Seattle Public Utilities

Director's Rule

Title		Number	Rev. no.
Stormwater Facility Credit Calculator		DWW-260.2	((1)) 2
Responsibility		**Supersedes**	**Pages**
((Finance Division)) Drainage and Wastewater Line of Business		N/A	2
General Manager/CEO Signature	**Approval Date**	**Effective Date**	

1.   PURPOSE

To improve the equity of drainage charges, Seattle Public Utilities (SPU) has developed a Stormwater Facility Credit Program. This program provides credits on drainage bills to customers who have installed approved stormwater management facilities that mitigate the impact on the City's drainage system of stormwater runoff from their property. Approved stormwater management facilities must meet applicable technical design requirements described in the City's Stormwater Code ("Stormwater Code") SMC 22.800.

((A new)) The revised Stormwater Code became effective on ((January 1, 2016)) July 1, 2021, per Ordinance ((124872)) 126336. The General Manager/CEO of SPU has established the ((2016)) 2021 Stormwater Facility Credit calculator ("((2016)) 2021 SFC Calculator") that reflects the updated performance goals of the City's Stormwater Code, as established per Ordinance ((124872)) 126336. ((In addition, the basis of flow control facility performance was improved using hydrologic modeling to reduce the reliance on professional judgement, which was used more extensively in previous version of the calculator.)) The ((2016)) 2021 SFC Calculator applies to facilities built according to ((2016)) 2021 code requirements.

The General Manager/CEO has also maintained ((two)) the three preceding calculators which reflect the performance goals of the prior City Stormwater Codes. The 2016 SFC Calculator ("2016 SFC Calculator") applies to facilities constructed according to 2016 code requirements. The 2009 SFC Calculator ("2009 SFC Calculator") applies to facilities constructed according to 2009 code requirements. The 2000 SFC Calculator ("2000 SFC Calculator") applies to facilities constructed according to 2000 code requirements.

2.   RULE

SPU has developed a "credit calculator" that is the formula used to calculate the percentage credit for each eligible parcel that has applied for such a credit on its drainage bill. The output of the credit calculator is a percentage credit, which may not exceed a maximum percentage, as specified in SMC 21.33.040. Credits are rounded to the nearest whole percentage, with no credit offered to calculated credits that round to less than 1 percent. The credit is then applied as a percentage discount to the customer's annual drainage bill for the parcel.

This credit calculator assigns a uniform percentage credit for each type of approved stormwater management facility, based on a weighting of the stormwater performance goals the facility

satisfies and that are applicable to the appropriate drainage discharge point for that parcel. The credit calculator then considers information specific to the parcel, which is entered into the calculator by SPU, such as the percentage of the parcel's impervious surface managed by the approved facility and the parcel's drainage rate category assignment.

The 2021, 2016, 2009 and 2000 SFC Calculators include "Rate Tier Multipliers" which reflect the percentage of the drainage bill associated with runoff from impervious surface, with such multipliers used in the calculation of the final stormwater facility credit applied to a parcel's drainage bill. The Rate Tier Multipliers vary by rate tier.

A list of all facilities that qualify as "approved stormwater management facilities" under this program is found in Table 1 (2000 SFC Calculator), Table 2 (2009 SFC Calculator), ((and))Table 3 (2016 SFC Calculator), Table 4 (2021 SFC Calculator) of Attachment A to this Director's Rule.

3.   REFERENCES

- SMC 21.33.040, Stormwater Facility Credit Program
- SMC 22.800, Stormwater Code
- Ordinance ((124872)) 126336, amending Stormwater Code provisions

4.   ATTACHMENTS

- Attachment A - Table 1, Stormwater Facility Credit Program Credit Percentage Calculation: For facilities built according to 2000 and previous code requirements
- Attachment A -Table 2, Stormwater Facility Credit Program Credit Calculator: For facilities built according to 2009 code requirements
- Attachment A -Table 3, Stormwater Facility Credit Program Credit Calculator: For facilities built according to 2016 code requirements
- Attachment A -Table 4, Stormwater Facility Credit Program Credit Calculator: For facilities built according to 2021 code requirements

2021 Stormwater Facility Credit Program (SFCP) Credit Calculator: For Facilities Built According to 2021 Seattle Code Requirements

Version: 07-23-21

Drainage Rate Tier:					Performance Factors				Facility Credit	
% Hard Surface Area Managed (see note 1)	WQ/FC Classification	Stormwater Facility Type			TSS Reduction	Runoff Volume Reduction	2-yr Peak Flow & Duration Reduction	25-yr Peak Flow Reduction	Weighted Performance Factor (see note 2)	Facility Credit (see note 3)	Adjusted Facility Credit (see note 4)
								Facility Credit Scaling Factor=		50%	
Water Quality (WQ) (see note 12)											
Design Standard: Treatment of the water quality design storm volume or flow rate											
Basin types: Basins requiring basic, enhanced, or phosphorus treatment			Weighting Factor=		60%	40%	0%	0%			
0%	WQ- Level 1	• Non-infiltrating bioretention • Biofiltration swale (basic, wet, continuous inflow, or compost amended) • Filter strip (basic or compost amended) • Media filter drain	• Basic or large sand filter basin • Sand filter vault • Linear sand filter • Wet pond • Wet vault	• Stormwater treatment wetland • Detention/wet pond • Detention/wet vault • Detention/stormwater wetland • Proprietary BMPs	81%	20%	NA	NA	57%	29%	0%
0%	WQ- Level 2	• Infiltration trench • Infiltrating bioretention • Permeable pavement facility	• Permeable pavement surface • Infiltration basin • Infiltration chamber	• Splashblock, trench, sheet flow, or concentrated flow dispersion meeting basic filter strip requirements	94%	94%	NA	NA	94%	47%	0%
Flow Control #1 (FC#1) - On-site Stormwater Management											
Design Standard: On-site Performance Standard or On-site List Approach											
Basin types: All			Weighting Factor=		15%	35%	40%	10%			
0%	FC#1- Level 1	• Single-family residential cistern • Perforated stub-out connection			13%	10%	11%	27%	13%	7%	0%
0%	FC#1- Level 2	• Vegetated roof • Non-infiltrating bioretention	• Rainwater harvesting (Runoff Volume Reduction of 25% or more, On-site List Category 4)		36%	15%	27%	41%	26%	13%	0%
0%	FC#1- Level 3	• Trench downspout dispersion • Sheet flow dispersion	• Concentrated flow dispersion • Splashblock downspout dispersion		91%	55%	86%	77%	75%	38%	0%
0%	FC#1- Level 4 (see note 13)	• Rain garden • Infiltrating bioretention	• Permeable pavement facility • Permeable pavement surface	• Rainwater harvesting (On-site Performance Standard, On-site List Category 2)	95%	90%	83%	27%	82%	41%	0%
0%	FC#1- Level 5	• Full dispersion • Infiltration trench	• Drywell		98%	93%	89%	51%	88%	44%	0%
Flow Control #2A (FC#2A) - Wetland Protection Method 1: Monitoring and Wetland Stage Modeling											
Design Standard: Comply with I-C.4, Wetland Hydroperiod Protection, presented in Appendix I-C of Ecology's Stormwater Management Manual for Western Washington (Ecology 2019)											
Basin types: Wetlands			Weighting Factor=		15%	30%	30%	25%			
0%	FC#2A- Level 1	• Vegetated roofs • Detention cistern • Detention vault	• Detention pipe • Detention pond (with impermeable liner)	• Detention/ wet pond • Detention/ wet vault • Detention/ stormwater wetland	55%	3%	46%	93%	46%	23%	0%
0%	FC#2A- Level 2	• Sheet flow dispersion • Concentrated flow dispersion	• Splashblock downspout dispersion • Trench downspout dispersion	• Permeable pavement facility • Permeable pavement surface	93%	81%	87%	37%	74%	37%	0%
0%	FC#2A- Level 3	• Infiltrating bioretention • Full dispersion • Infiltration trench	• Drywell • Infiltration chamber	• Infiltration basin • Rainwater harvesting	100%	100%	97%	75%	93%	47%	0%
Flow Control #2B (FC#2B) - Wetland Protection Method 2: Site Discharge Modeling											
Design Standard: Total runoff volume within 20 percent of the pre-project volume during a single event and within 15 percent on a monthly basis											
Basin types: Wetlands			Weighting Factor=		15%	30%	30%	25%			
0%	FC#2B- Level 1	• Vegetated roofs • Detention cistern • Detention vault	• Detention pipe • Detention pond (with impermeable liner)	• Detention/ wet pond • Detention/ wet vault • Detention/ stormwater wetland	55%	0%	57%	82%	46%	23%	0%
0%	FC#2B- Level 2	• Sheet flow dispersion • Concentrated flow dispersion	• Splashblock downspout dispersion • Trench downspout dispersion	• Permeable pavement facility • Permeable pavement surface	96%	84%	89%	38%	76%	38%	0%
0%	FC#2B- Level 3	• Infiltrating bioretention • Full dispersion • Infiltration trench	• Drywell • Infiltration chamber	• Infiltration basin • Rainwater harvesting	99%	99%	96%	61%	89%	45%	0%
Flow Control #3 (FC#3) - Pre-developed Forested											
Design Standard: Match half 2-year to 50-year flow duration to forested condition											
Basin types: Creek basins			Weighting Factor=		15%	30%	30%	25%			
0%	FC#3- Level 1	• Vegetated roofs • Detention cistern • Detention vault	• Detention pipe • Detention pond (with impermeable liner)	• Detention/ wet pond • Detention/ wet vault • Detention/ stormwater wetland	55%	3%	46%	93%	46%	23%	0%
0%	FC#3- Level 2	• Sheet flow dispersion • Concentrated flow dispersion	• Splashblock downspout dispersion • Trench downspout dispersion	• Permeable pavement facility • Permeable pavement surface	93%	81%	87%	37%	74%	37%	0%
0%	FC#3- Level 3	• Infiltrating bioretention • Full dispersion • Infiltration trench	• Drywell • Infiltration chamber	• Infiltration basin • Rainwater harvesting	100%	100%	97%	75%	93%	47%	0%
Flow Control #4 (FC#4) - Pre-developed Pasture											
Design Standard: Match half 2-year to 2-year flow duration to pasture condition											
Basin types: Creek basins			Weighting Factor=		15%	30%	30%	25%			
0%	FC#4- Level 1	• Vegetated roofs • Detention cistern • Detention vault	• Detention pipe • Detention pond (with impermeable liner)	• Detention/ wet pond • Detention/ wet vault • Detention/ stormwater wetland	55%	0%	57%	82%	46%	23%	0%
0%	FC#4- Level 2	• Sheet flow dispersion • Concentrated flow dispersion	• Splashblock downspout dispersion • Trench downspout dispersion	• Permeable pavement facility • Permeable pavement surface	96%	84%	89%	38%	76%	38%	0%
0%	FC#4- Level 3	• Infiltrating bioretention • Full dispersion • Infiltration trench	• Drywell • Infiltration chamber	• Infiltration basin • Rainwater harvesting	99%	99%	96%	61%	89%	45%	0%

Drainage Rate Tier:									Performance Factors				Facility Credit	
% Hard Surface Area Managed (see note 1)	WQ/FC Classification	Stormwater Facility Type				TSS Reduction	Runoff Volume Reduction	2-yr Peak Flow & Duration Reduction	25-yr Peak Flow Reduction	Weighted Performance Factor (see note 2)		Facility Credit (see note 3)	Adjusted Facility Credit (see note 4)	
										Facility Credit Scaling Factor=		50%		

Flow Control #5 (FC#5) - Peak Control
Design Standard: 2- and 25-year peak control
Basin types: Public combined sewer, capacity-constrained, small lakes

% Hard Surface Area Managed	WQ/FC Classification	Stormwater Facility Type			Weighting=	TSS Reduction 0%	Runoff Volume Reduction 25%	2-yr Peak Flow & Duration Reduction 40%	25-yr Peak Flow Reduction 35%	Weighted Performance Factor	Facility Credit	Adjusted Facility Credit
0%	FC#5- Level 1	• Detention cistern • Detention vault • Detention pipe	• Detention pond (with impermeable liner) • Detention/ wet pond • Detention/ wet vault	• Detention/ stormwater wetland • Vegetated roofs		NA	3%	94%	92%	71%	36%	0%
0%	FC#5- Level 2	• Sheet flow dispersion • Concentrated flow dispersion	• Splashblock downspout dispersion • Trench downspout dispersion	• Permeable pavement facility • Permeable pavement surface		NA	85%	85%	59%	76%	38%	0%
0%	FC#5- Level 3	• Infiltrating bioretention • Full dispersion • Infiltration trench	• Drywell • Infiltration chamber	• Infiltration basin • Rainwater harvesting		NA	99%	100%	89%	96%	48%	0%
									Total Adjusted Facility Credit			0.0%

Final Parcel Credit Calculation	
Total Facility Credit	0%
Drainage Rate Tier Multiplier (see note 5)	0%
Final Parcel Credit (see note 6)	**0%**

Drainage Rate Category		% Impervious or Parcel Area	Drainage Rate Tier	Drainage Rate Tier Multiplier (see note 5)
General Service/Large Residential	Undeveloped-Regular	0-15%	G1	30%
	Undeveloped-Low Impact	0-15%	G1L	23%
	Light-Regular	16-35%	G2	63%
	Light-Low Impact	16-35%	G2L	62%
	Moderate-Regular	36-65%	G3	83%
	Moderate-Low Impact	36-65%	G3L	79%
	Heavy	66-85%	G4	93%
	Very Heavy	86-100%	G5	99%
Small Residential		<2,000 sq ft	R1a	85%
		2,000-2,999 sq ft	R1b	84%
		3,000-4,999 sq ft	R2	79%
		5,000-6,999 sq ft	R3	78%
		7,000-9,999 sq ft	R4	74%

Notes:

1) For the water quality standard, enter PGHS treated as a percent of the total hard surface area. For the flow control standard(s), enter hard surface area managed as a percent of the total hard surface area.

2) The "Weighted Performance Factor" is the weighted average of the performance factors for a given facility and performance standard. "Weighting Factors" assign greater or lesser weight to each performance factor relative to the environmental priorities for the type of basin in which the project is located.

3) The "Facility Credit" is the "Weighted Performance Factor" multiplied by the Facility Credit Scaling Factor of 50%.

4) The "Adjusted Facility Credit" is the "Facility Credit" multiplied by the "% Hard Surface Managed" by the facility.

5) The "Drainage Rate Tier Multiplier" is the percentage of the customer's bill attributable to hard surface area runoff. Credit is only offered for runoff managed which originates on hard surface.

6) The "Final Parcel Credit" is the "Drainage Rate Tier Multiplier" multiplied by the sum of a property's "Adjusted Facility Credits" (i.e., the "Total Adjusted Facility Credit"). The final parcel credit is capped at 50%. The "Final Parcel Credit" is the credit percentage applied to the customer bill.

7) Fractional credits are not offered - no credit will be offered for credits that are calculated to round to less than 1%.

8) Applicable standards will depend on project type, size, and drainage basin (see Volume 1, Chapters 4 and 5).

9) TSS is used as an indicator of water quality treatment; Volume is used as an indicator of volume reduction via infiltration or reuse.

10) If multiple flow control standards apply to a project, the largest applicable credit is applied (e.g., if an area is mitigated for FC#1, FC#4 and FC#5, enter the % hard surface managed under the flow control standard that provides the highest credit for the facility used).

11) If both flow control and water quality standards apply to a project, credit will be given for both (e.g., if an area meets both treatment and flow control standards, enter the % hard surface managed under both the water quality and flow control standards - the resulting "% Hard Surface Managed" may exceed 100%).

12) Landscape Management Plan areas do not receive Water Quality treatment credit because no stormwater facility is installed.

13) Sidewalk/Trail Compost-Amended Strip does not receive On-site Stormwater Management credit because it is not a facility and is equivalent to soil amendment required for all projects.

Color Key:

20%	Customer/applicant data entry (Drainage Rate Tier and % impervious or PGHS area managed).
10%	Stormwater Facility Credit
Tier/%	Lookup Table to convert impervious area impacts of facility to composite Rate Credit Percentage.
15%	Rate Credit that will appear on and modify bills, reflecting stormwater facilities and Rate Tier.