→ Tim Parsons, CFA/8

State of Wisconsin
Department of Natural Resources

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Final Report

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

Form 3400-189 (R 11/05) Page 1

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.

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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: High Efficiency Street Sweeper Purchase	Grant Number: USC-M101-40211-05
Governmental Unit Name: Cudahy	Governmental Unit Type (city, village, town, etc.): City
Watershed Name: Kinnickinnic River	Watershed Code: M101-050
DNR Water Management Unit (River System) Name:	Water Body Identification Code (WBIC) (if applicable):

s. 303(d) Waterbody? ☒ Yes ☐ No

What pollutant(s) were addressed by the project?

TSS

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

Location:		A	B	C	D	E
Minor Civil Division Name		Cudahy				
PLSS	Town	6N				
	Range	22E				
	Section	23-27, 34-36				
	Quarter	2				
	Quarter-Quarter	3				
Latitude		42° 57' 6.0" N				
Longitude		87° 50' 59.7" W				
Property Owner(s)	Name	City of Cudahy				
	Mailing address	5050 S. Lake Drive Cudahy, WI 53110				
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	5-15	Attached DNR Tables

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		
	% TSS reduction	5-15	Attached DNR Tables
Infiltration	% Pre-development stay-on volume		
	Cubic feet stay-on volume		
Peak flow discharge	Change in cubic feet per second		
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		
	Acres planned for		
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		
	Acres planned for		
Other (specify)			

B. Project Results Narrative

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		
				Satisfied?		
Notice Type	Issue Date	From (Name)	To (Name)	Yes	No	Date Letter Sent
				☐	☐	
				☐	☐	
				☐	☐	
				☐	☐	

5. Summary of Project Challenges

None

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

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.

Michael J. Clark, General Manager - DPW/Water

Signature of Authorized Representative	Date
Michael J Clark	8/10/07

Table1. Effectiveness of Broom and Vacuum Street Sweepers at Two Different Sweeping Frequencies. (1)

Type of Land Use (2)	Parking Density	Annual TSS Reduction with Broom Street Sweeper, %		Annual TSS Reduction with Vacuum Street Sweeper, %	
		Once Per Week	Once Per Month	Once Per Week	Once Per Month
Residential					
Low Density Residential	Light Parking	9	5	21	9
Medium Density Residential	Light Parking	8	5	24	11
High Density Residential – No Alleys	Medium Parking	4	2	7	3
Multiple Family	Medium Parking	4	3	9	3
Commercial					
Strip Commercial	No Parking	10	7	18	8
Shopping Center	No Parking	2	2	4	2
Downtown Commercial	Extensive Short Term	8	5	14	6
Institutional					
Hospital	No Parking	9	6	17	8
Schools	No Parking	7	5	13	6
Industrial					
Light Industrial	Medium	2	2	3	1
Medium Industrial	Medium	2	1	3	1

1).The following assumptions were used for the model runs: 1) silt soil type; 2) no parking controls; and 3) the rain file is rain81.
2).The standard land use files were used to run the model.

Table2. Effectiveness of Using a Vacuum Street Sweeper With and Without Parking Controls. (1)

Type of Land Use (2)	Parking Density	Annual TSS Reduction with Parking Controls (3), %		Annual TSS Reduction Without Parking Controls, %	
		Once Per Week	Once Per Month	Once Per Week	Once Per Month
Residential					
Medium Density Residential	Medium Parking	18	8	9	3
High Density Residential – No Alleys	Medium Parking	20	7	8	3
Multiple Family	Medium Parking	18	8	9	4
Commercial					
Strip Commercial	Medium Parking	9	6	6	3
Downtown Commercial	Extensive Short Term	15	6	14	6
Institutional					
Hospital	Extensive Short Term	11	5	9	4
Schools	Medium Parking	10	4	5	2
Industrial					
Light Industrial	Medium	5	1	2	1
Medium Industrial	Medium	4	1	2	1

1).The following assumptions were used for the model runs: 1) silt soil type and 2) the rain file is rain81.
2).The standard land use files were used to run the model.
3). Scheduled alternate side parking is used to control parking.

Table3. Effect of Sweeping Frequency on Annual TSS Loads from Residential and Commercial Land Uses.

Sweeping Frequency	Annual TSS Reduction with Broom Street Sweeper, %		Annual TSS Reduction with Vacuum Street Sweeper, %	
	Light Parking Denisty	Medium Parking Density	Light Parking Density	Medium Parking Density
Medium Density Residential				
March & April Only – ~~Once Per Week~~	7	4	9	5
Once Every 12 Weeks	5	3	5	3
Once Every 4 Weeks	5	3	8	3
Once Every Week	8	4	18	9
Five Times Each Week	10	7	29	18
Commercial Strip				
March & April Only – Once Per Week	8	7	9	5
Once Every 12 Weeks	6	3	6	3
Once Every 4 Weeks	6	3	7	4
Once Every Week	9	6	16	9
Five Times Each Week	11	9	25	17

1).The following assumptions were used for the model runs: 1) silt soil type; 2) no parking controls; and 3) the rain file is rain81.
2).The standard land use files were used to run the model.