

ORDINANCE NO. 626

AN ORDINANCE OF THE CITY OF DAYTON, OREGON, ADOPTING A SYSTEMS DEVELOPMENT CHARGE METHODOLOGY, FEE SCHEDULE AND RELATED MUNICIPAL CODE AMENDMENTS.

WHEREAS, the City of Dayton imposes a Systems Development Charge (SDC) on certain development in the City pursuant to ORS 223.297 to 223.314; and

WHEREAS, the Dayton City Council last updated the City's SDC methodology and SDC rate schedule in 1998 pursuant to Resolution 97/98-18; and

WHEREAS, the City recently commissioned a study of the City's current sewer and water facilities and the need for improvements to these systems, including cost estimates, to accommodate current and future demand; and

WHEREAS, the resulting Methodology Reports by Galardi Rothstein Group are attached to this Ordinance as Exhibit A (Wastewater System Development Charges) and Exhibit B (Water System Development Charges); and

WHEREAS, the Methodology Reports demonstrate a need to increase the City water and sewer SDC's as shown in the City of Dayton System Development Charge Schedule attached to this Ordinance as Exhibit C-1 and Exhibit C-2; and

WHEREAS, ORS 223.304 allows an increase in SDC amounts according to a specific cost index described in the Methodology Reports; and

WHEREAS, the City's SDC regulations are codified in the Dayton Municipal Code, Sections 6.2 and 6.3; and

WHEREAS, ORS 223.304, which allows a credit against a developer's SDC obligation for certain improvements, was amended to allow credit for certain on-site improvements after Section 6.2 and 6.3 were last updated;

NOW THEREFORE, THE CITY OF DAYTON ORDAINS AS FOLLOWS:

Section 1. Methodology reports approved.

The Galardi Methodology Report for Wastewater System Development Charges attached as Exhibit A, and for Water System Development Charges attached as Exhibit B are approved.

Section 2. System Development Charge Schedule adopted.

The City of Dayton System Development Charge Schedule attached as Exhibit C-1 and C-2 is adopted, including the annual cost-index adjustment described in the Schedule.

Section 3. Sewer SDC Phase-In Schedule.

The Sewer System Development Charges will be phased-in in four stages: June 1, 2015; June 1, 2016; June 1, 2017; and June 1, 2018. The SDC charges that are effective on these dates are set forth in Exhibits C-1 and C-2.

Section 4. Municipal Code amendments adopted.

The amendments to the Dayton Municipal Code as set forth in Exhibit D are adopted.

Section 5. Effective Date.

An emergency is declared and this Ordinance shall be effective from and after its adoption by the Council and approval by the Mayor.

ORDINANCE adopted by the City Council of the City of Dayton this 1st day of June 2015.

Mode of Enactment:

Date of first reading: June 1, 2015 In full _____ or by title only ___X___

Date of second reading: June 1, 2015 In full _____ or by title only ___X___

___X___ No Council member present at the meeting requested that the ordinance be read in full.

_____ A copy of the ordinance was provided to each Council member; three copies were provided for public inspection in the office of the City Recorder no later than one week before the first reading of the Ordinance.

Final Vote:

In Favor: Bixler, Collins, Marquez, Wytoski

Opposed: None

Absent: Frank, Taylor

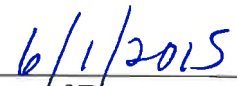
Abstained: Price


Elizabeth Wytoski, Mayor


Date of Signing

ATTESTED BY:

Peggy Selberg,
City Recorder


Date of Enactment

DRAFT Methodology Report

Wastewater System Development Charges

Prepared For
City of Dayton

November 3, 2014



Introduction

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 updated sewer SDCs for the City of Dayton (the City), in accordance with state law and the City's recently completed Wastewater Facilities Plan (Westech Engineering, 2012).

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. The legislation includes provisions regarding notification of hearings and filing for reviews. “Periodic application of an adopted specific cost index or... modification to any of the factors related to 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. The criteria for making adjustments to the SDC rate, which do not constitute a change in the methodology, are further defined 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.

- 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.

Wastewater SDC Methodology

Overview

The general methodology used to calculate wastewater SDCs begins with an analysis of system planning and design criteria to determine growth's capacity needs, and how they will be met through existing system available capacity and capacity expansion. Then, the capacity to serve growth is valued to determine the "cost basis" for the SDCs, which is then divided by the total growth capacity units to determine the system wide unit costs of capacity. The final step is to determine the SDC schedule, which identifies how different developments will be charged, based on their estimated capacity requirements.

Determine Capacity Needs

Table 1 shows the planning assumptions for the wastewater system contained in Wastewater Facilities Plan (Facilities Plan). The primary relevant design criteria for the wastewater system include the following:

- Average dry weather flow (ADWF): the average flow at the wastewater treatment plant (WWTP) during the dry weather season, usually defined as May through October. Flows consist mainly of sanitary sewage from customers, though some base infiltration may be present.
- Peak hour flow (PHF): the maximum flow over 1 hour experienced during a 5-year, 24-hour storm. Determines the hydraulic capacity of the collection system and WWTP headworks.

As shown in Table 1, the Facilities Plan estimates current ADWF of 0.245 million gallons per day (mgd), and PHF of 3.425 mgd. Future 2035 projected ADWF and PHF conditions are 0.459 mgd and 4.597 mgd, respectively. As collection system improvements are sized for build-out, the build-out PHF is estimated to be 5.432. The ADWF and PHF capacities required by growth thru 2035 are estimated to be 0.21 mgd, and 1.17 mgd, respectively and represent 47 percent (ADWF) and 25 percent (PHF) of future system flows. The lower share of PHF for growth is due to the assumed lower infiltration and inflow associated with new pipes compared to existing pipes.

Table 1
City of Dayton Wastewater SDC Analysis
Wastewater System Planning Assumptions

Capacity Parameter	Existing	2035	Build-Out	Growth	
				2035	Build-Out
ADWF (mgd)	0.245	0.459	na	0.21	na
PHF (mgd)	3.425	4.597	5.432	1.17	2.01
Source: Wastewater Facilities Plan (2012)					

Based on information from the Facilities Plan, the majority of existing system facilities are operating at or above system capacities (based on system design criteria). **Table 2** provides a summary of the capacity analysis for the major WWTP unit processes, pump stations, and force mains. With the exception of the Palmer Creek Pump Station and some force mains, the major system facilities lack capacity for future growth. Similar analysis of the gravity sewers indicates a general lack of capacity for current and future peak flow conditions.

As indicated previously, Oregon SDC law allows for inclusion of a reimbursement fee, provided that existing system capacity can be demonstrated. In the City's case, the reimbursement fee is limited to the value of available capacity in the Palmer Creek Pump Station. While force mains (other than Main) have available capacity, both the 9th street and Hwy 221 force mains require improvements (e.g., rerouting). To avoid double-charging growth for the same capacity (through the reimbursement fee and improvement fee), the force main costs are limited to those included on the Facilities Plan capital improvement plan.

As Table 2 indicates, certain unit processes (e.g., headworks and lagoon storage) lack sufficient capacity to meet current design requirements. Processes beyond the lagoons (transfer piping, disinfection and outfall) have sufficient capacity to meet current requirements; however, lack capacity for future growth. Based on firm capacity, all pump stations, with the exception of Palmer Creek have current capacity deficiencies; Palmer Creek's available capacity is 29 gallons per minute (26 percent) of current firm capacity.

Future system capacity requirements include additional capacity associated with growth, along with additional capacity to remedy existing headworks, lagoon, and collections system deficiencies.

Develop Cost Basis

The reimbursement fee is intended to recover the costs associated with the growth-related (or available) capacity in the existing system; the improvement fee is based on the costs of capacity-increasing future improvements needed to meet the demands of growth. The value of capacity needed to serve growth in aggregate within the planning period, is referred to as the "cost basis".

Table 2
City of Dayton Wastewater SDC Analysis
Capacity Analysis by Unit Process

	Capacity Measure	Existing Conditions			Future Conditions		
		Capacity	Requirements	Surplus/ (Deficiency)	Requirements	Capacity	Expansion
Headworks	mgd	1.33	3.43	(2.09)	4.60	4.60	4.60
Lagoon Storage	acres	11.7	22.0	(10.30)	34.0	35.7	24.0
Transfer Pipe, Disinfect & Outfall	mgd	0.93	0.93	-	2.00	2.00	2.00
Pump Stations	gpm (firm)						
9th St.		266	567	(301)	723	723	723
Palmer Creek		111	82	29	150	150	0
Highway 221		-	321	(321)	400	400	400
Main		900	2,180	(1,280)	4,000	4,000	4,000
Force Mains							
9th St.		600	438	162	539	600	0
Highway 221		600	321	279	400	600	0
Main		1,000	2,180	(1,180)	1,820	4,000	4,000

Improvement Fee Cost Basis

The cost of future capacity-increasing improvements (the improvement fee cost basis) is presented in **Tables 3 (Treatment) and 4 (Collection)**. The improvements are based on costs identified in the Facilities Plan, which reflected cost indices from 2011. Costs in Tables 3 and 4 are inflated to 2014 dollars based on the increase in the cost index (Engineering News Record Construction Cost Index, 20-City average).

Each improvement was reviewed to determine the portion of costs that expand capacity for growth vs. remedy an existing deficiency or replace existing capacity. Specifically, improvement costs are allocated to the SDC cost basis in proportion to growth's projected share of the planned capacity expansion. In some cases (e.g., lagoon storage) expansion is done incrementally, as existing facilities will continue to provide service to meet all or a portion of existing customer needs. In this case, the growth share is determined in proportion to how much of the incremental expansion is needed for future growth vs. addressing existing capacity deficiencies. However, in most cases (headworks, pump stations, gravity sewers), the existing facilities will be replaced entirely, and therefore the allocation between existing development and future growth represent each group's total capacity needs.

Table 5 shows the analysis that was used to determine improvement allocation percentages for each process and facility. The data used to determine allocation percentages for treatment, pump station, and force main improvements comes from Table 2. As shown in Table 5, new headworks facilities are sized to meet 2035 peak hour demands of 4.6 mgd, of which existing customers are estimated to require 3.43 mgd (from Tables 1 and 2), and future development requires 1.17 mgd (25 percent). The expansion of the lagoons will provide an additional 24 acres of storage, of which 13.7 acres (57 percent) are needed by future development. Future capacity requirements for other WWTP facilities are 2 mgd, of which 0.93 is needed for existing development, and 1.07 mgd (53 percent) is needed for growth.

In addition to capacity projects, the Facilities Plan identified improvements needed to increase the level of performance provided – through new technology (e.g., DAF & Filters). These improvements are allocated to both growth and existing development in proportion to the future share of flows. Table 5 also shows these allocations.

The improvement fee cost basis for treatment facilities improvements total \$5.3 million (49 percent of total improvement costs). Non-capacity improvements, like existing lagoon dike roadway rehabilitation, leak repair in Lagoon 4, and existing lagoons biosolids removal are excluded from the SDC costs basis.

Table 3
City of Dayton Wastewater SDC Analysis
Improvement Fee Cost Basis (Treatment Alt #1)

Component/Process	Total Cost ¹	Inflated Cost ²	Growth %	Growth \$
Headworks	\$186,203	\$200,461	25%	\$51,075
Facultative Lagoon	\$2,502,574	\$2,694,191	57%	\$1,537,934
Distribution piping (headworks to lagoon)	\$163,859	\$176,405	25%	\$44,946
New lagoon transfer structures	\$193,652	\$208,479	53%	\$111,224
New transfer piping (lagoon to lagoon)	\$65,544	\$70,562	53%	\$37,645
Existing lagoon dike roadway rehabilitation	\$89,378	\$96,221	0%	\$0
Repair Leak in Lagoon 4	\$148,963	\$160,369	0%	\$0
Transfer pump station & controls	\$521,370	\$561,290	53%	\$299,448
New transfer piping (existing lagoon 4 to DAF)	\$89,378	\$96,221	53%	\$51,334
New 3-phase power service	\$74,481	\$80,184	53%	\$42,778
Plant Office, DAF Equipment Cover & Site work	\$1,261,714	\$1,358,321	53%	\$724,664
DAF Equipment & Piping	\$1,163,399	\$1,252,478	53%	\$668,197
Chemical Feed Equipment	\$323,249	\$348,000	53%	\$185,658
Plant pump station	\$372,407	\$400,921	53%	\$210,678
Plant pump station piping	\$168,328	\$181,216	53%	\$95,227
New auxiliary power unit	\$223,444	\$240,553	53%	\$126,407
New chlorine contact chamber	\$504,984	\$543,649	53%	\$290,037
New outfall piping	\$174,286	\$187,631	53%	\$100,101
New outfall and diffuser	\$171,307	\$184,424	53%	\$98,390
New SCADA system for Wastewater Utility	\$74,481	\$80,184	53%	\$42,136
Subtotal	\$8,473,000	\$9,121,762		\$4,717,879
Existing Lagoons Biosolids Removal	\$540,000	\$581,347	0%	\$0
Phase II WWTP Improvements	\$1,000,000	\$1,076,568	53%	\$574,349
Total Treatment	\$10,013,000	\$10,779,677	49%	\$5,292,228

¹ENR 20-City Average 2011 (9103)

²ENR 20-City Average 2014 (9800)

Table 4
 City of Dayton Wastewater SDC Analysis
 Improvement Fee Cost Basis (Collection)

Station/Segment	Basin	Total Cost	Inflated Cost	Growth %	Growth \$
Pump Stations/Force Mains					
Main Pump Station (Ferry & Water)		\$1,728,000	\$1,860,310	46%	\$846,441
Main Pump Station Force Main (to WWTP) & Bore Under the Yamhill River		\$1,835,000	\$1,975,503	46%	\$898,854
HWY 221 Pump Station		\$1,042,000	\$1,121,784	20%	\$221,552
HWY 221 P.S. Force Main (connect to existing)		\$23,000	\$24,761	13%	\$3,260
9th Street Pump Station		\$473,000	\$509,217	22%	\$109,872
9th Street P.S. Force Main (P.S. to MH 11)		\$307,000	\$330,506	17%	\$55,635
Gravity Sewers					
Reroute RV Park Forcemain	Kreder	\$137,000	\$147,490	0%	\$0
Ferry Street (9th Street P.S. to MH 34)	9th St.	\$38,000	\$40,910	27%	\$10,985
Maint Street (MH 19 to Overflow)	Main Central	\$73,000	\$78,589	16%	\$12,829
Maint Street (MH 19 to MH 20)	Main Central	\$89,000	\$95,815	16%	\$15,641
Ferry Street (Main Pump Station to MH3)	Main South	\$124,000	\$133,494	14%	\$19,254
1st Street (MH 3 to MH 8)	Main South	\$448,000	\$482,303	14%	\$69,563
5th Street (MH 8 to MH 11)	Main South	\$227,000	\$244,381	14%	\$35,247
1st Street (MH 3 to MH 71)	Main South	\$100,000	\$107,657	14%	\$15,527
1st Street (MH 3 to MH 76)	Main South	\$201,000	\$216,390	14%	\$31,210
Ferry Street (Main Pumps Station to MH 19)	Main Central	\$100,000	\$107,657	16%	\$17,574
1st Street (MH20 to MH 54)	Main Central	\$117,000	\$125,958	16%	\$20,561
2nd Street (MH 54 to MH 58)	Main Central	\$350,000	\$376,799	16%	\$61,508
HWY 221 P.S. (Old PS Wet Well to MH 176)	Hwy 221	\$230,000	\$247,611	54%	\$133,767
1st Street (MH 20 to MH 24)	Main North	\$396,000	\$426,321	21%	\$88,269
3rd Street (MH 24 to MH 28)	Main North	\$413,000	\$444,623	21%	\$92,058
Palmer Creek P.S. Upgrades	Palmer Creek	\$135,000	\$145,337	0%	\$0
New Foster Pump Station	Foster	\$1,350,000	\$1,453,367	0%	\$0
New Foster Pump Station Force Main	Foster	\$744,000	\$800,967	0%	\$0
Total Collection System	\$0	\$10,680,000	\$11,497,748		\$2,759,608

Table 5
City of Dayton Wastewater SDC Analysis
Determination of Improvement Allocation Percentages

	Units	Expansion Capacity	Existing Amt.	Existing %	Growth Amt.	Growth %
Treatment						
Headworks	mgd	4.60	3.43	75%	1.17	25%
Lagoons	ac	24.00	10.30	43%	13.70	57%
Transfer Pipe, Disinfect & Outfall	mgd	2.00	0.93	47%	1.07	53%
DAF & Filters	mgd	2.00	0.93	47%	1.07	53%
Pump Stations						
9th St.	gpm	723	567	78%	156	22%
Palmer Creek	gpm	-	-	0%	-	0%
Highway 221	gpm	400	321	80%	79	20%
Main	gpm	4,000	2,180	54.5%	1,820	45.5%
Force Mains						
9th St.	gpm	600	438	73%	101	17%
Highway 221	gpm	600	321	54%	79	13%
Main	gpm	4,000	2,180	55%	1,820	45%
Gravity Sewers						
9th Street	mgd	1.039	0.76	73%	0.28	26%
Palmer Creek	mgd	0.126	0.03	24%	0.10	76%
Main North	mgd	0.908	0.72	79%	0.19	21%
Main Central	mgd	0.729	0.61	84%	0.12	16%
Main South	mgd	1.040	0.89	86%	0.15	14%
HWY 221	mgd	0.261	0.12	46%	0.14	54%
RV Park	mgd	0.129	0.05	39%	0.08	61%
Foster	mgd	1.196		0%	1.20	100%
Kreder	mgd	0.003		0%	0.00	100%

As shown in Tables 4 and 5, pump station improvement allocations for growth range from 20 percent for Highway 221, to 46 percent for Main Street pump station, reflecting the relative capacity needs shown in Table 2. The growth capacity for force mains ranges from 19 to 46 percent. For force mains, some of the allocations total less than 100 percent (i.e., 9th St. and Hwy 221), as not all of the capacity will be utilized by development within the planning period.

For gravity sewers, the allocation of pipe replacement costs is based on existing and build-out peak hour flows for each basin, as shown in Table 5. Growth allocations range from about 16 percent in Main Central to 100 percent in future Foster and Kreder basins. However, improvements in Foster and Kreder are assumed to be developer funded, so are excluded from the SDC costs basis. The cost to reroute the RV Park force main is also excluded, as this improvement is needed for existing conditions, and future development will require a new pump station and force main (which is not included in the Facilities Plan).

Collection system improvements allocated to the SDC cost basis are almost \$2.8 million (24 percent for total collection system improvement costs). The total improvement fee cost basis is about \$8.1 million.

Reimbursement Fee Cost Basis

As mentioned previously, the reimbursement fee cost basis is limited to the value of unused capacity in the Palmer Creek pump station. The City estimates the total cost of the pump station to be \$247,860, of which 26 percent (\$64,756) is available for growth, as shown in Table 2 (29 gpm surplus out of 111 gpm total firm capacity).

Develop 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 shown in Table 1. The unit costs are then applied to the capacity requirements of a typical dwelling unit to determine the fee per equivalent dwelling unit (EDU). The EDU rate is then scaled up or down for each development, based on the water meter size.

EDU Capacity Requirements

Table 6 presents the calculation of the capacity requirements by design criteria per EDU from the Facilities Plan. Estimating capacity requirements begins with the base flow per single family dwelling of 90 gallons per day (gpd). Assuming 2.78 persons per household, the base flow per single family dwelling is 250 gpd. To estimate peak hour flows (used to size collection system and headworks facilities), base flows are adjusted for peaking factors and infiltration and inflow. The peaking factor is 3.0, yielding a peak sanitary flow of 750 gpd. Infiltration and Inflow is 273 gpd, assuming 5.5 dwelling units per acre, which yields a total peak flow of 1,023 gpd per EDU.

Table 6

City of Dayton Wastewater SDC Analysis
Capacity Requirements per Equivalent Dwelling Unit

Component	Per EDU
Base flow per person (gpd)	90
Persons per household	2.78
Base flow (gpd)	250
Infiltration & Inflow (gpd)	273
Total Peak Flow (gpd)	1,023

Reimbursement Fee

Table 7 shows the reimbursement fee calculation. The cost basis is divided by PHF capacity requirements from Table 1 to determine the unit cost of capacity of \$32,265. Multiplying the per unit capacity requirements by the system-wide unit costs, yields a reimbursement fee of \$33 for the Palmer Creek pump station.

Table 7

City of Dayton Wastewater SDC Analysis
Reimbursement Fee Calculation

Item	
Reimbursement Fee Cost Basis	\$64,756
Growth Capacity Requirements	2.01
System-wide Unit Cost of Capacity	\$32,265
Capacity Requirements per Unit	0.001023
Reimbursement Fee Per Unit	\$33

Improvement Fee

The improvement fee calculation is shown in Table 8. The cost basis from Tables 3 and 4 is distributed over aggregate capacity requirements through 2035 (ADWF) and build-out (PHF), and the unit costs of capacity then multiplied by the EDU capacity requirements from Table 6. The resulting cost per EDU is \$7,531, including \$1,456 PHF (collection system and headworks improvements), and \$6,075 for ADWF (treatment) improvements.

Table 8

City of Dayton Wastewater SDC Analysis
Improvement Fee Calculation

	Total	PHF	ADWF
Growth Cost	\$8,051,836	\$2,855,628	\$5,196,208
Growth Capacity Requirements		2.01	0.21
Unit Cost		\$1,422,834	\$24,281,344
Capacity Requirements per Unit		0.001023	0.000250
Improvement Fee Per Unit	\$7,531	\$1,456	\$6,075

Combined Fee

Table 9 presents the calculation of the costs associated with the capacity requirement per EDU. The sum of the improvement and reimbursement portions is \$7,564, compared to the current SDC of \$1,265.

Table 9

City of Dayton Wastewater SDC Analysis
Combined SDC per Equivalent Dwelling Unit

Component	Amount
Reimbursement SDC per EDU	\$33
Improvement SDC per EDU	\$7,531
Combined SDC per EDU	\$7,564
Compliance Charge	\$123
Total SDC per EDU	\$7,687
Current SDC per EDU	\$1,265

Local governments are entitled to include in the SDCs, a charge to recover costs associated with compliance with the SDC law. Compliance costs include costs related to developing the SDC methodology and project list (i.e., a portion of master planning costs). Table 9 shows the compliance charge per EDU, which is estimated to be \$123 per EDU.

The sewer SDCs are assessed based on meter size. **Table 10** shows the combined SDC by meter sized, based on the hydraulic meter equivalent of each meter size to the base ¾-inch meter. The City currently does not have any meters over 2 inches.

Table 10

City of Dayton
Wastewater System Development Charge
Preliminary SDC Schedule

Meter Size	SDCr	SDCi	Compliance	Combined SDC
3/4-inch	\$33	\$7,531	\$123	\$7,687
1-inch	\$56	\$12,803	\$209	\$13,068
1 1/2-inch	\$109	\$24,853	\$405	\$25,367
2-inch	\$175	\$39,915	\$650	\$40,741
3-inch	\$353	\$80,584	\$1,313	\$82,250
4-inch	\$551	\$125,771	\$2,049	\$128,372
6-inch	\$1,099	\$250,790	\$4,086	\$255,975
8-inch	\$2,641	\$602,497	\$9,815	\$614,954

DRAFT Methodology Report

Water System Development Charges

Prepared For
City of Dayton

November 5, 2014



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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:

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- 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. The legislation includes provisions regarding notification of hearings and filing for reviews. “Periodic application of an adopted specific cost index or... modification to any of the factors related to 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. The criteria for making adjustments to the SDC rate, which do not constitute a change in the methodology, are further defined 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.

- 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.

Water SDC Methodology

Overview

The general methodology used to calculate water SDCs begins with an analysis of system planning and design criteria to determine growth's capacity needs, and how they will be met through existing system available capacity and capacity expansion. Then, the capacity to serve growth is valued to determine the "cost basis" for the SDCs, which is then divided by the total growth capacity units to determine the system wide unit costs of capacity. The final step is to determine the SDC schedule, which identifies how different developments will be charged, based on their estimated capacity requirements.

Determine Capacity Needs

Table 1 shows the planning assumptions for the water system contained in Water System Master Plan (Master Plan). The primary relevant design criteria for the water system include the following:

- Maximum Day Demand (MDD) - The highest daily recorded rate of water production in a year. MDD is the primary factor in evaluating capacity for source, transmission and treatment facilities.
- Peak Hour Demand (PHD) - The highest total water use experienced by the water supply system, measured on an hourly basis. PHD is a factor in the sizing of distribution mains.
- Storage Requirements - Storage facilities provide three functions: operational (or equalization) storage, and storage for emergency and fire protection needs.

As shown in **Table 1**, the Master Plan estimated current MDD to be 517 gallons per minute (gpm), and PHD to be 766 gpm. Future (2030) projected MDD and PHD conditions are 725 gpm and 1,290 gpm, respectively. As water mains are generally sized for build-out conditions, the MDD and PHD at build-out are also provided in Table 1. The MDD and PHD capacities required by growth are estimated to be 208 gpm and 524 gpm, respectively in 2030, and 616 gpm and 1,533 gpm at build-out.

Table 1 also shows that storage requirements are 1.878 million gallons (mg) currently, and they are expected to be about 2.255 mg at the end of the planning period (2030).

Table 1
City of Dayton Water SDC Analysis
System Planning Assumptions

Capacity Parameter	Existing	2030	Build-Out	Growth	
				2030	Build-Out
MDD (gpm)	517	725	1,133	208	616
PHD (gpm)	766	1,290	2,299	524	1,533
Storage Requirements (mg)	1.878	2.255	Na	0.377	Na

Source: Water System Master Plan (2010)

Table 2 provides a summary of the existing capacities by major system function. The City supplies water to customers through two separate, but interconnected treated water sources: 1) Dayton/Lafayette water treatment plant (WTP), and 2) Watershed Springs. As shown in Table 2, the City of Lafayette owns a portion of the wells that supply water to the joint WTP. While the water-rights for all the wellfield wells are overlapping, the assumption is that each city will utilize the full output from their respective wells during the peak summer months to the extent that their demand requires (although the actual amounts used by each city may fluctuate from this if the other city does not need their share at the time). In evaluating sufficiency of source capacity to meet future demands for the City's SDC analysis, the capacity of the Lafayette wells is excluded, leaving estimated well capacity of 305 gpm (as shown in Table 2). Total long term production capacity is estimated to be 350 gpm, including 45 gpm permitted summer production from the Watershed Springs.

Table 2
City of Dayton Water SDC Analysis
Water System Existing Capacity Assumptions

Source	gpm	mgd	mg
Source			
Watershed Springs – Primary			
Winter	113	0.16	
Summer	45	0.06	
Watershed Wells – Primary	145	0.21	
Wellfield Wells – Secondary			
Wells – Dayton	160	0.23	
Wells – Lafayette	140	0.20	
Well Total (w Lafayette Wells)	445	0.64	
Well Total (w/out Lafayette Wells)	305	0.44	
Total Production			
Total (w Lafayette Wells) Springs Summer	490	0.71	
Total (w Lafayette Wells) Springs Winter	558	0.80	
Long Term Production Capacity (Dayton)	350	0.50	
Water Treatment Plant Capacity (Dayton Share)			
Piping	750		
Filters	375		
Storage Capacity			
Total			2.265
Effective			1.576

Table 3 summarizes the existing capacity analysis. From a design standpoint, the current source capacity (exclusive of Lafayette wells) is not sufficient to meet current MDD.

The joint WTP has a current filter capacity of 750 gpm total, although the building is piped to allow for the installation of a second bank of pressure filters and associated components, which would raise the capacity of the facilities to 1,500 gpm. As the two cities financed the plant equally, the City's share of filter and piping capacity are assumed to be 375 gpm and 750 gpm, respectively (50 percent of total capacity). As shown in Table 2, treated water capacity from the City's primary water sources (Watershed Springs and Watershed Wells) totals 190 gpm, leaving 327 gpm (517 gpm - 190 gpm) of existing MDD to be met from the current WTP capacity. Based on this analysis, the WTP is estimated to have some available capacity in both the piping and filtration system.

The City's total storage capacity is 2.265 mg; however, due to operational issues, the effective capacity is limited to 1.576 currently, so there is an existing deficiency of about 0.302 mg.

Transmission and distribution mains are typically sized for build-out conditions, and the integrated nature of water systems makes evaluation of transmission and distribution on a system-wide basis reasonable. As shown in Table 3, the transmission and distribution system capacity is assumed to equal build-out MDD and PHD capacities, respectively.

Table 3
City of Dayton Water SDC
Analysis
*Capacity Analysis by
System Function*

	Capacity Measure	Existing Conditions		
		Capacity	Requirements	Surplus/ (Deficiency)
Source	gpm	350	517	(167)
Treatment - Piping	gpm	750	517	233
Treatment - Filters	gpm	375	327	48
Storage	mg	1.576	1.878	(0.302)
Transmission	gpm	1,133	517	616
Distribution	gpm	2,299	766	1,533

Future system capacity requirements include additional capacity associated with growth, along with capacity to remedy existing operational and other system deficiencies.

Develop Cost Basis

The reimbursement fee is intended to recover the costs associated with the growth-related (or available) capacity in the existing system; the improvement fee is based on the costs of capacity-increasing future improvements needed to meet the demands of growth. The value of capacity needed to serve growth in aggregate within the planning period, is referred to as the "cost basis".

Improvement Fee Cost Basis

The cost of future capacity-increasing improvements (the improvement fee cost basis) is presented in **Table 4**. The improvements are based on costs identified in the Master Plan, which reflected cost indices from 2010. Costs in Table 4 are inflated to 2014 dollars based on the increase in the cost index (Engineering News Record Construction Cost Index, 20-City average).

Each improvement was reviewed to determine the portion of costs that expand capacity for growth vs. remedy an existing deficiency or replace existing capacity. Specifically, improvement costs are allocated to the SDC cost basis in proportion to growth's projected share of the planned capacity expansion. An increase in system capacity may be established if a capital improvement increases the level of performance or service provided by existing facilities or provides new facilities.

Water mains are assumed to provide capacity through build-out and therefore, are allocated between existing development and growth, in proportion to future capacity requirements. Based on the information provided in Table 1, growth's share of future transmission (MDD) capacity is 54 percent, and distribution (PHD) 67 percent.

As mentioned previously, the existing long-term production capacity of the City's owned water sources is less than current MDD; therefore, the SDC cost basis does not include any improvements at the existing wells and springs, as they do not expand capacity for growth. However, growth is allocated a share of costs associated with studies to expand source capacity. The total additional source capacity needed through the planning period is 375 gpm (725 future MDD less 350 gpm current capacity). Therefore, growth's share is estimated to be 55 percent (208 gpm for growth divided by 375 total additional need).

As opposed to building additional storage tank capacity to remedy the existing storage deficiency (0.302 mg) and meet growth requirements (0.377 mg), the City will effectively be buying storage credits (thus increasing effective storage to 2.255) through investment in on-site auxiliary power generators at the City wells. Since this improvement will have the effective of increasing existing storage capacity, 56 percent (growth's share of the 0.67 effective capacity increase) is included in the SDC cost basis.

The Master Plan also included recommended improvements to address treatment capacity limitations. WTP improvements include an additional clearwell and influent pump station (assumed to be paid equally by the City and Lafayette), and improvements to the fire pump and an additional distribution pump. The City's share of treatment costs are allocated 28 percent to growth (208 gpm growth in MDD through 2030 divided by 750 gpm total WTP capacity.)

The total improvement fee cost basis is almost \$4.5 million. Non-capacity improvements and improvements needed beyond the 2030 planning period (Priority 3) are excluded from the SDC costs basis.

Table 4
City of Dayton
Water System Development Charge
WATER CAPITAL IMPROVEMENT PROGRAM (Priority 1A)

PROJECT	Master Plan Cost	Inflated Cost ¹	Local Cost ²	SDC Portion %	SDC Portion \$
Wellfield Well 1, VFD control upgrades	\$73,000	\$80,193	\$80,193	0%	-
Production testing and evaluation of all City wells by hydrologist	\$10,000	\$10,985	\$10,985	55%	6,093
Palmer Creek crossing (Option 1: Palmer Ln to 1st Str. Bore under creek) (8")	\$273,000	\$299,899	\$299,899	67%	199,976
Senior Water rights purchase potential	\$15,000	\$16,478	\$16,478	55%	9,140
Watershed long-term lease, exclusive easements and/or property purchase/acq.	TBD	TBD	TBD	55%	-
Install on-site auxiliary power generators & automatic transfer switches at all City wells	\$529,000	\$581,123	\$581,123	56%	325,050
Wellfield Well 3, VFD control upgrades	\$73,000	\$80,193	\$80,193	0%	-
Install clearwell and influent pump station at WTP	\$435,000	\$477,861	\$238,931	28%	66,263
Watershed transmission main (watershed reservoirs to McDougal Rd)(12")	\$847,000	\$930,456	\$930,456	54%	505,879
Watershed transmission main (PRV Station to 1st/Ferry).	\$1,079,000	\$1,185,316	\$1,185,316	54%	644,443
Over-length service modifications (Foster Rd, Watershed, McDougal Rd)	\$20,000	\$21,971	\$21,971	0%	-
Master meter on rural waterline (Fletcher Rd)	\$7,000	\$7,690	\$7,690	54%	4,181
Update City's emergency water restriction ordinances & resolutions	TBD	TBD	TBD	0%	-
9th Street (Ash to Church) (8")	\$107,000	\$117,543	\$117,543	67%	78,379
Church Street (9th toward Laurel) (8")	\$92,000	\$101,065	\$101,065	67%	67,391
Alder Street (4th to 3rd)(8")	\$109,000	\$119,740	\$119,740	67%	79,844
Master meters on rural waterline (Thompson)	\$7,000	\$7,690	\$7,690	67%	5,128
Main Street (8th to 7th) (8")	\$92,000	\$101,065	\$101,065	67%	67,391
Subtotal Priority 1A	\$3,768,000	\$4,139,267			\$ 2,059,159

Table 4 (Continued)
 City of Dayton
 Water System Development Charge
 WATER CAPITAL IMPROVEMENT PROGRAM (Priorities 1B-3)

PROJECT	Master Plan Cost	Inflated		Local		SDC Portion	
		Cost 1	Cost 2	Cost 1	Cost 2	%	\$
Watershed transmission main (McDougal Rd @wells to PRV station)(12")	\$1,538,000	\$1,689,542	\$1,689,542	\$1,689,542	\$1,689,542	54%	\$ 918,586
McDougal Wells, replace any existing steel discharge lines	\$29,000	\$31,857	\$31,857	\$31,857	\$31,857	0%	-
Add third Dayton distribution pump at WTP	\$109,000	\$119,740	\$119,740	\$119,740	\$119,740	28%	33,208
WTP Fire Pump improvements	\$73,000	\$80,193	\$80,193	\$80,193	\$80,193	28%	22,240
WTP secondary transmission main (WTP to Church & Flower) (12")	\$240,000	\$263,648	\$263,648	\$263,648	\$263,648	54%	143,342
Ash Street transmission main (Flower/Church to Ash/9th)(10")	\$384,000	\$421,836	\$421,836	\$421,836	\$421,836	54%	229,348
Thompson Road rural waterline (8" & 12")	\$231,000	\$253,761	\$253,761	\$253,761	\$253,761	67%	169,211
Water Rights Permits (Wellfield Wells), investigation study for potential new well sites	\$12,000	\$13,182	\$13,182	\$13,182	\$13,182	55%	7,312
Water Rights Certificates (In-Town & McDougal Wells), study for potential new well sites	\$10,000	\$10,985	\$10,985	\$10,985	\$10,985	55%	6,093
Mill Street transmission main (4"/Mill to 3rd/Mill)(10")	\$135,000	\$148,302	\$148,302	\$148,302	\$148,302	54%	80,630
Commerical services at McDougal Corner	\$8,000	\$8,788	\$8,788	\$8,788	\$8,788	0%	-
Investigation study on potential for transfer of spring water rights to wells drilled at site	\$8,000	\$8,788	\$8,788	\$8,788	\$8,788	0%	-
Hwy 221 Palmer Creek bridge transmission main(Mill Str to Neck Rd)(12")	\$698,000	\$766,775	\$766,775	\$766,775	\$766,775	54%	416,887
McDougal Road rural waterline (2")	\$187,000	\$205,425	\$205,425	\$205,425	\$205,425	67%	136,980
Fletcher Road rural waterline (interim repair till annexation)(2")	\$211,000	\$231,790	\$231,790	\$231,790	\$231,790	67%	154,560
Subtotal Priority 1B	\$3,873,000	\$4,254,613	\$4,254,613	\$4,254,613	\$4,254,613		\$2,318,397
Church Street (west of 2nd)(8")	\$58,000	\$63,715	\$63,715	\$63,715	\$63,715	67%	42,486
Water Master Plan Update (+-2020)	\$45,000	\$49,434	\$49,434	\$49,434	\$49,434	55%	27,419
5th Street (Oak to Church) (8")	\$57,000	\$62,616	\$62,616	\$62,616	\$62,616	67%	41,753
New finish water pump station at WTP site	TBD	TBD	TBD	TBD	TBD	0%	-
Subtotal Priority 2	\$160,000	\$175,765	\$175,765	\$175,765	\$175,765		\$ 111,658
Fletcher Road/Foster Road transmission main (10')	\$1,590,000	\$1,746,665	\$1,746,665	\$1,746,665	\$1,746,665	0%	-
Warmcombe Drive (8")	\$34,000	\$37,350	\$37,350	\$37,350	\$37,350	0%	-
Neck Road (Hwy 221 to Water Street) (10")	\$243,000	\$266,943	\$266,943	\$266,943	\$266,943	0%	-
East Dayton Industrial Area Waterline (12")	\$851,000	\$934,850	\$934,850	\$934,850	\$934,850	0%	-
Subtotal Priority 3	\$2,718,000	\$2,985,809	\$2,985,809	\$2,985,809	\$2,985,809		-
<i>Recurring Annual Programs (Priority 1A)</i>							
Wellfield wells, rotating rehabilitation program	\$30,000	\$32,956	\$32,956	\$32,956	\$32,956	0%	-
Subtotal, Recurring Annual Programs	\$30,000	\$32,956	\$32,956	\$32,956	\$32,956		-
Total Water CIP	10,519,000	11,555,453	11,555,453	11,555,453	11,555,453		\$4,489,214

¹ Adjusted for inflation based on Engineering News Record Construction Cost Index (2010 = 8921, 2014 = 9800)

² Treatment improvements assumed to be equally funded by Dayton and Lafayette

Reimbursement Fee Cost Basis

As mentioned previously, the reimbursement fee cost basis is limited to the value of current capacity available for future growth. Given deficiency in current source capacity (compared to planning standards), the reimbursement fee does not include the costs of existing wells and springs, as shown in Table 5.

Table 5
City of Dayton Water SDC Analysis
Preliminary Reimbursement Fee Cost Basis

Description	Value	Growth Share	
		%	\$
Source			
POST OFFICE PUMP HOUSE	\$89,283	0%	\$0
PUMP HOUSE (Flower Ln/Ash)	\$53,556	0%	\$0
PUMP HOUSE #1	\$51,042	0%	\$0
PUMP HOUSE #2	\$49,808	0%	\$0
CHLORINATION BLDG WATER	\$26,648	0%	\$0
SLOW SAND FILTER	\$510,000	-	\$0
Watershed Springs	\$728,000	-	\$0
McDougal Wells, chlorination system upgrades	\$31,857	-	-
Subtotal	\$1,397,355		\$0
Treatment			
WATER TREATMENT BUILDING (1)	\$1,363,847	13%	\$174,572
SALT STORAGE BUILDING	\$42,770	13%	\$5,475
PROCESS PIPING	\$343,842	28%	\$95,359
Subtotal	\$1,750,459		\$275,405
Storage			
IN GROUND RESERVOIR #1	\$306,000	0%	\$0
Watershed Concrete Reservoir	\$510,000	17%	\$85,264
Watershed Steel Reservoir	\$473,076	17%	\$79,091
WTP Reservoir (1)	\$506,048	17%	\$84,603
Subtotal	\$1,795,124		\$248,958
Transmission			
Watershed springs transmission main (springs to watershed reservoirs) (8")	\$95,000	54%	\$51,650
4m Street transmission main (4th/Ferry to 4th/Mill) (10")	\$152,696	54%	\$83,019
Subtotal	\$247,696		\$134,670
Distribution			
Master meters on rural waterline (McDougal Rd)	\$7,690	54%	\$4,181
Main Street Replacement (2nd to 3rd) (8")	\$104,000	67%	\$69,348
3rd Street (Church to Main) (10")	\$110,000	67%	\$73,349
3rd Street (Main to Ferry) (8")	\$101,000	67%	\$67,348
Main Street Replacement (3rd to 4th) (8")	\$58,000	67%	\$38,675
Subtotal	\$380,690		\$252,902
Other			
Water Management & Conservaton Plan update	\$27,463	55%	\$15,233
Subtotal	\$27,463		\$0
Subtotal	\$27,463		\$15,233
Total	\$5,598,786		\$927,168

Source: City of Dayton PropertySchedule_ExcelFriendly and Completed Master Plan projects
(1) Reduced for Lafayette funding

Existing WTP facilities do provide capacity for growth, as was shown in Table 3. The growth share of existing transmission and distribution system facilities was calculated in the same manner as the improvements contained in Table 4 and described previously. For storage improvements, the existing reservoirs (except Rervoir #1 which is no longer in service) will provide capacity for growth once the auxillary power generators are installed at the wells. Therefore, 17 percent (growth requirement of 0.377 divided by total capacity of 2.255) of existing storage value is included. Transmission and distribution system assets are limited to recently completed Master Plan projects. The total reimbursement fee cost basis is about \$0.9 million.

Develop 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 shown in Table 1. The unit costs are then applied to the capacity requirements of a typical dwelling unit to determine the fee per equivalent dwelling unit (EDU). The EDU rate is then scaled up or down for each development, based on the water meter size.

EDU Capacity Requirements

Table 6 presents the calculation of the capacity requirements by design criteria per EDU from the Master Plan. Estimating capacity requirements begins with the base average demand per dwelling unit of 216 gallons per day (gpd). To estimate maximum day and hour demands, the average demands are adjusted for peaking factors of 2 and 5, respectively, yielding MDD per EDU of 436 gpd and PHD of 1,080 gpd. Storage requirement per EDU are estimated to be 942 gpd, slightly less than PHD.

Table 6
City of Dayton Water SDC Analysis
Capacity Requirements per Equivalent Residential Unit

	Gpd
Average demand per Residential EDU (gpd)	216
MDD per EDU	436
Storage Requirements per EDU	942
PHD per EDU	1,080
Peaking Factors	
MDD Peaking factor	2.0
PHD factor (ratio to ADD)	5.0

Unit Costs and SDC per EDU

Tables 7 and 8 shows the reimbursement and improvement fee calculations. The cost basis by major function is divided by capacity requirements of growth from Table 1 to determine the unit costs of capacity. Multiplying the per unit capacity requirements by the system-wide unit costs, yields a reimbursement fee of \$1,538 per EDU, and an improvement fee of \$3,029 per EDU.

Table 7
 City of Dayton
 Water System Development Charge
 Reimbursement Fee Calculation

	System Component					Total
	Source	Treatment	Storage	Transmission	Distribution	
Growth-related CIP cost	\$0	\$275,406	\$248,958	\$134,670	\$252,902	\$911,935
Net Cost Basis	-	275,406	248,958	134,670	252,902	911,935
Growth-related capacity requirements	gpd 299,520	gpd 299,520	Mg 0.38	gpd 887,040	gpd 2,207,520	
Unit cost of additional capacity (per mgd)	\$0.00	\$0.92	\$660,365	\$0.15	\$0.11	
Capacity Requirements per EDU	436	436	0.000942	436	1,080	
Additional capacity cost per EDU	\$0	\$401	\$622	\$66	\$124	\$1,213

Table 8
 City of Dayton
 Water System Development Charge
 Improvement Fee Calculation

	System Component					Total
	Source	Treatment	Storage	Transmission	Distribution	
Growth-related Value	\$56,057	\$121,711	\$325,050	\$2,939,116	\$1,047,280	\$4,489,214
Net Cost Basis	56,057	121,711	325,050	2,939,116	1,047,280	4,489,214
Growth-related capacity requirements	gpd 299,520	gpd 299,520	Mg 0.38	gpd 887,040	gpd 2,207,520	
Unit cost of additional capacity	\$0.19	\$0.41	\$862,201	\$3.31	\$0.47	
Capacity Requirements per EDU	436	436	0.000942	436	1,080	
Additional capacity cost per EDU	\$82	\$177	\$812	\$1,446	\$512	\$3,029

Combined Fee

The water SDCs are assessed based on meter size. **Table 9** shows the combined SDC by meter sized, based on the hydraulic meter equivalent of each meter size to the base ¾-inch meter. Local governments are entitled to include in the SDCs, a charge to recover costs associated with complying with the SDC law. Compliance costs include costs related to developing the SDC methodology and project list (i.e., a portion of master planning costs). Table 9 shows the compliance charge per EDU, which is estimated to be \$76 per EDU.

The City currently does not have any meters over 2 inches. The current base SDC (for a 5/8" X ¾" meter) is \$3,633, compared to a revised SDC of \$4,319.

Table 9
City of Dayton
Water System Development Charge
Revised SDC Schedule

Meter Size	SDCr	SDCi	Compliance	SDC
3/4-inch	\$1,213	\$3,029	\$76	\$4,319
1-inch	\$2,063	\$5,150	\$129	\$7,342
1 1/2-inch	\$4,004	\$9,997	\$251	\$14,252
2-inch	\$6,431	\$16,056	\$403	\$22,889
3-inch	\$12,983	\$32,415	\$813	\$46,211
4-inch	\$20,263	\$50,591	\$1,269	\$72,123
6-inch	\$40,405	\$100,879	\$2,531	\$143,814
8-inch	\$97,069	\$242,352	\$6,079	\$345,500

Exhibit C-1

SDC Rates per Ordinance 626 (June 1, 2015)

CITY OF DAYTON SYSTEM DEVELOPMENT CHARGE SCHEDULE (eff. June 1, 2015)

Meter Size	Total Water SDC	Water Reimb Fee	Water Improv Fee	Total Sewer SDC	Sewer Reimb Fee	Sewer Improv Fee	Total Streets/Storm SDC	Street Storm Reimb Fee	Street Storm Imprv Fee	Total Parks SDC	Parks Reimb Fee	Parks Improv Fee	TOTAL ALL SDC	Total Reimb Fee	Total Improv Fee
5/8 - 3/4	4,242	1,213	3,029	3,500	15	3,485	1,125	392	734	100	18	82	8,967	1,638	7,330
1"	7,213	2,063	5,150	5,284	25	5,799	1,496	521	975	133	24	109	14,126	2,633	12,033
1 - 1/2"	14,001	4,004	9,997	11,304	48	11,256	2,250	783	1,467	200	36	164	27,755	4,871	22,884
2"	22,487	6,431	16,056	18,154	78	18,076	3,000	1,044	1,956	266	48	218	43,907	7,601	36,306
3"	45,398	12,983	32,415	36,653	157	36,496	4,500	1,566	2,934	400	72	328	86,951	14,778	72,173
4"	70,854	20,263	50,591	57,179	245	56,934	6,000	2,088	3,912	532	96	436	134,565	22,692	111,873
6"	141,284	40,405	100,879	114,015	487	113,528	9,000	3,132	5,868	800	145	655	265,099	44,169	220,930
8"	339,421	97,069	242,352	273,864	1,174	272,690	12,000	4,176	7,824	1,064	193	871	626,349	102,612	523,737

CITY OF DAYTON SYSTEM DEVELOPMENT CHARGE SCHEDULE (eff. June 1, 2016)

Meter Size	Total Water SDC	Water Reimb Fee	Water Improv Fee	Total Sewer SDC	Sewer Reimb Fee	Sewer Improv Fee	Total Streets/Storm SDC	Street Storm Reimb Fee	Street Storm Imprv Fee	Total Parks SDC	Parks Reimb Fee	Parks Improv Fee	TOTAL ALL SDC	Total Reimb Fee	Total Improv Fee
5/8 - 3/4	4,242	1,213	3,029	5,000	22	4,978	1,125	392	734	100	18	82	10,467	1,645	8,823
1"	7,213	2,063	5,150	8,320	36	8,284	1,496	521	975	133	24	109	17,162	2,644	14,518
1 - 1/2"	14,001	4,004	9,997	16,149	69	16,080	2,250	783	1,467	200	36	164	32,600	4,892	27,708
2"	22,487	6,431	16,056	25,935	111	25,824	3,000	1,044	1,956	266	48	218	51,688	7,634	44,054
3"	45,398	12,983	32,415	52,363	224	52,139	4,500	1,566	2,934	400	72	328	102,661	14,845	87,816
4"	70,854	20,263	50,591	81,686	350	81,336	6,000	2,088	3,912	532	96	436	159,072	22,797	136,275
6"	141,284	40,405	100,879	162,882	698	162,184	9,000	3,132	5,868	800	145	655	313,966	44,380	269,586
8"	339,421	97,069	242,352	391,243	1,677	389,566	12,000	4,176	7,824	1,064	193	871	743,728	103,115	640,613

Exhibit C-2

CITY OF DAYTON SYSTEM DEVELOPMENT CHARGE SCHEDULE (eff. June 1, 2017)

Meter Size	Total Water SDC	Water Reimb Fee	Water Improv Fee	Total Sewer SDC	Sewer Reimb Fee	Sewer Improv Fee	Total Streets/Storm SDC	Street Storm Reimb Fee	Street Storm Imprv Fee	Total Parks SDC	Parks Reimb Fee	Parks Improv Fee	TOTAL ALL SDC	Total Reimb Fee	Total Improv Fee
5/8 - 3/4	4,242	1,213	3,029	6,500	28	6,472	1,125	392	734	100	18	82	11,967	1,651	10,317
1"	7,213	2,063	5,150	10,816	46	10,770	1,496	521	975	133	24	109	19,658	2,654	17,004
1 - 1/2"	14,001	4,004	9,997	20,994	90	20,904	2,250	783	1,467	200	36	164	37,445	4,913	32,532
2"	22,487	6,431	16,056	33,716	145	33,571	3,000	1,044	1,956	266	48	218	59,469	7,668	51,801
3"	45,398	12,983	32,415	68,073	292	67,781	4,500	1,566	2,934	400	72	328	118,371	14,913	103,458
4"	70,854	20,263	50,591	106,194	455	105,739	6,000	2,088	3,912	532	96	436	183,580	22,902	160,678
6"	141,284	40,405	100,879	211,751	908	210,843	9,000	3,132	5,868	800	145	655	362,835	44,590	318,245
8"	339,421	97,069	242,352	508,626	2,180	506,446	12,000	4,176	7,824	1,064	193	871	861,111	103,618	757,493

CITY OF DAYTON SYSTEM DEVELOPMENT CHARGE SCHEDULE (eff. June 1, 2018)

Meter Size	Total Water SDC	Water Reimb Fee	Water Improv Fee	Total Sewer SDC	Sewer Reimb Fee	Sewer Improv Fee	Total Streets/Storm SDC	Street Storm Reimb Fee	Street Storm Imprv Fee	Total Parks SDC	Parks Reimb Fee	Parks Improv Fee	TOTAL ALL SDC	Total Reimb Fee	Total Improv Fee
5/8 - 3/4	4,242	1,213	3,029	7,564	33	7,531	1,125	392	734	100	18	82	13,031	1,656	11,376
1"	7,213	2,063	5,150	12,859	56	12,803	1,496	521	975	133	24	109	21,701	2,664	19,037
1 - 1/2"	14,001	4,004	9,997	24,962	109	24,853	2,250	783	1,467	200	36	164	41,413	4,932	36,481
2"	22,487	6,431	16,056	40,091	175	39,915	3,000	1,044	1,956	266	48	218	65,844	7,698	58,145
3"	45,398	12,983	32,415	80,937	353	80,584	4,500	1,566	2,934	400	72	328	131,235	14,974	116,261
4"	70,854	20,263	50,591	126,323	551	125,771	6,000	2,088	3,912	532	96	436	203,709	22,998	180,710
6"	141,284	40,405	100,879	251,889	1,099	250,790	9,000	3,132	5,868	800	145	655	402,973	44,781	358,192
8"	339,421	97,069	242,352	605,139	2,641	602,497	12,000	4,176	7,824	1,064	193	871	957,624	104,079	853,544

EXHIBIT D

City of Dayton Municipal Code Chapter 6 is amended as follows (deletions in ~~strike-through~~; additions in **boldface**):

6.2 DEFINITIONS

(1) "Developer" means any individual or entity constructing, demolishing or repairing a public capital improvement within the City.

(2) "Development" means conducting a building or mining operation, making a physical change in the use or appearance of a structure or land, dividing land into two or more parcels, creating or terminating a right of access.

(3) "Improvement Fee" means a fee for costs associated with public capital improvements to be constructed after the date a systems development fee is adopted.

(4) "Land Area" means the area of a parcel of land as measured by projection of the parcel boundaries upon a horizontal plane with the exception of a portion of the parcel within a recorded right-of-way or easement subject to a servitude for a public street or scenic or preservation purpose.

(5) "Owner" means the owner or owners of record title or the purchaser or purchasers under a recorded sales agreement, and other persons having an interest of record in the described real property.

(6) "Parcel of Land" means a lot, parcel, block or other tract of land that is occupied or may be occupied by a structure or structures or other use, and that includes the yards and other open spaces required under the zoning, subdivision, or other development ordinances.

(7) "Public Capital Improvement" means improvement upon the property of the City or within an easement granted to the City which serves to further the operation of the city government and the interests and welfare of the public; for example, a facility or asset used for water supply, treatment and distribution; waste water collection, transmission, treatment and disposal; drainage and flood control; transportation; or parks and recreation.

(8) "Qualified Public Improvement" means a capital improvement that is (1) required as a condition of residential development approval; (2) identified in the City's improvement plan; and (3) not located on or contiguous to a parcel of land that is the subject of the

residential development approval, or is located on or contiguous to the subject parcel but is required to be larger or have greater capacity than is necessary for the development.

(9) "Reimbursement Fee" means a fee for costs associated with public capital improvements constructed or under construction on the date the systems development fee is adopted.

(10) "Sewer Lateral Connection" means the pipe and other equipment by means of which property owner conducts sewage from the premises served to the existing city sewer main within the city right of way.

(11) "Sidewalk" means that part of a street right-of-way between the curb line or the lateral line of the paved portion of the roadway and the adjacent property line, that is intended for the use of pedestrians.

(12) "Single Living Unit" means a residential structure or a portion of a residential structure generally intended for one family or fewer individuals (e.g. a single family home, half of a duplex, one apartment within a larger structure).

(13) "Superintendent" means the Superintendent of Public Works for the City of Dayton.

(14) "Systems Development Charge" means a reimbursement fee, an improvement fee or a combination thereof assessed or collected at the time of increased usage of a public capital improvement, at the time of issuance of a development permit or building permit, or at the time of connection to the public capital improvement. "Systems development charge" includes that portion of a sewer or water system connection charge that is greater than the amount necessary to reimburse the city for its average cost of inspecting and installing connections with water and sewer facilities. "Systems development charge" does not include fees assessed or collected as part of a local improvement district or a charge in lieu of a local improvement district assessment, or the cost of complying with requirement or conditions imposed by a land use decision.

(15) "Water Service Connection" means the pipe, valves and other equipment by means of which the City conducts water from the city water system to and through the meter, but not including piping from the meter to the premises served. Each water meter shall be placed within two feet of the city right of way.

6.3.12 Credits.

(1) A systems development charge shall be imposed when a change of use of a parcel or structure occurs, but credit shall be given for the computed systems development

charge to the extent that prior structures existed and services were established on or after June 1, 1994. The credit so computed shall not exceed the calculated systems development charge. No refund shall be made on account of such credit.

(2) A credit shall be given for the cost of a qualified public improvement associated with a residential development. ~~If a qualified public improvement is located partially on and partially off the parcel that is the subject of the residential development approval, the credit shall be given only for the cost of the portion of the improvement not located on or wholly contiguous to the property.~~ The credit provided for by this subsection shall be only for the improvement fee charged for the type of improvement being constructed and shall not exceed the improvement fee even if the cost of the capital improvement exceed the applicable improvement fee.

6.3.13 Segregation and Use of Revenue.

(1) All funds derived from a particular type of systems development charge are to be segregated by accounting practices from all other funds of the city. That portion of the systems development charge calculated and collected on account of a specific facility system shall be used for no purpose other than those set forth in section ~~6.2~~ 6.3.1 of Dayton Code.

(2) The city recorder shall provide the city council with an annual accounting, based on the city's fiscal year, for systems development charges showing the total amount of systems development charge revenues collected for each type of facility and the projects funded from each account.