of my knowledge and have not excluded pertinent information.

Signature of Preparer	Date Signed
Maureen McBroom	8/2/2023

Authorized Representative Signature

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision. Based on my inquiry of those persons directly responsible for gathering and entering the information, the information is, to the best of my knowledge and belief, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Authorized Representative	Date Signed
Jayne Allen Holloway	8-2-23

Appendix B

Management Practice Registration Form

State of Wisconsin
Department of Natural Resources
101 South Webster Street
Madison WI 53707-7921
dnr.wi.gov

Water Quality Trading Management Practice Registration

Form 3400-207 (R 1/14)

Notice: Pursuant to s. 283.84, Wis. Stats., this form must be completed by any WPDES permittee that is using water quality trading as a method of complying with a permit limitation. Failure to complete this form would not result in penalties. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31 - 19.39, Wis. Stats.).

Applicant Information

Permittee Name	Permit Number WI-	Facility Site Number

Facility Address	City	State	ZIP Code

Project Contact Name (if applicable)	Address	City	State	ZIP Code

Project Name

Broker/Exchange Information (if applicable)

Was a broker/exchange be used to facilitate trade? ◯ Yes ◯ No

Broker/Exchange Organization Name	Contact Name

Address	Phone Number	Email

Trade Registration Information (Use a separate form for each trade agreement)

Type	Trade Agreement Number	Practices Used to Generate Credits	Anticipated Load Reduction	Trade Ratio	Method of Quantification
◯ Urban NPS ◯ Agricultural NPS ◯ Other					

County	Closest Receiving Water Name	Land Parcel ID(s)	Parameter(s) being traded

The preparer certifies all of the following:

- I have completed this document to the best of my knowledge and have not excluded pertinent information.
- I certify that the information in this document is true to the best of my knowledge.

Signature of Preparer	Date Signed

Authorized Representative Signature

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision. Based on my inquiry of those persons directly responsible for gathering and entering the information, the information is, to the best of my knowledge and belief, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Authorized Representative	Date Signed

Leave Blank – For Department Use Only

Date Received		Trade Docket Number
Entered in Tracking System ☐ Yes	Date Entered	Name of Department Reviewer

Appendix C

Watertown Waterways Improvement Program (WWIP) Brochure

PAYMENT RATES TABLE

Practice	One Time Installation Rate ($/ac.)	Annual Payment Rate ($/ac.)	Estimated Practice Lifespan* (Years)	Contract Period	Comments
Harvestable Vegetated Filter Strips	225 Upfront	400 Annually	10+	10	• Width of Buffers/Filters is 30' min. and 150' max. • Potential for larger widths so long as it provides additional P-reduction. • Additional funding for native species may be available.
Vegetated Filter Strips (Introduce or Native Species)	225 Upfront	400 Annually	10+	10	
Grassed Waterways	All installation expenses paid, one time payment		10+	10	
Roof Runoff Structures	All installation expenses paid, one time payment		Min. of 15	10	
Other Accepted Practices	If other phosphorus reducing practices can be utilized, LWCD will work with the City of Watertown to establish guidelines and conditions.				

* Proper maintenance and management will provide longer lasting functioning practices that will outlive the contract period

PARTNERS

The Watertown Waterways Improvement Program (WWIP) is a collaborative effort between the City of Watertown, Jefferson County Land and Water Conservation Department (LWCD) and Rock River Coalition, a local nonprofit that works to improve water quality in South Central Wisconsin.

THE CITY OF WATERTOWN WATERWAYS IMPROVEMENT PROGRAM

THE CITY OF WATERTOWN
Opportunity runs through it.

OUTDOOR RECREATION MEETS JEFFERSON COUNTY SMALL TOWN LIVING

Rock River COALITION

For more information on water quality trading and the City of Watertown Waterways Improvement Program please visit the Rock River Coalition website:

www.rockrivercoalition.org/watertown-waterways-improvement-program/

QUESTIONS?

Watertown Waterways Improvement Program Contact:

David Hoffman
Jefferson County Land & Water Conservation Department

dhoffman@jeffersoncountywi.gov

920-674-7115

THE CITY OF WATERTOWN
WATERWAYS IMPROVEMENT PROGRAM

Landowner incentives for conservation practices that improve local water quality



THE CITY OF WATERTOWN

WATERWAYS IMPROVEMENT PROGRAM

The City of Watertown is implementing *water quality trading* as an innovative way to achieve clean water goals and reduce the amount of phosphorus entering local waterways. Water quality trading gives municipalities the ability to partner with area landowners on implementing conservation practices that will achieve pollutant reductions.

Watertown's water quality trading will be facilitated by the *Watertown Waterways Improvement Program (WWIP)*, a partnership between Jefferson County Land and Water Conservation Department (LWCD), Rock River Coalition and the City of Watertown. This program will involve area landowners with the goal of reducing phosphorus in a way that is more effective and less expensive than the City working individually.

To help meet water quality requirements, the City of Watertown will reimburse private landowners for implementing voluntary conservation practices through WWIP. These conservation practices will help decrease the amount of phosphorus runoff and improve water quality in the watershed at large. Eligible landowners who participate in this program will sign 10-year contracts, will be paid a fixed rate upon installation, and in some cases will receive annual payments for the length of the contract (see rates on back page).

Landowner Benefits:

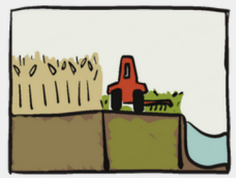
- **Receive economic incentives offered through the City of Watertown.**
- **Reduce soil erosion on your property.**
- **Improve your local water quality.**
- **Improve your farm's sustainability.**



CONSERVATION PRACTICES

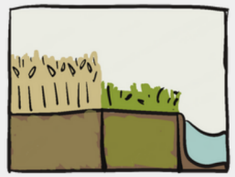
Examples include:

HARVESTABLE VEGETATED FILTER STRIPS



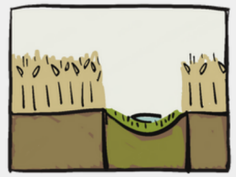
Strip of vegetation along the edge of a cropped field and/or adjacent to a waterway. The strips can be harvested as forage throughout the growing season.

VEGETATED FILTER STRIPS



Strips of vegetation (native species optional) along the edge of a cropped field and/or adjacent to a waterway that reduce suspended solids and contaminants.

GRASSED WATERWAYS



Graded channels with vegetation suitable to transport surface water to a less erodible site, which allows fields to shed water and reduces further erosion.

Additional practices:

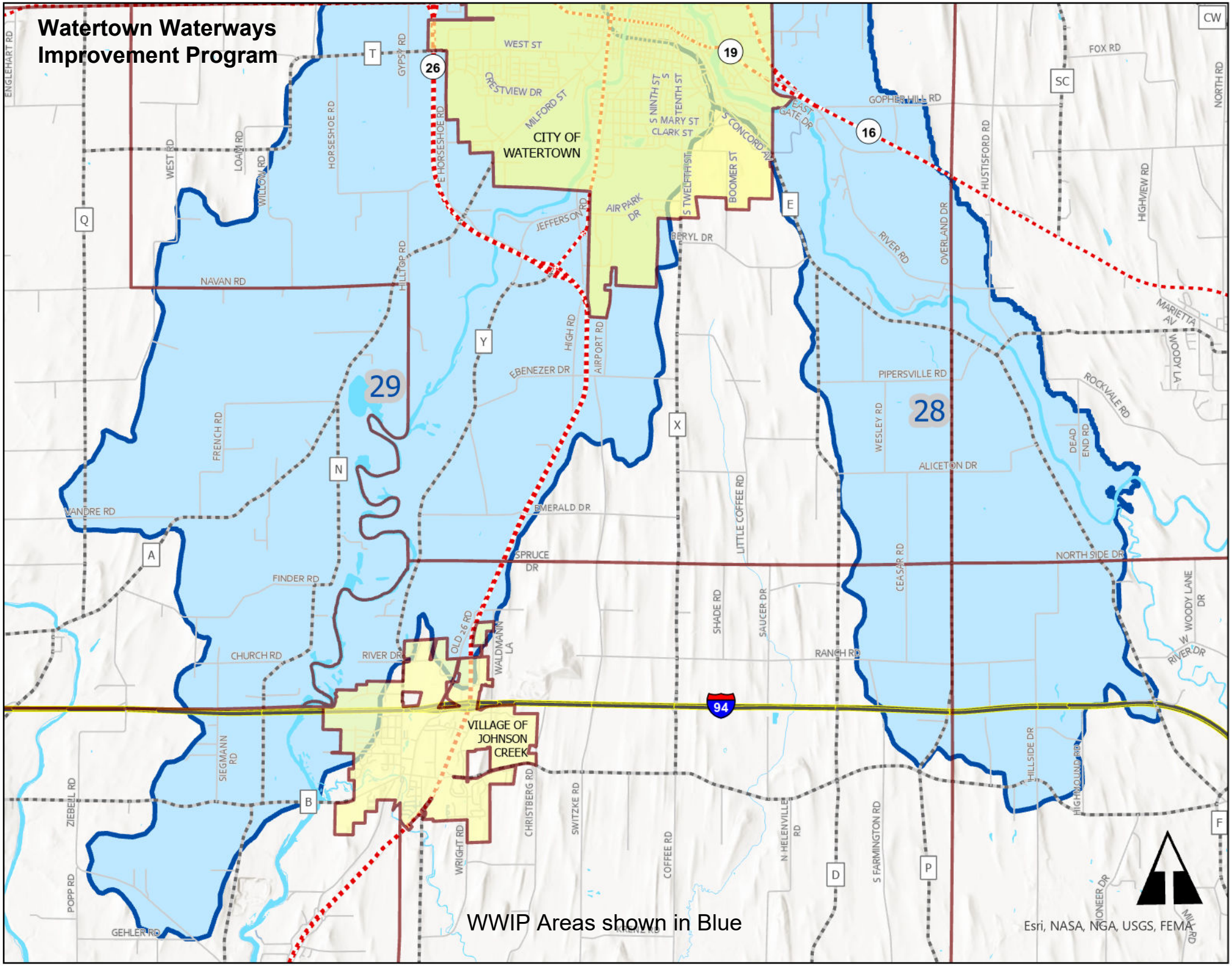
- Roof runoff structures
- Other acceptable best management practices may be eligible.

PARTICIPATION PROCESS

1. **Site Visit:** The landowner and LWCD meet and determine which conservation practice(s) works best for the land and landowner.
2. **Design of Practice:** LWCD prepares a proposed conservation practice plan.
3. **Modeling & Paperwork:** LWCD models phosphorus reduction based on the proposed plan.
4. **Practice Approval:** The City of Watertown approves the conservation practice plan for funding.
5. **Contracting:** The landowner signs a conservation practice contact.
6. **Practice Installation:** The landowner or contractor installs the conservation practice (with oversight by LWCD if applicable).
7. **Practice Certification & Payment:** Once installed, LWCD visits the property to certify practice. The City of Watertown pays the landowner the contracted initial payment.
8. **Recording of Practice:** The City of Watertown records the conservation practice on the property deed.
9. **Annual Visits:** LWCD conducts yearly site visits. If applicable, the City of Watertown pays the landowner an annual payment.
10. **Termination:** Upon completion of contact, the City of Watertown files termination of agreement on property deed (unless the contract is renewed).

Appendix D

Figure A: WWIP Area Location Map


Watertown Waterways Improvement Program
CITY OF WATERTOWN
VILLAGE OF JOHNSON CREEK
WWIP Areas shown in Blue
Esri, NASA, NGA, USGS, FEMA
WEST ST
CRESTVIEW DR
MILFORD ST
S MARY ST
CLARK ST
S CONCORD ST
EAST GATE DR
GOPHER HILL RD
FOX RD
NORTH RD
HUSTISFORD RD
HIGHVIEW RD
BOOMER ST
S TWELFTH ST
AIR PARK DR
JEFFERSON RD
BERYL DR
RIVER RD
OVERLAND DR
MARIETTA AV
WOODY LA
ENGLEHART RD
WEST RD
LOAM RD
WILLOW RD
HORSESHOE RD
E HORSESHOE RD
GYPSY RD
NAVAN RD
HILLTOP RD
HIGH RD
AIRPORT RD
EBENEZER DR
PIPERSVILLE RD
ROCKVALE RD
WESLEY RD
DEAD END RD
ALICETON DR
FRENCH RD
VANDRE RD
EMERALD DR
LITTLE COFFEE RD
SPRUCE DR
NORTH SIDE DR
CEASAR RD
FINDER RD
SHADE RD
SAUCER DR
W WOODY LANE DR
OLD 26 RD
WALDMANN LA
CHURCH RD
RIVER DR
RANCH RD
W RIVER DR
SIEGMANN RD
ZIEBELL RD
CHRISTBERG RD
SWITZKE RD
WRIGHT RD
COFFEE RD
N HELENVILLE RD
S FARMINGTON RD
HILLSIDE DR
HIGHMOUND RD
POPP RD
GEHLER RD
PIONEER DR
MILL RD
CW
SC
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Q
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X
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Appendix E

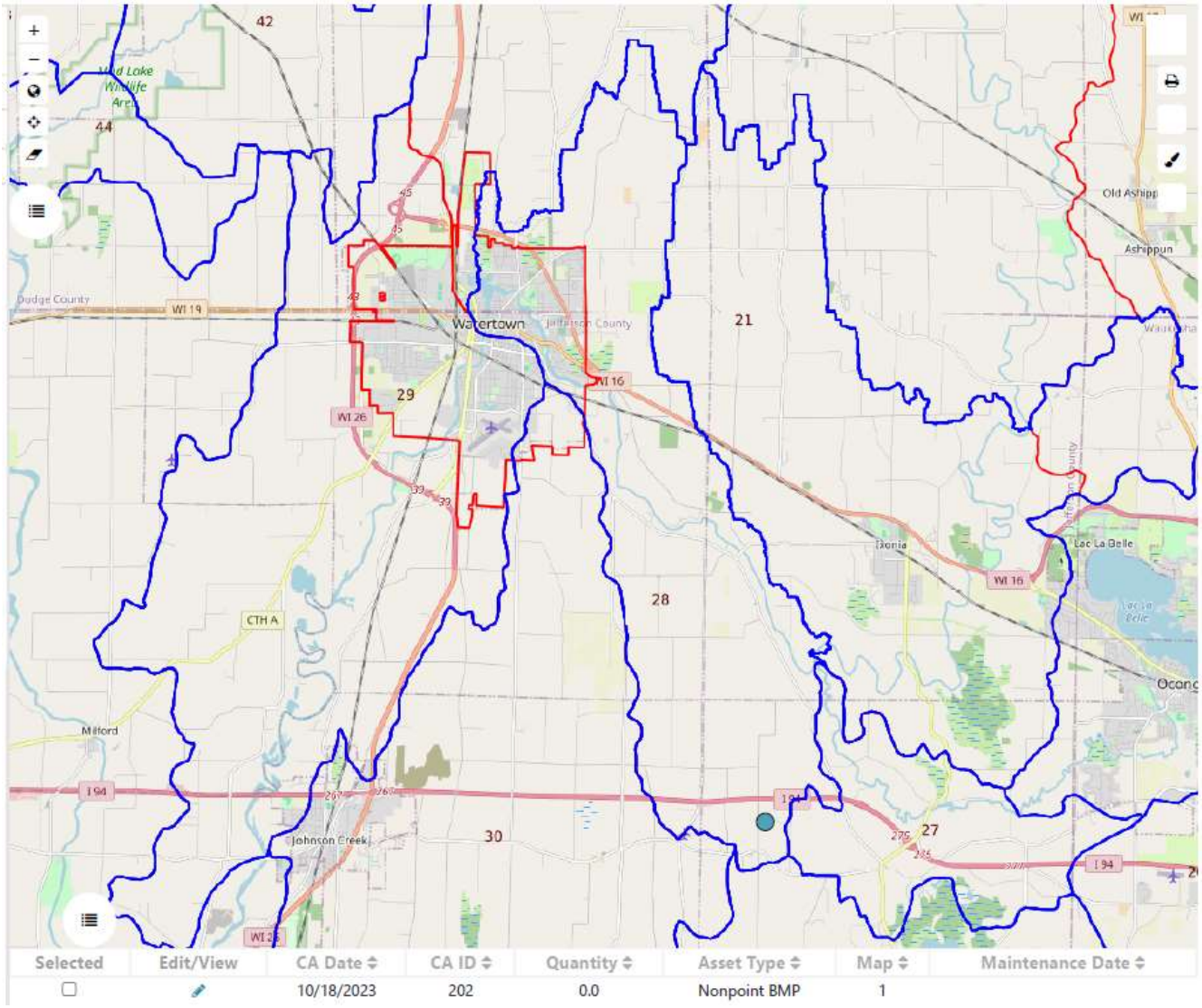
Project Status Spreadsheet

Watertown Waterways Improvement Program
Project Status List 2/23/2024

Project #	Management Measure	Average Annual Phosphorus Pounds Generated	Average Annual TSS Tons Generated	Year Installed	Status of Measure
WWIP-RR28-001-2024	2 Harvestable Buffers (Filter Strips)	117.5	17.08	N/A	In Design

Appendix F

Figure B: Cumulative Project Sites Location Map



One (1) Project in Design

Appendix G

WWIP Individual Nonpoint Source Practices – 2024 Update

Project WWIP-RR28-001-2024:
2 Harvestable Buffers (Filter Strips) to control 40.5 acres of cropped fields
Town of Concord, Jefferson County
Trade Ratio: 1.2 : 1
Anticipated Average Annual TP reduction: 117.50 lbs.
Anticipated Average Annual TSS reduction: 17.08 tons
Management Practice Registration recorded at County: (TBD)
Project Status: **Proposed**/Constructed/Performing

Two agricultural fields owned by the same landowner, located in the Town of Concord, T7N, R16E, Sec. 08, parcel #006-0716-0833-004 (M1 West) and parcel #006-0716-0834-001 (M3 East), are being proposed for the WWIP. Both sites are located in the Upper Rock River watershed, specifically the Ashippun River- Rock River HUC 12- 070900010608 sub-watershed (Reachshed #28). Harvestable buffers are planned for each site and each will be 150 feet wide (maximum width for WWIP payments) and will offer phosphorus and TSS reductions to the waterway that flows to the Rock River.

DNR Form 3400-208 Water Quality Trading Checklist Criteria:

A. Description of Current Land Use:

M1 West:
The planned harvestable buffer on the west side of the waterway is in agricultural production on a typical corn-bean rotation with winter wheat and alfalfa added to the crop rotation as the operator saw necessary in the past. M1 West has historically been broken up into two different fields (north and south) and soil samples taken for each are comparable. Both fields represent one field that contributes phosphorus (P) and total suspended sediment (TSS) to the downslope waterway and is identified as the “Contributing Acres” or “Whole Field.” Recent soil samples indicate a total phosphorus (TP) measurement of 16 ppm with average soil loss (T-value) of 4 tons/acre/year.

M3 East:
The planned harvestable buffer on the east side of the waterway (M3 East) is in agricultural production on a typical corn-soybean rotation with winter wheat and alfalfa added to the crop rotation as the operator saw necessary. M3 East has historically been broken up into two different fields, similar to M1 West, and represents one fields that contributes P and TSS to the downslope waterway and is identified as the “Contributing Acres” or “Whole Field.” Recent soil samples taken for each average 11 ppm TP with average soil loss of 4 tons/acre/year.

B. Management practices used to generate credits:

Harvestable buffers, or harvestable filter strips, will be used to generate water quality trading credits (WQT) and are swathes of permanent (perennial) grass along the downslope side of a cropped field or adjacent to a waterway that acts as a buffer to reduce water quality degradation from the transport of nutrients downslope. This practice, similar to filter strips, has a minimum lifespan of 10 years and is used to collect suspended solids and associated contaminants, including phosphorus, from runoff.

These buffers will be harvested as a way to incentivize landowners, beyond payments, to allow the use of the established perennial grasses for livestock feed or other sources of income, while still providing water quality benefits. This keeps the land in production and the buffer continues to be effective at P and TSS reduction if managed properly. The added benefit of harvestable buffers is the plant itself has continuous P uptake throughout the growing season, so there's an increase in P reduction by the removal of bio-mass. This additional P reduction is not calculated in SnapPlus and therefore will not be used to generate additional credits.

See Item K below for installation, establishment, and management guidelines.

C. Amount of credit being generated:

Per Guidance Doc, Sec 3.2 Pollutant Reduction Credit Threshold, Subsection Agricultural Nonpoint Sources, Page 21: SnapPlus was intended to evaluate agricultural field management practices and associated phosphorus and sediment loss at rates associated with the NRCS nutrient management plan standard, compliance with NR 151 performance standards, and tolerable soil loss rates. The loss rates corresponding with many TMDL agricultural load allocation values may be on the lower end of the calibrated and validated predictive range for SnapPlus. Therefore, the TMDL load allocation values may be rounded up to the nearest 0.5 lbs/acre/year increment. LWCD staff has rounded the numbers to the nearest hundredth to improve data accuracy.

Per Guidance Doc., Appendix H Management Practices and Associated Information, the nonpoint source uncertainty factor for a credit user who is downstream of a credit generator is 1 for filter/buffer strips and applicable to TP and TSS only.

Trade Ratio = (Delivery (credit user and generator in same HUC12) + Downstream (credit user is downstream of credit generator) + Equivalency (P and TSS default equivalency factors are 0) + Uncertainty (Uncertainty Factor of 1 per Appendix H for buffers) : 1

- Watertown's Trade Ratio = (0 + 0 + 0 + 1):1 = 1:1

The minimum allowed trade ratio by WDNR is 1.2:1. Watertown will use this trade ratio for harvestable buffers.

D. Description of applicable trade ratio per agreement/management practices:

Tables 1 and 2 show the total phosphorus (TP) reductions and credits and Tables 3 and 4 show the total suspended solids (TSS) reductions and credits available for the City of Watertown to use over the course of a 10-year agreement with the landowner. (See Tables in Section G, below.)

The available phosphorus credits were produced by first inputting all current cropping data into SnapPlus and running both P and TSS reports for 13 years (3 years of actual cropping data plus 10 years of cropping if landowner continues farming as is). The baseline data is then subtracted by the numbers generated by two other reports (both for P and TSS): 1) the buffered acres that will have a perennial alfalfa/grass mix installed; and 2) the contributing acreage that will continue in row crops, but with the edge of the field (EOF) filter button on in the Rotation Settings.

Note: there's a difference in acreage due to SnapPlus mapping functionality. The program does not like layered polygons on the same field which resulted in 0.1 ac. difference between the whole field (M1 Baseline), the buffered field, and the contributing field. We chose to calculate 30.7 ac. to err on the conservative side for P-Loss.

E. Location of where credits will be generated:

Noted in first paragraph of this appendix.

F. Timeline for credits and agreements:

- Winter/Spring 2024: establish contractual agreement with landowner
- Spring 2024: landowner to plant harvestable buffer according to standards
- 2024 Growing Season: buffer establishment, no harvesting until establishment is sufficient.
- March 2025: Submit WQT Practice Registration Form 3400-207 with MS4 Permit Annual Report
- 2025 – 2033: buffer maintained to standards with TP and TSS reduction calculated in SnapPlus reports. Annual monitoring and reporting.

G. Method for Quantifying Credits:

For harvestable buffers, Jefferson County will use SnapPlus to model each field to determine TP and TSS reductions with the "edge of the field filter" attribute which accounts for a buffer/filter strip along the downslope side of the mapped field. The shortfall of SnapPlus, is that it doesn't calculate all of the P reduction when modeling any given field.

Some considerations are needed when modeling to improve these shortfalls in order to accurately model TP reduction. One issue with SnapPlus is that the "edge of the field filter" attribute only accounts for a 30-foot buffer which is the minimum standard found in NRCS's Code 393 for Filter Strips. The planned practices (M1 West and M3 East) are to be 150 feet wide (measured by GPS and shapefiles uploaded into SnapMaps) and will capture more sediment/phosphorus.

The other shortfall of SnapPlus is not accounting for a decrease in acreage, or loss of cropped acres, as the model assumes a filter is placed only at the edge of the field, not in the field.
To alleviate these shortfalls, the SnapPlus reports will be modelled three different ways:

1) Baseline condition reports, which assumes the landowner will continue farming the whole field with a corn-soybean rotation, and is modelled with the same crop rotation over the course of 10 years.
2) "Contributing Area" reports, which represents the part of the field that will continue to be farmed in row crops and is modelled with the Designed, Field Edge Filter button clicked on in SnapPlus.
3) 150' wide alfalfa/grass buffer, which represents the other part of the field that will remain in perennial vegetation for the 10-year agreement.

Tables 1-4 have the following field names:
<u>M1 West:</u>
The harvestable buffer being placed in this field on the west side of the waterway is characterized in SnapPlus as:

- "M1 West"- the whole field prior to buffer installation to calculate all baseline data, 30.7 acres.
- "M1 West Contributing Acres"- the area that will remain in row crops, 23.3 acres.
- "M1 West Buffer Acres"- represents the grass/alfalfa harvestable buffer and the loss of acreage in the row-crops, 7.4 acres.

<u>M3 East:</u>
The harvestable buffer being placed in this field on the east side of the waterways is characterized in SnapPlus as:

- "M3 East"- the whole field prior to buffer installation to calculate all baseline data, 9.8 acres.

- “M3 East Contributing Acres” - the area that will remain in row crops, 7.1 acres.
- “M3 East Buffer Acres” - represents the grass/alfalfa harvestable buffer and the loss of acreage in the row-crops, 2.7 acres.

Order of SnapPlus Operations to Calculate P/TSS Loss Reductions (shown in provided tables):

1- Complete baseline condition reports for whole field as it stands presently
2- Complete reports for contributing acres field with edge of the field filter (EOF) and buffered acres to determine TP and TSS loss with practice installed.
3- Add the “contributing acres EOF” report and “buffer acres” that shows the total amount of TP and TSS loss with practice installed.
4- The total amount of TP/TSS loss is subtracted from the baseline conditions reports to get the total amount of TP/TSS loss (runoff) reductions.
5- Per WQT Guidance document, Section 3.4, page 32, practices that generate credits through the conversion of agricultural land or involve the establishment of vegetation (i.e. buffer/filter strips) must be installed, established, and functioning (meeting any applicable technical standard) prior to generating credits. For this project the target date where credits can be generated will begin in 2025. Additionally, due to crop rotation fluctuations between corn and soybeans, averages are taken over a 9-year period (2025-2033) assuming the first year of installation the practices are not fully functional and credits will not be generated for Watertown to use until the year after installation and once the practice is established and fully functional. This is referenced in the DNR WQT Guidance, under Appendix D, Using a Rotational Average Pollutant Reduction, page 89.

The order of SnapPlus Operations to calculate P and TSS loss reductions are represented by this formula:

$$\frac{\text{(Baseline Data Reports – (Contributing Ac. w/ EOF + Alfalfa/Grass Buffer Ac.))}}{\text{1.2 Trade Ratio}} = \text{P and TSS Credits Available for Watertown (before –year avg.)}$$

Tables 1-2 show the available P credits.

Tables 3-4 show the available TSS credits.

Table 1: FIELD M1 TOTAL PHOSPHORUS RUNOFF REDUCTIONS (LBS/ACRE)															
		Before Alfalfa/Grass Buffer			Modeling of P Runoff Reductions with a 7.4 ac. alfalfa/grass buffer installed										
Field	Acres	PTP 2021	PTP 2022	PTP 2023	PTP 2024	PTP 2025	PTP 2026	PTP 2027	PTP 2028	PTP 2029	PTP 2030	PTP 2031	PTP 2032	PTP 2033	Total
M1 Baseline (continue farming as it stands, row crops, no buffer, no EOF)	30.8*	63.73	76.18	79.25	212.57	95.69	221.91	97.28	222.53	97.35	222.29	97.16	221.89	96.92	NA
M1 Grass/Alfalfa Buffer Acres (BA)	7.4	7.06	7.86	10.67	17.46	4.66	2.80	1.63	0.83	0.40	0.20	0.16	0.13	0.12	
M1 Contributing Acres (CA) EOF	23.3	19.35	17.26	27.06	41.44	33.17	43.42	33.88	43.55	33.91	43.48	33.83	43.37	33.73	
Combined P-Loss from Buffered Acres + Contributing Acres w/ EOF	30.7	26.41	25.12	37.74	58.90	37.83	46.22	35.51	44.37	34.32	43.67	33.99	43.51	33.85	
M1 Baseline - (M1 WBA + M1 CA EOF) = Total Phosphorus Runoff Reduction	30.7	37.31	51.06	41.52	153.67	57.86	175.69	61.77	178.16	63.03	178.62	63.17	178.39	63.07	1173.43
Trade Ratio 1.2:1.0 (Available Credits to Trade)	30.7	NA			No Credit	48.22	146.41	51.47	148.47	52.53	148.85	52.64	148.65	52.56	849.80
9-Year for Corn-Bean rotation Avg.	30.7	No Credit			94.42	94.42	94.42	94.42	94.42	94.42	94.42	94.42	94.42	94.42	849.80

*Difference in acreage due to SnapPlus mapping functionality. The program does not like layered polygons on the same field which resulted in 0.1 ac. difference between the whole field (M1 Baseline), the buffered field, and the contributing acre field. We chose to calculate 30.7 ac. to err on the coservative side for P-Loss.

EOF = Edge of the Field Buffer Button on SnapPlus

Table 2: FIELD M3 TOTAL PHOSPHORUS RUNOFF REDUCTIONS (LBS/ACRE)															
		Before Alfalfa/Grass Buffer			Modeling of P Runoff Reductions with a 2.7 ac. alfalfa/grass buffer installed										
Field	Acres	PTP 2021	PTP 2022	PTP 2023	PTP 2024	PTP 2025	PTP 2026	PTP 2027	PTP 2028	PTP 2029	PTP 2030	PTP 2031	PTP 2032	PTP 2033	Total
M3 Baseline (continue farming as it stands, row crops, no buffer, no EOF)	9.8	18.83	24.01	32.19	59.77	26.77	50.04	26.75	50.26	26.87	50.29	26.86	50.25	26.82	NA
M3 Grass/Alfalfa Buffer Acres	2.7	2.40	4.04	5.43	5.22	1.53	0.88	0.54	0.28	0.14	0.06	0.05	0.04	0.04	
M3 Contributing Acres (CA) EOF	7.1	4.46	8.32	11.14	11.34	8.77	9.50	8.79	9.54	8.83	9.53	8.82	9.52	8.80	
Combined P-Loss from Buffered Acres + Contributing Acres w/ EOF	9.8	6.86	12.37	16.58	16.56	10.30	10.38	9.32	9.82	8.97	9.59	8.87	9.56	8.83	
M3 Baseline - (East WBA + M3 CA EOF) = Total Phosphorus Runoff Reduction	9.8	11.97	11.64	15.62	43.21	16.47	39.66	17.43	40.44	17.91	40.70	17.99	40.70	17.99	331.72
Trade Ratio 1.2:1.0 (Available Credits to Trade)	9.8	NA			No Credit	13.73	33.05	14.53	33.70	14.92	33.91	14.99	33.91	14.99	207.73
9-Year for Corn-Bean rotation Avg.	9.8	No Credit			23.08	23.08	23.08	23.08	23.08	23.08	23.08	23.08	23.08	23.08	207.72

EOF = Edge of the Field Buffer Button on SnapPlus

Table 3: Field M1 Total Suspended Solids (TSS) Report (Tons/Acre)															
		Before Alfalfa/Grass Buffer			Modeling of TSS Reductions with a 7.4 ac. alfalfa/grass buffer installed										
Field Name	Acres	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
M1 Baseline TSS (continue farming as it stands, row crops, no buffer, no EOF)	30.8*	6.23	10.76	8.61	31.83	10.18	33.32	10.32	33.48	10.34	33.51	10.35	33.52	10.35	NA
M1 Grass/Alfalfa Buffer Acres (BA) TSS	7.4	0.46	0.91	0.89	3.12	0.60	0.33	0.18	0.09	0.06	0.04	0.03	0.03	0.03	
M1 Contributing Acres (EOF Filter) TSS	23.3	1.92	2.62	3.01	6.77	3.51	7.13	3.57	7.17	3.57	7.18	3.58	7.18	3.58	
Combined TSS from Alfalfa/Grass Buffer + Contributing Acres w/ EOF Buffer	30.7	2.38	3.53	3.89	9.89	4.12	7.46	3.75	7.26	3.63	7.22	3.61	7.21	3.60	
M1 Baseline - (M1 BA + M1 CA EOF) = Total TSS Reduction	30.7	3.85	7.23	4.72	21.93	6.06	25.86	6.57	26.22	6.71	26.29	6.74	26.31	6.74	159.42
Trade Ratio 1.2:1.0 (Available Credits to Trade)	30.7	NA			No Credit	5.05	21.55	5.48	21.85	5.59	21.91	5.61	21.92	5.62	114.58
9-Year for Corn-Bean rotation Avg.	30.7	No Credit			12.73	12.73	12.73	12.73	12.73	12.73	12.73	12.73	12.73	12.73	114.57

*Difference in acreage due to SnapPlus mapping functionality. The program does not like layered polygons on the same field which resulted in 0.1 ac. difference between the whole field (M1 Baseline), the buffered field, and the contributing acre field. We chose to calculate 30.7 ac. to err on the coservative side for TSS Loss.

EOF = Edge of the Field Buffer Button on SnapPlus

Table 4: Field M3 Total Suspended Solids (TSS) Report (Tons/Acre)															
		Before Grass/Alfalfa Buffer			Modeling of TSS Reductions with a 2.7 ac. alfalfa/grass buffer installed										
Field Name	Acres	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
M3 East	9.8	3.66	3.14	3.64	12.27	3.68	10.19	3.68	10.24	3.69	10.26	3.70	10.26	3.70	NA
M3 East Buffer Acres	2.7	0.35	0.36	0.41	1.30	0.27	0.13	0.07	0.04	0.02	0.02	0.01	0.01	0.01	
M3 East Contributing Acres	7.1	0.70	0.83	0.89	2.11	0.95	1.75	0.96	1.76	0.96	1.76	0.96	1.76	0.96	
Combined TSS from Alfalfa/Grass Buffer + Contributing Acres w/ EOF Buffer	9.8	1.05	1.19	1.30	3.41	1.22	1.88	1.03	1.79	0.98	1.78	0.97	1.77	0.97	
M1 Baseline - (M1 BA + M1 CA EOF) = Total TSS Reduction	9.8	2.62	1.95	2.34	8.85	2.46	8.31	2.65	8.45	2.71	8.48	2.72	8.49	2.73	55.84
Trade Ratio 1.2:1.0 (Available Credits to Trade)	9.8	NA			No Credit	2.05	6.93	2.21	7.04	2.26	7.06	2.27	7.07	2.27	39.15
9-Year for Corn-Bean rotation Avg.	9.8	No Credit				4.35	4.35	4.35	4.35	4.35	4.35	4.35	4.35	4.35	39.15
EOF = Edge of the Field Buffer Button on SnapPlus															

H. Tracking Procedures:

Jefferson County LWCD has qualified staff that will oversee and track the process of installation and establishment. LWCD staff will also visit each practice at least one time per year to confirm that the buffers are functioning as planned.

Annual summaries and the status of this project will be provided with the City of Watertown's MS4 Permit Annual Report.

I. Conditions under which management practices may be inspected:

- Before installation to meet with landowner to show marked GPS points and the exact area to plant.
- During or after installation to ensure proper techniques were used to plant.
- After vegetation emergence to identify plants used and confirm uniform and dense vegetative cover.
- After any rainfall of more than ½" of rain in a 24-hr period occurs during the establishment period (3-6 months pending environmental conditions). If LWCD finds erosion in the buffer, then the landowner will be required to replant that disturbed area.

J. Reporting requirements should the management practice fail:

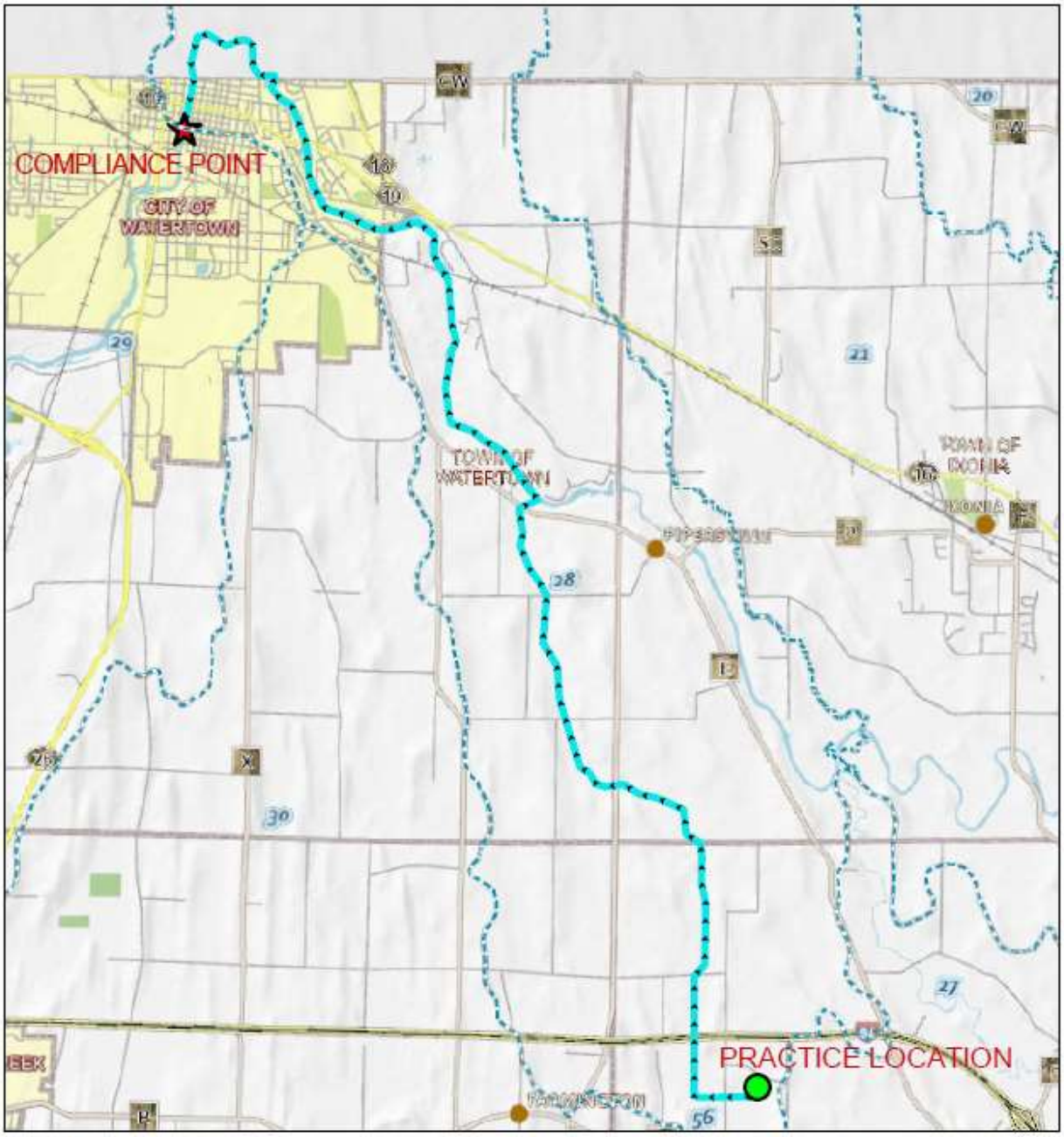
All stakeholders (landowners, Watertown staff, DNR staff, LWCD staff) will promptly be issued a notice of failed management practices if the management practice fails. The practice will then be reinstalled as soon as possible and the tracking of installation and establishment process will start over.

K. Operation and maintenance for each management practices:

All harvestable buffers will follow guidelines in the following:
1) “Planning, Design, Management and Maintenance of Vegetative Filter Strips Wisconsin Agronomy Tech Note 10”
2) “NRCS Conservation Practice Standard for Filter Strips, Code 393”
3) LWCD will complete something similar to “393- Filter Strip Implementation Requirements” for landowner

L. Location of credit generator in proximity to receiving water and credit user:

WWIP-RR28-001-2024 Credit Generator in Proximity to Receiving Waters



2/21/2024

1:72,224

0 0.5 1 2 mi

0 1 2 4 km

Reachshed 28 MS4 Permit compliance point: farthest downstream point on Rock River.

Practice is approximately 12 miles upstream following unnamed tributary and ditches that flow into the Rock River.

Jefferson County LIO

Jefferson County LWCD

M. Practice registration documents (If available):

The City of Watertown will submit Form 3400-207 WQT Management Practice Registration with the MS4 Permit annual Report once a practice is established and considered 100% effective at reducing TP and TSS. See Item F-Timeline for Credits and Agreements.

DNR Form 3400-208 Water Quality Trading Checklist

Jefferson County LWCD has signed Form 3400-208 Water Quality Trading Checklist as the Plan Preparer and the City of Watertown has signed the checklist as the Authorized Representative.

State of Wisconsin
Department of Natural Resources
101 South Webster Street
Madison WI 53707-7921
dnr.wi.gov

Water Quality Trading Checklist

Form 3400-208 (1/14)

Notice: Pursuant to s. 283.84, Wis. Stats., this form must be completed by any WPDES permittee that intends to pursue pollutant trading as a method of complying with a permit limitation. Failure to complete this form would not result in penalties. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31 - 19.39, Wis. Stats.).

Applicant Information

Permittee Name	Permit Number	Facility Site Number
City of Watertown	WI- S050075-3	31435

Facility Address	City	State	ZIP Code
106 Jones St.	Watertown	WI	53094

Project Contact Name (if applicable)	Address	City	State	ZIP Code
Maureen McBroom	106 Jones St.	Watertown	WI	53094

Project Name: Watertown Waterways Improvement Program

Receiving Water Name	Parameter(s) being traded	HUC 12(s)
Unamed tributary to Rock R.	TSS and Phosphorus	070900010608

Credit Generator Information

Credit generator type (select all that apply):

- ☐ Permitted Discharge (non-MS4CAFO)
- ☐ Permitted MS4
- ☐ Permitted CAFO
- ☐ Urban nonpoint source discharge
- ☒ Agricultural nonpoint source discharge
- ☐ Other - Specify: _____

Are any of the credit generators in a different HUC 12 than the applicant?
- ○ Yes; HUC 12: _____
- ◉ No

Are any of the credit generators downstream of the applicant?
- ○ Yes
- ◉ No

Will a broker/exchange be used to facilitate trade?
- ◉ Yes *(include description and contact information in WQT plan)*
- ○ No

Point to Point Trades (Traditional Municipal / Industrial, MS4, CAFO)

Are each of the point source credit generators identified in this section in compliance with their WDPES permit requirements?
- ○ Yes
- ○ No

Discharge Type	Permit Number	Name	Contact Information	Trade Agreement Number
○ Traditional ○ MS4 ○ CAFO				
○ Traditional ○ MS4 ○ CAFO				
○ Traditional ○ MS4 ○ CAFO				
○ Traditional ○ MS4 ○ CAFO				
○ Traditional ○ MS4 ○ CAFO				

Point to Point Trades (Traditional Municipal / Industrial, MS4, CAFO) *cont.*

Does plan have a narrative that describes:			Plan Section
a. Summary of discharge and existing treatment including optimization	○ Yes	○ No	
b. Amount of credit being generated	○ Yes	○ No	
c. Timeline for credits and agreements	○ Yes	○ No	
d. Method for quantifying credits	○ Yes	○ No	
e. Tracking and verification procedures	○ Yes	○ No	
f. Location of credit generator in proximity to receiving water and credit user	○ Yes	○ No	
g. Other: _____	○ Yes	○ No	

Point to Nonpoint Trades (Non-Permitted Urban, Agricultural, Other)

Discharge Type	Practices Used to Generate Credits	Method of Quantification	Trade Agreement Number	Have the practice(s) been formally registered?
○ Urban NPS ◉ Agricultural NPS ○ Other	Harvestable Buffer/ Filter Strip 393	SnapPlus	NA	○ Yes ◉ No ○ Only in part
○ Urban NPS ○ Agricultural NPS ○ Other				○ Yes ○ No ○ Only in part
○ Urban NPS ○ Agricultural NPS ○ Other				○ Yes ○ No ○ Only in part
○ Urban NPS ○ Agricultural NPS ○ Other				○ Yes ○ No ○ Only in part
○ Urban NPS ○ Agricultural NPS ○ Other				○ Yes ○ No ○ Only in part
○ Urban NPS ○ Agricultural NPS ○ Other				○ Yes ○ No ○ Only in part
○ Urban NPS ○ Agricultural NPS ○ Other				○ Yes ○ No ○ Only in part
○ Urban NPS ○ Agricultural NPS ○ Other				○ Yes ○ No ○ Only in part

Does plan have a narrative that describes:			Plan Section
a. Description of existing land uses	◉ Yes	○ No	Appendix F
b. Management practices used to generate credits	◉ Yes	○ No	Appendix F
c. Amount of credit being generated	◉ Yes	○ No	Appendix F
d. Description of applicable trade ratio per agreement/management practice	◉ Yes	○ No	Appendix F
e. Location where credits will be generated	◉ Yes	○ No	Appendix F
f. Timeline for credits and agreements	◉ Yes	○ No	Appendix F
g. Method for quantifying credits	◉ Yes	○ No	Appendix F

Does plan have a narrative that describes:			Plan Section
h. Tracking procedures	◉ Yes	○ No	Appendix F
i. Conditions under which the management practices may be inspected	◉ Yes	○ No	Appendix F
j. Reporting requirements should the management practice fail	◉ Yes	○ No	Appendix F
k. Operation and maintenance plan for each management practice	◉ Yes	○ No	Appendix F
l. Location of credit generator in proximity to receiving water and credit user	◉ Yes	○ No	Appendix F
m. Practice registration documents, if available	◉ Yes	○ No	Appendix F
n. History of project site(s)	◉ Yes	○ No	Appendix F
o. Other: _____	◉ Yes	○ No	

The preparer certifies all of the following:

- I am familiar with the specifications submitted for this application, and I believe all applicable items in this checklist have been addressed.
- I have completed this document to the best of my knowledge and have not excluded pertinent information.
- I certify that the information in this document is true to the best of my knowledge.

Signature of Preparer	Date Signed
[signature]	2-22-2024

Authorized Representative Signature

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision. Based on my inquiry of those persons directly responsible for gathering and entering the information, the information is, to the best of my knowledge and belief, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Authorized Representative	Date Signed
[signature]	2/23/2024

Watertown Waterways Improvement Program: WWIP-RR28-001-2024

Table 1: FIELD M1 TOTAL PHOSPHORUS RUNOFF REDUCTIONS (LBS/ACRE)															
		Before Alfalfa/Grass Buffer			Modeling of P Runoff Reductions with a 7.4 ac. alfalfa/grass buffer installed										
Field	**Acres**	**PTP 2021**	**PTP 2022**	**PTP 2023**	**PTP 2024**	**PTP 2025**	**PTP 2026**	**PTP 2027**	**PTP 2028**	**PTP 2029**	**PTP 2030**	**PTP 2031**	**PTP 2032**	**PTP 2033**	**Total**
M1 Baseline (continue farming as it stands, row crops, no buffer, no EOF)	30.8*	63.73	76.18	79.25	212.57	95.69	221.91	97.28	222.53	97.35	222.29	97.16	221.89	96.92	NA
M1 Grass/Alfalfa Buffer Acres (BA)	7.4	7.06	7.86	10.67	17.46	4.66	2.80	1.63	0.83	0.40	0.20	0.16	0.13	0.12	
M1 Contributing Acres (CA) EOF	23.3	19.35	17.26	27.06	41.44	33.17	43.42	33.88	43.55	33.91	43.48	33.83	43.37	33.73	
Combined P-Loss from Buffered Acres + Contributing Acres w/ EOF	30.7	26.41	25.12	37.74	58.90	37.83	46.22	35.51	44.37	34.32	43.67	33.99	43.51	33.85	
M1 Baseline - (M1 WBA + M1 CA EOF) = Total Phosphorus Runoff Reduction	30.7	37.31	51.06	41.52	153.67	57.86	175.69	61.77	178.16	63.03	178.62	63.17	178.39	63.07	1173.43
Trade Ratio 1.2:1.0 (Available Credits to Trade)	30.7	NA			No Credit	48.22	146.41	51.47	148.47	52.53	148.85	52.64	148.65	52.56	849.80
9-Year for Corn-Bean rotation Avg.	30.7	No Credit				94.42	94.42	94.42	94.42	94.42	94.42	94.42	94.42	94.42	849.80

*Difference in acreage due to SnapPlus mapping functionality. The program does not like layered polygons on the same field which resulted in 0.1 ac. difference between the whole field (M1 Baseline), the buffered field, and the contributing acre field. We chose to calculate 30.7 ac. to err on the coservative side for P-Loss.

EOF = Edge of the Field Buffer Button on SnapPlus

Watertown Waterways Improvement Program: WWIP-RR28-001-2024

Table 2: FIELD M3 TOTAL PHOSPHORUS RUNOFF REDUCTIONS (LBS/ACRE)															
		Before Alfalfa/Grass Buffer			Modeling of P Runoff Reductions with a 2.7 ac. alfalfa/grass buffer installed										
Field	Acres	PTP 2021	PTP 2022	PTP 2023	PTP 2024	PTP 2025	PTP 2026	PTP 2027	PTP 2028	PTP 2029	PTP 2030	PTP 2031	PTP 2032	PTP 2033	Total
M3 Baseline (continue farming as it stands, row crops, no buffer, no EOF)	9.8	18.83	24.01	32.19	59.77	26.77	50.04	26.75	50.26	26.87	50.29	26.86	50.25	26.82	NA
M3 Grass/Alfalfa Buffer Acres	2.7	2.40	4.04	5.43	5.22	1.53	0.88	0.54	0.28	0.14	0.06	0.05	0.04	0.04	
M3 Contributing Acres (CA) EOF	7.1	4.46	8.32	11.14	11.34	8.77	9.50	8.79	9.54	8.83	9.53	8.82	9.52	8.80	
Combined P-Loss from Buffered Acres + Contributing Acres w/ EOF	9.8	6.86	12.37	16.58	16.56	10.30	10.38	9.32	9.82	8.97	9.59	8.87	9.56	8.83	
M3 Baseline - (East WBA + M3 CA EOF) = Total Phosphorus Runoff Reduction	9.8	11.97	11.64	15.62	43.21	16.47	39.66	17.43	40.44	17.91	40.70	17.99	40.70	17.99	331.72
Trade Ratio 1.2:1.0 (Available Credits to Trade)	9.8	NA			No Credit	13.73	33.05	14.53	33.70	14.92	33.91	14.99	33.91	14.99	207.73
9-Year for Corn-Bean rotation Avg.	9.8	No Credit				23.08	23.08	23.08	23.08	23.08	23.08	23.08	23.08	23.08	207.72
EOF = Edge of the Field Buffer Button on SnapPlus															

Watertown Waterways Improvement Program: WWIP-RR28-001-2024

Table 3: Field M1 Total Suspended Solids (TSS) Report (Tons/Acre)															
		Before Alfalfa/Grass Buffer			Modeling of TSS Reductions with a 7.4 ac. alfalfa/grass buffer installed										
Field Name	**Acres**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**Total**
M1 Baseline TSS (continue farming as it stands, row crops, no buffer, no EOF)	30.8*	6.23	10.76	8.61	31.83	10.18	33.32	10.32	33.48	10.34	33.51	10.35	33.52	10.35	NA
M1 Grass/Alfalfa Buffer Acres (BA) TSS	7.4	0.46	0.91	0.89	3.12	0.60	0.33	0.18	0.09	0.06	0.04	0.03	0.03	0.03	
M1 Contributing Acres (EOF Filter) TSS	23.3	1.92	2.62	3.01	6.77	3.51	7.13	3.57	7.17	3.57	7.18	3.58	7.18	3.58	
Combined TSS from Alfalfa/Grass Buffer + Contributing Acres w/ EOF Buffer	30.7	2.38	3.53	3.89	9.89	4.12	7.46	3.75	7.26	3.63	7.22	3.61	7.21	3.60	
M1 Baseline - (M1 BA + M1 CA EOF) = Total TSS Reduction	30.7	3.85	7.23	4.72	21.93	6.06	25.86	6.57	26.22	6.71	26.29	6.74	26.31	6.74	159.42
Trade Ratio 1.2:1.0 (Available Credits to Trade)	30.7	NA			No Credit	5.05	21.55	5.48	21.85	5.59	21.91	5.61	21.92	5.62	114.58
9-Year for Corn-Bean rotation Avg.	30.7	No Credit				12.73	12.73	12.73	12.73	12.73	12.73	12.73	12.73	12.73	114.57

*Difference in acreage due to SnapPlus mapping functionality. The program does not like layered polygons on the same field which resulted in 0.1 ac. difference between the whole field (M1 Baseline), the buffered field, and the contributing acre field. We chose to calculate 30.7 ac. to err on the conservative side for TSS Loss.

EOF = Edge of the Field Buffer Button on SnapPlus

Watertown Waterways Improvement Program: WWIP-RR28-001-2024

Table 4: Field M3 Total Suspended Solids (TSS) Report (Tons/Acre)															
		Before Grass/Alfalfa Buffer			Modeling of TSS Reductions with a 2.7 ac. alfalfa/grass buffer installed										
Field Name	**Acres**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**Total**
M3 East	9.8	3.66	3.14	3.64	12.27	3.68	10.19	3.68	10.24	3.69	10.26	3.70	10.26	3.70	NA
M3 East Buffer Acres	2.7	0.35	0.36	0.41	1.30	0.27	0.13	0.07	0.04	0.02	0.02	0.01	0.01	0.01	
M3 East Contributing Acres	7.1	0.70	0.83	0.89	2.11	0.95	1.75	0.96	1.76	0.96	1.76	0.96	1.76	0.96	
Combined TSS from Alfalfa/Grass Buffer + Contributing Acres w/ EOF Buffer	9.8	1.05	1.19	1.30	3.41	1.22	1.88	1.03	1.79	0.98	1.78	0.97	1.77	0.97	
M1 Baseline - (M1 BA + M1 CA EOF) = Total TSS Reduction	9.8	2.62	1.95	2.34	8.85	2.46	8.31	2.65	8.45	2.71	8.48	2.72	8.49	2.73	55.84
Trade Ratio 1.2:1.0 (Available Credits to Trade)	9.8	NA			No Credit	2.05	6.93	2.21	7.04	2.26	7.06	2.27	7.07	2.27	39.15
9-Year for Corn-Bean rotation Avg.	9.8	No Credit				4.35	4.35	4.35	4.35	4.35	4.35	4.35	4.35	4.35	39.15
EOF = Edge of the Field Buffer Button on SnapPlus															