

Trust Fund 2009 Work Program

Date of Report: May 8, 2009

Date of Next Progress Report: December 2009

Date of Work Program Approval:

Project Completion Date: June 30, 2012

I. PROJECT TITLE: A Citizen-Based Approach to Stormwater Management: Rain Gardens to Improve Impaired Waters

Project Manager: Becky Rice

Affiliation: Metro Blooms

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Location: Powderhorn Park Neighborhood, Minneapolis, Hennepin County

Total Trust Fund Project Budget:	Trust Fund Appropriation	\$ 279,000
	Minus Amount Spent:	\$ 0
	Equal Balance:	\$ 279,000

Legal Citation: ML 2009, Chap.143, Sec.2, Subd. 5e

Appropriation Language: \$279,000 is from the trust fund to the commissioner of natural resources for an agreement with Metro Blooms, in cooperation with Minnehaha Creek Watershed District and the city of Minneapolis, to install and evaluate the effectiveness of rain gardens on improving the impaired water of Powderhorn Lake in Minneapolis. This appropriation is available until June 30, 2012, at which time the project must be completed and final products delivered, unless an earlier date is specified in the work program.

II. PROJECT SUMMARY AND RESULTS:

A citizen-based approach will be used to reduce the volume of stormwater runoff and improve water quality of the impaired, Powderhorn Lake in Minneapolis. This project will assess the effectiveness of rain gardens through evaluation of three citizen-organizing approaches in a paired-watershed study.

Metro Blooms will work with Powderhorn Park Neighborhood to install approximately 150 rain gardens in this urban community of Minneapolis. The approach includes small group mini rain garden workshops to introduce participants to the program and enlist participation in the program. Assistance will include rain garden site assessment, rain garden design, and excavation. Participant involvement will include: working with project landscape designers in the assessment, planning and design process; purchasing rain garden plants and materials; participating in the planting; and agreeing to maintain the garden and related stormwater improvements on their property.

The Neighborhood of Rain Gardens approach focuses on improvements to a specific water body. Building on the ability to tap the enthusiasm of homeowners to install rain gardens, this project proposes to develop alternatives for substantial, fast-paced and highly focused citizen-based rain garden initiatives within the sub-watersheds of a specific impaired lake and to evaluate the impact and results, so that urban areas statewide can benefit from this approach to clean up impaired waters.

A series of workshops will be organized for clusters of residential property owners and for faith-based institutions within test group sub-watersheds. Approximately 100-150 home owner and 2-4 institution rain gardens sites will be identified. In addition to informational workshops and on-site design services, hands-on construction services will be provided. Youth programs (e.g. MN Conservation Corp and Green Team) will assist with construction services. Before-and-after monitoring of test and control sites will be performed to determine reductions in stormwater volume, total suspended solids, and total phosphorus pollutant loadings that drain to Powderhorn Lake. Results and “lessons learned” will be integrated into the Total Maximum Daily Load (TMDL) adaptive management by the City of Minneapolis, the Minneapolis Park & Recreation Board (MPRB), and Minnehaha Creek Watershed District (MCWD).

III. PROGRESS SUMMARY AS OF (date) 250 word limit

IV. OUTLINE OF PROJECT RESULTS:

Result 1: Neighborhood and Institution Approach

Description: Promote and host Neighborhood of Rain Gardens approach through construction services for residential, faith-based and educational organizations.

This task involves the following activities: 1) Workshop coordination and facilitation, 2) residential site review and rain garden design, 3) rain garden installation, 4) pre and post-installation stormwater audit, 5) assessment products, including participation records and year-end surveys to citizens installing a rain garden (Result 2 incorporates these products in project reports), and 6) Project management related to coordinating workshops, landscape designers, installation, and record keeping.

Summary Budget Information for Result 1:	Trust Fund Budget:	\$ 175,000
	Amount Spent:	\$ 0
	Balance:	\$ 175,000

Deliverable	Completion Date	Budget
1. Neighborhood of Rain Garden installations (0 – 75 rain gardens) October 2009 (50 – 150 rain gardens) October 2010 (0 – 50 rain gardens) October 2011	Oct 2011	\$ 167,800
2. Participation records	October 2012	\$ 4,200
3. Year-end survey results w/onsite evaluation	June 2012	\$ 3,000

Result 2: Monitoring, Data Analysis and Reporting

Description:

This task involves the watershed monitoring, data assessment, and reporting activities of the project. Monitoring will be performed at two sites for the project duration. Monitoring activities include: installing and maintaining the equipment, collecting and analyzing samples, and managing the data, including quality control of reported results. The effectiveness of citizen-based stormwater management programs will be documented through two reports: "Evaluation of Three Citizen-Based Approaches to Stormwater Management" and "A Citizen-Based Approach to Improve Powderhorn Lake Water Quality". The first report compares and analyzes the cost effectiveness of the existing, Neighborhood of Rain Gardens, and institution-based approaches. The second report documents the monitoring and paired watershed analysis results comparing targeted neighborhood rain garden installations to a control area (no rain gardens). Additional reports provided through this task include the biannual progress reports and final report to LCCMR. Project management of work and quality control/assurance for the assessment elements of the project are an integral part of this task.

Summary Budget Information for Result 2:	Trust Fund Budget:	\$ 104,000
	Amount Spent:	\$ 0
	Balance:	\$ 104,000

Deliverable	Completion Date	Budget
1. Installation/maintenance of equipment (2 sites@3 yrs)	May 2009 ¹ –Jun 2012	\$ 48,000
2. Monitoring data management	Ongoing ¹	\$ 2,000
3. Evaluation Report 1: Draft/Final, Evaluation Report 2: Draft/Final	May 2012/Jun 2012	\$ 54,000

¹Pre-project and portion funded in-kind by City of Minneapolis and MPRB

V. TOTAL TRUST FUND PROJECT BUDGET:

Personnel: \$ 75,200 - Noelle Hechtman for a newly created position as Rain Garden Program Coordinator at Metro Blooms. It is a part-time, 0.3 FTE position (\$42,000) from July 1, 2009 – June 30, 2012. The program coordinator monitors partner contracts, schedules and budgets. Michael Keenan, Lead Landscape Design Assistant for a newly created position at Metro Blooms. It is a part-time, .2FTE position (\$26,000) from July 1, 2009 – June 30, 2012. The Lead Landscape Design Assistant provides onsite supervision at all excavations, rain garden workshop presentations, onsite consultations, raingarden design and oversight. Deborah Jopp this is an expansion of .05 FTE of an existing position for data entry and reporting for this project (\$7,200)

Contracts: \$ 167,650 - Partner contracts include identified partners: 1) \$27,750 - Minnesota Conservation Corps (rain garden excavation – Mon - Thurs), 2) \$5,400 - Ecoscapes (Rain garden excavation – Sat only), 3) Minneapolis Park and Recreation Board: Monitoring - \$ 50,000 and Green Team (youth crew for landscape services) - \$10,000, 4) \$20,400 – Landscape Design and Architecture (LDA) Students from U MN for landscape design services, 5) \$2,100 - Rusty Schmidt, for onsite consultation training and technical review, 6) \$48,000 - Craddock Consulting Engineers, data assessment, evaluation report preparation, and technical review, 7) Landscape Design Assistant, Masters Candidate –

experimental design and monitoring - \$2,000, and 8) \$2,000 – Carlos Zinghre, Latino community workshop and installation organizing.

Educational Materials and Final Report: \$ 13,850

Rain garden workshop educational packet (materials composition, printing and packaging), promotional door-hangers for Powderhorn residents, display materials, and raingarden signs. Also includes evaluation report composition, printing and binding.

Native Plant Supplies \$11,250

Landscaping Tools/Supplies: \$8,300

This includes excavation materials including purchase of tiller and related maintenance and fuel, dump trailer and hitch, shovels and rakes, and periodic rental of excavation equipment, as needed. It also includes materials for the redirection of downspouts including pipe extensions, catch-basins, and grates.

Travel: \$ 2,750

Travel costs related to in-town mileage (\$.585 per mi) for staff and landscape design assistants traveling to the Powderhorn Neighborhood.

TOTAL TRUST FUND PROJECT BUDGET: \$ 279,000

VI. PROJECT STRATEGY:

A. Project Partners: Multiple project partners, many providing matching funds and in-kind services, will deliver this project. Each partner brings invested team members looking for answers and sustainable programs to achieve their organization’s water quality goals.

Metro Blooms is the lead organization with technical assistance and evaluation provided by Craddock Consulting Engineers.

The following organizations (contact person) will be significantly involved:

- City of Minneapolis - (Lois Eberhart), Technical review for the project will be provided by Lois Eberhart, City of Minneapolis Surface Water & Sewers Administrator. The City will also provide GIS services and is providing pre-project monitoring activities to provide an adequate pre-test data set.
- Minneapolis Park Recreation Board - (Tim Brown, P.E.), MPRB, the entity responsible for monitoring the Minneapolis Chain of Lakes and related stormwater discharges, will provide monitoring services for the Powderhorn Lake study.
- Minnehaha Creek Watershed District - (Udai Singh and Julie Westerland), Technical review for the project will be provided by Udai Singh, MCWD’s water quality specialist, and by Julie Westerland, education and communications manager.
- Minnesota Conservation Corp - (Brian Miller), Young Adult Program will excavate and assist with the installation of rain gardens.

B. Project Impact and Long-term Strategy: The study results have direct benefits to Powderhorn Lake, an impaired water body in Minneapolis and within the MCWD. The study results will be integrated into adaptive management by the City, MPRB, and MCWD for achieving TMDLs. The publicity for the various programs will also increase awareness in the

metro area about urban runoff and the impact the private citizen can have on water quality. The organizing approach analysis and the paired watershed study can be applied to urban areas statewide.

C. Other Funds Proposed to be Spent during the Project Period: \$135,000

Minnehaha Creek Watershed District: \$45,000 Matching Support (\$15,000 approved, year 1, \$30,000 pending approval, year 2 and 3).

Minneapolis Park and Recreation Board: (Green Team) \$10,000 Matching Program Support

McKnight Foundation: \$80,000 Operating Support

D. Spending History: not applicable

VII. DISSEMINATION:

VIII. REPORTING REQUIREMENTS: Periodic work program progress reports will be submitted not later than December 2009, July 2010, December 2010, July 2011, and December 2011. A final work program report and associated products will be submitted between July 30 and August 1, 2012 as requested by the LCCMR.

IX. RESEARCH PROJECTS: not applicable

Attachment A: Budget Detail for 2009 Projects

Project Title: Citizen-Based Approach to Stormwater Management: Rain Gardens to Improve Impaired Waters

Project Manager Name: Becky Rice

Trust Fund Appropriation: \$ 279,000

2009 Trust Fund Budget	<u>Result 1 Budget:</u>	Amount Spent (date)	Balance (date)	<u>Result 2 Budget:</u>	Amount Spent (date)	Balance (date)	TOTAL BUDGET	TOTAL BALANCE
	Neighborhood and Institution Approach			Monitoring, Data Analysis and Reporting				
BUDGET ITEM - Total for 3 Years								
Personnel: Wages and Benefits								
Noelle Hechtman, project coordinator (0.3 FTE)	42,000		42,000				42,000	42,000
Michael Keenan, Lead Landscape Design Assistant (.2 FTE)	26,000		26,000				26,000	26,000
Deborah Jopp (.05 FTE), data entry and reporting	7,200		7,200				7,200	7,200
Contracts								
Minnesota Conservation Corp , excavation of 100-150 raingardens (Mon - Thurs)	27,750		27,750				27,750	27,750
Ecoscapes , excavation of 25 - 35 raingardens (Sat excavations)	5,400		5,400				5,400	5,400
Minneapolis Park and Recreation Board								
Stormwater Monitoring, Water Quality and Volume				50,000		50,000	50,000	50,000
Green Team, youth crew growing native plants, test and control neighborhood stormwater audit	10,000		10,000				10,000	10,000
Landscape Design Assistants , Landscape Architecture students and recent alumni for raingarden and stormwater consultation, design and installation, and native plant selection	20,400		20,400				20,400	20,400
Rusty Schmidt , Onsite consultation training and technical review for Landscape Design Assistants	2,100		2,100				2,100	2,100
Craddock Consulting Engineers , Consultant for Data Assessment, Report Preparation and Technical Review				48,000		48,000	48,000	48,000
Myrra Lamb , Graduate Student, experimental design and monitoring (Intern stipend)				2,000		2,000	2,000	2,000
Carlos Zinghre : Latino community organizing, translation and raingarden workshop presentations.	2,000		2,000				2,000	2,000
Capital equipment over \$3,500⁸	0		0				0	0
Educational Materials - materials composition and printing for 500 raingarden workshop packets, 1000 door hangers, display materials, 50-75 raingarden signs, and evaluation reports composition, printing and binding.	9,850		9,850	4,000		4,000	13,850	13,850
Native Plant Supplies - propagation and native plant supplies	11,250		11,250				11,250	11,250
Landscaping supplies and equipment (less than \$3,500) - tiller and maintenance, excavator rental, dump trailer and hitch, shovels, rakes, and downspout and other landscaping supplies.	8,300		8,300				8,300	8,300
Travel expenses in Minnesota	2,750		2,750				2,750	2,750
COLUMN TOTAL	\$175,000	\$0	\$175,000	\$104,000	\$0	\$104,000	\$279,000	\$279,000