

## Final Report

Targeted Runoff Management Grant Program and Urban Nonpoint  
Source and Storm Water Management Grant Program

Form 3400-189 (R 11/05)

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Notice: This final report is authorized by ss. 281.65 and 281.66, Wis. Stats., and chs. NR 153 and NR 155, Wis. Adm. Code. 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.].

Instructions: The grant agreement requires grantees to submit a Final Report 60 days after the end date listed in the grant agreement. This Final Report form must be used in conjunction with the "FINAL REPORT INSTRUCTIONS." The instructions detail how to complete and submit the report to DNR.

### 1. Grant Type

- ☐ Agricultural - Targeted Runoff Management Grant
- ☐ Urban - Targeted Runoff Management Grant
- ☐ Construction - Urban Nonpoint Source & Storm Water Management Grant
- ☒ Planning - Urban Nonpoint Source & Storm Water Management Grant

### 2. Grantee & Project Information

Project Name <b>City of Monroe Stormwater Program Components</b>	Grant Number <b>USP-SP01-23251-05</b>
Governmental Unit Name <b>Monroe</b>	Governmental Unit Type (city, village, town, etc.) <b>City</b>
Watershed Name <b>Honey Creek and Richland Creek</b>	Watershed Code <b>SP01</b>
DNR Water Management Unit (River System) Name <b>Sugar Pecatonica</b>	Water Body Identification Code (WBIC) (if applicable) <b>N/A</b>

s. 303(d) Waterbody? ☐ Yes ☒ No

What pollutant(s) were addressed by the project?

Suspended solids, hazardous materials, oil and grease, illicit discharges

For each project site location provide the following: (attach additional sheets if necessary)

Location:		A	B	C	D	E
Minor Civil Division Name						
PLSS	Town	<b>1N</b>	<b>2N</b>			
	Range	<b>7E</b>	<b>7E</b>			
	Section	<b>Portions of 1, 2, 3, 4</b>	<b>Portions of 25, 26, 27, 33, 34, 35, 36</b>			
	Quarter					
	Quarter-Quarter					
Latitude		<b>42 36'33" N</b>	<b>42 36'33" N</b>			
Longitude		<b>89 38'11" W</b>	<b>89 38'13" W</b>			
Property Owner(s)	Name	<b>City of Monroe</b>	<b>City of Monroe</b>			
	Mailing address	<b>1110 18<sup>th</sup> Avenue Monroe, WI 53566</b>	<b>1110 18<sup>th</sup> Avenue Monroe, WI 53566</b>			
Site address (if different than mailing address)						

### 3. Summary of Results

#### A. Performance Standards and Prohibitions and Other Water Resources Management Priorities

For grants issued in calendar year 2006 or later, complete Tables A and B (following) consistent with the entries on your grant application.  
For grants issued prior to calendar year 2006, complete Tables A and B, *to the best of your knowledge*, consistent with the entries on your grant application.

**Table A. Performance Standards and Prohibitions (per ch. NR 151, Wis. Adm. Code, effective October 1, 2002)**

Performance Standard or Prohibition	Units of Measure	Quantity	Measurement Method Used
Sheet, rill and wind erosion	Acres meeting T		
Manure Storage Facilities: New Construction/Alterations	Number of facilities		
	Number of animal units		
Manure Storage Facilities: Closure	Number of facilities		
Manure Storage Facilities: Failing/Leaking Facilities	Number of facilities		
	Number of animal units		
Clean Water Diversions in WQMA	Pollutant load reduction		
	Number of farms with diversions		
	Number animal units		
Nutrient Management on Agricultural Land	Acres planned		
Prohibition: Manure Storage Overflow	Number of facilities		
	Number of animal units		
Prohibition: Unconfined Manure Pile in WQMA	Number of farms		
Prohibition: Direct Runoff From Feedlot/Stored Manure	Pollutant load reduction		
	Number of facilities		
	Number of animal units		
Prohibition: Unlimited Livestock Access	Feet of bank protected		
	Number of farms		
Urban: 20-40% Reduction in Total Suspended Solids (TSS)	Pounds TSS reduced		
	% TSS reduction		

**Table B. Other Water Resources Management Priorities**

I. Agricultural Areas	Units of Measure	Quantity	Measurement Method Used
Buffers	Feet of bank protected		
	Number of farms		
Streambank	Tons of bank erosion reduced		
	Feet of bank protected		
Other (specify)			
II. Developed Urban Areas	Units of Measure	Quantity	Measurement Method Used
Urban: 20-40% Reduction in TSS	Pounds TSS reduced	388400	P8
	% TSS reduction	46	P8
Infiltration	% Pre-development stay-on volume		
	Cubic feet stay-on volume		
Peak flow discharge	Change in cubic feet per second	970	HydroCAD
Protective areas	Feet of bank protected		
Fueling & maintenance areas	Oily sheen presence		
Streambank	Tons of bank erosion reduced		
	Feet of bank protected		
Other (specify)			
III. Planning	Units of Measure	Quantity	Measurement Method Used
Quantify how implementation of the planning project decreased storm water impacts on state waters (i.e., storm water plan, I & E plan, etc.)	Municipalities planned for	1	HydroCAD, P8, ArcView
	Acres planned for	2860	
Document/track progress made in implementing the planning product (i.e., ordinance, utility district evaluation/formation, storm water management plan information & education, etc.)	Municipalities planned for	1	HydroCAD, P8, ArcView
	Acres planned for	2860	
Other (specify)			



**B. Project Results Narrative**

Drafted Illicit Discharge Elimination Ordinance and developed illicit discharge program  
 Drafted Post-Construction Stormwater Management Ordinance  
 Drafted Erosion Control Ordinance  
 Drafted preliminary Municipal Stormwater Pollution Prevention Plan (SWPPP) for City operational activities  
 Developed water quality model using P8 to identify BMPs that reduce TSS in runoff by 40 percent from existing urban area  
 Conducted stormwater utility feasibility study and facilitated stormwater utility stakeholder committee  
 Created stormwater utility master account file and drafted stormwater utility ordinance  
 Developed stormwater utility credit policy and manual  
 Implemented stormwater utility and sent out first bills

**4. Satisfaction of Notice Requirements (if applicable)**

If cost sharing for this project was offered under a formal notice to achieve compliance with performance standards or prohibitions, provide information for each notice in the table below.

Notice Information				Notice Satisfaction Information		
Notice Type	Issue Date	From (Name)	To (Name)	Satisfied?		Date Letter Sent
				Yes	No	
				<input type="checkbox"/>	<input type="checkbox"/>	
				<input type="checkbox"/>	<input type="checkbox"/>	
				<input type="checkbox"/>	<input type="checkbox"/>	
				<input type="checkbox"/>	<input type="checkbox"/>	

**5. Summary of Project Challenges**

**Stormwater Utility**

- Identifying and calculating charge for parcels that have been developed or improved since most recent aerial photos were taken
- Integrating data from different sources (assessor's database, parcel map, and existing utility customer database) to develop stormwater utility database
- Educating customers about new utility fee

**Stormwater Planning**

- Identifying open space appropriate for siting BMPS in existing developed areas

**6. Additional Information about the Project (optional)**

**7. Planning Product (UNPS&SW - Planning Projects only)**

- ☒ Check here if a printed copy of the planning product (e.g., plans, ordinances, analyses) was sent to your DNR Regional Nonpoint Source Coordinator.

Name of Document	Date(s) effective	Date Submitted to NPS Coordinator
Stormwater Master Plan, Stormwater Pollution Prevention Plan, Post-Construction Stormwater Ordinance, Erosion Control Ordinance, Stormwater Utility Ordinance, Illicit Discharge Ordinance	1/07 - 3/13	1/26/07

**8. Grantee Certification**

- ☒ Check here to certify that, to the best of your knowledge, the information contained in this report is correct and true.

Type or print Name and Title of Authorized Representative certifying here.

Kelly Finkenbinder, Director of Public Works

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Signature of Authorized Representative

Date

*Kelly Finkenbinder**1-31-07*

# Executive Summary

## S.1 Purpose

This report is a Water Quality Master Plan that the City of Monroe has had prepared for the purpose of complying with the requirements of the National Pollution Discharge Elimination System (NPDES) Phase II permit program. The Water Quality Master Plan includes the following elements:

- A construction site erosion control ordinance establishing standards for the prevention of erosion and sediment transport for construction sites of one acre and larger.
- A post-construction stormwater management ordinance establishing standards for permanent erosion control and the management of stormwater runoff including provisions for peak discharge control, water quality treatment, and infiltration.
- An illicit discharge ordinance to prohibit non-stormwater discharges into the storm sewer system and to establish appropriate enforcement procedures and actions.
- A Stormwater Pollution Prevention Plan that identifies an operations and maintenance program for reducing pollution from City owned and managed facilities.
- A Stormwater Quality Management Plan that identifies, evaluates, and recommends practices and capital improvements to improve the quality of stormwater runoff according to targets established by the NPDES Phase II program.
- A Stormwater Utility program to establish a revenue stream that will have the ability to fund current activities as well as the various elements of the Stormwater Master Plan that require direct action by the City of Monroe.

This plan is the Stormwater Quality Management Plan. Its primary purpose is to identify locations of stormwater quality management devices for improving the quality of stormwater runoff in the study area of the City of Monroe. The proposed method for improving stormwater quality is the installation of stormwater detention ponds.

This plan also evaluates the hydraulic modeling which was developed to evaluate runoff volumes and peak flood elevations under varying development conditions.



## **S.2 Recommendations**

### **S.2.1 Adopt Ordinances**

The three ordinances have been developed specifically to satisfy requirements for the NPDES program. It is recommended that the City adoption all three ordinances as soon as possible.

### **S.2.2 Implement Stormwater Utility**

The Stormwater Utility program developed to fund the overall stormwater program will establish a revenue stream which will have the ability to fund the various elements of the Water Quality Master Plan that require direct action by the City of Monroe. The stormwater utility budget and customer rate have been established to reflect the average annual costs of operating the City's stormwater management program including the additional tasks necessary to comply with the NPDES program. It is recommended that the City of Monroe implement the stormwater utility.

### **S.2.3 Implement Construction Schedule for Proposed Ponds**

An analysis of the City's current stormwater management system was completed to determine how effective the system is at removing pollutants from stormwater runoff. Currently the City is achieving approximately 30.1% of the 40% pollutant removal required by the NPDES program.

Twenty-two alternative BMP locations for new water quality (detention) ponds have been identified within the developed portions of the City. Each alternative has been ranked according to its overall cost vs. benefit. It is recommended that the top ten alternatives be constructed. This will increase the City's overall performance by 12.2%, putting Monroe over the 40% minimum threshold. The total cost for constructing the top ten alternatives is \$1,961,968.

The implementation of one or more of the remaining alternatives could be used in place of one of the top ten recommended bmps if the overall TSS removal efficiency is equal to or greater than the recommended alternative being replaced.