



## Grant All-Detail Report Accelerated Implementation Grant 2017

**Grant Title** - Forest Lake Enhanced Street Sweeping Plan

**Grant ID** - C17-1393

**Organization** - Comfort Lake-Forest Lake WD

Original Awarded Amount	<b>\$36,000.00</b>	Grant Execution Date	<b>4/5/2017</b>
Required Match Amount	\$9,000.00	Original Grant End Date	12/31/2019
Required Match %	25%	Grant Day To Day Contact	Mike Kinney
Current Awarded Amount	\$36,000.00	Current End Date	12/31/2020

### Budget Summary

	Budgeted	Spent	Balance Remaining*
Total Grant Amount	\$36,000.00	\$36,000.00	\$0.00
Total Match Amount	\$9,000.00	\$17,231.73	\$-8,231.73
Total Other Funds	\$0.00	\$0.00	\$0.00
<b>Total</b>	<b>\$45,000.00</b>	<b>\$53,231.73</b>	<b>\$-8,231.73</b>

\*Grant balance remaining is the difference between the Awarded Amount and the Spent Amount. Other values compare budgeted and spent amounts.

### Budget Details

Activity Name	Activity Category	Source Type	Source Description	Budgeted	Spent	Last Transaction Date	Matching Fund
Cost-Benefit Analysis	Planning and Assessment	Current State Grant	Forest Lake Enhanced Street Sweeping Plan	\$12,119.69	\$12,119.69	12/31/2018	N
Cost-Benefit Analysis	Planning and Assessment	Local Fund	CLFLWD	\$3,029.92	\$3,029.92	12/31/2018	Y
Data Collection & Analysis	Monitoring/Data Collection	Current State Grant	Forest Lake Enhanced Street Sweeping Plan	\$23,080.31	\$23,080.31	6/30/2020	N

Activity Name	Activity Category	Source Type	Source Description	Budgeted	Spent	Last Transaction Date	Matching Fund
Data Collection & Analysis	Monitoring/Data Collection	Local Fund	CLFLWD	\$5,770.08	\$10,763.89	6/30/2020	Y
Grant Administration and Coordination	Administration/Coordination	Current State Grant	Forest Lake Enhanced Street Sweeping Plan	\$800.00	\$800.00	12/31/2018	N
Grant Administration and Coordination	Administration/Coordination	Local Fund	CLFLWD	\$200.00	\$3,437.92	12/31/2020	Y

### Activity Details Summary

Activity Details	Total Action Count	Total Activity Mapped	Proposed Size / Unit	Actual Size / Unit
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### Proposed Activity Indicators

Activity Name	Indicator Name	Value & Units	Waterbody	Calculation Tool	Comments
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### Final Indicators Summary

Indicator Name	Total Value	Unit
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## Grant Activity

### Grant Activity - Cost-Benefit Analysis

<b>Description</b>	<p>Estimate recoverable phosphorus from each street sweeping scenario using the Street Sweeping Planning Calculator; Estimate load reductions achieved from enhanced street sweeping to Forest Lake using P8; Itemize costs and funding options for the City of Forest Lake; Develop final street sweeping management plan with costs and recommended funding options.</p> <p>This activity will be primarily carried out by Emmons &amp; Olivier Resources (EOR), currently serving as the CLFLWD Engineer, with support from the CLFLWD Administrator.</p> <p>Meghan Funke, PhD, will serve as the EOR project manager. Meghan has 11 years of experience in limnology and water quality, and managed and provided the lead technical analyses and modeling for the Forest Lake Diagnostic Study and Implementation Plan.</p> <p>Greg Graske, PE, will provide technical oversight and review. Greg has 18 years of experience in engineering design and serves as the District Engineer client representative for CLFLWD.</p> <p>Paula Kalinosky, EIT, will conduct the majority of the technical analyses and modeling. Paula was the lead author of the University of Minnesota Estimating Nutrient Removal by Enhanced Street Sweeping User Support Manual, now on staff with the District Engineer, EOR. Paula has 13 years of science and engineering-related experience.</p> <p>Etoile Jensen, GISP, will assist Paula with GIS mapping and analyses. Etoile has over 30 years of experience specializing in cartography and GIS spatial analysis.</p> <p>Mike Kinney, District Administrator for the CLFLWD, will be the primary contact for CLFLWD and will provide project oversight and administration. Mike has 30 years of relevant experience in environmental science, natural resource management, and conservation planning. He has a Master of Science degree in Water Resources Management and a Bachelor of Arts degree in Geology.</p>		
<b>Category</b>	PLANNING AND ASSESSMENT		
<b>Start Date</b>	1-Jul-17	<b>End Date</b>	31-Dec-19
<b>Has Rates and Hours?</b>	Yes		
<b>Actual Results</b>	2/1/18 Update: Completed cost-benefit analysis and preliminary findings memo. Drafted final report and presented to		

CLFLWD board of managers at 10/5/17 regular board meeting. Currently working on incorporating board comments and additional report revisions, as well as further details with the City of Forest Lake for implementation of the plan.

2/1/19 Update: Completed board comments and additional report revisions. Continued working with City of Forest Lake/providing input on street sweeping plan. Next steps will be to work with the City of Forest Lake to use plan to implement enhanced street sweeping.

## Grant Activity - Data Collection & Analysis

<b>Description</b>	<p>Sweeping zone identification using GIS; Tree canopy assessment using 2013 color FSA aerial photography; Spatial analysis of City of Forest Lake roads to determine curb-miles within each sweeping zone; Determination of existing stormsewer and urban BMP network.</p> <p>Additionally, testing and analysis of actual sweeping material, and reporting on results, will be part of this task.</p> <p>This activity will be primarily carried out by EOR, with support from the CLFLWD Administrator.</p> <p>Meghan Funke, PhD, will serve as the EOR project manager. Meghan has 11 years of experience in limnology and water quality, and managed and provided the lead technical analyses and modeling for the Forest Lake Diagnostic Study and Implementation Plan.</p> <p>Greg Graska, PE, will provide technical oversight and review. Greg has 18 years of experience in engineering design and serves as the District Engineer client representative for CLFLWD.</p> <p>Paula Kalinosky, EIT, will conduct the majority of the technical analyses and modeling. Paula was the lead author of the University of Minnesota Estimating Nutrient Removal by Enhanced Street Sweeping User Support Manual, now on staff with the District Engineer, EOR. Paula has 13 years of science and engineering-related experience.</p> <p>Etoile Jensen, GISP, will assist Paula with GIS mapping and analyses. Etoile has over 30 years of experience specializing in cartography and GIS spatial analysis.</p> <p>Mike Kinney, District Administrator for the CLFLWD, will be the primary contact for CLFLWD and will provide project oversight and administration. Mike has 30 years of relevant experience in environmental science, natural resource management, and conservation planning. He has a Master of Science degree in Water Resources Management and a Bachelor of Arts degree in Geology.</p>		
<b>Category</b>	MONITORING/DATA COLLECTION		
<b>Start Date</b>	1-Jun-17	<b>End Date</b>	31-Dec-20
<b>Has Rates and Hours?</b>	Yes		
<b>Actual Results</b>	2/1/18 Update: Completed Phase 01 Data Collection & Analysis and Phase 02 Reduction Analysis in 2017		

2/1/20 Update: Completed plan development and 2019 sweeper monitoring. Coordinated with City of Forest Lake to collect and log sweeper samples, worked with University of MN to analyze samples in the lab to calculate actual load reductions per sweeping zone. U of M lab analysis is still underway. Results will be available by spring 2020.

12/31/20 Update: Completed sampling and analysis of 2019 swept material.

- The City of Forest Lake was able to complete more total sweeps with their new, regenerative air vacuum sweeper across all zones in 2019 than recommended in the Enhanced Street Sweeping Plan.
- The City of Forest Lake regenerative air vacuum sweeper recovered 2.6 times more total solids and 1.3 times more total phosphorus as predicted by the U of M Calculator.
- The U of M Calculator overpredicted phosphorus recovery for Clear Lake 1, Forest Lake 3, Forest Lake 5, Forest Lake 6, and Keewahdin Lake routes, and under-predicted phosphorus recovery for Clear Lake 2, Clear Lake 3, Forest Lake 1, Forest Lake 2, Forest Lake 4, Shields Lake, and Sunrise River/Comfort Lake 2 routes.

## Grant Activity - Grant Administration and Coordination

<b>Description</b>	<p>Grant management and reporting costs; Coordination with the City of Forest Lake; general project management/oversight.</p> <p>This activity will be primarily carried out by the CLFLWD Administrator with minor support from EOR and Smith Partners as needed.</p> <p>Mike Kinney, District Administrator for the CLFLWD, will be the primary contact for CLFLWD and will provide project oversight and administration. Mike has 30 years of relevant experience in environmental science, natural resource management, and conservation planning. He has a Master of Science degree in Water Resources Management and a Bachelor of Arts degree in Geology.</p>		
<b>Category</b>	ADMINISTRATION/COORDINATION		
<b>Start Date</b>	5-Jul-18	<b>End Date</b>	31-Dec-19
<b>Has Rates and Hours?</b>	Yes		
<b>Actual Results</b>	<p>2/1/18 Update: provided oversight throughout all phases of the project, coordinated meetings with EOR and City of Forest Lake, feedback on final report and CLFLWD Board communications.</p> <p>2/1/19 Update: Continued to provide project oversight, coordinated communications with Board of Managers and City of Forest Lake, completed grant reporting and financial tracking.</p> <p>2/1/20 Update: Continued project oversight and coordination for 2019 sweeper monitoring and lab work. Completed grant reporting and financial tracking.</p>		

## Grant Attachments

Document Name	Document Type	Description
<b>2017 Competitive Grant</b>	Grant Agreement	2017 Competitive Grant - Comfort Lake-Forest Lake WD
<b>2017 Competitive Grant AMENDMENT - CLFLWD</b>	Grant Agreement Amendment	
<b>2017 Competitive Grant Amendment EXECUTED</b>	Grant Agreement Amendment	
<b>2017 Competitive Grant executed</b>	Grant Agreement	2017 Competitive Grant - Comfort Lake-Forest Lake WD
<b>2019 Sweeper Sampling-Analysis Results</b>	Grant	Forest Lake Enhanced Street Sweeping Plan

Document Name	Document Type	Description
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 01/29/2018
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 02/01/2019
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 03/15/2019
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 12/08/2020
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 06/24/2020
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 02/03/2020
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 03/13/2018
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 03/13/2018
Application	Workflow Generated	Workflow Generated - Application - 08/08/2016
Draft Final Street Sweeping Plan	Grant	Forest Lake Enhanced Street Sweeping Plan
Final Financial Report	Grant	Forest Lake Enhanced Street Sweeping Plan
Final Street Sweeping Plan	Grant	Forest Lake Enhanced Street Sweeping Plan
Financial Report - 40% Request	Grant	Forest Lake Enhanced Street Sweeping Plan
Preliminary Findings Memo	Grant	Forest Lake Enhanced Street Sweeping Plan
Resolution Delegating Signing Authority to Administrator	Grant	Forest Lake Enhanced Street Sweeping Plan
Revised Draft of Final Report	Grant	Forest Lake Enhanced Street Sweeping Plan
Work Plan	Workflow Generated	Workflow Generated - Work Plan - 03/15/2019
Work Plan	Workflow Generated	Workflow Generated - Work Plan - 12/14/2016
Work Plan	Workflow Generated	Workflow Generated - Work Plan - 03/17/2017
Work Plan Budget	Grant	Forest Lake Enhanced Street Sweeping Plan
Work Plan Text	Grant	Forest Lake Enhanced Street Sweeping Plan
Work Plan Text Revised	Grant	Forest Lake Enhanced Street Sweeping Plan
grantmap_17062_2016-08-08_12-11-24-PM.jpg	Grant	Forest Lake Enhanced Street Sweeping Plan