

# GREEN STREETS INITIATIVE STILLWATER AND BAYPORT

FIRST PROGRESS REPORT FOR THE SAINT CROIX RIVER ASSOCIATION  
GRANT AGREEMENT NUMBER: 201003



Prepared by:

MIDDLE ST. CROIX WMO  
Approved December 8, 2011

This page intentionally left blank.

---

## INTRODUCTION

---

The purpose of this project is to incorporate enhanced stormwater treatment facilities in the developed portions of two communities directly adjacent to Lake St. Croix, Stillwater and Bayport. Because the Cities of Stillwater and Bayport are completely developed in areas directly adjacent to Lake St. Croix, stormwater treatment facilities must be carefully retrofit into small spaces in order to provide necessary treatment to runoff prior to its discharge to Lake St. Croix.

### PROJECT TIMELINE:

2010 – Initiate Project

2011 – Final site selection, final design; and project installation in Bayport and Stillwater

2012 – Final site selection, final design; and project installation in Bayport and Stillwater

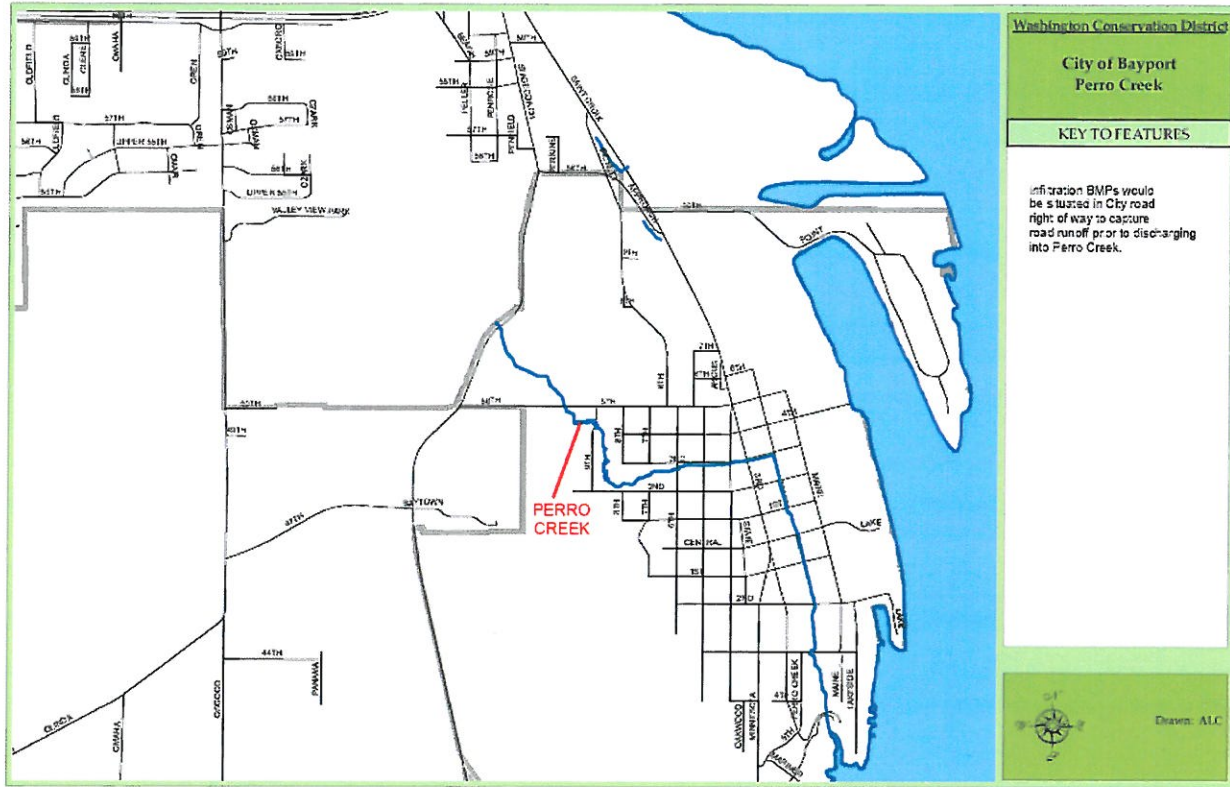
2013 – Complete grant requirements, submit final report

### PROJECT GOALS:

1. Bayport: retrofit stormwater treatment facilities to capture runoff prior to entering Perro Creek (ultimately the St. Croix River).
2. Bayport: work closely with City staff (Administration and Public Works) and the Council to complete design and installation work. Education of City staff regarding water quality improvement and MSCWMO performances standards will be a major goal of this project.
3. Stillwater: work closely with City staff (engineering) and council to increase volume control on 2011 and 2012 street reconstruction projects from  $> \frac{1}{2}$ " to 1.0" for reconstructed surfaces. Projects will provide stormwater treatment in areas where treatment does not currently exist (runoff currently drains to the St. Croix River).
4. Bayport and Stillwater: Total phosphorus reduction of 26-30 pounds per year through the completion of the proposed projects.
5. Bayport and Stillwater: Promote the project through newsletters, articles, etc. to educate local residents on water quality improvement projects.

# PROPOSED PROJECT LOCATION MAPS

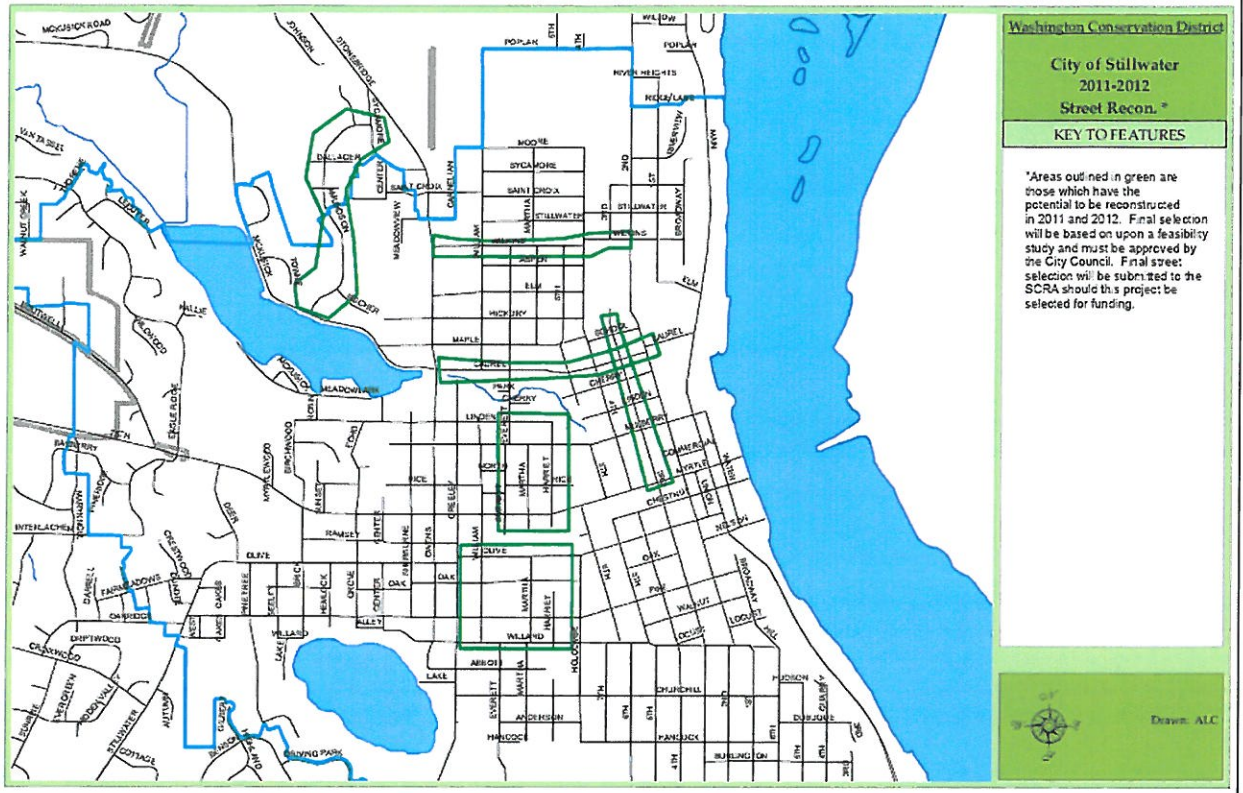
## CITY OF BAYPORT – PERRO CREEK



In the City of Bayport the project is focused on installing stormwater management facilities within the City right-of-way to capture runoff before it enters Perro Creek. Perro Creek is a direct tributary to Lake St. Croix. It is approximately 1.8 miles long and flows through the City of Bayport. The Middle St. Croix Watershed Management Organization (MSCWMO) monitors the water quality of Perro Creek. In 2009, Perro Creek discharged 242 pounds of phosphorus into Lake St. Croix.



CITY OF STILLWATER – DRAINS TO ST. CROIX



In the City of Stillwater, the project is working to enhance stormwater treatment features so they go above and beyond MSCWMO (performance standards) and City requirements (such as MS4 and ORVW) when they are installed as part of City street reconstruction projects in 2011 and 2012. Currently, the City of Stillwater is required to provide a minimum of 1/2" volume control for all reconstructed street surfaces (per MSCWMO performances standards). The MSCWMO is working with the City of Stillwater to increase volume control standards to >1/2" up to 1" for street reconstruction projects in 2011 and 2012.

The City of Stillwater is proposing to reconstruct 1.5 miles of residential streets directly tributary to Lake St. Croix in 2011 and 2012. Specific streets are selected following a feasibility study and council approval, but a map of priority areas is provided. Prior to the start of the project, the runoff from the majority of these streets (in the priority areas) enters the St. Croix River without or with minimal treatment. Because these streets are located in the portions of Stillwater that are highly developed, small innovative infiltration type BMPs or infiltration benches are being installed to meet the >1/2" – 1.0" volume control for redeveloped streets in the project area.

It was estimated that by enhancing the volume control standard for the 2011 and 2012 street reconstruction projects in Stillwater, a 20-pound per year phosphorus reduction could be achieved by the completion of the projects in 2012 (10 pound reduction per year).

---

## PROJECT RESULTS TO DATE – DECEMBER 2011

---

### CITY OF BAYPORT

In 2011, the City of Bayport made the decision to reconstruct 2<sup>nd</sup> Avenue and 1<sup>st</sup> Avenue, two east/west City streets that intersect Highway 95 and drain to Perro Creek. In order to increase efficiency, the project team selected priority raingarden locations along the City streets proposed for reconstruction. As part of the overall streets project design, the City worked with the MSCWMO and partnered with the City of Stillwater's engineering department to improve stormwater drainage in the area as well as to locate and design curb cuts, which allow stormwater to enter the raingardens.

A total of four large raingardens were installed as part of this project resulting in the following water quality improvements:

**Raingarden #1:** is located along 2<sup>nd</sup> Avenue in the right-of-way adjacent to the People's Church. A culvert brings water from Highway 95 into the raingarden. The raingarden also accepts runoff from 2<sup>nd</sup> Avenue itself. Raingarden # 1 is 405 square feet. Raingarden#1 has a total treatment area of 8,860 square feet. Its estimated pollutant load reductions are as follows: *Phosphorous, 0.83 lbs/yr; Nitrogen, 2.12lbs/yr; Total Suspended Solids, 69.46 lbs/yr.*

**Raingarden #2:** is located at the intersection of 2<sup>nd</sup> Avenue and 2<sup>nd</sup> Street in Bayport in the right-of-way adjacent to the City tennis courts. It is also directly adjacent to Perro Creek. The raingarden accepts runoff from 2<sup>nd</sup> Avenue itself as well as from the parking lot of the People's Church. Raingarden #2 is 688 square feet in size. Raingarden #2 has a total treatment area of 11,940 square feet. Its estimated pollutant load reductions are as follows: *Phosphorous, 0.80 lbs/yr; Nitrogen, 3.45 lbs/yr; Total Suspended Solids, 113.23lbs/yr.*

**Raingarden #3:** is located on 2<sup>nd</sup> Avenue in the right-of-way adjacent to a private residence. It is also directly adjacent to Perro Creek. The raingarden accepts runoff from 2<sup>nd</sup> Avenue. Raingarden #3 is 272 square feet in size. Raingarden #3 has a total treatment area of 10,550 square feet. Its estimated pollutant load reductions are as follows: *Phosphorous, 0.96 lbs/yr; Nitrogen, 2.59 lbs/yr; Total Suspended Solids, 85.02 lbs/yr.*

**Raingarden #4:** is located on 1<sup>st</sup> Avenue in the right of way adjacent to an apartment building. It is also directly adjacent to Perro Creek. The raingarden accepts runoff from 1<sup>st</sup> Avenue. Raingarden #4 is 169 square feet in size. Raingarden #4 has a total treatment area of 4,245 square feet. Its estimated pollutant load reductions are as follows: *Phosphorous, 0.31 lbs/yr; Nitrogen, 1.50 lbs/yr; Total Suspended Solids, 49.09 lbs/yr.*

### **Total Project Load Reductions:**

**Phosphorous:** 2.90 lbs/yr

**Nitrogen:** 9.66 lbs/yr

**Total Suspended Solids:** 316.8 lbs/yr

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

SCRA GRANT – PROGRESS REPORT, APPROVED 12/8/2011



## PHOTOGRAPHS OF THE COMPLETED PROJECTS IN BAYPORT



From top to bottom, left to right: raingarden adjacent to tennis courts, raingarden adjacent to private residence, raingarden adjacent to apartment complex, and raingarden adjacent to People's Church.



## CITY OF STILLWATER

In 2011, the City of Stillwater completed reconstruction work on the following streets that drain to the St. Croix River, which previously had minimal to no stormwater treatment in place: Amundson Drive, Wilkins Street, Meadowlark Drive, Stillwater Avenue and Meadowview Drive. The City of Stillwater's engineering department completed the design for the drainage patters, stormsewer and curb cuts for each street included in this project. A portion of the City's engineering hours are being used as match for this project as well as portion of the funds spent on materials for the implementation of this project. The Middle St. Croix Watershed Management Organization completed final design and planting plans for the raingardens on Amundson Drive and Meadowlark Drive. The majority of these hours are used as in-kind match for this project.

A total of six raingardens were installed along Amundson Drive and Meadowlark Drive to capture runoff that receives minimal treatment before leaving the site. Below is a summary of these six raingardens.

750 Amundson Drive: This raingarden is located at the intersection of Amundson Drive and McKusick Road. The raingarden is approximately 180 square feet in size. 37,000 square feet of land area drain to this raingarden. The estimated load reductions are as follows: *Phosphorous: 3.36 lbs/year, Nitrogen: 6.89 lbs/ year, Total Suspended Solids: 226.10 lbs/year.*

1140 Amundson Drive: This raingarden is located in the right-of-way adjacent to Amundson Drive. The raingarden is approximately 200 square feet in size. 15,621 square feet of land area drain to this raingarden. The estimated load reductions are as follows: *Phosphorous: 1.33 lbs/year, Nitrogen: 3.47 lbs/ year, Total Suspended Solids: 113.91 lbs/year.*

1020 Nena Drive: This raingarden is in the right of way adjacent to Nena Drive, which drains to Amundson Drive. The raingarden is approximately 180 square feet in size. 15,752 square feet of land area drain to this raingarden. The estimated load reductions are as follows: *Phosphorous: 1.32 lbs/year, Nitrogen: 3.55 lbs/ year, Total Suspended Solids: 116.59 lbs/year.*

1201 Amundson Drive: This raingarden is located in the right of way adjacent to Amundson Drive. The raingarden is approximately 200 square feet in size. 22,941 square feet of land area drain to this raingarden. The estimated load reductions are as follows: *Phosphorous: 1.97 lbs/year, Nitrogen: 4.33 lbs/ year, Total Suspended Solids: 142.15 lbs/year.*

1055 Amundson Drive: This raingarden is located in the right-of-way adjacent to Amundson Drive. The raingarden is approximately 200 square feet in size. 16,740 square feet of land area drain to this raingarden. The estimated load reductions are as follows: *Phosphorous: 1.37 lbs/year, Nitrogen: 3.45 lbs/ year, Total Suspended Solids: 89.06 lbs/year.*

1314 Meadowlark Drive: This raingarden is located in the right-of-way adjacent to Meadowlark Drive. The raingarden is approxiatly 180 square feet in size. 19,670 square feet of land area drain to the raingarden. The estimated load reductions are as follows: *Phosphorous: 1.61 lbs/year, Nitrogen: 2.71 lbs/ year, Total Suspended Solids: 113.27 lbs/year.*

Three of the raingardens located along Amundson and Meadowlark Drive received runoff from large areas and high flows. To assist with the long-term maintenance of these raingardens, the MSCWMO and the City agreed to install “Anoka Pretreatment Chambers” to capture sediment, making cleanout much easier. Below is a photo of a raingarden on Amundson Drive with an “Anoka Pretreatment Chamber”.



*Photograph of raingarden on Nena Drive, which overflows to Amundson Drive.*

More innovative stormwater treatment features were installed on Wilkins Street in Stillwater. Wilkins Street drains to the St. Croix River and previously had limited to no stormwater treatment in place. Instead of designing traditional raingardens on Wilkins, the City of Stillwater designed and installed “bump-outs”, which work to both calm traffic flows and capture and treat stormwater. Below are two photographs of the “bump-outs” that were installed on Wilkins Street during the City’s 2011 street improvements project. As shown in the photograph, some of the “bump-outs” have depressed centers for capturing and treating street runoff. A total of eight depressed “bump-outs” were installed on Wilkins Street as part of this project.





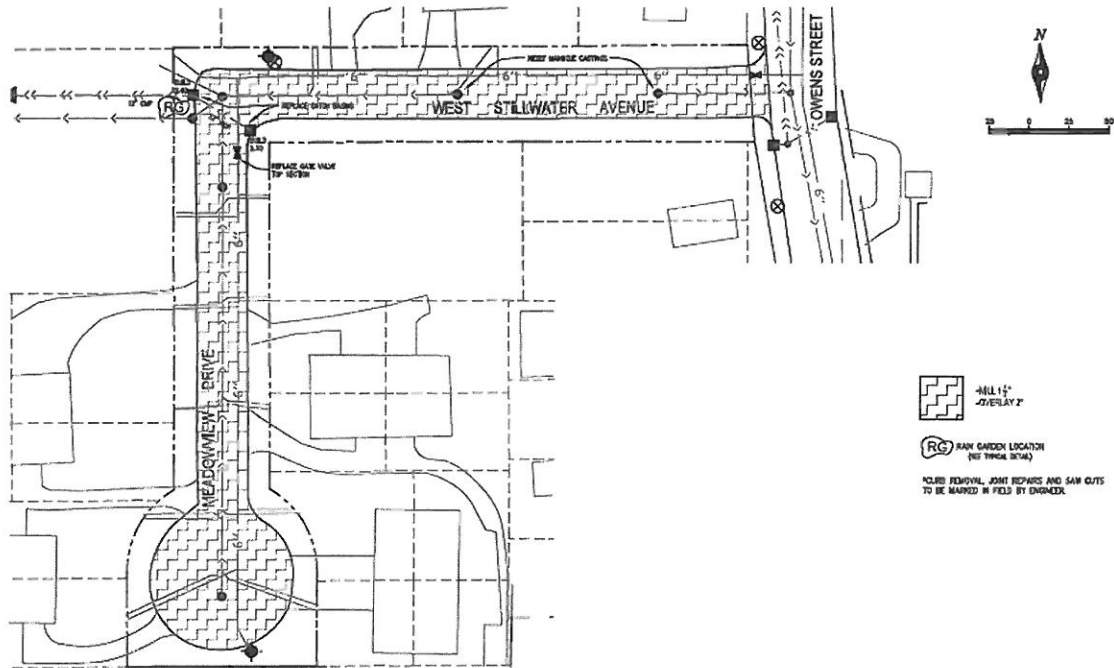
*Photograph above: one depressed “bump-out” used to collect street runoff.*



*Photograph above: street view of several “bump-outs” on Wilkins Street.*

Wilkins Street “bump-outs”: A total of eight “bump-outs” were installed in the right-of-way of Wilkins Street in Stillwater. The depressional areas contained by the “bump-outs” are each approximately 320 square feet in size and designed to capture and treat stormwater runoff from Wilkins. A total of 42,720 square feet of impervious roadway drains to the eight “bump-outs”. The estimated load reductions are as follows: *Phosphorous: 2.05 lbs/yr, Nitrogen: 6.78 lbs/yr, Total Suspended Solids: 494.07 lbs/yr.*

One additional stormwater treatment feature was installed near the intersection of Meadowview Drive and Stillwater Avenue just north of Stonebridge School. The general raingarden location is shown in the figure below. The raingarden, as built, is approximately 200 square feet in size and accepts runoff from approximately 17,424 square feet of adjacent land area. The estimated load reductions are as follows: *Phosphorous: 1.35 lbs/yr, Nitrogen: 3.48 lbs/yr, Total Suspended Solids: 115.81 lbs/yr.*



*General location of raingarden at Stillwater Avenue and Meadowview Drive.*

**Total Estimated Project Load Reductions in Stillwater Right-of-Way Projects for 2011**

**Phosphorous:** 14.36 lbs/year

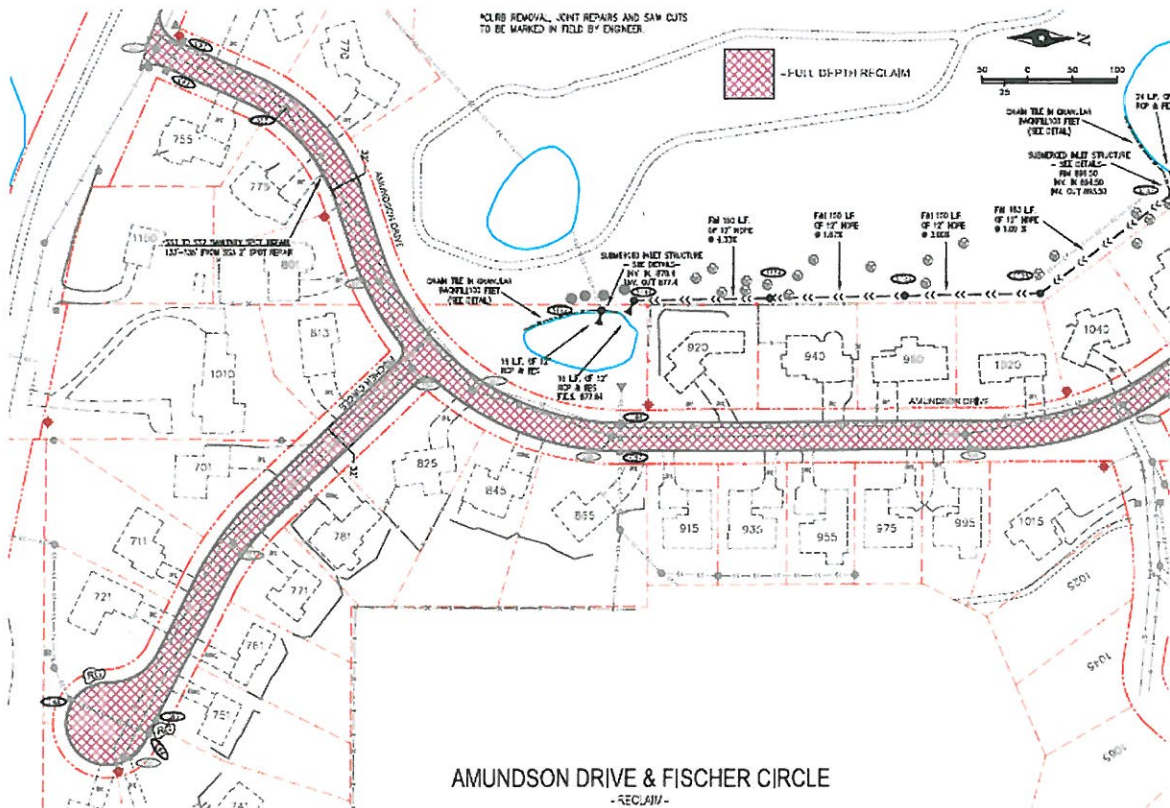
**Nitrogen:** 34.66 lbs/year

**Total Suspended Solids:** 1,410.96 lbs/year



## Existing Pond Modifications for Enhanced Stormwater Treatment

In addition to adding a number of raingardens and other stormwater management BMPs to the right-of-ways of their reconstructed streets, the City of Stillwater also completed modifications to two existing stormwater treatment ponds that accept runoff from Amundson Drive and the adjacent golf course. The plan view below shows the general location of the two stormwater ponds that were modified to increase stormwater treatment potential. The ponds are shown with a light blue outline. Modifications to the stormwater ponds included re-grading of the side slopes to create infiltration benches. 6" drain tile was installed below granular fill on the subtle bench above the ponds normal water level. During rain events, the stormpond bounces. When the bounce occurs, pond runoff that would normally exit the pond through the normal outlet must first flow through the infiltration bench. A percentage of the runoff is infiltrated on the bench rather than exiting the pond and moving towards downstream surface water bodies with less treatment. Adding infiltration benches to existing stormponds has helped the City of Stillwater maximize stormwater treatment in the City. The location of the infiltration benches is shown in the figure below. The dashed lines on the sides of two of the stormwater ponds represent the bench and 6" drain tile. Load reduction numbers have not yet been calculated for the infiltration benches, but will be provided in a subsequent report.



General location of modified stormponds near Amundson Drive.

---

**APPENDIX A – INVOICE FOR REIMBURSEMENT**

---

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION  
SCRA GRANT – PROGRESS REPORT, APPROVED 12/8/2011

Middle St. Croix Watershed Management Organization  
 1380 West Frontage Rd, Highway 36, Stillwater, MN 55082  
**Green Streets Initiative - Stillwater and Bayport**

Total Grant Amount \$ 70,000.00  
 Grant Amount Available to Date \$ 70,000.00  
 Grant Amount Available After Current Invoice \$ 31,363.20  
 Total Reimbursement Requested \$ **38,636.80**  
 Invoicing Period 11-1-2011 thru 12-8-2010  
 Invoice Number #17, see attached separate invoice  
 Invoice Date 12/08/11  
 Project Contact Amy L. Carolan, Acarolan@mnwcd.org, 651-275-1136 x. 22

**PROJECT EXPENSES**

Description Qty Unit Unit Cost Amount Grant/In-Kind/Cash

CITY OF BAYPORT

**MATCH**

Site review and selection 4 HRS \$ 60.00 \$ 240.00 In-Kind  
 Project design/engineering by City of Stillwater for Bayport\* 1 LS \$ 820.00 \$ 820.00 Cash match by Bayport for services  
 Project design by MSCWMO 31 HRS \$ 38.00 \$ 1,178.00 In-Kind  
 Project installation by MSCWMO 22 HRS \$ 60.00 \$ 1,320.00 In-Kind  
 Plant material from Dragonfly Gardens 1 LS \$578.30 \$ 578.30 Cash match  
**4,136.30 subtotal**

**GRANT FUNDS**

Project installation by All Weather Services 1 LS \$9,475.00 \$ 9,475.00 Grant Funds  
 Plant material from Dragonfly Gardens 1 LS \$578.30 \$ 578.30 Grant Funds  
**10,053.30 subtotal**

CITY OF STILLWATER

**MATCH**

Project Engineering by City of Stillwater for Stillwater Projects\*\* 1 LS \$ 13,029.00 \$13,029.00 In-Kind Labor  
 Planting plan/design work by MSCWMO 30 HRS \$ 38.00 \$1,140.00 In-Kind Labor  
 Stormwater Treatment Implementation 1 LS \$ 16,288.00 \$16,288.00 In-kind cash for materials  
**\$30,457.00 subtotal**

**GRANT FUNDS**

Stormwater Treatment Implementation 1 LS \$ 26,250.00 \$ 26,250.00 Grant Funds  
 Project Installation by All Weather Services 1 LS \$ 383.50 \$ 383.50 Grant Funds  
 Anoka Pretreatment Chambers 3 EA \$ 650.00 \$ 1,950.00 Grant Funds  
**\$28,583.50 subtotal**

\*Stillwater engineering department assumes that 10% of total project engineering costs were spent on BMP design

\*\* Stillwater assumes that 5% of total project engineering costs were spent on BMP design

---

**APPENDIX B – SUPPORTING DOCUMENTS**

---



Bayport.



DATE	INVOICE NO
09/27/2011	0040470

<b>BILL TO</b>
City of Bayport 294 N 3rd Street Bayport, MN 55003

<b>DUE DATE</b>
10/27/2011

DESCRIPTION	QUANTITY	EFFECTIVE RATE	AMOUNT
Engineering Consulting Fee: 1st & 2nd Ave Curb Project	1.00	\$8,200.00	\$8,200.00

<b>INVOICE AMOUNT DUE:</b>	<b>\$8,200.00</b>
----------------------------	-------------------

PLEASE DETACH BOTTOM PORTION & REMIT WITH YOUR PAYMENT

For questions please contact us at (651)430-8800

Customer Name: City of Bayport  
 Customer No: 101069  
 Account No: 0000440 - AR account for 101069

DUE DATE	INVOICE NO
10/27/2011	0040470

Please remit payment by the due date to:



City of Stillwater  
 216 North 4th Street  
 Stillwater, MN 55082

**TOTAL AMOUNT DUE:** \$8,200.00

**AMOUNT PAID:** \_\_\_\_\_

10% - \$820.00 to SCRA





All-Weather Services 4535 Osgood Ave. N. Stillwater, MN 55082

**Bayport Green Streets 2011, City of Bayport**

**MATERIALS USED**

Materials	Qty	Unit	Unit Cost	Amount	
<b>Raingarden #1</b>					
Double Shredded Hardwood Mulch (3")	3.75	cubic yds	\$40.00	\$150.00	
Compost ( 3") MNDOT Grade 2	3.75	cubic yds	\$40.00	\$150.00	
Bullet Edgers, color, natural	58	each	\$8.50	\$493.00	
Excavation	15	cubic yds	\$16.00	\$240.00	
Rock Inlet, Glacial Fieldstone 4" - 9"	2	ton	\$180.00	\$360.00	\$1,393.00
<b>Raingarden #2</b>					
Plants					
Double Shredded Hardwood Mulch (3")	7	cubic yds	\$40.00	\$280.00	
Compost ( 3") MNDOT Grade 2	7	cubic yds	\$40.00	\$280.00	
Bullet Edgers, color, natural	95	each	\$8.50	\$807.50	
Excavation	65	cubic yds	\$14.00	\$910.00	
Glacial Fieldstone Retaining Wall	11	ton	\$180.00	\$1,980.00	
Rock Inlet, Glacial Fieldstone 4" - 9"	1	ton	\$180.00	\$180.00	\$4,437.50
<b>Raingarden #3</b>					
Plants					
Double Shredded Hardwood Mulch (3")	4	cubic yds	\$40.00	\$160.00	
Compost ( 3") MNDOT Grade 2	4	cubic yds	\$40.00	\$160.00	
Bullet Edgers, color, natural	68	each	\$8.50	\$578.00	
Excavation	22	cubic yds	\$16.00	\$352.00	
Rock Inlet, Glacial Fieldstone 4" - 9"	1	ton	\$180.00	\$180.00	\$1,430.00
<b>Raingarden #4</b>					
Plants					
Double Shredded Hardwood Mulch (3")	1.5	cubic yds	\$40.00	\$60.00	
Compost ( 3") MNDOT Grade 2	1.5	cubic yds	\$40.00	\$60.00	
Bullet Edgers, color, natural	14	each	\$8.50	\$119.00	
Excavation	13.5	cubic yds	\$16.00	\$216.00	
Glacial Fieldstone Retaining Wall	2.5	ton	\$180.00	\$450.00	
Rock Inlet, Glacial Fieldstone 4" - 9"	0.5	ton	\$180.00	\$90.00	\$995.00
	2.5	ton			
Mobilization	1	job	\$ 350.00	\$ 350.00	
Watering (2 months to maintain 1"/week if no rainfall occurs)	1	job	\$ 250.00	\$ 250.00	
				\$ 8,856.00	

**TOTAL INSTALLED PROJECT(S)**

<b>Materials and Labor with Tax (\$1.07)</b>	\$ 9,475.39	<10%	>10%
	\$ 9,475.39	\$ 8,527.85	\$ 10,422.92

2011 Street Improvement Project Reimbursement From Saint Croix River Association Grant

Item No.	Item	Unit	Contract Quantity	To Date Quantity	Unit Price	Amount
15	Common Excavation Rain Garden (EV)	CY	300		\$ 12.90	\$ -
17	Select Granular Borrow(CV) (sidewalk base, pond bench)	CY	150		\$ 9.60	\$ -
37	Granular / Compost Backfill Rain Garden (LV)	CY	240		\$ 16.10	\$ -
38	Furnish and Install 12" RC F.E.S. (w/ trash guard)	EA	3	3	\$ 670.00	\$ 2,010.00
39	6" Sleeved Perf. Drain Tile (rain gardens, ponds)	LF	600	270	\$ 6.45	\$ 1,741.50
42	12" RC Pipe Sewer Design 3006 Cl. V	LF	350	56	\$ 30.00	\$ 1,680.00
46	Dual wall HDPE pipe 12-inch dia.	LF	760	633	\$ 14.30	\$ 9,051.90
59	Construct 27" CB (0-5' Depth)	EA	5	4	\$ 782.00	\$ 3,128.00
61	Beehive Catch Basin Casting (Neenah R4342 or equal)	EA	3	2	\$ 386.00	\$ 772.00
62	Manhole casting (R1733 or equal) (includes adjust)	EA	13	3	\$ 632.00	\$ 1,896.00
67	Furnish/ Install Sanitary or Storm Sewer Manhole (48")	EA	3	2	\$ 1,710.00	\$ 3,420.00
68	Rip Rap Class I (rain garden entrance flumes)	CY	15		\$ 51.40	\$ -
69	Geotextile Fabirc	SY	40		\$ 4.30	\$ -
84	Fertilizer, Type 3 (350#/Acre)	LB	500	70.00	\$ 1.05	\$ 73.50
85	Seeding	SY	7000	1,850	\$ 0.75	\$ 1,387.50
86	Hydraulic Soil Stabilizer, Type 5 (2500#/Acre)	LB	3700	990	\$ 1.00	\$ 990.00

Construction subtotal to date for storm water treatment \$ 26,150.40

In-kind match for engineering for storm water treatment (5% of \$260,590) \$13,029.50

**Implementation Match for Catch Basins and Curb Cuts at Rain Gardens**

80	Curb Inlet Protection	EA	40	10.00	\$ 80.40	\$ 804.00
71	Concrete Curb and Gutter B618 Machine Install	LF	8000	80.00	\$ 8.80	\$ 704.00
57	Construct 2x3 Catch Basin (0-5' Depth)	EA	48	10	\$ 910.00	\$ 9,100.00
60	Catch Basin Casting (Neenah R3067 or equal) (includes adjust)	EA	60	10	\$ 568.00	\$ 5,680.00

In-kind match for implementation \$ 16,288.00



**CITY OF STILLWATER  
APPLICATION FOR PAYMENT**

**PROJECT:** 2011 Street Improvement Project                      **APPLICATION NUMBER:** 3

**JOB NO.:** Project 2011-02

**Contractor:** Hardrives, Inc.  
14475 Quiram Drive  
Rogers, MN 55374

**Telephone:** 651-436-8444  
**Fax:** 651-436-6515

**Period Ending:** September 23, 2011

**Application Date:** October 4, 2011

**Contract Amount:** \$1,529,352.70

**Material Suitably Stored on Site  
not Incorporated to Work  
Additions, Deletions** \$36,400.00

(Meadowview/stillwater)

**Revised Contract Amount:** \$1,565,752.70

**Gross Amount Earned:** \$ 1,121,333.84                      \$ 1,121,333.84

**Less 5% Retainage** \$ 56,066.69

**Less Liquidated Damages** \_\_\_\_\_

**Less Previous Payments** \$417,858.76

**AMOUNT DUE THIS APPLICATION:** \$647,408.39

**CONTRACTOR'S AFFIDAVIT**

The undersigned Contractor hereby swears under penalty of perjury that (1) all previous progress payments received from the Owner on account of work performed under the contract referred to above have been applied by the undersigned to discharge in full all obligations of the undersigned incurred in connection with work covered by prior Applications for Payment under said contract, and (2) all materials and equipment incorporated in said project or otherwise listed in or covered by this application for payment are free of all liens, claims, security interests and encumbrances.

**Dated:** \_\_\_\_\_

\_\_\_\_\_  
**(Contractor)**

\_\_\_\_\_  
**(Signature)**

\_\_\_\_\_  
**(Name, Title - Please Print)**

In accordance with the Contract, the undersigned approves payment to the Contractor of the Amount Due.

**DATE:** \_\_\_\_\_

**By:** \_\_\_\_\_

**Torry Kraftson, Assistant City Engineer**

**ENGINEERING OFFICE USE ONLY**

Application forwarded to Finance Department on \_\_\_\_\_

for submittal to Council for payment at their meeting on \_\_\_\_\_

still water

2011 Street Improvement Project  
 Contract Quantities  
 Project 2011-02

Item No.	Item	Unit	Contract Quantity	To Date Quantity	Unit Price	Amount
1	Mobilization (5% max)	LS	1	1	\$ 42,300.00	\$ 42,300.00
2	MPCA, SWPPP Permit Fee	LS	1	1	\$ 426.00	\$ 426.00
3	Remove Existing Concrete Curb & Gutter	LF	2000	1100	\$ 1.95	\$ 2,145.00
4	Remove Existing Stone Curb	LF	5500		\$ 1.60	\$ -
5	Remove Concrete Sidewalk	SF	660	100	\$ 0.43	\$ 43.00
6	Remove Storm Structure and Casting	EA	48	48	\$ 350.00	\$ 16,800.00
7	Remove manhole or catch basin casting only	EA	23	18	\$ 88.40	\$ 1,591.20
8	Remove Sign (and post) and salvage to City	EA	27		\$ 16.10	\$ -
9	Remove Hydrant	EA	5	6	\$ 268.00	\$ 1,608.00
10	Sawing Concrete Pavemant	LF	400	60	\$ 3.20	\$ 192.00
11	Sawing Bituminous Pavemant	LF	1300	275.2	\$ 1.95	\$ 536.64
12	Salvage and Adjust Casting (storm & sanitary)	EA	70	52	\$ 438.00	\$ 22,776.00
13	Manhole frame adjustment (mill/overlay areas)	EA	41	56	\$ 223.00	\$ 12,488.00
14	Common Excavation for new sidewalk	CY	200		\$ 12.90	\$ -
15	Common Excavation Rain Garden (EV)	CY	300		\$ 12.90	\$ -
16	Subgrade Excavation (EV)	CY	400	1543	\$ 7.25	\$ 11,186.75
17	Select Granular Borrow(CV) (sidewalk base, pond bench)	CY	150		\$ 9.60	\$ -
18	Select Topsoil Borrow screened (LV)	CY	460	252	\$ 12.90	\$ 3,250.80
19	Remove Existing Subgrade (4" depth)	SY	30000	30000	\$ 1.30	\$ 39,000.00
20	Remove Existing Subgrade (8" depth- Wilkins)	SY	14000	14000	\$ 1.95	\$ 27,300.00
21	Tolerance Class V Aggregate	RS	120	123	\$ 237.00	\$ 29,151.00
22	Common Laborer	HR	40	14.5	\$ 64.30	\$ 932.35
23	1 C.Y. Backhoe	HR	40	14.5	\$ 96.40	\$ 1,397.80
24	10 C.Y. Truck	HR	40		\$ 64.30	\$ -
25	3 C.Y. Front End Loader	HR	40	2	\$ 96.40	\$ 192.80
26	Street Sweeper w/ Pickup Broom	HR	10	14.5	\$ 91.10	\$ 1,320.95
27	Water for Dust Control	Mgal	15		\$ 42.90	\$ -
28	Class 5 Aggregate Base Course	TN	500	3143.88	\$ 7.75	\$ 24,365.07
29	Bituminous Patching Mixture	TN	400	321.38	\$ 102.00	\$ 32,780.76
30	Saw and Seal Joints (Amundson Dr & Wilkins St)	LF	4600		\$ 2.15	\$ -
31	1.5-inch mill (includes disposal)	SY	25100	27740	\$ 1.15	\$ 31,901.00
32	Reclaim Bituminous full depth Mill	SY	44000	43984	\$ 0.67	\$ 29,469.28
33	Wear Course Mixture LVWE35030B (Driveways) (2")	SY	500	114	\$ 11.50	\$ 1,311.00
34	Bituminous Materail for Tack Coat	Gal	3300	1390	\$ 2.15	\$ 2,988.50
35	Wear Course Mixture SPWEB340B	TN	7030	3124.24	\$ 52.50	\$ 164,022.60
36	Base Course Mixture SPNWB330B	TN	6550	5973.87	\$ 50.90	\$ 304,069.98
37	Granular / Compost Backfill Rain Garden (LV)	CY	240		\$ 16.10	\$ -
38	Subgrade Backfill (CV)	CY	400		\$ 6.45	\$ -
39	Furnish and Install 12" RC F.E.S. (w/ trash guard)	EA	3	3	\$ 670.00	\$ 2,010.00
40	6" Sleeved Perf. Drain Tile (rain gardens, ponds)	LF	600	270	\$ 6.45	\$ 1,741.50
41	8-inch PVC SDR 35 Sanitary Sewer	LF	120	100	\$ 66.40	\$ 6,640.00
42	12" RC Pipe Sewer Design 3006 Cl. V	LF	350	393.5	\$ 30.00	\$ 11,805.00
43	Cured In Place Pipe 8" sanitary sewer (8' or less)	EA	7		\$ 1,790.00	\$ -
44	Cured In Place Pipe 12" storm sewer	LF	290		\$ 85.70	\$ -
45	Connect to existing 4-inch service	EA	2	2	\$ 429.00	\$ 858.00
46	Dual wall HDPE pipe 12-inch dia.	LF	760	760	\$ 14.30	\$ 10,868.00
47	4-inch PVC SDR 26 Sanitary Sewer Lateral	LF	20	20	\$ 23.60	\$ 472.00
48	Adjust Gate Valve (manual or ring adjustment)	EA	17	40	\$ 221.00	\$ 8,840.00
49	Salvage, Reset, and Adjust Gate Valve Top Section	EA	13	2	\$ 221.00	\$ 442.00
50	Replace gate valve top section and lid	EA	13	5	\$ 200.00	\$ 1,000.00
50a	Install irrigation service to City Park (W of 1016 North 5th)	EA	1	1	\$ 2,570.00	\$ 2,570.00
51	3/4" Curb Stop	EA	15	13	\$ 193.00	\$ 2,509.00

Stillwater

2011 Street Improvement Project  
 Contract Quantities  
 Project 2011-02

52	Connect to Existing Galvanized Water Service	EA	15	12	\$ 134.00	\$ 1,608.00
53	Connect to Existing Corp	EA	15	13	\$ 134.00	\$ 1,742.00
54	Remove Galvanized Water Service	LF	330	254	\$ 4.30	\$ 1,092.20
55	F&I Hydrant (Waterous WB-67)	EA	5	6	\$ 3,020.00	\$ 18,120.00
56	3/4" Type K Copper Water Service	LF	330	269	\$ 17.70	\$ 4,761.30
57	Construct 2x3 Catch Basin (0-5' Depth)	EA	48	44	\$ 910.00	\$ 40,040.00
58	Construct 48" Catch Basin (0-7' Depth)	EA	5	10	\$ 1,270.00	\$ 12,700.00
59	Construct 27" CB (0-5' Depth)	EA	5	5	\$ 782.00	\$ 3,910.00
60	Catch Basin Casting (Neenah R3067 or equal) (includes adjust)	EA	60	60	\$ 568.00	\$ 34,080.00
61	Beehive Catch Basin Casting (Neenah R4342 or equal)	EA	3		\$ 386.00	\$ -
62	Manhole casting (R1733 or equal) (includes adjust)	EA	13	3	\$ 632.00	\$ 1,896.00
63	Connect to Existing Manhole or Catch Basin	EA	9	9	\$ 214.00	\$ 1,926.00
64	Seal manhole/catch basin external	EA	135	37	\$ 161.00	\$ 5,957.00
65	Seal manhole/catch basin internal	EA	50		\$ 348.00	\$ -
66	Grout inverts of existing structure	EA	6	5	\$ 110.00	\$ 550.00
67	Furnish/ Install Sanitary or Storm Sewer Manhole (48")	EA	3	3	\$ 1,710.00	\$ 5,130.00
68	Rip Rap Class I (rain garden entrance flumes)	CY	15		\$ 51.40	\$ -
69	Geotextile Fabirc	SY	40		\$ 4.30	\$ -
70	5" Concrete Sidewalk Design 3Y32 Type A (Granite)	SY	760	160.9	\$ 32.30	\$ 5,197.07
71	Concrete Curb and Gutter B618 Machine Install	LF	8000	7423	\$ 8.80	\$ 65,322.40
72	Concrete valley gutter 36-inch wide	LF	250	231	\$ 16.10	\$ 3,719.10
73	5" Concrete Driveway Design 3Y32 Type A (Granite)	SY	120	297.3	\$ 32.30	\$ 9,602.79
74	Saw and seal existing concrete curb	EA	500		\$ 14.70	\$ -
75	Concrete Curb and Gutter (various types) Hand Install	LF	2500	2405	\$ 14.20	\$ 34,151.00
76	Truncated Dome Ped Ramp Panels	SF	200	32	\$ 32.20	\$ 1,030.40
77	Traffic Control	LS	1	1	\$ 6,320.00	\$ 6,320.00
78	Furnish and Install Sign (includes post)	EA	27		\$ 229.00	\$ -
79	Furnish and Install Crabapple Tree 2" Cal. B&B	EA	30		\$ 279.00	\$ -
80	Curb Inlet Protection	EA	40	69	\$ 80.40	\$ 5,547.60
81	MnDOT Seed Mixture 270 (120#/Acre)	LB	180	50	\$ 3.20	\$ 160.00
82	Sodding Type Lawn & Boulevard	SY	100		\$ 9.65	\$ -
83	Category 1 Erosion Control Blanket	SY	1150		\$ 1.25	\$ -
84	Fertilizer, Type 3 (350#/Acre)	LB	500	100	\$ 1.05	\$ 105.00
85	Seeding	SY	7000	1152	\$ 0.75	\$ 864.00
86	Hydraulic Soil Stabilizer, Type 5 (2500#/Acre)	LB	3700	500	\$ 1.00	\$ 500.00
						\$ 1,121,333.84

MUNICIPALITY: STILLWATER, MINNESOTA  
 PROJECT NO.: 2011-02  
 L.I. NO. 390  
 ACCOUNT NUMBER \_\_\_\_\_  
 EXPENDITURES: \_\_\_\_\_

2011 Street Improvement Project  
 PROJECT NAME \_\_\_\_\_

	Actual Costs to Date	Estimated Completion Costs	Total Costs
<b>Construction Costs</b>	<b>\$439,851.00</b>	<b>\$1,125,901.00</b>	<b>\$1,565,752.00</b>
<b>Engineering Department</b> (Excluding Assessment Roll Preparation)			
Feasibility and Plans & Specifications	\$142,422.00		\$142,422.00
Field/contract Administration	\$40,968.00	\$77,200.00	\$118,168.00
<b>Consulting Engineer</b>	<b>\$2,600.00</b>		<b>\$2,600.00</b>
<b>Fiscal Agents and Bonding Costs</b>			
<b>Legal</b>			
City Attorney	\$1,435.00	\$300.00	\$1,735.00
Bond Attorney			
<b>Private Property Easements and Land Acquisition</b>			
<b>Administrative Costs</b>			
<b>Other Costs</b>			
Postage			
Printing & Publishing	\$213.00	\$120.00	\$333.00
Other Professionals			
Misc.			
Water Board Costs			
<b>Assessment Roll Preparation</b>			
Engineering Department		\$500.00	\$500.00
County		\$10,410.00	\$10,410.00
Assessment Notice Publication			
<b>Interest on Capital @</b>			<b>\$16,509.00</b>
Roll Adopted			
Contingency			\$20,000.00
<b>Grand Total</b>			<b>\$1,878,429.00</b>

Amount to be Received from Special Assessments	\$847,267.00
Amount to be paid from capital projects funds	\$564,724.00
Amount to be paid from State Aid funds	\$466,438.00





Stillwater

Invoice



# Anoka Conservation District

1318 McKay Dr NE, Suite 300  
Ham Lake, MN 55304

DATE	INVOICE...
9/14/2011	2011101

<b>BILL TO</b>
Washington Conservation District Attention: Pete Young 1380 W Frontage Rd. Hwy. 36 Stillwater, MN 55082

<b>TERMS</b>
Due on receipt

DESCRIPTION	QTY	RATE	AMOUNT
3 Rain Guardians	3	650.00	1,950.00T
Sales Tax-Exempt Local Tax		6.875%	134.06

<b>Subtotal</b>	\$1,950.00
<b>Total</b>	\$2,084.06
<b>Payments/Credits</b>	\$0.00
<b>Balance Due</b>	\$2,084.06