



#### Rules of Conduct for Public Hearings

1. No person shall be disorderly, abusive, or disruptive of the orderly conduct of the hearing.
2. Persons shall not testify without first receiving recognition from the presiding officer and stating their full name and residence address.
3. No person shall present irrelevant, immaterial, or repetitious testimony or evidence.
4. There shall be no audience demonstrations such as applause, cheering, display of signs, or other conduct disruptive of the hearing.

*This meeting is being recorded for public review on the City of Millersburg website.*

## CITY OF MILLERSBURG SPECIAL CITY COUNCIL PUBLIC HEARING

via Virtual Hearing  
Albany OR 97321  
June 10, 2020 @ 6:30 p.m.

### Agenda

**This meeting will be held remotely. Instructions for joining the meeting by computer or phone are attached to this agenda. If you do not have access to a phone or computer, or need additional support, please contact City Hall prior to 5:00 p.m. on Tuesday, June 9.**

**Meeting link to join via computer:**

**<https://aspenuc.accessionmeeting.com/j/1167897974>**

**Phone number to join meeting: 503-212-9900**

**Meeting ID: 116 789 7974**

- A. CALL TO ORDER
- B. ROLL CALL
- C. CHANGES AND ADDITIONS TO THE AGENDA
- D. PUBLIC COMMENT
- E. PUBLIC HEARING
  - 1) Modifications and Adoption of Methodology for Calculating Systems Development Charges
- F. COUNCIL MEMBER AND STAFF COMMENTS
- G. CLOSING PUBLIC COMMENT
- H. CLOSING COUNCIL COMMENT
- I. ADJOURNMENT

*Note: Council may adjourn to executive session in accordance with ORS 192.660.*

*The location of the meeting is accessible to the disabled. If you have a disability that requires accommodation to attend or participate, please notify the Millersburg City Hall in advance by calling (458) 233-6300.*



TO: Millersburg City Council  
VIA: Kevin Kreitman, City Manager  
FROM: Janelle Booth, Assistant City Manager/City Engineer  
DATE: June 5, 2020 for the June 10, 2020 City Council Meeting  
SUBJECT: System Development Charges (SDCs)

Action Requested:

Hold a public hearing on proposed System Development Charge (SDC) methodology and fees, including proposed changes to project list and fee schedules since draft methodology was originally posted.

Discussion:

Millersburg's SDC study to revise the methodology and fees for streets, water, sewer, and stormwater is now complete. Since the draft methodology was posted on April 10, formatting and minor grammatical edits have been made to the report. In addition, the project lists have been revised to include some more recently identified projects. Based on the additional projects, the SDC rates and schedules for each system have also been updated. Additional modifications to the SDC schedules (from the published methodology) also include the addition of certain development classes (e.g., accessory dwelling units) and revision of some sewer equivalent dwelling unit (EDU) assumptions based upon further review.

The methodology, when applied to the revised project lists, establish maximum allowable fees. The revised maximum allowable SDCs for a typical residential dwelling unit, based on the changes described above, are shown in the table below, along with comparisons to other nearby communities. As a note, Parks SDCs are not being revised at this time.

<b>Summary of SDCs</b>	<b>Current</b>	<b>Revised</b>
Transportation	\$3,542	\$6,382
Water	\$3,933	\$3,293
Sewer	\$2,658	\$4,655
Stormwater		\$660
Parks	\$1,200	\$1,200
<b>Total</b>	<b>\$11,333</b>	<b>\$16,190</b>

City	SDCs effective	Total SDC	Median Home Cost (MHC)*	SDC to MHC
<b>Millersburg</b>	<b>Revised May 4</b>	<b>\$16,190</b>	<b>\$384,700</b>	<b>4.2%</b>
Albany	7/1/2019	\$12,247	\$275,200	4.5%
Philomath	1/1/2019	\$26,172	\$311,200	8.4%
Lebanon	7/1/2019	\$12,445	\$220,500	5.6%
Sweet Home	2/25/2005	\$1,839	\$206,800	0.9%
Jefferson	7/1/2019	\$13,132	\$243,300	5.4%
Salem	7/1/2019	\$16,963	\$282,600	6.0%
Corvallis	4/1/2020	\$17,024	\$378,300	4.5%

\*MHC values from <https://www.bestplaces.net/housing/city/oregon/millersburg>

**Path to adoption of revised SDC methodology, projected lists and fees**

Following is the timeline to review and adopt the new methodology and fees:

- March 11, 2020 – Notices were sent to interested parties (builders, developers, home builders' association) and posted on the City website.
- April 10, 2020 – Draft methodology posted to website and made available by request at City Hall (no requests received to date).
- May 26, 2020 – Present methodology, including proposed changes to project lists and SDC schedules to Council.
- **June 10, 2020 – Special Council meeting to conduct a public hearing. This hearing must include the original methodology posted on April 10, along with any proposed revisions since the time of posting.**
- Following June 10, revise report to incorporate all revisions.
- July 14, 2020 – Adopt SDC methodology and fees at regular Council meeting.

Recommendation:

Staff recommends Council hold a public hearing to review the proposed SDC methodology, updated project lists, and fees in preparation for adoption at the July council meeting.

Attachment(s):

- Revised SDC methodology report (revised for formatting and minor grammatical edits)
- Revised project lists
- Revised SDC schedules





DRAFT Methodology Report

# Wastewater, Water, Transportation and Stormwater System Development Charges

Prepared for CITY OF MILLERSBURG | April 10, 2020

*With minor formatting changes and edits May 21, 2020*

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SECTION 1

# Introduction

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Oregon legislation establishes guidelines for the calculation of system development charges (SDCs). Within these guidelines, local governments have latitude in selecting technical approaches and establishing policies related to the development and administration of SDCs. A discussion of this legislation follows.

In conformance with state law and industry standard practices, the recommended SDC methodologies for the City of Millersburg's wastewater, water, transportation, and stormwater SDCs for are presented in subsequent sections of this report.

## 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 expenditures, 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. Use of 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 or expanded development. Use of 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).

## Credits

The legislation requires that a credit be provided against the improvement fee for the construction of “qualified public improvements” by a developer or other private party. 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 the rate that are incorporated in the established methodology” are not considered “modifications” to the SDC methodology. As such, the local government is not required to adhere to the notification provisions under these circumstances. 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 in whole or in part with SDC 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 methodology presented in the following sections has been prepared in accordance with Oregon SDC requirements.

*Note: The calculations contained in this report were produced using numbers that extend beyond the decimal places shown in the tables presented, so slight variations exist due to rounding. These variations are not material.*

SECTION 2

## Wastewater SDC Methodology

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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 those needs 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 users of the system will be charged, based on their estimated capacity requirements.

### Determine Capacity Needs

The primary relevant design criteria for the system include the following:

- **Average Annual Flow (AAF):** the average flow at the Water Reclamation Facility (WRF) during the year.
- **Peak Wet Weather Flow (PWWF):** the peak flow modeled for the collection system, which includes base wastewater flow (BWF), groundwater infiltration, and rainfall derived infiltration and inflow. PWWF is used to evaluate capacity needs for the collection system, as well as certain components of the treatment facilities (influent pump station, secondary clarifiers, disinfection and outfall).
- **Maximum Month Dry Weather Flow (MMDWF):** the maximum month flow at the WRF during the dry weather season, usually defined as May through October. MMDWF is used to evaluate capacity for tertiary filters in the wastewater treatment process.
- **Maximum Month Biochemical Oxygen Demand (MMBOD):** The quantity of oxygen used in the biochemical oxidation of organic matter in a specified time and at a specified temperature. BOD is a measurement of wastewater strength and is used to evaluate capacity for secondary treatment (aeration basins or vertical loop reactors (VLRs)).
- **Maximum Month Total Suspended Solids (MMTSS):** Solids in the wastewater that are removable by laboratory filtering and approximate the quantity of solids that are available to be removed from the wastewater through sedimentation. TSS is a measurement of wastewater strength and is used to evaluate capacity for sludge management and dewatering facilities.

**Table 2-1 (next page)** summarizes flows and loads under existing conditions and projected design flows and loads at buildout. The difference between the buildout capacity requirements and existing conditions is the total projected growth need over the planning period.

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**Table 2-1**  
City of Millersburg Wastewater SDC  
*Wastewater System Planning Assumptions<sup>1</sup>*

<b>Capacity Parameter</b>	<b>Existing Conditions</b>	<b>Buildout Design</b>	<b>Growth</b> (Buildout minus Existing)
<b>Flow (mgd)</b>			
Average Annual Flow <sup>1</sup>	0.3	1.5	1.2
Peak Wet Weather Flow <sup>1</sup>	2.0	4.0	2.0
Peak Wet Weather Design Flow <sup>2</sup>	2.0	6.8	4.8
<b>Loadings (lbs/day)<sup>2</sup></b>			
BOD Maximum Month	509	2,460	1,951
TSS Maximum Month	612	3,310	2,698

<sup>1</sup>City of Millersburg Sanitary Sewer System Master Plan

<sup>2</sup>From City of Albany planning documents.

Albany has provided wastewater treatment service to Millersburg through an intergovernmental agreement since 1979. Millersburg's wastewater is transported to the Albany WRF for processing and discharge through Albany's wastewater discharge permit. Since this SDC methodology has been developed for Millersburg specifically, both costs and capacities presented in this report reflect Millersburg's share only.

## Available Capacity

The total capacity needs of growth will be met in part by existing system available capacity, as well as future capacity expansion. **Table 2-2 (next page)** provides a summary of the existing capacities by major treatment function and for each of the City's lift stations and compares the capacity to existing flows and loads in order to determine the portion of available capacity by component and facility.

As with Table 2-1, the capacities and flows and loads shown in Table 2-2 have been adjusted to exclude Albany's share of WRF capacity. As shown in Table 2-2, with the exception of the wetlands, most treatment facilities have some amount of available capacity, as do the lift stations.

**Table 2-2**  
City of Millersburg Wastewater SDC  
*Treatment and Lift Station Available Capacity Analysis*

	Design Criteria	Millersburg Capacity <sup>1</sup>	Existing Flow/Load	Available Capacity	
				Quantity	%
<b>WRF <sup>1</sup></b>					
Preliminary Treatment	PWWF	6.8	2.0	4.7	70%
Secondary Treatment	MMBOD	1,210	509	701	58%
Solids Processing	MMTSS	1,610	612	998	62%
<b>Pump Stations</b>					
Burhart	PWWF	250	127	123	49%
Morningstar	PWWF	951	821	130	14%
ATI	PWWF	1,577	1,227	350	22%

<sup>1</sup> WRF capacity from City of Albany SDC Study

## Develop Cost Basis

As discussed in Section 1, the reimbursement fee is intended to recover the costs associated with the available capacity in the existing system; 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, is referred to as the “cost basis.”

## Reimbursement Fee

The reimbursement fee is based on the costs of capital improvements already constructed or under construction. In developing the cost basis, the 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, and other relevant factors.

**Table 2-3** (next page) shows the reimbursement fee cost basis calculations based on the appreciated acquisition cost of existing facilities. Contract payment information for bid items related to the more recent (2010-2011) WRF expansion was used to breakdown the total WRF costs by major unit process. The growth share for each facility type is based on the assumptions provided in **Table 2-2**. Based on information from the City of Albany, the wetlands are currently operating at capacity.

As shown in **Table 2-3**, the reimbursement cost basis related to existing system fixed assets is about \$14.9 million.

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**Table 2-3**  
City of Millersburg Wastewater SDC  
Reimbursement Fee Cost Basis

Description	Criteria	Appreciated Cost <sup>1</sup>	Growth Share	
			%	\$
<b>WRF</b>		\$11,603,010		
PWWF	PWWF	\$7,909,971	70%	\$5,536,979
MMBOD	MMBOD	\$188,444	58%	\$109,173
MMTSS	MMTSS	\$3,504,595	62%	\$2,172,414
Wetlands	ADWF	\$2,096,240	0%	\$0
Subtotal		\$13,699,250		\$7,818,566
<b>Pumping</b>				
Sewage pump stations				\$0
Burkhart	PWWF	\$60,145	49%	\$29,591
Truax	PWWF	\$48,116	0%	\$0
Morningstar	PWWF	\$734,365	14%	\$100,386
ATI	PWWF	\$702,190	22%	\$155,844
Subtotal		\$1,544,815		\$285,822
<b>Collection</b>				
S-1	PWWF	\$3,637,831	70%	\$2,546,482
S-2	PWWF	\$726,951	70%	\$508,866
S-3	PWWF	\$542,385	70%	\$379,670
S-4	PWWF	\$0	0%	\$0
S-5	PWWF	\$1,036,133	70%	\$725,293
S-6	PWWF	\$1,122,689	70%	\$785,882
S-7	PWWF	\$575,424	70%	\$402,797
S-8	PWWF	\$1,995,995	70%	\$1,397,197
S-9	PWWF	\$85,022	70%	\$59,515
S-10	PWWF	\$0	0%	\$0
Conser Rd	PWWF	\$11,701	0%	\$0
Subtotal		\$9,734,131		\$6,805,701
<b>Total</b>		<b>\$24,978,196</b>		<b>\$14,910,089</b>

<sup>1</sup>Acquisition costs have been adjusted to March 2020 based on Engineering News Record Construction Cost Index for Seattle



## Improvement Fee

The cost of future capacity-increasing improvements (the improvement fee cost basis) is presented in **Tables 2-4 (treatment) and 2-5 (collection system)**. The improvements are based on costs identified in recent system planning documents, updated to March 2020 using inflation factors from the Engineering News Record (ENR) Construction Cost Index (CCI) for Seattle.

Each improvement was reviewed to determine the portion of costs that expand capacity for growth for Millersburg customers versus remedy an existing deficiency or replace existing capacity. 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.

### Treatment

**Table 2-4** presents the planned capital improvements associated with treatment facilities, based on information provided by the City of Albany (specifically, the West Yost Technical Memorandum, August 2018). With the exception of the influent pump station expansion and the sludge facility improvements, 100 percent of the planned improvements provide new capacity required to serve future system growth. The improvement fee cost basis is limited to the portion of the planned capacity expansion needed to serve growth in Millersburg, so facility costs exclude 90 percent associated with Albany's share of capacity. The treatment-related improvement costs for growth total approximately \$9.5 million.

### Collection

Wastewater collection improvements are from the Sanitary Sewer System Master Plan, (CH2M HILL, March 2017). Pump station projects are needed to expand capacity exclusively, so are allocated 100 percent to growth. The collection system assessment is allocated in proportion to growth's share of future PWWF (49 percent). As a result of this process, \$156,073 of planned collection system project costs are included in the improvement fee cost basis.

Overall, the improvement fee cost basis totals about \$9.7 million.

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**Table 2-4**  
City of Millersburg Wastewater SDC  
Improvement Fee Cost Basis – Treatment

Project #	Project Description	Millersburg Cost	%	SDC-Eligible	Design Basis	Time Period
				\$		
T-1	Influent Pump Station Expansion	\$1,771,764	93%	\$1,648,000	PWWF	15+ Years
T-2	Headworks 4th Channel Equipment & Screening Equipment	\$219,137	100%	\$219,000	PWWF	15+ Years
T-3	Headworks Grit Removal Equipment	\$342,599	100%	\$343,000	PWWF	15+ Years
T-4	VLR No. 1A	\$156,930	100%	\$157,000	MMBOD	5 Years
T-5	VLR No. 2A	\$381,174	100%	\$381,000	MMBOD	5-15 Years
T-6	Vertical Loop Reactors 9-14	\$2,748,143	100%	\$2,748,000	MMBOD	15+ Years
T-7	Blower Building #2	\$686,772	100%	\$687,000	MMBOD	15+ Years
T-8	Secondary Clarifier #4	\$615,112	100%	\$615,000	PWWF	15+ Years
T-10	Chorine Contact Basin Expansion	\$324,266	100%	\$324,000	PWWF	15+ Years
T-11	Sludge Composting and Dewatering Facilities	\$2,976,063	62%	\$1,845,000	MMTSS	5 Years
T-13	Outfall and Diffuser No. 2	\$565,412	100%	\$565,000	PWWF	15+ Years
<b>Total</b>		<b>\$10,787,372</b>		<b>\$9,532,000</b>		

Source: City of Albany

**Table 2-5**  
City of Millersburg Wastewater SDC  
Improvement Fee Cost Basis - Collection

Project Description	Millersburg Cost	%	SDC-Eligible	Design Basis	Time Period
			\$		
ATI Pump Station Pumps Replacement	\$68,113	100%	\$68,113	PWWF	20-year
Morningstar Pump Station Impeller Size Increase	\$33,532	100%	\$33,532	PWWF	20-year
Collection System Assessment	\$111,076	70%	\$77,753	PWWF	2026
<b>Total</b>	<b>\$212,722</b>		<b>\$179,339</b>		

Source: City of Millersburg Sanitary Sewer System Master Plan. Costs have been adjusted to March 2020 based on Engineering News Record Construction Cost Index for Seattle.

## Develop Unit Costs

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 from Table 2-1. The system-wide unit costs are multiplied by the capacity requirements per equivalent dwelling unit (EDU) to yield the fees per EDU. **Table 2-6** shows these calculations.

**Table 2-6**  
City of Millersburg Wastewater SDC  
*Unit Cost Calculations*

	System Component			Total
	PWWF	MMBOD	MMTSS	
<b>Cost Basis</b>				
Reimbursement	\$12,628,502	\$109,173	\$2,172,414	\$14,910,089
Improvement	\$3,893,399	\$3,973,000	\$1,845,000	\$9,711,399
Capacity Units	<i>mgd</i>	<i>lbs/day</i>	<i>lbs/day</i>	
Growth capacity	4.8	1,951	2,698	
<b>Unit cost (\$/Capacity Unit)</b>				
Reimbursement	\$2,653,047	\$56	\$805	
Improvement	\$817,941	\$2,036	\$684	
Capacity per EDU	0.000755	0.4617	0.5552	
<b>Reimbursement Fee (\$/EDU)</b>	<b>\$2,002</b>	<b>\$26</b>	<b>\$447</b>	<b>\$2,475</b>
<b>Improvement Fee (\$/EDU)</b>	<b>\$617</b>	<b>\$940</b>	<b>\$380</b>	<b>\$1,937</b>

EDU capacity requirements are estimated based on the following assumptions:

- PWWF (755 gallons per day) = AAF per acre (471 gallons per day) from the Master Plan, and estimated acres per EDU of 0.6 (based on current residential water meters and developed acres) X ratio of future PWWF/AAF (2.67) from the Master Plan, and information presented in Table 2-1.
- MMBOD and MMTSS = current MMBOD and MMTSS from Table 2-1 divided by current EDUs (estimated to be 1,102 from billing records).

## Compliance Costs

Local governments are entitled to expend SDC revenue on the costs of complying with the SDC statutes. Compliance costs generally include costs associated with developing the SDC methodology and project list (i.e., a portion of master planning costs). **Table 2-7** shows the calculation of the compliance charge per EDU. SDC study and accounting costs are 100 percent related to new growth, and master planning costs are allocated in proportion to the growth share of future PWWF (70 percent). Growth costs are annualized by dividing the estimated cost for each item by the estimated number of years before update (10 years for

# CITY OF MILLERSBURG | Wastewater, Water, Transportation and Stormwater System Development Charges

SDC study and master planning). The total annual costs are then divided by the estimated annual number of new EDUs which yields a fee of approximately \$87 per EDU.

**Table 2-7**  
City of Millersburg Wastewater SDC  
*Compliance Charge*

Component	Years	Total	Growth	Annualized
SDC Study	10	\$5,000	100%	\$500
Master Planning	10	\$115,532	70%	\$8,087
Auditing/Accounting	1	\$1,000	100%	\$1,000
<b>Total Annual Costs</b>		<b>\$121,532</b>		<b>\$9,587</b>
Estimated Annual EDUs				110.52
<b>Admin Charge/EDU</b>				<b>\$87</b>

## SDC Schedule

The total SDC per EDU is \$4,499, including the reimbursement and improvement fees (\$2,475 and \$1,937, respectively) and the compliance charge of \$87. The EDU rate is scaled up for commercial customers based on the EDU table provided in **Table 2-8**.

Because of the variability and system impact of significant industrial customers, these users are charged based on their individual flows and loads, and the system unit costs of capacity from Table 2-6. For purposes of assessing PWWF costs, each industrial customer will be charged based on their peak day flow. The formula for charging industrial customers as follows:

$$Peak\ flow\ (mgd) \times \$3,470,988 + MMBOD\ (lbs/day) \times \$2,092 + MMTSS\ (lbs/day) \times \$1,489$$

**Table 2-8**  
City of Millersburg Wastewater SDC  
*EDU Assumptions*

	Unit of Measure	Units Per EDU
Residential	Dwelling	1
Multifamily units	Dwelling	1
Residential care center	Beds	2
<b>Commercial</b>		
Churches, Lodges	Square feet	5,000
Hotel, Motel	Sleeping Room	2
Schools - High School	Students	20
Schools - All Other	Students	25
Eating & Drinking Establishments	Square Feet	600
Car Washes	stall	1
Laundries	Washer	First = 1 +2/3 each additional
General Commercial - All Other	Square Feet	1,500
<b>Industrial</b>	Per estimated flows and loads	

<sup>1</sup>Combined uses will be estimated based on each component.

## **Inflationary Adjustments**

In accordance with Oregon statutes, the SDCs will be adjusted annually based on a standard inflationary index. Specifically, the City plans to use the ENR Seattle Construction Cost Index (CCI) as the basis for adjusting the SDCs annually. All costs in this report have been indexed to the March 2020 ENR CCI for Seattle (11,991).



SECTION 3

# Water SDC Methodology

This section presents the updated water system development charge (SDC) methodology, and calculations based on the City’s recently updated Water System Master Plan (CH2M Hill, December 2017). The general methodology 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 existing and future facilities needed to serve growth over the planning period are valued to determine the “cost basis” for the SDCs. The cost basis is then spread over the total growth capacity 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 3-1 shows the relevant planning assumptions for the water system through 2037 (2017 Master Plan period) and beyond, when full water treatment plant capacity is utilized. Capacity requirements are generally evaluated based on the following system design criteria:

- **Maximum Day Demand (MDD)** -- The highest daily recorded rate of water production in a year. Used for allocating source, pumping and delivery facilities.
- **Storage Requirements** – Stored water capacity used for operational (or equalization) and emergency and fire protection needs. Used for allocating storage facility costs.

**Table 3-1**  
City of Millersburg Water SDC  
Capacity Requirements

	MDD (mgd)	Storage (mg)
Current	1.48	2.35
Future - 20 Year (2037)	2.12	2.84
Future – WTP capacity period	6.00	5.65
<i>Growth - 20 Year (2037)</i>	<i>0.64</i>	<i>0.49</i>
<i>Growth – WTP capacity period</i>	<i>4.52</i>	<i>3.30</i>
Growth % - 20 year (2037)	30%	17%
<b>Growth % - WTP capacity period</b>	<b>75%</b>	<b>58%</b>

Source: 20 Year Estimates from Water System Master Plan (CH2M Hill, December 2017); buildout based on share of capacity at Albany-Millersburg Joint Water Project

As shown in Table 3-1, system MDD is currently about 1.5 million gallons per day (mgd). Future MDD is projected to be about 2.1 mgd over the 20-year period. Storage

requirements are 2.35 million gallons (mg) currently, and are projected to increase to 2.8 mg over the Master Plan period.

The City is a joint owner in the Albany-Millersburg Water Treatment Plant (WTP). Facilities included in the joint ownership agreement include the WTP, water intake, pump station and pressure main, finished water reservoir, and the finished water pipeline. Millersburg’s share of the total future plant capacity is 6 mgd, and total planned reservoir capacity is 5.65 mg.

### Available Capacity

The total capacity needs of growth will be met in part by existing system available capacity, as well as future capacity expansion. **Table 3-2** provides a summary of the existing capacities by major function and compares the capacity to existing demands in order to determine the portion of available capacity by component and facility.

**Table 3-2**  
City of Millersburg Water SDC  
*Available Capacity Analysis*

	Millersburg	Existing	Available Capacity	
	Capacity	Flow/Load	Quantity	%
Supply – WTP Membranes (mgd)	2.0	1.48	0.52	26%
Supply – Other WTP (mgd)	6.0	1.48	4.52	75%
Storage (mg)	2.85	2.35	0.50	18%
Distribution (mgd)	6.0	1.48	4.52	75%

As shown in Table 3-2, the production capacity at the WTP is currently limited by membrane capacity of 2.0 mgd. However, other major facilities are sized for the City’s ultimate ownership capacity of 6.0 mgd. Distribution system pipes are assumed to be sized consistent with supply.

### Develop Cost Basis

The capacity needed to serve new development will be met through a combination of existing available system capacity and additional capacity from planned system improvements. As discussed in Section 1, the reimbursement fee is intended to recover the costs associated with the growth-related 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”.

### Reimbursement Fee

**Table 3-3** shows the reimbursement fee cost basis calculations based on the appreciated acquisition cost of existing facilities. The growth share for each facility type is based on the assumptions provided in Table 3-2.

# CITY OF MILLERSBURG | Wastewater, Water, Transportation and Stormwater System Development Charges

**Table 3-3**  
City of Millersburg Water SDC  
Reimbursement Fee Cost Basis

Description	Appreciated Cost <sup>1</sup>	Growth Share	
		%	\$
<b>Supply</b>			
RWPS & Force Main; WTP; FW Pipeline	\$5,110,925	75%	\$3,850,230
US Filter Membrane System	\$827,046	26%	\$215,032
WTP Reservoir	\$1,700,907	18%	\$298,405
Metering Vault & Piping	\$95,290	75%	\$71,785
Engineering & Other	\$1,953,995	75%	\$1,472,010
Subtotal	\$9,688,163		\$5,907,462
<b>Distribution</b>			
Contract 1	\$1,763,061	75%	\$1,328,173
Contract 2	\$402,877	75%	\$303,501
Contract 3	\$599,754	75%	\$451,815
Contract 4	\$1,086,812	75%	\$818,732
Contract 5	\$241,949	75%	\$182,268
Old Salem Rd. Waterline Imp.		0%	\$0
Knox Butte Ave. Waterline Rep	\$167,125	75%	\$125,901
Water Main Completion Project (A, B, D)	\$1,301,045	75%	\$980,121
Tank Farm Road	\$322,768	75%	\$243,152
Subtotal	\$5,885,391		\$4,433,661
<b>Total</b>	<b>\$15,573,554</b>		<b>\$10,341,123</b>
<sup>1</sup> Acquisition costs have been adjusted to March 2020 based on Engineering News Record Construction Cost Index for Seattle			

As show in Table 3-2, of the total asset value of \$15.6 million, approximately \$10.3 million is associated with meeting the capacity requirements of future development, and therefore included in the reimbursement fee cost basis.

## Improvement Fee

Table 3-4 shows the improvement fee cost basis. Distribution system projects are from the City’s Master Plan, and only one improvement (Steelhead Run upsizing) has been identified for capacity expansion. Water supply improvements include the expansion of Albany-Millersburg (A-M) WTP membrane capacity, as well as additional storage capacity to meet future needs. Water supply improvement costs were provided by the City of Albany based on 2002 construction costs. For purposes of the SDC analysis, costs have been escalated to March 2020 values based on the Engineering News Record (ENR) Construction Cost Index (CCI) for Seattle.

As shown in Table 3-4, the improvement fee cost basis is about \$3.7 million.

# CITY OF MILLERSBURG | Wastewater, Water, Transportation and Stormwater System Development Charges

**Table 3-4**  
City of Millersburg Water SDC  
Improvement Fee Cost Basis

Project Description	Time Period	Total Project Cost	Millersburg Share <sup>1</sup>	SDC-Eligible	
				%	\$
<b>Distribution</b>					
Upsize 8" diameter pipe on Steelhead Run	2025	\$180,000	\$189,000	75%	\$135,600
Replace 3 services asbestos cement pipe	2025	\$75,000	\$78,750	0%	\$0
Replace 15 services asbestos cement pipe	2025	\$375,000	\$393,750	0%	\$0
Subtotal		\$630,000	\$661,500		\$135,600
<b>Water Supply</b>					
A-M WTP Expansion (Membranes)	Beyond 2024	\$6,098,048	\$1,742,299	100%	\$1,742,299
A-M Storage Expansion	Beyond 2024	\$3,583,129	\$1,791,564	100%	\$1,791,564
Subtotal		\$9,681,176	\$3,533,864		\$3,533,864
		<b>\$11,811,176</b>	<b>\$5,695,364</b>	<b>31%</b>	<b>\$3,669,464</b>

<sup>1</sup>Costs have been adjusted to March 2020 based on Engineering News Record Construction Cost Index for Seattle; Water Supply costs reflect Millersburg share only.

## Develop Unit Costs

The unit costs of capacity are determined by dividing the respective cost bases by the growth capacity requirements presented in Table 3-1. The system-wide unit costs are multiplied by the capacity requirements per equivalent dwelling unit (EDU) to yield the fees per EDU. **Table 3-5** shows these calculations.

**Table 3-5**  
City of Millersburg Water SDC  
Unit Cost Calculations

	System Component			Total
	Supply	Storage	Distribution	
<b>Cost Basis</b>				
Reimbursement	\$5,609,057	\$298,405	\$4,433,661	\$10,341,123
Improvement	\$1,742,299	\$1,791,564	\$135,600	\$3,669,464
Growth capacity (mgd)	4.5	3.3	4.5	
<b>Unit cost (\$/mgd)</b>				
Reimbursement	\$1.24	\$0.09	\$0.98	
Improvement	\$0.39	\$0.54	\$0.03	
Capacity per EDU (gpd)	785	1,317	785	
<b>Reimbursement Fee</b>	<b>\$975</b>	<b>\$119</b>	<b>\$770</b>	<b>\$1,864</b>
<b>Improvement Fee</b>	<b>\$303</b>	<b>\$715</b>	<b>\$24</b>	<b>\$1,041</b>

EDU capacity requirements are estimated based on estimated residential MDD per acre (1,302 gallons per day) from the Master Plan, and estimated acres per EDU of 0.6 (based on current residential meters and developed acres).

Total storage requirements per EDU of 1,317 gallons per day (gpd) reflect storage capacity evaluation criteria from the Master Plan, and the following components:

- System-wide equalization and emergency requirements per EDU of 1,064 (1.15 mg existing need divided by 1,078 existing system-wide EDUs),
- Residential fire requirements per EDU of 253 gpd (0.2 mg existing need divided by residential EDUs of 789).

For purposes of determining the number of EDUs for nonresidential development, the number of meters by meter size is used. The base service unit for the water system is based on the hydraulic capacity of a 3/4-inch meter (30 gpm). The meter equivalents for larger meter sizes represent the equivalent hydraulic capacity relative to 30 gpm capacity. **Table 3-6** shows the meter equivalency factors for each meter size.

Multiplying the capacity requirement per EDU by the unit costs of capacity yields reimbursement and improvement costs per EDU of \$1,864 and \$1,041, respectively, for a total of \$2,905.

## SDC Schedule

**Table 3-6** shows the base SDC per residential dwelling unit and nonresidential EDU, based on meter size. The total SDC per EDU is \$2,986, including the compliance charge which is discussed below.

**Table 3-6**  
City of Millersburg Water SDC  
*SDC Schedule*

Meter Size	SDCr	SDCi	Compliance	Total	Meter Equivalency
Residential Dwelling	\$1,864	\$1,041	\$80	\$2,986	1.0
Nonresidential Meter Size					
3/4"	\$1,864	\$1,041	\$80	\$2,986	1.0
1"	\$3,107	\$1,736	\$134	\$4,977	1.7
1 1/2"	\$6,214	\$3,471	\$267	\$9,953	3.3
2"	\$9,943	\$5,554	\$428	\$15,925	5.3
3"	\$19,886	\$11,109	\$856	\$31,851	10.7
4"	\$31,072	\$17,357	\$1,337	\$49,766	16.7

## Compliance Costs

Local governments are entitled to include in the SDCs, a charge to recover costs associated with complying with the SDC statutes. Compliance costs include costs related to developing



the SDC methodology and project list (i.e., a portion of master planning costs), and annual accounting and budgeting. The estimated compliance cost per EDU is \$80, as shown in Table 3-6 and **Table 3-7**.

**Table 3-7**  
City of Millersburg Water SDC  
*Compliance Charge*

<b>Component</b>	<b>Years</b>	<b>Total</b>	<b>Growth</b>	<b>Annualized</b>
SDC Study	10	\$5,000	100%	\$500
Master Planning	10	\$100,000	67%	\$6,672
Auditing/Accounting	1	\$1,500	100	\$1,500
<b>Total Annual Costs</b>		<b>\$106,500</b>		<b>\$8,672</b>
Estimated Annual EDUs				108
<b>Admin Charge/EDU</b>				<b>\$80</b>

### **Inflationary Adjustments**

In accordance with Oregon statutes, the SDCs will be adjusted annually based on a standard inflationary index. Specifically, the City plans to use the ENR Seattle CCI as the basis for adjusting the SDCs annually. All costs in this report have been indexed to the March 2020 CCI (11,991).

SECTION 4

## Transportation SDC Methodology

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The updated transportation SDC methodology is structured as a combined reimbursement and improvement SDC. The cost per trip is calculated by dividing the existing and future growth-related capacity costs by the growth in future trips. The transportation SDC for a particular development is then determined by multiplying the cost per trip by the number of trips associated with the development.

### Determine Capacity Needs

To evaluate the roadway capacity needs, the regional travel demand model was utilized to approximate the existing number of trips and future projected trips generated by households and employment in the City. Trip generation data are available from the Albany Area MPO (AAMPO) Regional Transportation Plan (RTP) for base year (2010) and future year (2040). For purposes of the SDC analysis, the trip generation for the base and future year conditions from the AAMPO RTP were adjusted to reflect recent population and employment growth and updated population forecast figures from Portland State University (PSU).

**Table 4-1** (next page) shows model and revised base year and future year household and trip assumptions. The AAMPO model projected total future 2040 PM peak hour trips of 768, based on 751 households and an employment estimate of 3,927. The City has experienced significant growth in recent years, as shown in revised household figures. Future (2040) households are projected based on PSU certified population forecast figures, and assumed persons per household of 2.6.

No changes have been assumed to future employment from the AAMPO forecast. Therefore, additional trips reflected in the revised forecast include only the additional growth from household travel, based on a distribution of dwellings across categories (single family, multifamily, manufactured home), and application of trip rates per unit from the Institute of Traffic Engineers (ITE) *Trip Generation Manual*.

As shown in Table 4-1, the revised growth in trip ends is 1,188, which is 45 percent of total future 2040 trips.

# CITY OF MILLERSBURG | Wastewater, Water, Transportation and Stormwater System Development Charges

**Table 4-1**  
City of Millersburg Transportation SDC  
*Estimated Vehicle Trip Generation (PM Peak Hour)*

	Model Base (2010)	2015	Current Base	Future (2040)	Growth (Current Base to 2040)
<b>AAMPO Model<sup>1</sup></b>					
Trips	487			768	
Trip Ends (2 X trips)	974			1,536	
Households	508			751	
Employment	2,085			3,927	
<b>Revised</b>					
Households <sup>2</sup>		634	878	1,953	
Employment <sup>3</sup>		2,604	2,604	3,927	
Trips <sup>4</sup>		608	719	1,313	
Trip Ends (2 X trips)		1,216	1,437	2,625	1,188 (45%)

<sup>1</sup>Albany Area MPO Regional Transportation Plan (2018 - 2040)

<sup>2</sup>2015 and 2018 based on American Community Survey data; 2040 based on 5,147 population and 2.6 pphh

<sup>3</sup>2015 from Oregon Employment Department (covered employment)

<sup>4</sup>Additional household trips assume 0.99 trip ends per dwelling (P.M. Peak hour)

## Develop Cost Basis

As discussed in Section 1, the reimbursement fee is intended to recover the costs associated with the available capacity in the existing system; the improvement fee is based on the costs of capacity-increasing future improvements needed to meet the requirements of growth.

## Reimbursement Fee Cost Basis

Table 4-2 shows the calculation of the reimbursement fee cost basis for the City's transportation system, based on appreciated costs<sup>1</sup>. The City's construction records were used to identify prior improvements to City-owned streets. The Transportation System Plan (David Evans and Associates, December 2016) did not identify any capacity deficiencies on the City's roadways. Therefore, the growth share is based on the future growth in trips (systemwide) as a percent of total future trips from Table 4-2.

**Table 4-2**  
City of Millersburg Transportation SDC  
*Reimbursement Fee Cost Basis*

Description	Appreciated Cost	Growth Share	
		%	\$
Millersburg Drive Improvements Phase 1 Old Salem to Woods & 2 Woods to RR	\$3,389,162	45%	\$1,533,793
Alexander Lane Improvements	\$1,634,588	45%	\$739,747
Alexander Lane Crosswalk	\$79,095	45%	\$35,795
54th Avenue Improvements	\$556,432	45%	\$251,818
<b>Total</b>	<b>\$5,659,278</b>		<b>\$2,561,153</b>

Source: City of Millersburg; costs have been adjusted to March 2020 based on Seattle ENR CCI

<sup>1</sup>Original costs of improvements are adjusted for inflation based on the year of construction. Inflation is estimated using the change in the Engineering News Record (ENR) Construction Cost Index (CCI) between year constructed and March 2020.

## Improvement Fee Cost Basis

The cost of future capacity-increasing improvements (the improvement fee cost basis) is based on the SDC project list presented in **Appendix A (Table A-1)**. The improvements are based on the City’s Transportation System Plan (TSP). Costs have been updated to March 2020 using inflation factors from the Engineering News Record (ENR) Construction Cost Index (CCI) for Seattle. The SDCs exclude improvements that are anticipated to be funded by other jurisdictions (e.g., Linn County). The growth share is determined based on the type of improvement, as described below.

### Roadway Improvements

The projects shown in Table A-1 include upgrades to existing facilities (i.e., widening and extension to modernize or address connectivity issues). The growth share for roadway improvements reflect the system-wide growth in trips over the planning period, as a percentage of total future trips (45 percent).

### Multimodal Facilities

Growth capacity needs for bike and pedestrian facilities are evaluated based on a planned level of service (LOS) basis. The planned LOS is defined as the quantity of future facilities per capita served.

The following equation shows the calculation of the planned LOS:

$$\frac{\text{Existing } Q + \text{Planned } Q}{\text{Future Population Served}} = \text{Planned LOS}$$

Where:

*Q* = quantity (miles of bike or pedestrian facilities), and  
*Future Population Served* = 5,147

The existing and planned future miles of bike and pedestrian facilities are shown in **Table 4-3**.

**Table 4-3**  
 City of Millersburg Transportation SDC  
 Existing and Future Bike and Pedestrian Facilities

Facility Type	Current (Miles)	Additional (miles)		Future (Miles)
		Stand-Alone Projects	Road Projects	
Multi Use Path <sup>1</sup>	0.0	3.5	0	3.5
Bike Lanes <sup>2</sup>	3.2	0.5	1.4	5.1
Sidewalks <sup>2</sup>	4.1	0.7	1.4	3.5

<sup>1</sup>Paths adjacent to roadways only.

<sup>2</sup>On improved and partially improved arterials and collectors

**Table 4-4** presents the existing and planned LOS for bike and pedestrian facilities, based on the existing and planned future facilities presented in Table 4-3 divided by the estimated existing and projected population (in 1,000s). In the case of multi-use paths, the planned

LOS is higher than the existing LOS, which means that there is an existing deficiency (relative to the planned LOS), so a portion (45 percent) of future improvements are needed to serve capacity needs of existing development (equal to existing population divided by future population). The reverse is true for bike and sidewalk improvements (i.e., future LOS is lower than existing LOS), so there are no existing deficiencies, and 100 percent of future bike and sidewalk improvements are SDC-eligible.

**Table 4-4**  
City of Millersburg Transportation SDC  
Existing and Future Bike and Pedestrian LOS

Facility Type	Miles/1,000 People <sup>1</sup>	
	Current	Future
Multi Use Path	0.00	0.67
Bike Lanes	1.39	1.00
Sidewalks	1.78	1.20

<sup>1</sup>Current population = 2,315; future = 5,147

## Develop Unit Costs

Based on the growth trips and SDC cost basis summarized previously, the total cost per growth trip is equal to \$5,698, as shown in Table 4-5, and is comprised of the following components:

$$\$3,542 \text{ (improvement fee)} + \$2,156 \text{ (reimbursement fee)}$$

**Table 4-5**  
City of Millersburg Transportation SDC  
Unit Costs of Capacity (\$/Trip)

	Improvement	Reimbursement	Combined SDC
Cost Basis <sup>1</sup>	\$4,208,470	\$2,561,153	
Growth Trip Ends <sup>2</sup>	1,188	1,188	
<b>SDC per Trip End</b>	<b>\$3,542</b>	<b>\$2,156</b>	<b>\$5,698</b>

<sup>1</sup>From Tables 4-2 and A-1

<sup>2</sup>From Table 4-1

## Compliance Charge

Local governments are entitled to include in the TSDCs, a charge to recover costs associated with complying with the SDC statutes. Compliance costs include costs related to developing and administering the SDC methodology and credit system; as well as annual accounting and other City administration costs.

Table 4-6 shows the calculation of the compliance charge per trip, which is \$25 per trip.

**Table 4-6**  
City of Millersburg Transportation SDC  
Compliance Costs

	Total \$	Amortize (Years)	Annual \$	Growth %	Growth \$
SDC Study	\$5,000	10	\$500	100%	\$500
Accounting, Legal, Planning	\$1,000	1	\$1,000	100%	\$1,000
<b>Total Cost</b>					\$1,500
Annual Trip End					59
<b>Compliance \$/Trip End</b>					\$25

## SDC Schedule

The SDC for an individual development is based on the cost per trip (including the reimbursement, improvement, and compliance fees) and the number of trips (PM peak hour) attributable to a particular development. The number of development trips is computed as follows:

$$\text{Number of Development Trips} = \text{Trip Generation Rate} \times \text{Adjustment Factors} \times \text{Development Units}$$

**Table A-2** (in Appendix A) includes the transportation SDC rates and traffic impact assumptions for typical land use categories.

## Trip Generation Rates

Transportation SDCs are based on the number of trips a development is likely to generate, specifically the afternoon “PM peak” trip generation. Traffic is heaviest during weekday afternoon commute times, and road improvements are often needed to accommodate these high traffic flows, so the SDCs reflect these impacts.

The City will use the ITE PM peak trip generation rates to determine the SDCs for individual developments. Use of ITE trip generation data is standard in the transportation industry. ITE trip rates by land use are based on studies from around the country, and in the absence of local data, represent the best available source of trip data for specific land uses. Appendix A provides trip rate assumptions for sample land uses, based on the ITE Trip Generation Manual 10<sup>th</sup> Edition.

In the future, the City will use the most current version of the ITE Trip Generation Manual that is available. Furthermore, for land uses that are not explicitly identified in Table A-2, City staff will make a determination of the appropriate SDC rate, based on the specific use.

## Trip Rate Adjustments

The SDC methodology and Table A-2 include pass-by and diverted linked trip adjustments to trip generation rates.

### Pass-by Trips

Pass-by trips refer to trips that occur when a motorist is already on the roadway, as in the case of a traveler stopping by a fast-food restaurant on the way home from work. In this case, the motorist making a stop while “passing by” is counted as a trip generated by the

restaurant, but it does not represent a new (or primary) trip on the roadway. Pass-by trip adjustments in the updated methodology are based on published data by land use from the ITE.

### **Diverted Link Trips**

Diverted link trips are another type of non-primary trip. In this case, the motorist will divert from a primary route to access a nearby use (e.g., a vehicle may turn off a major roadway onto an intersecting street to access a land use), and then return to the original route to complete the trip. As with the pass-by trip adjustments, the diverted link trip adjustments included in the SDC methodology are based on reported ITE data.

### **Inflationary Adjustments**

In accordance with Oregon statutes, the SDCs will be adjusted annually based on a standard inflationary index. Specifically, the City plans to use the ENR Seattle CCI as the basis for adjusting the SDCs annually. All costs in this report have been indexed to the March 2020 ENR CCI for Seattle (11,991).



SECTION 5

## Stormwater SDC Methodology

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This section presents the stormwater system development charge (SDC) methodology, and calculations based on the City's recently completed Stormwater Master Plan (Cardno, January 2019). The general methodology 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 existing and future facilities needed to serve growth over the planning period are valued to determine the "cost basis" for the SDCs. The cost basis is then spread over the total growth capacity 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

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, asphalt paving, or compacted gravel 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.

System-wide capacity required by growth is measured by the additional impervious surface area anticipated in the service area through 2038. Existing and projected future system impervious area (by land use type and in total) is presented in **Table 5-1**, based on information from the Master Plan.

A typical residential lot is estimated to have 4,200 square feet of impervious area, and is used to determine the number of equivalent dwelling units (EDUs) for the system, based on the total existing and future impervious area. As shown in Table 5-1, the growth in EDUs represent about 67 percent of future EDUs based on impervious area.

**Table 5-1**

City of Millersburg Stormwater SDC  
Stormwater System Planning Assumptions

	2018	2038	Growth	
			Amount	%
<b>Population</b>	2,315	5,147	2,832	55%
<b>Impervious Area (sq ft)</b>				
Public	302,351	302,351	-	0%
Community Commercial	167,659	168,895	1,236	1%
Greenway	93,158	93,158	-	0%
Limited Industrial	3,645,941	7,130,562	3,484,621	49%
Limited Industrial/Commercial	1,994,492	3,541,205	1,546,713	44%
Rural Residential 10UC	1,423,439	9,033,360	7,609,921	84%
Rural Residential 2.5UC	1,967,350	9,528,500	7,561,150	79%
Urban Residential	143,376	160,412	17,036	11%
<b>Total</b>	<b>9,737,766</b>	<b>29,958,443</b>	<b>20,220,677</b>	<b>67%</b>
EDUs <sup>2</sup>	2,319	7,133	4,814	67%

<sup>1</sup>City of Millersburg Stormwater Master Plan (Cardno, January 2019)

<sup>2</sup>Based on average impervious area of 4,200 sq. ft. per residential dwelling unit

## Develop Cost Basis

The stormwater SDC methodology is based on an improvement fee only. The City has limited documentation on past stormwater system capacity improvements funded by the City, and based on available data, projects included in the Master Plan replace the infrastructure that otherwise would be included in the reimbursement fee.

## Improvement Fee

**Table 5-2** shows the improvement fee cost basis. For purposes of the SDC analysis, costs from the Master Plan have been escalated to March 2020 values based on the Engineering News Record (ENR) Construction Cost Index (CCI) for Seattle. The cost basis includes stand-alone stormwater projects, as well as projects to be constructed as part of road improvements identified in the Transportation System Plan (TSP). For stand-alone projects, the growth share is based on an evaluation of existing and future flows for each project, under the 25-year design storm, as shown in **Table 5-3**. Projects shown as 0 percent SDC-eligible in **Table 5-2** address existing issues where no new development is planned.

For roadway projects, the costs are allocated in proportion to projects on the transportation project list (see Section 4 – Transportation SDC Methodology). As shown in **Table 5-2**, the improvement fee cost basis is about \$3.1 million.

# CITY OF MILLERSBURG | Wastewater, Water, Transportation and Stormwater System Development Charges

**Table 5-2**  
City of Millersburg Stormwater SDC  
Improvement Fee Cost Basis<sup>1</sup>

Project Description	Priority	Total Project Cost	Growth Share	
			%	\$
<b>Stand-Alone Stormwater Projects</b>				
North Tributary of Crooks Creek Improvements	High	\$193,254	68%	\$131,552
Becker Ridge Detention Ponds Modification	Medium	\$18,681	1%	\$130
Morningstar Estates Outfall Modification	Medium	\$211,670	0%	\$0
Umpqua Lane Detention Pipes Modification	Low	\$114,196	3%	\$3,396
Woods Road Drainage Capacity Increase	Low	\$580,805	67%	\$386,274
Kathryn St. & Knox Butte Ave. Storm Improvements	Low	\$225,983	0%	\$0
Hoffman Estates Capacity Increase	Low	\$163,009	0%	\$0
Crooks Creek Sedimentation Concerns	Low	\$72,730	0%	\$0
	Subtotal	\$1,580,328		\$521,352
<b>TSP Stormwater Improvements</b>				
Woods Rd. Extension	Low	\$1,207,318	100%	\$1,207,318
Zuhlke Lane Extension	Low	\$436,900	45%	\$196,605
54th Ave. Extension	Low	\$307,544	100%	\$307,544
Conser Road Improvements	Low	\$211,956	45%	\$95,380
Old Salem Rd Build-Out Capacity Improvements	Low	\$735,083	100%	\$735,083
Old Salem Rd Existing Capacity Improvements	Low	\$385,262	0%	\$0
	Subtotal	\$3,284,063		\$2,541,930
		<b>\$4,864,391</b>	<b>63%</b>	<b>\$3,063,282</b>

<sup>1</sup> Stormwater System Master Plan (Cardno, January 2019); costs have been adjusted to 2020 based on the Engineering News Record Construction Cost index for Seattle.

**Table 5-3**  
City of Millersburg Stormwater SDC  
Capacity Evaluation<sup>1</sup>

Master Plan Project		Existing Flow	Build-Out Flow	Percent Increase in Flow
		<i>cfs</i>	<i>cfs</i>	
1	North Tributary of Crooks Creek Improvements	6.21	19.45	68%
2	Becker Ridge Detention Ponds Modification	18.51	18.64	1%
3	Morningstar Estates Outfall Modification	12.41	12.41	0%
4	Umpqua Lane Detention Pipes Modification	5.22	5.38	3%
5	Woods Road Drainage Capacity Increase	2.79	8.33	67%

<sup>1</sup> Stormwater System Master Plan (Cardno, January 2019)

## Develop Unit Costs

The unit cost of capacity is determined by dividing the cost basis by the growth in EDUs presented in Table 5-1. **Table 5-4** shows this calculation.

**Table 5-4**  
City of Millersburg Stormwater SDC  
*Unit Cost Calculation*

Item	Improvement
Cost Basis	\$3,063,282
Growth (EDUs)	4,814
<b>Cost per Unit</b>	<b>\$636</b>

### Compliance Costs

Local governments are entitled to include in the SDCs, a charge to recover costs associated with complying with the SDC statutes. Compliance costs include costs related to developing the SDC methodology and project list (i.e., a portion of master planning costs), and annual accounting and budgeting. The estimated compliance cost per EDU is \$38, as shown in **Table 5-5**.

**Table 5-5**  
City of Millersburg Stormwater SDC  
*Compliance Charge*

Component	Years	Total	Annualized
SDC Study	10	\$5,000	\$500
Master Planning	10	\$123,000	\$7,746
Auditing/Accounting	1	\$1,000	\$1,000
Total Annual Costs		\$129,000	\$9,246
Estimated Annual EDUs			241
<b>Compliance Charge/EDU</b>			<b>\$38</b>

## SDC Schedule

As shown in **Table 5-6**, the total cost per EDU equal to \$674. As discussed previously, an EDU is equal to 4,200 square feet of impervious area. Single family residential dwellings will be charged uniformly based on the number of dwelling units and the cost per EDU (\$674). Other development will be assessed SDCs based on the calculated number of EDUs (total measured impervious area for the development divided by 4,200 square feet.)

**Table 5-6**  
City of Millersburg Stormwater SDC  
*SDC Schedule*

<b>Meter Size</b>	<b>SDCi</b>	<b>Compliance</b>	<b>Total SDC</b>
<b>Single Family Residential Dwelling Unit</b>	\$636	\$38	\$674
<b>Other Development</b> \$/EDU (4,200 sq. ft).	\$636	\$38	\$674

### **Inflationary Adjustments**

In accordance with Oregon statutes, the SDCs will be adjusted annually based on a standard inflationary index. Specifically, the City plans to use the ENR Seattle CCI as the basis for adjusting the SDCs annually. All costs in this report have been indexed to the March 2020 ENR CCI for Seattle (11,991).

# Appendix A

**Table A-1**  
**City of Millersburg Transportation SDC**  
*TRANSPORTATION SDC Project List*

No.	Street	Description	Priority	2020 Cost	Other Funding	Growth Share	SDC-Eligible Cost <sup>1</sup>
<b>PEDESTRIAN PROJECTS</b>							
P5	Conser Rd Sidewalks	Conser Rd Sidewalks	Medium	\$282,202		100%	\$282,202
P6	Old Salem Rd Sidewalks	Old Salem Rd Sidewalks	Medium	\$225,762	\$225,762	0%	\$0
<b>ST</b>	<b>Total Pedestrian Projects</b>			<b>\$507,964</b>	<b>\$225,762</b>		<b>\$282,202</b>
<b>BICYCLE PROJECTS</b>							
B4	Old Salem Rd	Construct continuous bicycle access from north to south city limits (shoulder widening)	Short	\$56,440	\$56,440	0%	\$0
B5	Conser Rd	Extend bicycle lanes to west city limits (paint only)	Short	\$11,288		100%	\$11,288
<b>ST</b>	<b>Total Bicycle Projects</b>			<b>\$67,729</b>	<b>\$56,440</b>		<b>\$11,288</b>
<b>MULTI-USE PATH PROJECTS (IN ROADWAY ROW)</b>							
B1	Old Salem Rd	Construct a 10- to 12-foot-wide bicycle and ped path from the north city limit to the south city limit	Long	\$3,499,308		55%	\$1,925,401
B3	Woods Rd	Construct 10- to 12-ft wide bicycle and pedestrian path	Long	\$496,676		55%	\$273,283
<b>ST</b>	<b>Total Multi-Use Path Projects</b>			<b>\$3,995,984</b>	<b>\$0</b>		<b>\$2,198,684</b>
<b>ROADWAY IMPROVEMENTS</b>							
S6	Millersburg Dr (west of Woods Dr to city limits)	Reconstruct -upgrade to arterial cross-section (bike lanes, curb, gutter, sidewalk) with development	Medium	\$1,647,692.33		45%	\$745,677
S7	Reconstruct Morningstar Rd	Reconstruct to arterial cross-section (bike lanes, curb, gutter, sidewalk)	Medium	\$733,726	\$733,726	0%	\$0

**CITY OF MILLERSBURG** | Wastewater, Water, Transportation and Stormwater System Development Charges

No.	Street	Description	Priority	2020 Cost	Other Funding	Growth Share	SDC-Eligible Cost <sup>1</sup>
S8	Reconstruct Woods Rd	Upgrade to arterial cross- section (bike lanes, curb, gutter, sidewalk)Phase I: North of Alexander Ln Phase II: South of Alexander Ln	Medium	\$1,693,214		45%	\$766,278
S1	Zuhlke Ln Extension Ph. 2	Extend Zuhlke Ln east to connect to Old Salem Rd		\$451,524		45%	\$204,341
<b>Total Roadway &amp; Intersection Improvements</b>				<b>\$4,526,155</b>	<b>\$733,726</b>	38%	<b>\$1,716,295</b>
<b>Total</b>				<b>\$9,097,832</b>	<b>\$1,015,928</b>	52%	<b>\$4,208,470</b>



# CITY OF MILLERSBURG | Wastewater, Water, Transportation and Stormwater System Development Charges

**Table A-2**  
City of Millersburg Transportation SDC  
Sample TSDCs by Land Use

ITE Code	Description	Unit of Measure	Diverted Factor	Pass-by Factor	Total Trip Adj. Factor <sup>1</sup>	PM Peak Rate	Adj. Trip Rate	SDC per Unit <sup>2</sup>
30	TRUCK TERMINAL	TGSF	0%	0%	1.00	1.87	1.87	\$10,702
110	GENERAL LIGHT INDUSTRIAL	TGSF	0%	0%	1.00	0.63	0.63	\$3,605
130	INDUSTRIAL PARK	TGSF	0%	0%	1.00	0.40	0.40	\$2,289
140	MANUFACTURING	TGSF	0%	0%	1.00	0.67	0.67	\$3,834
150	WAREHOUSING	TGSF	0%	0%	1.00	0.19	0.19	\$1,087
151	MINI WAREHOUSE	TGSF	0%	0%	1.00	0.17	0.17	\$973
154	HIGH-CUBE/SHORT-TERM STORAGE WAREHOUSE	TGSF	0%	0%	1.00	0.10	0.10	\$572
160	DATA CENTER	TGSF	0%	0%	1.00	0.09	0.09	\$515
170	UTILITIES	TGSF	0%	0%	1.00	2.27	2.27	\$12,991
180	SPECIALTY TRADE CONTRACTOR	TGSF	0%	0%	1.00	1.97	1.97	\$11,274
210	SINGLE FAMILY DWELLING/TOWNHOME	DU	0%	0%	1.00	0.99	0.99	\$5,666
220	APARTMENTS/CONDOS	DU	0%	0%	1.00	0.56	0.56	\$3,205
240	MANUFACTURED HOUSING	DU	0%	0%	1.00	0.46	0.46	\$2,632
310	HOTEL/MOTEL	ROOM	0%	0%	1.00	0.60	0.60	\$3,434
411	CITY PARK	ACRE	0%	0%	1.00	0.11	0.11	\$630
416	CAMPGROUND/RV PARK	ACRE	0%	0%	1.00	0.98	0.98	\$5,608
430	GOLF COURSE	HOLE	0%	0%	1.00	2.91	2.91	\$16,653
444	THEATER	SEAT	0%	0%	1.00	4.91	4.91	\$28,099
492	HEALTH/FITNESS CLUB	TGSF	0%	0%	1.00	3.45	3.45	\$19,744
491	TENNIS	COURT	0%	0%	1.00	3.82	3.82	\$21,861
495	COMMUNITY CENTER	TGSF	0%	0%	1.00	2.31	2.31	\$13,220
520	ELEMENTARY SCHOOL	STUDENT	0%	0%	1.00	0.17	0.17	\$973
536	PRIVATE SCHOOL (K-12)	STUDENT	0%	0%	1.00	0.17	0.17	\$973

# CITY OF MILLERSBURG | Wastewater, Water, Transportation and Stormwater System Development Charges

ITE Code	Description	Unit of Measure	Diverted Factor	Pass-by Factor	Total Trip Adj. Factor <sup>1</sup>	PM Peak Rate	Adj. Trip Rate	SDC per Unit <sup>2</sup>
522	MIDDLE SCHOOL/JUNIOR HIGH SCHOOL	STUDENT	0%	0%	1.00	0.17	0.17	\$973
530	HIGH SCHOOL	STUDENT	0%	0%	1.00	0.14	0.14	\$801
540	JUNIOR/COMMUNITY COLLEGE	STUDENT	0%	0%	1.00	0.11	0.11	\$630
550	UNIVERSITY/ COLLEGE	STUDENT	0%	0%	1.00			\$0
560	PLACE OF WORSHIP	TGSF	0%	0%	1.00	0.49	0.49	\$2,804
565	DAY CARE CENTER	STUDENT	56%	0%	0.44	0.79	0.35	\$1,989
590	LIBRARY	PER TGSF	0%	0%	1.00	8.16	8.16	\$46,698
610	HOSPITAL	TGSF	0%	0%	1.00	0.97	0.97	\$5,551
630	CLINIC	TGSF	0%	0%	1.00	3.28	3.28	\$18,771
640	ANIMAL HOSPITAL/VET CLINIC	TGSF	0%	0%	1.00	3.53	3.53	\$20,202
710	GENERAL OFFICE BUILDING	TGSF	0%	0%	1.00	1.15	1.15	\$6,581
720	MEDICAL-DENTAL OFFICE	TGSF	0%	0%	1.00	3.46	3.46	\$19,801
731	DEPARTMENT OF MOTOR VEHICLES	TGSF	0%	0%	1.00	5.20	5.20	\$29,759
732	US POST OFFICE	TGSF	0%	0%	1.00	11.21	11.21	\$64,153
760	RESEARCH & DEVELOPMENT CENTER	TGSF	0%	0%	1.00	0.49	0.49	\$2,804
770	BUSINESS PARK	TGSF	0%	0%	1.00	0.42	0.42	\$2,404
810	TRACTOR SUPPLY STORE	TGSF	0%	0%	1.00	1.40	1.40	\$8,012
811	CONSTRUCTION EQUIPMENT RENTAL STORE BUILDING	TGSF	0%	0%	1.00	0.99	0.99	\$5,666
812	MATERIALS & LUMBER STORE	TGSF	0%	0%	1.00	2.06	2.06	\$11,789
813	FREE-STANDING DISCOUNT SUPERSTORE	TGSF	0%	29%	0.71	4.33	3.07	\$17,594
814	VARIETY/DOLLAR STORE	TGSF	0%	34%	0.66	6.84	4.51	\$25,835
816	HARDWARE/PAINT STORE	TGSF	0%	26%	0.74	2.68	1.98	\$11,349
817	NURSERY (GARDEN CENTER)	TGSF	0%	0%	1.00	6.94	6.94	\$39,716
820	SHOPPING CENTER/RETAIL	TSFGLA	26%	34%	0.40	3.81	1.52	\$8,722

# CITY OF MILLERSBURG | Wastewater, Water, Transportation and Stormwater System Development Charges

ITE Code	Description	Unit of Measure	Diverted Factor	Pass-by Factor	Total Trip Adj. Factor <sup>1</sup>	PM Peak Rate	Adj. Trip Rate	SDC per Unit <sup>2</sup>
841	AUTOMOBILE SALES	TGSF	0%	0%	1.00	2.43	2.43	\$13,906
843	AUTOMOBILE PARTS SALES	TGSF	0%	43%	0.57	4.91	2.80	\$16,016
848	TIRE STORE	TGSF	0%	28%	0.72	3.98	2.87	\$16,399
850	SUPERMARKET	TGSF	38%	36%	0.26	9.24	2.40	\$13,748
851/853	CONVENIENCE MARKET	TGSF	16%	66%	0.18	49.11	8.84	\$50,589
854	DISCOUNT SUPERMARKET	TGSF	28%	21%	0.51	8.38	4.27	\$24,458
857	DISCOUNT CLUB	TGSF	0%	37%	0.63	4.18	2.63	\$15,070
860	WHOLESALE	TGSF	0%	0%	1.00	1.76	1.76	\$10,072
862	HOME IMPROVEMENT SUPERSTORE	TGSF	0%	42%	0.58	2.33	1.35	\$7,734
863	ELECTRONICS SUPERSTORE	TGSF	0%	40%	0.60	4.26	2.56	\$14,628
864	TOY/CHILDREN'S SUPERSTORE	TGSF	0%	34%	0.66	5.00	3.30	\$18,885
875	DEPARTMENT STORE	TGSF	0%	0%	1.00	1.95	1.95	\$11,159
876	APPAREL STORE	TGSF	0%	0%	1.00	4.12	4.12	\$23,578
879	ARTS AND CRAFTS STORE	TGSF	0%	34%	0.66	6.21	4.10	\$23,456
880	PHARMACY/DRUGSTORE W/OUT DRIVE THRU WINDOW	TGSF	14%	53%	0.33	8.51	2.81	\$16,071
881	PHARMACY/DRUGSTORE WITH DRIVE THRU WINDOW	TGSF	13%	49%	0.38	10.29	3.91	\$22,377
890	FURNITURE STORE	TGSF	0%	53%	0.47	0.52	0.24	\$1,399
911	WALK-IN BANK	TGSF	22%	35%	0.43	12.13	5.22	\$29,850
912	DRIVE-IN BANK	TGSF	22%	35%	0.43	20.45	8.79	\$50,324
918	HAIR SALON	TGSF	0%	0%	1.00	1.45	1.45	\$8,298
920	COPY, PRINT AND EXPRESS SHIP STORE	TGSF	22%	35%	0.43	7.42	3.19	\$18,259
925	DRINKING PLACE	TGSF	26%	43%	0.31	11.36	3.52	\$20,153
931	QUALITY RESTAURANT	TGSF	27%	44%	0.29	7.80	2.26	\$12,945
932	HIGH TURNOVER RESTAURANT	TGSF	26%	43%	0.31	9.77	3.03	\$17,333
934	FAST FOOD RESTAURANT WITH DRIVE-THRU	TGSF	23%	50%	0.27	32.67	8.82	\$50,480

# CITY OF MILLERSBURG | Wastewater, Water, Transportation and Stormwater System Development Charges

ITE Code	Description	Unit of Measure	Diverted Factor	Pass-by Factor	Total Trip Adj. Factor <sup>1</sup>	PM Peak Rate	Adj. Trip Rate	SDC per Unit <sup>2</sup>
937	COFFEE/DONUT WITH DRIVE-THROUGH	TGSF	0%	89%	0.11	43.38	4.77	\$27,308
936	COFFEE/DONUT WITHOUT DRIVE-THROUGH	TGSF	0%	89%	0.11	36.31	3.99	\$22,858
941	QUICK LUBRICATION VEHICLE SHOP	TGSF	0%	0%	1.00	8.70	8.70	\$49,789
943	AUTOMOBILE PARTS AND SERVICE CENTER	TGSF	0%	0%	1.00	2.26	2.26	\$12,934
944	GASOLINE/SERVICE STATION	FUEL POSITION	35%	42%	0.23	14.03	3.23	\$18,467
945	GAS/SERVICE STATION W/CONVENIENCE MKT	FUEL POSITION	31%	56%	0.13	13.99	1.82	\$10,408
947	SELF SERVICE CAR WASH	WASH STALL	0%	0%	1.00	5.54	5.54	\$31,704
948	AUTOMATED CAR WASH	TGSF	0%	0%	1.00	14.20	14.20	\$81,264
949	CAR WASH AND DETAIL CENTER	WASH STALL	0%	0%	1.00	13.60	13.60	\$77,830
950	TRUCK STOP	TGSF	0%	0%	1.00	22.73	22.73	\$130,080

<sup>1</sup> Discounted by pass-by and diverted link trips

<sup>2</sup> Based on cost per new trip of \$5,723

TGSF = Thousand Gross Square Feet, TSFGLA = Thousand Square Feet Gross Leasable Area, DU = Dwelling Unit

Wastewater SDC Project List

Project Description	Time Period	Millersburg Cost	SDC-Eligible %	\$
<b>Collection</b>				
ATI Pump Station Replacement	20-year	\$68,113	100%	\$68,113
Morningstar Pump Station Impeller Size Increase	20-year	\$33,532	100%	\$33,532
Collection System Assessment	5-year	\$111,076	70%	\$77,753
System Expansion to Under Served Industrial Areas (NE)	10-year	\$129,000	100%	\$129,000
New sewer main in Morningstar Road realignment	5-year	\$192,000	100%	\$192,000
New sewer main in Fire Station and Industrial Property Access Rd	5-year	\$137,000	100%	\$137,000
System expansion to industrial properties south of Conser Road	10-year	\$180,000	100%	\$180,000
Millersburg Drive (Crooks Creek) Lift Station Upgrades	5-year	\$636,000	54%	\$342,284
	Subtotal	\$1,486,722		\$1,159,682
<b>Treatment</b>				
Influent Pump Station Expansion	15+ Years	1,771,764	93%	1,648,000
Headworks 4th Channel Equipment & Headworks Screening Equipment	15+ Years	219,137	100%	219,000
Headworks Grit Removal Equipment	15+ Years	342,599	100%	343,000
VLR No. 1A	5 Years	156,930	100%	157,000
VLR No. 2A	5-15 Years	381,174	100%	381,000
Vertical Loop Reactors 9-14	15+ Years	2,748,143	100%	2,748,000
Blower Building #2	15+ Years	686,772	100%	687,000
Secondary Clarifier #4	15+ Years	615,112	100%	615,000
Chorine Contact Basin Expansion	15+ Years	324,266	100%	324,000
Sludge Composting and Dewatering Facilities	5 Years	2,976,063	62%	1,845,000
Outfall and Diffuser No. 2	15+ Years	565,412	100%	565,000
	Subtotal	\$10,787,372		\$9,532,000
<b>Total</b>		<b>\$13,674,093</b>	<b>78%</b>	<b>\$10,691,682</b>

Stormwater SDC Project List

Project Description	Priority	Cost	SDC-Eligible	
			%	\$
<b>Stand-Alone Stormwater Projects</b>				
North Tributary of Crooks Creek Improvements	High	\$193,254	68%	\$131,552
Becker Ridge Detention Ponds Modification	Medium	\$18,681	1%	\$130
Morningstar Estates Outfall Modification	Medium	\$211,670	0%	\$0
Umpqua Lane Detention Pipes Modification	Low	\$114,196	3%	\$3,396
Woods Road Drainage Capacity Increase	Low	\$580,805	67%	\$386,274
Kathryn St. & Knox Butte Ave. Storm Improvements	Low	\$225,983	0%	\$0
Hoffman Estates Capacity Increase	Low	\$163,009	0%	\$0
Crooks Creek Sedimentation Concerns	Low	\$72,730	0%	\$0
	Subtotal	\$1,580,328		\$521,352
<b>TSP Stormwater Improvements</b>				
Woods Rd. Extension	Low	\$1,207,318	100%	\$1,207,318
Zuhlke Lane Extension	Low	\$436,900	100%	\$436,900
54th Ave. Extension	Low	\$307,544	0%	\$0
Conser Road Improvements	Low	\$211,956	45%	\$95,380
Old Salem Rd (Linn Co.) Build-Out Capacity Improvements	Low	\$735,083	100%	\$735,083
Old Salem Rd (Linn Co.) Existing Capacity Improvements	Low	\$385,262	0%	\$0
	Subtotal	\$3,284,063		\$2,474,681
<b>Total</b>		<b>\$4,864,391</b>		<b>\$2,996,033</b>

TRANSPORTATION SDC Project List

No.	Street	Description	Priority	Total Cost	Other Funding	% Growth Share	SDC Cost
<b>PEDESTRIAN PROJECTS</b>							
P5	Conser Rd Sidewalks	Conser Rd Sidewalks	Medium	\$282,202		100%	\$282,202
P6	Old Salem Rd Sidewalks	Old Salem Rd Sidewalks	Medium	\$225,762	\$225,762	0%	\$0
<b>ST</b>	<b>Total Pedestrian Projects</b>			<b>\$507,964</b>	<b>\$225,762</b>		<b>\$282,202</b>
<b>BICYCLE PROJECTS</b>							
B4	Old Salem Rd	Construct continuous bicycle access from north to south city limits (shoulder widening)	Short	\$56,440	\$56,440	0%	\$0
B5	Conser Rd	Extend bicycle lanes to west city limits (paint only)	Short	\$11,288		100%	\$11,288
<b>ST</b>	<b>Total Bicycle Projects</b>			<b>\$67,729</b>	<b>\$56,440</b>		<b>\$11,288</b>
<b>MULTI-USE PATH PROJECTS (IN ROADWAY ROW)</b>							
B1	Old Salem Rd	Construct a 10- to 12-foot-wide bicycle and ped path from the north city limit to the south city limit	Long	\$3,499,308		55%	\$1,925,401
B3	Woods Rd	Construct 10- to 12-ft wide bicycle and pedestrian path	Long	\$496,676		55%	\$273,283
<b>ST</b>	<b>Total Multi-Use Path Projects</b>			<b>\$3,995,984</b>	<b>\$0</b>		<b>\$2,198,684</b>
<b>ROADWAY IMPROVEMENTS</b>							
S6	Millersburg Dr (west of Woods Dr to city limits)	Reconstruct -upgrade to arterial cross-section (bike lanes, curb, gutter, sidewalk) with development	Medium	\$1,647,692.33		45%	\$745,677
S7	Reconstruct Morningstar Rd	Reconstruct to arterial cross-section (bike lanes, curb, gutter, sidewalk)	Medium	\$733,726	\$733,726	0%	\$0
S8	Reconstruct Woods Rd	Upgrade to arterial cross- section (bike lanes, curb, gutter, sidewalk)Phase I: North of Alexander Ln Phase II: South of Alexander Ln	Medium	\$1,693,214		45%	\$766,278
	Fire Station and Industrial Property Access Road		Short	\$479,000		100%	\$479,000
S9	Realign Conser Rd at Old Salem		Long	\$293,490		45%	\$132,821
S1	Zuhlke Ln Extension Ph. 2	Extend Zuhlke Ln east to connect to Old Salem Rd	Long	\$451,524		100%	\$451,524
<b>Total Roadway &amp; Intersection Improvements</b>				<b>\$5,298,646</b>	<b>\$733,726</b>	49%	<b>\$2,575,300</b>
<b>Total</b>				<b>\$9,870,322</b>	<b>\$1,015,928</b>	57%	<b>\$5,067,474</b>



Water SDC Project List

Project Description	Time Period	Cost	Millersburg Share	SDC-Eligible %	SDC-Eligible \$
<b>Distribution</b>					
Upsize 8" diameter pipe on Steelhead Run	2025	\$180,000	\$189,000	75%	\$135,600
Replace 3 services off asbestos cement pipe	2025	\$75,000	\$78,750	0%	\$0
Replace 15 services off asbestos cement pipe	2025	\$375,000	\$393,750	0%	\$0
System Expansion to Industrial Areas (NE)	2030	\$404,000	\$404,000	100%	\$404,000
New water main in Morningstar Rd realignment	2025	\$149,000	\$149,000	100%	\$149,000
New water main in Fire Station & Industrial Property Access Rd	2025	\$104,000	\$104,000	100%	\$104,000
System expansion to industrial properties south of Conser Road	2030	\$1,112,000	\$1,112,000	100%	\$1,112,000
	Subtotal	\$2,399,000	\$2,430,500		\$1,904,600
<b>Treatment</b>					
JWP WTP Expansion	Beyond 2024	\$6,098,048	\$1,742,299	100%	\$1,742,299
JWP Storage Expansion	Beyond 2024	\$3,583,129	\$1,791,564	100%	\$1,791,564
	Subtotal	\$9,681,176	\$3,533,864		\$3,533,864
		<b>\$13,580,176</b>	<b>\$7,464,364</b>	<b>40%</b>	<b>\$5,438,464</b>

Wastewater SDC Rate Schedule

SDC per EDU	Unit EDU	EDU per Unit	SDC per Unit \$4,655
Residential	Dwelling	1.00	\$4,655
Multifamily units	Dwelling	0.80	\$3,724
Mobile home	Dwelling	1.00	\$4,655
Residential care center	Bed	0.50	\$2,327
ADU	Dwelling	0.50	\$2,327
<b>Commercial</b>			
Churches, Lodges	1,000 sf	0.20	\$931
Hospitals	Beds	1.00	\$4,655
Hotel, Motel	Sleeping Room	0.50	\$2,327
Schools - High School	Students	0.05	\$233
Schools - All Other	Students	0.04	\$186
Eating & Drinking Establishments	1,000 sf	1.67	\$7,758
Car Washes	stall	1.00	\$4,655
Laundries	Washer	1.00	\$4,655
Dry cleaners	1,000 sf	3.00	\$13,964
General Commercial - All Other	1,000 sf	0.50	\$2,327
RV Sewage Dump station	tank/station	3.00	\$13,964
<b>Industrial</b>			
<i>Sum of following components:</i>			
Peak flow <sup>1</sup>	mgd		\$3,676,930
MMBOD	lbs/day		\$2,092
MMTSS	lbs/day		\$1,489
Compliance <sup>2</sup>	EDU		\$87

<sup>1</sup>Based on customer's projected peak day flow

<sup>2</sup>EDU's calculated based on sum of customer's flow, BOD, and TSS components divided by (Total SDC per EDU - Compliance per EDU)

*Stormwater SDC Schedule*

<b>Meter Size</b>	<b>SDCi</b>	<b>Compliance</b>	<b>Total</b>	<b>Total SDC</b>
<b>Single Family Residential Dwelling Unit</b>	\$622	\$38	\$660	\$660
<b>Other Development</b> \$/EDU (4,200 sq. ft).	\$622	\$38		\$660

Transportation SDC Schedule

ITE Code	Description	Unit of Measure	Diverted	Pass-by	Total Adjustment Factor <sup>1</sup>	PM Trip Rate	Adjusted PM Trip Rate	TSDC per Unit <sup>2</sup>
30	TRUCK TERMINAL	PER TGFSF	0%	0%	1.00	1.87	1.87	\$12,054
110	GENERAL LIGHT INDUSTRIAL	PER TGFSF	0%	0%	1.00	0.63	0.63	\$4,061
130	INDUSTRIAL PARK	PER TGFSF	0%	0%	1.00	0.40	0.40	\$2,578
140	MANUFACTURING	PER TGFSF	0%	0%	1.00	0.67	0.67	\$4,319
150	WAREHOUSING	PER TGFSF	0%	0%	1.00	0.19	0.19	\$1,225
151	MINI WAREHOUSE	PER TGFSF	0%	0%	1.00	0.17	0.17	\$1,096
154	HIGH-CUBE/SHORT-TERM STORAGE WAREHO	PER TGFSF	0%	0%	1.00	0.10	0.10	\$645
160	DATA CENTER	PER TGFSF	0%	0%	1.00	0.09	0.09	\$580
170	UTILITIES	PER TGFSF	0%	0%	1.00	2.27	2.27	\$14,632
180	SPECIALTY TRADE CONTRACTOR	PER TGFSF	0%	0%	1.00	1.97	1.97	\$12,698
210	SINGLE FAMILY DWELLING/TOWNHOME	PER DU	0%	0%	1.00	0.99	0.99	\$6,381
220	APARTMENTS/CONDOS	PER DU	0%	0%	1.00	0.56	0.56	\$3,610
	ACCESSORY DWELLING UNIT	PER DU	0%	0%	1.00	0.50	0.50	\$3,191
240	MANUFACTURED HOUSING	PER DU	0%	0%	1.00	0.46	0.46	\$2,965
310	HOTEL/MOTEL	PER ROOM	0%	0%	1.00	0.60	0.60	\$3,867
411	CITY PARK	PER ACRE	0%	0%	1.00	0.11	0.11	\$709
416	CAMPGROUND/RV PARK	PER ACRE	0%	0%	1.00	0.98	0.98	\$6,317
430	GOLF COURSE	HOLES	0%	0%	1.00	2.91	2.91	\$18,757
444	THEATER	SEATS	0%	0%	1.00	4.91	4.91	\$31,649
492	HEALTH/FITNESS CLUB	PER TGFSF	0%	0%	1.00	3.45	3.45	\$22,238
491	TENNIS	PER COURT	0%	0%	1.00	3.82	3.82	\$24,623
495	COMMUNITY CENTER	PER TGFSF	0%	0%	1.00	2.31	2.31	\$14,890
520	ELEMENTARY SCHOOL	PER STUDENT	0%	0%	1.00	0.17	0.17	\$1,096
536	PRIVATE SCHOOL (K-12)	PER STUDENT	0%	0%	1.00	0.17	0.17	\$1,096
522	MIDDLE SCHOOL/JUNIOR HIGH SCHOOL	PER STUDENT	0%	0%	1.00	0.17	0.17	\$1,096
530	HIGH SCHOOL	PER STUDENT	0%	0%	1.00	0.14	0.14	\$902
540	JUNIOR/COMMUNITY COLLEGE	PER STUDENT	0%	0%	1.00	0.11	0.11	\$709
560	PLACE OF WORSHIP	PER TGFSF	0%	0%	1.00	0.49	0.49	\$3,158
565	DAY CARE CENTER	PER STUDENT	56%	0%	0.44	0.79	0.35	\$2,241
590	LIBRARY	PER TGFSF	0%	0%	1.00	8.16	8.16	\$52,598
610	HOSPITAL	PER TGFSF	0%	0%	1.00	0.97	0.97	\$6,252
630	CLINIC	PER TGFSF	0%	0%	1.00	3.28	3.28	\$21,142
640	ANIMAL HOSPITAL/VET CLINIC	PER TGFSF	0%	0%	1.00	3.53	3.53	\$22,754
710	GENERAL OFFICE BUILDING	PER TGFSF	0%	0%	1.00	1.15	1.15	\$7,413
720	MEDICAL-DENTAL OFFICE	PER TGFSF	0%	0%	1.00	3.46	3.46	\$22,302
731	DEPARTMENT OF MOTOR VEHICLES	PER TGFSF	0%	0%	1.00	5.20	5.20	\$33,518
732	US POST OFFICE	PER TGFSF	0%	0%	1.00	11.21	11.21	\$72,257
760	RESEARCH & DEVELOPMENT CENTER	PER TGFSF	0%	0%	1.00	0.49	0.49	\$3,158
770	BUSINESS PARK	PER TGFSF	0%	0%	1.00	0.42	0.42	\$2,707
810	TRACTOR SUPPLY STORE	PER TGFSF	0%	0%	1.00	1.40	1.40	\$9,024
811	CONSTRUCTION EQUIPMENT RENTAL STORE	PER TGFSF	0%	0%	1.00	0.99	0.99	\$6,381
812	BUILDING MATERIALS & LUMBER STORE	PER TGFSF	0%	0%	1.00	2.06	2.06	\$13,278
813	FREE-STANDING DISCOUNT SUPERSTORE	PER TGFSF	0%	29%	0.71	4.33	3.07	\$19,816

Transportation SDC Schedule

ITE Code	Description	Unit of Measure	Diverted	Pass-by	Total Adjustment Factor <sup>1</sup>	PM Trip Rate	Adjusted PM Trip Rate	TSDC per Unit <sup>2</sup>
814	VARIETY/DOLLAR STORE	PER TGSF	0%	34%	0.66	6.84	4.51	\$29,099
816	HARDWARE/PAINT STORE	PER TGSF	0%	26%	0.74	2.68	1.98	\$12,783
817	NURSERY (GARDEN CENTER)	PER TGSF	0%	0%	1.00	6.94	6.94	\$44,734
820	SHOPPING CENTER/RETAIL	PER TSFGLA	26%	34%	0.40	3.81	1.52	\$9,823
841	AUTOMOBILE SALES	PER TGSF	0%	0%	1.00	2.43	2.43	\$15,663
843	AUTOMOBILE PARTS SALES	PER TGSF	0%	43%	0.57	4.91	2.80	\$18,040
848	TIRE STORE	PER TGSF	0%	28%	0.72	3.98	2.87	\$18,471
850	SUPERMARKET	PER TGSF	38%	36%	0.26	9.24	2.40	\$15,485
851/853	CONVENIENCE MARKET	PER TGSF	16%	66%	0.18	49.11	8.84	\$56,979
854	DISCOUNT SUPERMARKET	PER TGSF	28%	21%	0.51	8.38	4.27	\$27,548
857	DISCOUNT CLUB	PER TGSF	0%	37%	0.63	4.18	2.63	\$16,974
860	WHOLESALE	PER TGSF	0%	0%	1.00	1.76	1.76	\$11,345
862	HOME IMPROVEMENT SUPERSTORE	PER TGSF	0%	42%	0.58	2.33	1.35	\$8,711
863	ELECTRONICS SUPERSTORE	PER TGSF	0%	40%	0.60	4.26	2.56	\$16,475
864	TOY/CHILDREN'S SUPERSTORE	PER TGSF	0%	34%	0.66	5.00	3.30	\$21,271
875	DEPARTMENT STORE	PER TGSF	0%	0%	1.00	1.95	1.95	\$12,569
876	APPAREL STORE	PER TGSF	0%	0%	1.00	4.12	4.12	\$26,557
879	ARTS AND CRAFTS STORE	PER TGSF	0%	34%	0.66	6.21	4.10	\$26,419
880	PHARMACY/DRUGSTORE W/OUT DRIVE THRU	PER TGSF	14%	53%	0.33	8.51	2.81	\$18,102
881	PHARMACY/DRUGSTORE WITH DRIVE THRU W	PER TGSF	13%	49%	0.38	10.29	3.91	\$25,204
890	FURNITURE STORE	PER TGSF	0%	53%	0.47	0.52	0.24	\$1,575
911	WALK-IN BANK	PER TGSF	22%	35%	0.43	12.13	5.22	\$33,621
912	DRIVE-IN BANK	PER TGSF	22%	35%	0.43	20.45	8.79	\$56,681
918	HAIR SALON	PER TGSF	0%	0%	1.00	1.45	1.45	\$9,346
920	COPY, PRINT AND EXPRESS SHIP STORE	PER TGSF	22%	35%	0.43	7.42	3.19	\$20,566
925	DRINKING PLACE	PER TGSF	26%	43%	0.31	11.36	3.52	\$22,699
931	QUALITY RESTAURANT	PER TGSF	27%	44%	0.29	7.80	2.26	\$14,580
932	HIGH TURNOVER RESTAURANT	PER TGSF	26%	43%	0.31	9.77	3.03	\$19,522
934	FAST FOOD RESTAURANT WITH DRIVE-THRU	PER TGSF	23%	50%	0.27	32.67	8.82	\$56,858
937	COFFEE/DONUT WITH DRIVE-THROUGH	PER TGSF	0%	89%	0.11	43.38	4.77	\$30,758
936	COFFEE/DONUT WITHOUT DRIVE-THROUGH	PER TGSF	0%	89%	0.11	36.31	3.99	\$25,745
941	QUICK LUBRICATION VEHICLE SHOP	PER TGSF	0%	0%	1.00	8.70	8.70	\$56,078
943	AUTOMOBILE PARTS AND SERVICE CENTER	PER TGSF	0%	0%	1.00	2.26	2.26	\$14,567
944	GASOLINE/SERVICE STATION	PER VEH.FUEL.POS.	35%	42%	0.23	14.03	3.23	\$20,800
945	GAS/SERVICE STATION W/CONVENIENCE MKT	PER VEH.FUEL.POS.	31%	56%	0.13	13.99	1.82	\$11,723
947	SELF SERVICE CAR WASH	WASH STALL	0%	0%	1.00	5.54	5.54	\$35,710
948	AUTOMATED CAR WASH	PER TGSF	0%	0%	1.00	14.20	14.20	\$91,530
949	CAR WASH AND DETAIL CENTER	WASH STALL	0%	0%	1.00	13.60	13.60	\$87,663
950	TRUCK STOP	PER TGSF	0%	0%	1.00	22.73	22.73	\$146,513

<sup>1</sup> Discounted by pass-by and diverted link trips

<sup>2</sup> Based on cost per new trip: \$6,446

TGSF = Thousand Gross Square Feet  
 TSFGLA = Thousand Square Feet Gross Leasable Area  
 DU = Dwelling Unit  
 VEH. FUEL POS. = Vehicle Fueling Position

Water SDC Schedule

Meter Size	SDCr	SDCi	Compliance	Total	Equivalency
<b>Residential Dwellings</b>					
Single Family	\$1,864	\$1,349	\$80	\$3,293	1.00
Accessory Dwelling Unit	\$932	\$674	\$40	\$1,647	0.50
<b>Nonresidential Meter<sup>1</sup></b>					
3/4"	\$1,864	\$1,349	\$80	\$3,293	1
1"	\$3,107	\$2,248	\$134	\$5,489	1.7
1 1/2"	\$6,214	\$4,496	\$267	\$10,978	3.3
2"	\$9,943	\$7,194	\$428	\$17,565	5.3
3"	\$19,886	\$14,388	\$856	\$35,130	10.7
4"	\$31,072	\$22,481	\$1,337	\$54,890	16.7
6"	\$62,145	\$44,962	\$2,674	\$109,780	33.3
8"	\$99,369	\$71,894	\$4,276	\$175,538	53.3
10"	\$261,008	\$188,839	\$11,230	\$461,077	140.0

<sup>1</sup> Industrial may be charged based on estimated maximum day demand / 785 gallons per day X SDC for Single Family Dwelling unit