

**Environment and Natural Resources Trust Fund
2014 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 087-C

Testing Triggers for Adopting Sustainable Water Practices

Category: C. Environmental Education

Total Project Budget: \$ 317,000

Proposed Project Time Period for the Funding Requested: 2.5 Years, July 2014 - August 2016

Summary:

Individuals adopting stormwater retention, groundwater conservation, and wastewater chloride reduction practices provide a public benefit by sustaining water resources. This project identifies the most influential factors for overcoming personal inaction.

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Sponsoring Organization: City of Rochester

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Location

Region: Southeast

County Name: Olmsted

City / Township: Rochester

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity Readiness	_____ Leverage	_____ Employment	_____ TOTAL _____%



Environment and Natural Resources Trust Fund (ENRTF)

2014 Main Proposal

Project Title: *Testing Triggers for Adopting Sustainable Water Practices*

PROJECT TITLE: Testing Triggers for Adopting Sustainable Water Practices

I. PROJECT STATEMENT

The value of millions spent on water research will only become realized when Minnesotans learn how to change our interactions with water. Sustaining the public benefit of clean and plentiful water happens when individuals make beneficial choices and investments. To date, improving people's understanding of water issues alone hasn't predictably resulted in the adoption of new behaviors leading to better environmental outcomes. This project will test the influence of three interdependent variables in overcoming people's resistance to changing their water-related actions: understanding the unacceptable nature of emerging water problems (Dissatisfaction), having a vision of personal sustainable choices (Vision), and understanding how to implement those choices (First Steps).

Three focus issues will be addressed: storm water volume control, water supply conservation, and chloride reduction in wastewater. By integrating the sustainability efforts of Rochester's three water utilities, businesses and residents in a selected neighborhood will implement new practices that will help sustain Rochester's surface and groundwater resources.

This project moves beyond traditional educational/marketing and regulatory approaches by: integrating water utility efforts, focusing on behavior change factors, using social marketing to establish new neighborhood-scale social norms, and employing civic engagement techniques to understand what factors are most influential in moving a person from thinking about water problems to solving them. The grant project activities are beyond the scope of current regulatory requirements, but will complement and support those goals, locally and statewide.

II. DESCRIPTION OF PROJECT ACTIVITIES

Activity 1: *Assessing People's Understanding of and Dissatisfactions with Water Issues* **Budget: \$ 61,516 (In Kind: \$ 18,000)**

Assess what people know about water problems and how dissatisfied they are with water quality and quantity issues.

Outcome	Completion Date
<i>1. An understanding of baseline water knowledge and current personal practices will result from a pre-test.</i>	<i>February 2015</i>
<i>2. New knowledge about groundwater, surface water and wastewater challenges facing Rochester today and in the future will result from participation in activities using interactive displays at Cascade Meadows.</i>	<i>March 2015</i>
<i>3. Participant understanding of how water utilities operate will result from taking tours of the Water Reclamation Plant, a well house, and the Cascade Meadow "storm water trail" of best management practices.</i>	<i>April 2015</i>
<i>4. Findings from facilitated civic engagement sessions and survey results will be used to assess changes in understanding about water challenges, assign values to the levels of concern, and understand the relationship between these finding and in-place practices.</i>	<i>August 2016</i>

Activity 2: *Creating a Vision* **Budget: \$ 24,017 (In Kind: \$ 18,000)**

Establish the participants' visions for personally sustaining water resources using practices to hold more storm water on site, extract less water from the aquifer, and discharge less chloride into wastewater.

Outcome	Completion Date
<i>1. Participants will understand the suite of individual practices available to them for protecting surface and groundwater and improving wastewater discharge quality after workshops and facilitated business and home visits.</i>	<i>April 2015</i>
<i>2. Participants will select new, sustainable storm water, water supply and wastewater practices to adopt.</i>	<i>April 2015</i>



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Activity 3: Guide First Steps in Behavior Change

Budget: \$ 212,017 (In Kind: \$ 144,000)

Teach participants the specific steps to implement their newly selected practices.

Outcome	Completion Date
1. Participants will make progress toward their vision by self-implementing and maintaining their chosen practices.	December 2015
2. Implementation period progress will be quantified for the selected practices to assess the relative resource protection value of each. This will involve using Best Management Practice calculators to measure the amount of storm water volume captured, reading water meter changes, and measuring chloride levels in wastewater.	August 2016

Activity 4: Identifying Barriers to Behavior Change and Motivations for Overcoming Them

Budget: \$ 19,450 (In Kind: \$26,000)

Assess what factors were the most influential for making change and applying the findings in the future.

Outcome	Completion Date
1. After additional civic engagement sessions and surveys, results will be assessed to learn the relative strength of and interrelationships between the Dissatisfaction, Vision and First Steps factors and how they influenced personal decisions in adopting new practices. These insights will allow utilities to identify barriers to behavior change and how to overcome them.	August 2016
2. Final report with the findings of the project will be made available on various websites and shared with water utility organizations in Minnesota. The findings will help guide expanded implementation efforts in Rochester in the future.	August 2016

III. PROJECT STRATEGY

A. Project Team/Partners

- **City of Rochester: Storm Water Management-** Oversee grant implementation and distribution of funding; provide funding for the purchase of rain barrels for each participant, oversee municipal boulevard tree planting contract, and guide the educational content for storm water. **Rochester Public Utilities:** Supervise and fund an intern to deliver water conservation BMPs and review monthly water use data; guide the educational content for groundwater. **Water Reclamation Plant:** Supervise intern conducting chloride testing and guide educational content for wastewater.
- **Rochester Neighborhood Resource Center:** Facilitate the process of identifying and engaging a demonstration neighborhood and assist with the promotion of messaging and methods on social media platforms.
- **Cascade Meadow Wetlands and Environmental Science Center:** Provide space for workshops, trainings, and tours.
- **Minnesota Pollution Control Agency:** Provide technical assistance implementing and evaluating the chloride reduction component of the project.

B. Timeline Requirements

The program identity, educational goals, and plan will be developed from July to December 2014. Participants will start the program in January 2015 by attending educational workshops and implementing sustainable indoor water practices. Outdoor components of the project will be installed in early spring. Workshops, surveys, and data collection will occur throughout the program and conclude in January 2016. By August 2016 the findings from data analysis, participant surveys, and civic engagement sessions will be distributed to other Minnesota water utility organization and a plan to bring aspects of this initiative to the greater Rochester community will be completed.

C. Long-Term Strategy and Future Funding Needs

Project findings will enable Rochester's water utilities to integrate the most effective messaging techniques and sustainable practices into their ongoing programs and budgets to expand behavior change for clean and plentiful water throughout Rochester.

2014 Detailed Project Budget

Project Title: Testing Triggers for Adopting Sustainable Water Practices

IV. TOTAL ENRTF REQUEST BUDGET 2.5 years

BUDGET ITEM <i>(Assuming 1,000 parcels participating in project)</i>	AMOUNT
Personnel:	
<i>(1) Hire Project staff person to assist in the implementation of the project, co-facilitate civic engagement sessions, offer and install storm water BMPs, and analyze survey data. 0.5 FTE. 100% of funds toward salary and benefits. Position from January 2015-August 2016.</i>	\$ 48,000
Contracts:	
<i>Contract local company to provide and plant 200 trees in municipal boulevard spaces to manage storm water runoff.</i>	\$ 30,000
<i>Hire professional team to create social marketing strategy and tools to encourage participation and promote behavior change.</i>	\$ 25,000
<i>Hire contractor to conduct tune-ups of water softeners and assess sump pump discharge route at 1000 properties in demonstration neighborhood.</i>	\$ 58,000
<i>Hire contractor to collect 100 chloride samples from each of 5 wastewater pipe sampling locations within the demonstration neighborhood.</i>	\$ 25,000
Equipment/Tools/Supplies:	
<i>Provide water conservation BMPs for residential and business properties (low-flow faucets, low-flow showerheads, low-flow pre rinse spray nozzles, dual flush toilet converters, shower hot-water savers, or shower alarm). Provide 1 BMP to 1000 participants in demonstration neighborhood.</i>	\$ 50,000
<i>Civic engagement workshops and participant training sessions supplies, including name tags, easel paper, sticky notes, pens, and markers.</i>	\$ 1,000
<i>Printing of education materials and other products to support the project. Materials to be produced in multiple languages if needed. Examples include brochures, fliers, manuals, and signs.</i>	\$ 5,000
<i>Purchase of 5 automatic Chloride Samplers to conduct regular wastewater samples within the demonstration neighborhood.</i>	\$ 25,000
Additional Budget Items:	
<i>Pre- and post-program wastewater analysis of chloride levels in the demonstration neighborhood to determine to what extent implemented chloride reduction practices were effective. 100 samples taken throughout the project from 5 different testing stations located within the demonstration neighborhood.</i>	\$ 50,000
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =	\$ 317,000

V. OTHER FUNDS

SOURCE OF FUNDS	AMOUNT	Status
Other Non-State \$ Being Applied to Project During Project Period:		
<i>City of Rochester Storm Water Management - cash match purchase of rain barrels (\$80K), native plants (\$20K), and composters (\$20K) to increase infiltration</i>	\$ 120,000	Secured
<i>Rochester Public Utilities - intern to collect and analyze data, delivery/installation assistance of water conservation BMPs, and toilet leak tabs</i>	\$ 7,000	Secured
In-kind Services During Project Period:		
<i>Cascade Meadow Wetlands and Environmental Science Center - use of classroom space for project workshops, trainings, and Storm Water Trail tours.</i>	\$ 2,000	Secured
<i>City of Rochester Storm Water Management staff - research BMP calculators, online survey service, provide work direction to temporary project staff, manage consultant/contractor contracts, office space for project staff, complete data assesment, final report and grant reports.</i>	\$ 45,000	Secured
<i>City of Rochester Water Reclamation Plant staff - guide the educational content for wastewater management, coordinate chloride testing on neighborhood level, and facilitate tour of the Water Reclamation Plant.</i>	\$ 20,000	Secured
<i>Rochester Public Utilities staff - guide the educational content for water conservation and intern oversight</i>	\$ 10,000	Secured
<i>Rochester Neighborhood Resource Center - facilitate identifying and engaging demonstration neighborhood; promote project on social media and website.</i>	\$ 2,000	Secured
TOTAL IN-KIND AND FUNDING OF PROJECT =	\$ 206,000	Secured

Testing Triggers for Adopting Sustainable Water Practices

"I don't know how to install a low flow showerhead."

"Composting is too messy."

"I can screw on an aerator but where do I buy one."

"There would be a puddle if it was leaking, right?"

"I don't know how to calibrate my water softener."

"I don't need to collect water because I don't have a garden."

PP ? P ?

The thought bubble contains several illustrations: a hand pointing to a showerhead, a man composting with a dog, a faucet with an aerator being attached, a leaking faucet over a sink, a diagram of a water softener with labels (Water Supply (Hard), Water to House (Soft), Timer-and-Valve Assembly, Drain, Mineral Tank, Outlet Manifold, Plastic Beads, Brine Tank, Salt, Float-and-Valve Assembly), and a wooden water barrel.

Of course I support clean water, but what am I supposed to do about it?

Moving from INACTION to ACTION





Environment and Natural Resources Trust Fund (ENRTF)
2014 Project Manager Qualifications and Organization Description
Project Title: *Testing Triggers for Adopting Sustainable Water Practices*

PROJECT MANAGER QUALIFICATIONS

The manager of the Testing Triggers for Adopting Sustainable Water Practices project will be Megan Duffey Moeller, who is the Storm Water Educator for the City of Rochester Public Works Department.

Megan Duffey Moeller's qualifications as they relate to this project include:

- ***Master of Environmental Education*** – Macquarie University, Sydney, Australia
- ***Bachelor of Arts, Biology*** – St. Olaf College, Northfield, Minnesota
- Completion of the University of Minnesota – Extension's year-long ***Civic Engagement Cohort*** for Water Professionals in Southeast Minnesota
- ***11 years of teaching*** environmental education to adults and youth in a variety of settings
- Over 5 years' ***experience coordinating large scale multifaceted events***
- Over 3 years' ***experience supervising 5 to 7 seasonal staff simultaneously***

Megan Duffey Moeller's responsibilities as they relate to the project include:

- Coordinating all efforts of the three water utilities in Rochester
- Arranging and facilitating civic engagement sessions
- Working with social marketing team to create and implement an effective plan for the project
- Providing work direction to the temporary employee hired to work on the project
- Managing the project budget
- Analyzing project results and compiling the final report

ORGANIZATION DESCRIPTION

Rochester Public Utilities, Storm Water Management, and the Water Reclamation Plant are all part of the City of Rochester local government unit. As our community grows, so must our commitment to protecting and improving the quality of our water resources. Our lakes, rivers, and wetlands help make Rochester one of the nations' most livable communities. Keeping our water resources clean and useable is in everyone's interest.