

CAPITOL REGION WATERSHED DISTRICT  
GRANT AGREEMENT  
WITH CITY OF ST. PAUL

Re: Swede Hollow Stream Improvement Feasibility Study  
Cost-share related to the Swede Hollow Stream Improvement Feasibility Study  
Included Exhibits: Special Grant Application Letter dated February 25, 2011

THIS AGREEMENT is entered into this \_\_\_\_ day of November, 2011, by and between the City of St. Paul, hereinafter referred to as the "City", and the Capitol Region Watershed District, hereinafter referred to as the "District".

WITNESSETH:

WHEREAS, the District has an approved Watershed Management Plan which includes funding for implementing Best Management Practices throughout the Watershed District; and

WHEREAS, the District has adopted and approved the 2011 Budget and Workplan which include funding for Special Projects and Grants; and

WHEREAS, the District and the City have worked cooperatively to develop a project approach that is acceptable to both parties; and

WHEREAS, the District and the City have a desire to improve the function and quality of the stream in Swede Hollow for the benefit of current and future residents of the City/District; and

WHEREAS, the District Board of Managers has authorized payment of no more than \$50,000 for the engineering costs of the Swede Hollow Stream Improvement Feasibility Study defined in the attached exhibits; and

WHEREAS, the City is committed to funding the remainder of the project costs;

NOW, THEREFORE, IT IS HEREBY MUTUALLY AGREED AS FOLLOWS:

1. Project: The City shall, with the input from the District, engage an Engineer to complete the Swede Hollow Stream Improvement Feasibility Study consistent with grant application received and approved by the District.

2. Payment: The District shall make a grant to the City in an amount not to exceed \$50,000. The grant is for the engineering costs of the Swede Hollow Stream Improvement Feasibility Study as identified in the exhibits of this agreement. Payment will be in the form of reimbursement for actual costs, following receipt of documentation from the City that the work has been completed satisfactorily.

The City shall complete the project and request reimbursement no later than December 31, 2012.

3. Reports: The City will provide periodic updates during the design process. Reports shall provide information on project status, draft and final deliverables, project meeting summaries and other relevant work products for the project.

4. Liability: Each party agrees to be responsible for its own acts and omissions while carrying out the terms of this agreement.

5. Modification: It is understood and agreed by the parties hereto that this agreement shall not be modified or amended except in writing duly signed by each of the parties.

This agreement shall remain in full force and effect until December 31, 2012, unless earlier terminated by mutual agreement of the City and the District.

IN WITNESS WHEREOF, the parties have caused this agreement to be executed.

CITY OF ST. PAUL

CAPITOL REGION WATERSHED DISTRICT

By \_\_\_\_\_

By \_\_\_\_\_

Name \_\_\_\_\_  
Director, Parks and Recreation

Mark Doneux  
District Administrator

By \_\_\_\_\_

Name \_\_\_\_\_  
Director, Finance

Approved as to Form:

By \_\_\_\_\_  
Assistant City Attorney

By \_\_\_\_\_  
James A Mogen  
Assistant County Attorney  
Attorney for CRWD

By \_\_\_\_\_

Name \_\_\_\_\_  
Mayor's Office

**Exhibit 1**

Special Grant Application Letter dated February 25, 2011

DEPARTMENT OF PARKS AND RECREATION  
DESIGN AND CONSTRUCTION



CITY OF SAINT PAUL  
Mayor Christopher B. Coleman

400 City Hall Annex  
25 West 4<sup>th</sup> Street  
Saint Paul, Minnesota 55102  
www.stpaul.gov/parks

Telephone: 651-266-6400  
Facsimile: 651-292-7405

February 25, 2011

Mr. Bob Fossum  
Water Resource Project Manager  
Capitol Region Watershed District  
1410 Energy Park Drive, Suite 4  
Saint Paul, MN 55108

Re: 2011 Special Project and Grants Program  
Swede Hollow Stream Analysis and Improvement Feasibility Study

Dear Mr. Fossum:

We are pleased to submit this proposal in application for funding grant. If funded, this proposal will provide feasibility analysis of an existing daylighted stream system and redesign to accomplish goals of improved function of water treatment and site water quality. This feasibility study and design will provide a basis for future funding request to implement the necessary changes.

This project involves a stream in the historic Phalen Creek flow through an area of Saint Paul known as Swede Hollow. The stream, which no longer receives water from the Lake Phalen outlet, was daylighted in 1988 for aesthetic purpose, and without ecological design, allowed to follow the flow of the original stream. Sediment from the sewer fills a pond which is difficult to maintain, and the stream ends in a pond which usually exhibits a layer of scum before re-entering the sewer on the way to the Mississippi River.

The proposal supports CRWD goals of pollutant removal and improved water quality in stormwater runoff. It also reaches out to CRWD goals of restoring streams and water bodies throughout the District through daylighting of streams through improvement of an effort done without ecological and water quality improvements in mind.

Thank you for your consideration.

Sincerely yours,

Brian C. Tourtelotte  
Senior Landscape Architect



CAPRA Accreditation

An Affirmative Action Equal Opportunity Employer



National Gold Medal Award

## CRWD 2011 SPECIAL PROJECT AND GRANTS PROGRAM

### **Proposal: Swede Hollow Stream Analysis and Improvement Feasibility Study**

#### **1. Project Description and Justification**

This project proposes to provide consultant study of the existing daylighted stream and stream channel and to provide feasibility study of ecology and engineering design of the stream for improved water quality, pollutant removal, and wildlife habitat. The resulting stream design would provide improved aesthetic appearance to the site.

The historic stream flowed from Lake Phalen, through Swede Hollow, and into the Mississippi River. The construction of Seventh Street required filling and bridging the end of the stream valley. The stream was placed in a storm sewer to complete its route to the river, and the sewer collected stormwater from areas of Saint Paul adjacent to the historic stream. While the sewer removed the stream, surface runoff now collected at the lower end of the filled valley.

Eventually, the outlet from Lake Phalen was redirected to a different storm sewer to the river. This change left the storm sewer through Swede Hollow without the clean base flow of the lake outlet, receiving instead flow largely associated with rainfall events. The sewer pipe is large; however flow is seasonal, and fluctuates with storm events.

The stream daylighting was accomplished in 1988 by diverting water from the storm sewer and bringing it to daylight in a small channel. The channel flows to a small constructed pond where it deposits sediments from the sewer. The pond then overflows into the historic stream channel. The daylighted stream, intended for aesthetic appeal, now provides large amounts of sediment in a pond difficult to maintain, flows through mostly hidden stream corridor into a scummy shallow pond.

It is believed that the daylighted stream can provide visual appeal to the park, while treating the storm water flowing into it. Treatment would include removal of sediments and turbidity, nutrient removal, and natural site infiltration. With water quality improvement as it flows through the system, natural wildlife habitat will be improved as well, improving the aesthetic appearance of the receiving pond. It is anticipated that the overflow water re-entering the sewer to the river will have much-improved water quality.

#### **2. Conceptual Design**

The consultant will assemble a team of hydrologists, ecologists, and engineers to collaborate on evaluation of the storm sewer, existing conditions, including site conditions of Swede Hollow Park, model stream flow dynamics, and develop concepts of pollutant removal and water quality improvements. Upon completion of the feasibility work, the consultant will estimate costs to implement the proposed improvements and provide a dialogue of permitting requirements.

Potential work scope:

- A. Gather information base
- B. Obtain detailed site survey
- C. Testing (water quality, geotechnical investigations)
- D. Analyze stream water quality issues
- E. Analyze site conditions and runoff
- F. Model storm sewer and daylighting diverter flow dynamics
- G. Develop concepts of pollutant removal and water quality improvements
- H. Design development for application of concepts on site

- I. Permitting requirements dialogue
- J. Develop estimate of probable construction cost
- K. Complete feasibility study report

This proposal has been developed with assistance of one of the potential consultants that could be considered for the work. However, it is anticipated that the work scope may require modification upon reviewing proposals from potential consultants.

### 3. Estimated Water Quality Benefit and Calculations

The water quality benefit at this point must be a qualitative description. **No calculations are available, but are one of the deliverables of the proposed consultant services.**

The daylighting diverter in place takes water from the bottom of the large storm sewer pipe (96") flowing under the stream bed. It is anticipated that this design significantly reduces the sediments from the urban storm sewer collection system reaching the river. In addition, low flow conditions in the large sewer would be completely diverted from reaching the river until after flowing through the park. Combined, these situations provide significant treatment and pollutant removal opportunity.

However, the existing system was not designed with pollutant removal and water quality improvement in mind. It is believed that the designers underestimated the sediment load that would be delivered to the stream, and designed no pre-removal opportunities prior to entering the part of the park where maintenance is difficult. In addition, no assessment of site conditions contributing to the stream and end pond was completed, nor was modification of the pond overflow design suggested.

### 4. Detailed Cost Estimate

A. Information base gathering, site survey	\$12,000
B. Testing	\$ 5,000
C. Analysis of water quality issues, site conditions	\$ 4,000
D. Model sewer and stream flow dynamics	\$ 4,000
E. Develop concepts and design development application	\$10,000
F. Cost estimate, feasibility report, administration	\$10,000
G. <u>Contingency 10%</u>	<u>\$ 5,000</u>
PROJECT TOTAL	\$50,000

### 5. Description for Education and/or Demonstration

The Swede Hollow Park is a unique historic and environmental resource in Saint Paul. While physically one of the few deep valleys outside the Mississippi River gorge, its isolated neighborhood access does not encourage large numbers of visitors. In contrast to the difficulty in pedestrian access, one of the existing trails through the park is the Bruce Vento Trail, connecting the Sam Morgan Regional Trail along the river to the Gateway Regional Trail near Lake Phalen, and bringing large numbers of bicyclists through the park.

Swede Hollow Park is a casual-use park, serving people primarily walking or strolling the paved trails, as well as the cyclists. The wildlife in the park attracts some bird- and nature-watchers. It also has the Hope Elementary School near the north end of the park. The Bruce Vento Trail connects to the East Side Heritage Park just north of the Swede Hollow, which includes water, restrooms, and picnic facilities.

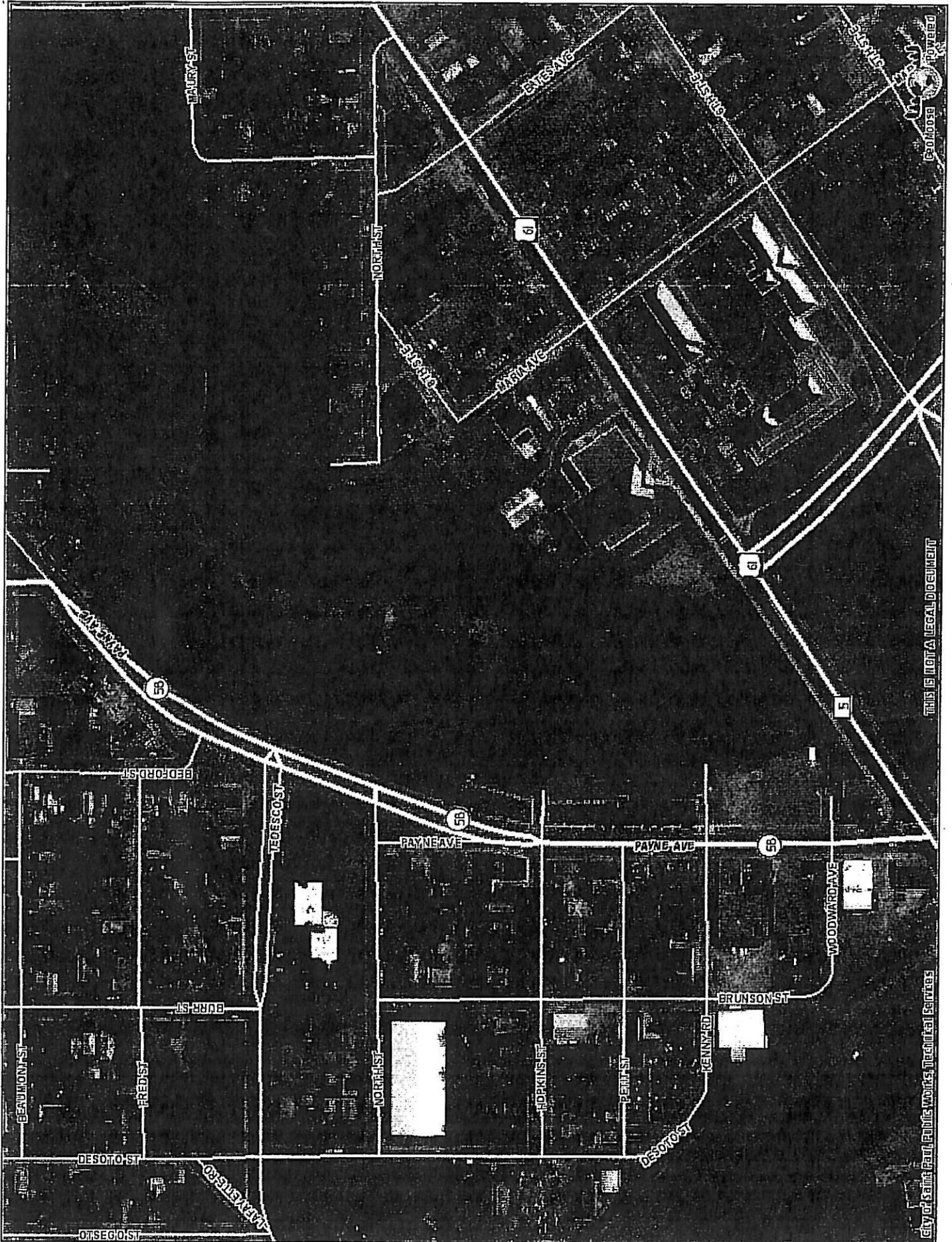
Signage in the East Side Heritage Park identifies the location of Swede Hollow Park. The possibility of interpretive and educational signage within the park is good. As the treatment system within the daylighted stream is improved, the educational opportunity to tell its story can be an important addition to the park.

#### **6. Description of Level of Innovation Associated with the Project**

When this stream diversion was constructed in 1988, it was considered innovative, and received some nationwide attention. However, as it's design was purely for aesthetic intent, no thought was put into the water quality potential of the stream system. It is unknown whether this proposed feasibility study and improvement design will be truly innovative, but will result in work that could become a model for other daylighted stream designs done to fulfill the CRWD goal of "Bringing Water Back to St. Paul".

#### **7. Description of Monitoring and/or Evaluation of Effectiveness**

This proposal requests funds for initial feasibility study and improvement design of a system which will be built when funds become available. The design by this consultant may include some monitoring and reporting requirements by the implementing contractor for a 1-year period, such as monitoring water quality accomplishments. Assuming that the plan is implemented, the system will also be monitored by the City's Environmental Section of the Parks and Recreation Department for establishment of plant communities, removal of invasive species, and maintenance requirements.



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City of Saint Paul, Public Works, Technical Services