

Methodology Report

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# Stormwater System Development Charges

Prepared For  
City of Springfield



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# Introduction

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Oregon legislation establishes guidelines for the calculation of system development charges (SDCs). Within these guidelines, local governments have some latitude in selecting technical approaches and establishing policies related to the development and administration of SDCs. A discussion of this legislation follows, along with the recommended methodology for calculating stormwater SDCs for the City of Springfield (the City), in accordance with state law.

## SDC Legislation in Oregon

In the 1989 Oregon state legislative session, a bill was passed that created a uniform framework for the imposition of SDCs statewide. This legislation (Oregon Revised Statute [ORS] 223.297-223.314), which became effective on July 1, 1991, (with subsequent amendments), authorizes local governments to assess SDCs for the following types of capital improvements:

- Drainage and flood control
- Water supply, treatment, and distribution
- Wastewater collection, transmission, treatment, and disposal
- Transportation
- Parks and recreation

The legislation provides guidelines on the calculation and modification of SDCs, accounting requirements to track SDC revenues, and the adoption of administrative review procedures.

## SDC Structure

SDCs can be developed around two concepts: (1) a reimbursement fee, and (2) an improvement fee, or a combination of the two. The **reimbursement fee** is based on the costs of capital improvements *already constructed or under construction*. The legislation requires the reimbursement fee to be established or modified by an ordinance or resolution setting forth the methodology used to calculate the charge. This methodology must consider the cost of existing facilities, prior contributions by existing users, gifts or grants from federal or state government or private persons, the value of unused capacity available for future system users, rate-making principles employed to finance the capital improvements, and other relevant factors. The objective of the methodology must be that future system users contribute no more than an equitable share of the capital costs of *existing* facilities. Reimbursement fee revenues are restricted only to capital expenditures for the specific system which they are assessed, including debt service.

The methodology for establishing or modifying an **improvement fee** must be specified in an ordinance or resolution that demonstrates consideration of the *projected costs of capital improvements identified in an adopted plan and list*, that are needed to increase capacity in the system to meet the demands of new development. Revenues generated through improvement fees are dedicated to capacity-increasing capital improvements or the repayment of

debt on such improvements. An increase in capacity is established if an improvement increases the level of service provided by existing facilities or provides new facilities.

In many systems, growth needs will be met through a combination of existing available capacity and future capacity-enhancing improvements. Therefore, the law provides for a **combined fee** (reimbursement plus improvement component). However, when such a fee is developed, the methodology must demonstrate that the charge is not based on providing the same system capacity.

## **Credits**

The legislation requires that a credit be provided against the improvement fee for the construction of “qualified public improvements.” Qualified public improvements are improvements that are required as a condition of development approval, identified in the system’s capital improvement program, and either (1) not located on or contiguous to the property being developed, or (2) located in whole or in part, on or contiguous to, property that is the subject of development approval and required to be built larger or with greater capacity than is necessary for the particular development project to which the improvement fee is related.

## **Update and Review**

The methodology for establishing or modifying improvement or reimbursement fees shall be available for public inspection. The local government must maintain a list of persons who have made a written request for notification prior to the adoption or amendment of such fees. Periodic application of an adopted specific cost index or modification to any of the factors related to the rate that are incorporated in the established methodology are not considered “modifications” to the SDC. As such, the local government is not required to adhere to the notification provisions. Adjustments to the SDC rate, which do not constitute a change in the methodology, are as follows:

- “Factors related to the rate” are limited to changes to costs in materials, labor, or real property as applied to projects in the required project list.
- The cost index must consider average change in costs in materials, labor, or real property and must be an index published for purposes other than SDC rate setting.

The notification requirements for changes to the fees that *do* represent a modification to the methodology are 90-day written notice prior to first public hearing, with the SDC methodology available for review 60 days prior to public hearing.

## **Other Provisions**

Other provisions of the legislation require:

- Preparation of a capital improvement program or comparable plan (prior to the establishment of a SDC), that includes a list of the improvements that the jurisdiction intends to fund with improvement fee revenues and the estimated timing, cost, and eligible portion of each improvement. The list may be updated at any time. However, the City must comply with specific notification requirements (30 day notice) if the SDC is to be increased based on the revised project list.

- Deposit of SDC revenues into dedicated accounts and annual accounting of revenues and expenditures, including a list of the amount spent on each project funded, in whole or in part, by SDC revenues.
- Creation of an administrative appeals procedure, in accordance with the legislation, whereby a citizen or other interested party may challenge an expenditure of SDC revenues.

The provisions of the legislation are invalidated if they are construed to impair the local government's bond obligations or the ability of the local government to issue new bonds or other financing.

# Stormwater SDC Methodology

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The proposed SDC methodology is based on a combined reimbursement and improvement structure, and consists of the following elements:

- Determine capacity needs
- Develop cost basis
- Develop SDC schedule

Each element of the methodology is discussed below.

## Determine Capacity Needs

The amount of impervious surface area is the most common method of measuring the volume of runoff, or demand, placed on a stormwater system by its users. Impervious areas are hard surfaces including (but not limited to) rooftops, driveways, walkways, parking lots, and concrete surface or asphalt paving that cause more runoff from an area than existed prior to the development. The greater the amount of impervious area on a lot, the greater the amount of runoff generated from that lot. While a number of other factors can influence the amount of runoff, the amount of impervious surface area is generally considered the primary determinant of the volume of runoff and the primary cause of any increase in the rate of runoff. For this reason, impervious area is the most common and equitable billing method used in communities around the country for charging for stormwater service and SDCs. The City currently uses the impervious area method for determining both stormwater SDCs and monthly stormwater user fees.

Unlike water or wastewater systems, where the capacity is measured in millions of gallons per day, the capacity of the stormwater system is designed to accommodate a desired level of service, which is defined in terms of the size and frequency of the storm. The City's stormwater system is designed so that, at build-out, it can contain a 25-year frequency storm for the larger elements of the system. The objective is to limit localized flooding of the street surfaces during a 25-year storm, such that the transportation system will remain passable during a major storm in the area.

The 2008 Stormwater Facilities Master Plan (URS, 2008) is the source of information related to future capacity needs and improvements. Based on future population growth and land use conditions, the impervious area estimates contained in the Master Plan for existing and future conditions yield 3,395.2 and 3,887.7 acres, respectively; therefore, growth in the system represents 492.5 acres of impervious area (12.7 percent of future system impervious area).

## Develop Cost Basis

The reimbursement fee is intended to recover the costs associated with the available capacity in the existing system that will serve new development; the improvement fee is based on the costs of capacity-increasing future improvements needed to meet the

requirements of growth. The value of capacity needed to serve growth in aggregate within the planning period, adjusted for assessments and other contributions, is referred to as the “cost basis”.

## **Reimbursement Fee Cost Basis**

### **System Valuation**

The reimbursement fee calculation is based on the depreciated replacement cost of the existing system facilities. Estimating the depreciated replacement value begins with itemization of the existing system facilities, which for stormwater includes: pipes and appurtenances, open channels, and ponds. The City’s Geographic Information System (GIS) is used to identify the quantity of each facility in the system.

Current construction unit costs, adjusted for engineering, legal, and contingencies are then applied to each component of the asset inventory to determine the estimated replacement cost of the system. The City does not have precise records of how each existing pipe in the public system was actually paid for, particularly since a significant amount of the existing system was constructed as part of the street construction projects. Further, several of the existing open channels were originally constructed as irrigation canals by other agencies, and then turned over to the City to use as drainage ways as the City was urbanized. Detailed asset data is available dating back to 1990; therefore, the percent of contributed assets represented by system construction from 1990 through the current year serves as the basis for discounting the cost basis.

The final step in the reimbursement valuation process is adjustment of the replacement value to reflect accumulated depreciation of the assets in the system. The City’s fixed asset records are used to estimate the accumulated depreciation percent, which is then deducted from the replacement cost.

### **Financing Adjustments**

The City has used not used debt previously to finance stormwater facilities specifically. However, in the future, any outstanding debt principal that accrues to the stormwater system will be deducted from the existing system value, as it does not represent current equity in the system. In addition, any historical financing costs associated with the stormwater system will be added to the system value, for purposes of developing the reimbursement fee.

### **Available Capacity Determination**

The existing system facilities – in conjunction with the planned improvements (which include upgrades to the existing system to address deficiencies and extend the system) will provide the needed capacity to serve existing and future development within the planning period. Therefore, the existing system costs (less any facilities planned for replacement) are apportioned to existing and future system users, based on the relative contribution to the future system capacity requirements, as estimated by impervious area. Based on the Master Plan, future growth is responsible for 12.7 percent of future impervious area, and is therefore allocated 12.7 percent of existing facility costs.

## **Improvement Fee Cost Basis**

### **Cost Allocations**

Each improvement in the Master Plan is reviewed to determine the portion of costs that expand capacity specifically for growth. The Master Plan identifies three types of projects:

1. Water quality
2. Drainage studies
3. Flood control

The City manages water quality and conducts planning on a system-wide basis. Therefore, water quality and drainage study costs are allocated between existing and future development in proportion to future city-wide impervious area. Based on the Master Plan, future growth is responsible for 12.7 percent of future impervious area city-wide, and is therefore allocated 12.7 percent of existing facility costs. Flood control projects are allocated in proportion to the basin-specific impervious area in which the project is located.

The City also has a limited number of ongoing stormwater capital projects, including aerial mapping and master planning, and other development related improvements. Planning and mapping projects providing general system benefits are allocated in proportion to future impervious area. Development related projects are allocated 100 percent to growth.

### **Financing Adjustments**

The City will likely use future debt to finance a portion of the planned improvements. At the time that financing costs are known for individual projects, the City will update the project list and incorporate financing costs into the overall costs of the improvements. At that time, the cost basis and SDCs will be updated.

## **Develop SDC Schedule**

### **SDC Schedule**

System-wide unit costs of capacity are determined by dividing the reimbursement fee and improvement fee cost bases, by the aggregate growth-related capacity requirements stated in impervious acres and square feet. The SDC is then scaled up or down for each development, based on the specific amount of impervious area.

### **Credits**

SDC's are only charged for impervious surface, so reducing impervious surface on a site reduces the overall SDC charged. Additionally, SDCs will be reduced for a reduction in the stormwater SDC for drywells or other retention systems under the following scenarios:

- A 50% stormwater SDC reduction for residential impervious area served by a drywell
- A credit proportional to the peak 10-year runoff reduction will be given for nonresidential retention systems, based on supporting documentation from the developer.

Table 1					
Reimbursement Fee Cost Basis					
Pipe Size (in)	Length (ft)	Improvement Projects Length (ft)	\$ per LF	Updated Cost	Total Value
4	798		\$110.44	\$115.01	\$91,821
6	8,259		\$110.44	\$115.01	\$949,877
8	91,769		\$110.44	\$115.01	\$10,554,528
10	143,708		\$110.44	\$115.01	\$16,528,160
12	195,516		\$110.44	\$115.01	\$22,486,683
14	140		\$110.44	\$115.01	\$16,131
15	78,761		\$110.44	\$115.01	\$9,058,502
18	88,772		\$110.44	\$115.01	\$10,209,839
20	272		\$122.26	\$127.32	\$34,689
21	22,610		\$128.17	\$133.48	\$3,017,920
24	81,749	6,649	\$145.90	\$151.94	\$11,410,660
27	15,639	90	\$173.65	\$180.84	\$2,811,832
30	38,264	2,757	\$201.42	\$209.76	\$7,447,940
32	81		\$217.00	\$225.98	\$18,404
33	3,037		\$224.79	\$234.10	\$710,938
36	46,125	22,715	\$248.13	\$258.40	\$6,049,093
42	35,426	250	\$289.08	\$301.05	\$10,589,605
48	27,818		\$338.26	\$352.26	\$9,799,151
50	1,481		\$357.48	\$372.28	\$551,441
54	9,678		\$395.92	\$412.31	\$3,990,150
60	9,487	174	\$450.39	\$469.04	\$4,368,038
65	984		\$540.73	\$563.12	\$554,190
66	778		\$540.73	\$563.12	\$437,906
72	4,027	188	\$582.78	\$606.91	\$2,329,911
78	1,022		\$612.10	\$637.44	\$651,150
84	31		\$758.72	\$790.13	\$24,462
96	1,167		\$915.74	\$953.65	\$1,112,644
120	693		\$1,267.58	\$1,320.06	\$914,725
Total Pipe Length	908,090				
Total Pipe Value					\$136,720,392
Ditch/Canal	129,565	18,134	350	364.49	\$40,615,504
Total Drainage Network System Value					\$177,335,896
City Owned Detention Ponds					
Filbert Meadows Pond/Swale					\$22,630
Corporate Way Pond					\$786,470
Jasper Pond					\$427,119
Total Detention Pond Value					\$1,236,219
Total City Owned Stormwater System Value					\$178,572,115
Less Contributed					(\$126,786,202)
Included Asset Value					\$51,785,913
Less Depreciation					(\$13,671,052)
<b>Reimbursement Fee Cost Basis</b>					<b>\$38,114,862</b>

Table 2  
 Combined SDC

	<b>Reimbursement</b>	<b>Improvement</b>	<b>Total</b>
Cost Basis	\$38,114,862	\$6,717,026	\$44,831,887
Capacity (Imp Acres)	3,888	492	
Unit Cost (\$/Acre)	\$9,804	\$13,640	\$23,444
Unit Cost (\$/Sq Ft)	\$0.2251	\$0.3131	\$0.5382
<b>Current Fee (\$/Sq Ft)</b>			\$0.3570
<i>Percent Increase</i>			51%