

Origination Date: 7-23-05

Revision Dates: 9/3-6/05, 9/8, 9/18, 11-27-05,  
10-14-06, 10-20-22-06, 10-28-06, 10-31-06, 11-06,  
12-06, 1-07, 2-07, 8-07, 3-08, 10-08, 02-10

# CITY OF SUPERIOR



# SUPERIOR

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## **Stormwater Utility Credit Program Technical Manual (AKA Technical Manual)**

Prepared by  
Dan Romans, Environmental Services Administrator for Initial Document  
S.E.H. and City Staff for Technical Review

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## SECTION 1 – GENERAL

### 1.1 PURPOSE

**1.1.1** To explain the methodology for allocating Credits based on the estimated cost of services explained in the Budget Services Program. The Credits calculated in this technical manual are used for the Credit Program Customer Instruction Manual.

### 1.2 INTRODUCTION

- 1.2.1** The Credit Program builds upon several Stormwater Management Programs. For example, the **ERU Program** documents and explains how the Equivalent Runoff Unit (ERU) is calculated. This program uses city assessor data along with field measurements to determine the Impervious Area for an average Single Family Unit (SFU).
- 1.2.2** The **Master Database Program** documents and explains how the database is developed, maintained and used for billing. This program calculates the Impervious Area for each Non-Single Family Unit (NSFU) and then determines the number of ERUs for each of these Customers and finally the cost to the Customer through the Variable and Fixed Fees. The Master Database Program also calculates reductions in the Variable Fee for those Customers who qualify for Credits.
- 1.2.3** The **Budget Services Program** explains how the Stormwater Utility Fixed Fee and Variable Fee relate to actual budget costs and how these costs are allocated between the two fees. Once we know the services and their costs relative to the actual budget, we can determine which of these services are eligible for Credits within the Credit Program.
- 1.2.4** The **Credit Program** is explained in two manuals: the *Stormwater Utility Credit Program Technical Manual (Technical Manual)* and the *Stormwater Utility Credit Program Customer Instruction Manual (Customer Manual)*. The Technical Manual uses calculations from the **Budget Services Program** and groups them into two types of Credits for the Customer Manual. The two types of Credit are the Stormwater Conveyance System (SCS) Credit and the Receiving Water Credit. The Customer Manual is intended to be less technical and more “user-based”. It provides instructions to Customers on how to qualify for the two types of Credit types.

### 1.3 TERMS AND DEFINITIONS

- 1.3.1** Wastewater and Stormwater Utility functions are governed by numerous Programs. Although a Program document may have a definition that applies only within this specific document and nowhere else, such cases are unique. Most Programs use many of the same terms and definitions. In such instances, it is not practical to update all of these Programs each time there is a revision or addition to a definition or term. Therefore, the City has developed the “Environmental Services Division of Public Works Glossary of Terms and Definitions” (Glossary) to be used by all common Wastewater and Stormwater Plans and Programs. This glossary is not intended to replace terms and definitions used in specialized Program documents such as technical manuals or those found in state or federal code. When such reference materials are used, they will include their own particular terms and definitions.
- 1.3.2** Unless specified within the Glossary, or other City Stormwater Utility program documents, definitions shall be those found in City Ordinance and in Wisconsin Department of Natural Resources Administrative Code (NR code) governing Wastewater and Stormwater. If there is a conflict between City ordinance and any City Stormwater Utility program document, the ordinance definition will control. Words not defined with the Glossary, or other City Stormwater Utility program documents, or within City Ordinance, or within NR code shall be construed to have the meaning given by common and ordinary use as defined in the latest edition of Merriam-Webster’s Unabridged Dictionary.
- 1.3.3** Words that are defined in the Glossary may be expressed within Plan, Program and Project documents with a capital first letter of each word. For example, the term “Excess Runoff” is defined within the Glossary. When this term is used within one of the documents noted above, it may be spelled with capital first letters.

## SECTION 2 – VARIABLE FEE SERVICES AND CREDIT TYPES

### 2.1 VARIABLE FEE SERVICES

- 2.1.1** The Variable Fee is assessed to all Customers of the Stormwater Conveyance System (SCS). A NSFU Customer may obtain a Credit for a portion of the Variable Fee. However, a portion of the Variable Fee, called the “Minimum Service Charge”, is not eligible for Credit and cannot be reduced. The Budget Services Program makes a distinction between those services that are part of the Minimum Service Charge and the services that are eligible for Credits. The Variable Fee pays for operation and maintenance, capacity management, water quality management, and capital improvements. Three of these four services qualify for Credits. These three services are described briefly below:
- A.** Operations And Maintenance (O&M) are activities help the utility assure that the SCS is properly operated and maintained through cleaning, repair, and replacement.
  - B.** Capacity Management (Engineering) are engineering activities that help assure that the SCS is properly designed, constructed, and inspected and performing as intended.
  - C.** Water Quality Management includes are activities to manage water quality from Stormwater runoff throughout the Stormwater Conveyance System.
  - D.** Capital Improvements includes construction of SCS infrastructure such as replacement of existing structures or addition of new structures. It does not include the cost of operation and maintenance of the infrastructure.
- 2.1.2** The Budget Services Program calculates the following Variable Fee Services and Percentages:
- A.** Operation And Maintenance
    - 1.** **Administrative Support = 0%** <sup>1</sup>
    - 2.** **SCS = 32.80%**
    - 3.** **Total eligible for Credit Program = 32.80%**
  - B.** Capacity Management
    - 1.** **Treatment = 8.75%**
    - 2.** **Peak Flow = 8.75%**
    - 3.** **Plan Review and Inspection = 8.75%**
    - 4.** **Record Management = 0%** <sup>2</sup>
    - 5.** **Total eligible for Credit Program = 26.25%**
  - C.** Water Quality Management Credit
    - 1.** **Water Quality Management = 0%** <sup>3</sup> or **17.37%** <sup>4</sup>
    - 2.** **Total eligible for Credit Program = 0%**

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<sup>1</sup> This is part of the “Minimum Service Charge” and is not eligible for Credit.

<sup>2</sup> This is part of the “Minimum Service Charge” and is not eligible for Credit.

<sup>3</sup> This is part of the “Minimum Service Charge” for users of the SCS and is not eligible for Credit.

<sup>4</sup> NSFU Customers who do not use the SCS and drain Excess Runoff directly to a Receiving Water may be eligible for a Credit for this service.

**D. Capital Improvements**

**1. Capital Improvement = 9.07%**

**2. Total eligible for Credit Program = 9.07%**

**2.1.3** The Variable Fee Services and Percentages from the Budget Services Program can also be expressed in a table as represented below.

**Table 2.1 Variable Fee Services**

<b>Variable Fee Services</b>						
<b>(Expressed as a Percentage of the Stormwater Variable Fee)</b>						
<b>Operation and Maintenance of the SCS</b>	<b>Capacity Management (Engineering)</b>			<b>Water Quality Management</b>	<b>Capital Improvements</b>	<b>Total</b>
	<b>Plan, Design, Specifications (Treatment)</b>	<b>Plan, Design, Specifications (Peak Flow)</b>	<b>Quality Control (Plan Review and Inspections)</b>			
32.80%	8.75%	8.75%	8.75%	17.37%	9.07%	<b>85.49%</b>

**2.2 CREDIT TYPES**

**2.2.1** In order to establish a Credit Program, there are at least five essential steps:

- A.** Step 1: Define the services provided by the Stormwater Utility.
- B.** Step 2: Determine which services provided by the Utility are eligible for the Credit Program.
- C.** Step 3: Express the services as a percentage of the Stormwater Variable Fee.
- D.** Step 4: Determine which services are eligible for Credit and group the percentages into “Credit Types”. The two general credit types are SCS and Receiving Water.
- E.** Step 5: Create a Customer Manual to explain what a Customer must do in order to receive Credits.

**2.2.2** Steps 1 – 3 were completed in the Budget Services Program. The Credit Program Technical Manual completes Step 4 while the Credit Program Customer Manual completes Step 5. Credit types are determined by industry standards. Most stormwater utilities offer Credits for stormwater treatment and for attenuating (or slowing down) the rate at which runoff enters the Stormwater Conveyance System during major rain events. A second type of Credit (Receiving Water) is also applied to Customers who can properly demonstrate that they are tributary to a designated receiving water and not to any portion of the SCS. The Credit types correspond to the extent with which Excess Runoff needs to be managed by the Stormwater Utility. A detailed listing of Credit types is provided in Table 2.2 below.

**Table 2.2 Credit Types**

Credit Types (Expressed as Stormwater Excess Runoff Drainage)
<b>SCS Credits</b> (Excess Runoff that Drains to the SCS)
Treatment BMP in place
Peak Flow BMP in place
Treatment BMP and Peak Flow BMP in place
<b>Receiving Water Credit</b> (Excess Runoff that Drains Directly to a Receiving Water)

**2.3 CREDIT TABLE**

Once the Variable Fee Services and Credit Types are determined, they can be combined into a common matrix table that allocates detailed Credit percentages as found in Table 2.3.

Excess Runoff that is properly managed by the Customer in accordance with the *City of Superior Stormwater Performance and Technical Standards* is eligible for an “SCS Credit.” The SCS Credit has two components; an “SCS Treatment Credit” for runoff that receives treatment and an “SCS Peak Flow Credit” for runoff that receives peak flow attenuation. Only NSFU Customers that demonstrate they are managing Excess Runoff from their Developed Parcel sufficiently to reduce associated costs to the Stormwater Utility, are eligible for these Credits.

Excess Runoff draining directly to a designated Receiving Waters and never entering any portion of the SCS is eligible for a “Receiving Water Credit.” Only NSFU Customers that demonstrate the Excess Runoff from their Developed Parcel does not drain directly or indirectly to any portion of the SCS are eligible for this Credit. The Excess Runoff must drain directly to Lake Superior or the St. Louis River.

The City recognizes that Customers may have portions of their Developed Parcel draining Excess Runoff to several different locations, depending on the size and topography of their property. A portion may drain into a BMP in accordance with the *City of Superior Stormwater Performance and Technical Standards*; another portion may drain directly into Receiving Waters; and another directly into the SCS with no treatment. Therefore, a Customer may apply for more than one credit for their Developed Parcel if the required conditions are met. It is the Customer's responsibility to clearly delineate the flow direction of Excess Runoff to each location and to identify which credits are applicable. For each drainage site or location Customers can qualify an SCS Credit or a Receiving Water Credit, but not both.

### **2.3.1** Definitions for Credit Types

#### **A.** SCS Treatment Credit

A Credit of 29.51% of the Variable Fee is available for NSFU Customer Developed Parcels that have approved structural BMPs in place to treat Excess Runoff. This Credit includes allocations from both O&M and Capacity Management according to Table 2.3. The Customer must maintain the BMP as required in the City Stormwater Technical Standards in order to retain the Credit.

#### **B.** SCS Peak Flow Credit

A Credit of 29.51% of the Variable Fee is available for NSFU Customer Developed Parcels that have approved structural BMPs in place to attenuate peak flow from Excess Runoff. This Credit includes allocations from both O&M and Capacity Management according to Table 2.3. The Customer must maintain the BMP as required in the City Stormwater Technical Standards in order to retain the Credit.

#### **C.** Receiving Water Credit

A Credit of 85.49% of the Variable Fee is available for NSFU Customer Developed Parcels where the Excess Runoff drains directly into Receiving Waters and does not drain to any portion of the SCS. The customer must provide documentation verifying this condition. This Credit combines the Treatment Credit and the Peak Flow Credit with an additional 9.07% for Capital Improvements and 17.37% for Water Quality Management. The Receiving Water Credit is entirely based on the fact that a Customer not using the SCS is not subject to service charges assessed for the management of the SCS. A Customer whose Excess Runoff does not drain to the SCS may receive this Credit percentage regardless of whether they are managing the runoff.

**Table 2.3 Credit Table**

<b>Variable Fee Services</b> (Expressed as a Percentage of the Stormwater Variable Fee)							
<b>Credit Types</b> (Expressed as Stormwater Excess Runoff Drainage)	Operation and Maintenance of the SCS	Capacity Management (Engineering)			Water Quality Management	Capital Improvements	Total Available Credit
		Plan, Design, Specifications (Treatment)	Plan, Design, Specifications (Peak Flow)	Quality Control (Plan Review and Inspections)			
<b>SCS Credits</b> (Excess Runoff that Drains to the SCS)							
Treatment BMP in place <sup>5</sup>	16.40%	4.37%	4.37%	4.37%	0.00%	0.00%	<b>29.51%</b>
Peak Flow BMP in place <sup>6</sup>	16.40%	4.37%	4.37%	4.37%	0.00%	0.00%	<b>29.51%</b>
Treatment BMP and Peak Flow BMP in place	32.80%	8.75%	8.75%	8.75%	0.00%	0.00%	<b>59.05%</b>
<b>Receiving Water Credit</b> (Excess Runoff that Drains Directly to Receiving Waters) <sup>7</sup>	32.80%	8.75%	8.75%	8.75%	17.37%	9.07%	<b>85.49%</b>

<sup>5</sup> This Credit only applies when it can be demonstrated that both Peak Flow and Treatment BMPs are not a feasible alternative.

<sup>6</sup> This Credit only applies when it can be demonstrated that both Peak Flow and Treatment BMPs are not a feasible alternative.

<sup>7</sup> This Credit only applies to Excess Runoff from the Developed Parcel that does not drain directly or indirectly to any portion of the SCS.

## 2.4 CUSTOMER MANUAL CREDIT TABLE

The Credit Table (Table 2.3) for the Technical Manual shows the relationship between the Variable Fee Services and the Credit Types. It is more detailed than the one to be used in the Customer Manual. Details of the calculations for each Credit are vital for City staff in order to document the theory and process by which Credits are derived. This level of detail is not necessary in the Customer Manual and could add confusion for the Customer. Therefore, the Simplified Credit Table (Table 2.4) shows a consolidated listing of the Credit Types including the “Calculated Credit Values” and the “Round Credit Values”. The “Rounded Credit Values” allows for consistency to a hundredth of a percent when summing Treatment Credits and Peak Flow Credits or when counting them separately. The “Customer Credit Table” (Table 2.5) retains the accuracy of Table 2.4 but further simplifies and consolidates the Credit Types into a straightforward format that can be used in the Customer Manual.

**Table 2.4 Simplified Credit Table**

Credit Types	Calculated Credit Values	Rounded Credit Values
<b>SCS Credits</b>		
Treatment	<b>29.51%</b>	<b>29.51%</b>
Peak Flow	<b>29.51%</b>	<b>29.51%</b>
Treatment and Peak Flow	<b>59.05%</b>	<b>59.02%</b>
<b>Receiving Water Credit</b>	<b>85.49%</b>	<b>85.49%</b>

**Table 2.5 Customer Credit Table**

Credit Types	Reduction in Variable Charge
<b>SCS (Both treatment and peak flow)</b>	<b>59.02%</b>
Treatment only (½ x 59.02%)	<b>29.51%</b>
Peak Flow only (½ x 59.02%)	<b>29.51%</b>
<b>Receiving Water</b>	<b>85.49%</b>