NOTICE OF PROPOSAL TO CREATE A METHODOLOGY FOR CALCULATING WATER SYSTEM DEVELOPMENT CHARGES

Pursuant to ORS 223.304 (6) & (7), public notice is hereby given of the Marcola Water District's intent to create a methodology for calculating System Development Charges (SDCs) for drinking water services. A public hearing on the proposed methodology is scheduled before the Marcola Water District Board of Commissioners on March 10, 2025. The proposed methodology will be available for public review at the District's web site www.rwdonline.net/marcola and at the Rainbow/Marcola Water District office no later than January 9, 2025. The Rainbow/Marcola District office street address is 1550 North 42nd Street, Springfield Oregon 97477. Questions concerning this matter can be referred Mr. Jamie Porter, District Superintendent, by phone at (541) 746-1676, or email via office@rwdonline.net.

January

2025

Water System Development Charge Update

Final Report

Prepared for:

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Marcola Water District
2025 Water SDC Methodology Update

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Introduction/History of the Project

The Marcola Water District (the District) conducts periodic updates to its various Public Facility Plans to provide orderly and sustainable growth of drinking water infrastructure. A key component to funding these public facilities is the system development charge (SDC) program. SDCs are one-time charges for new development—designed to recover the costs of infrastructure capacity needed to serve new development. This section describes the policy context and project scope upon which the body of this report is based. It concludes with a numeric overview of the calculations presented in subsequent sections of this report for water SDCs.

The District's current schedule of water SDCs were last reviewed in May of 1995. Since that time, the District has completed a new master plan for water service. In October of 2024, the District hired Donovan Enterprises, Inc. to review and update the water SDC methodology. With this review and update, the District has stated a number of objectives:

- Review the basis for charges to ensure a consistent methodology;

- Address specific policy, administrative, and technical issues which had arisen from application of the existing SDCs;

- Determine the most appropriate and defensible fees, ensuring that development is paying its way;

- Consider possible revisions to the structure or basis of the charges which might improve equity or proportionality to demand;

- Provide clear, orderly documentation of the assumptions, methodology, and results, so that District staff can, by reference, respond to questions or concerns from the public.

This report provides the documentation of that effort and was done in close coordination with District staff and available facilities planning documents.

Table 1 gives a component breakdown for the current and proposed residential equivalent SDCs for water services.

Table 1 - Component Breakdown of the Proposed Residential Equivalent Water SDCs

Water SDC Components	Proposed	Current	Difference
Reimbursement fee	621	572	49
Improvement fee	4,276	1,904	2,372
Compliance fee at 5%	245	-	245
Total water SDC	$ 5,142	$ 2,476	$ 2,666

Analytical Process for the Methodology Updates

The essential ingredient in the development of an SDC methodology is valid sources of data. For this project, the consultant team has relied on a number of data sources. The primary sources have been the newly formulated and adopted capital improvement plans for water. We have supplemented these data sources with District utility billing records, certified census data, and other documents that we deemed helpful, accurate, and relevant to this study. Table 2 contains a bibliography of the key documents/sources that we relied upon to facilitate our analysis and hence the resulting SDCs.

Table 2 - Data Sources for the Calculation of SDCs

Master Plan Document and/or Corroborating Source Documentation
• Marcola Water District Water System Master Plan, July 2022; Pace Engineers, Inc.
• Marcola Water District water system twenty-year capital improvement plan, July 2022
• Marcola Water District Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2023
• Marcola Water District water system fixed asset schedule; June 30, 2024; District records
• Marcola Water District Utility Billing System – water system active accounts and meters in service report; October 31, 2024
• Portland State University, College of Urban Affairs, Population Research Center; Certified census for Lane County, Oregon; June 2022
• United States Census Bureau, American Community Survey, population data for the District 2024 estimated.

The data sources shown in Table 2 were used to formulate the two (2) components of the SDCs. These components are the reimbursement and improvement fees. A brief definition of the two components are:

- *The reimbursement fee* considers the cost of existing facilities, prior contributions by existing users of those facilities, the value of the unused/available capacity, and generally accepted ratemaking principles. The objective is future system users contribute no more than an equitable share to the cost of existing facilities. The reimbursement fee can be spent on capital costs or debt service related to the systems for which the SDC is applied.

- *The improvement fee* portion of the SDC is based on the cost of planned future facilities that expand the system's capacity to accommodate growth or increase its level of performance. In developing an analysis of the improvement portion of the fee, each project in the respective service's capital improvement plan is evaluated to exclude costs related to correcting existing system deficiencies or upgrading for historical lack of capacity. An example is a facility which improves system capacity to better serve current customers. The costs for this type of project must be eliminated from the improvement fee calculation. Only capacity increasing/level of performance costs provide the basis for the SDC calculation. The improvement SDC is calculated as a function of the estimated number of additional equivalent residential units to be served by

the District's facilities over the planning period. Such a fee represents the greatest potential for future SDC changes. The improvement fee must also provide a credit for construction of a qualified public improvement.

SDC Legal Authorization and Background

SDCs are authorized by Oregon Revised Statute (ORS) 223.297-314. The statute is specific in its definition of system development charges, their application, and their accounting. In general, an SDC is a one-time fee imposed on new development or expansion of existing development and assessed at the time of development approval or increased usage of the system. Overall, the statute is intended to promote equity between new and existing customers by recovering a proportionate share of the cost of existing and planned/future capital facilities that serve the developing property. Statute further provides the framework for the development and imposition of SDCs and establishes that SDC receipts may only be used for capital improvements and/or related debt service.

Finally, two cost basis adjustments are potentially applicable to both reimbursement and improvement fees: fund balance and compliance costs. In this study, the project team paid attention to this detail to align future infrastructure costs to those responsible for paying those costs. The reasons for this attention is as follows:

- *Fund Balances* - To the extent that SDC revenue is currently available in fund balance, that revenue should be deducted from its corresponding cost basis. For example, if the District has water improvement fees that it has collected but not spent, then those unspent improvement fees should be deducted from the water system's improvement fee cost basis to prevent charging twice for the same capacity.

- *Compliance Costs* - ORS 223.307(5) authorizes the expenditure of SDCs on "the costs of complying with the provisions of ORS 223.297 to 223.314, including the costs of developing system development charge methodologies and providing an annual accounting of system development charge expenditures." To avoid spending monies for compliance that might otherwise have been spent on growth-related projects, this report includes an estimate of compliance costs in its SDCs.

Reimbursement Fee Methodology

The reimbursement fee represents a buy-in to the cost, or value, of infrastructure capacity within the existing system. Generally, if a system were adequately sized for future growth, the reimbursement fee might be the only charge imposed, since the new customer would be buying existing capacity. However, staged system expansion is needed, and an improvement fee is imposed to allocate those growth-related costs. Even in those cases, the new customer also relies on capacity within the existing system, and a reimbursement component is warranted.

In order to determine an equitable reimbursement fee to be used in conjunction with an improvement fee, two points should be highlighted. First, the cost of the system to the District's customers may be far less than the total plant-in-service value. This is due to the fact that elements of the existing system may have been contributed, whether from developers, governmental grants, and other sources. Therefore, the net investment by the customer/owners is less. Second, the value of the existing system to a new customer is less than the value to an existing customer, since the new customer must also pay, through an improvement fee, for expansion of some portions of the system.

The method used for determining the reimbursement fee accounts for both of these points. First, the charge is based on the net investment in the system, rather than the gross cost. Therefore, donated facilities, typically including local facilities, and grant-funded facilities, would be excluded from the cost basis. Also, the charge should be based on investments clearly made by the current users of the system, and not already supported by new customers. Tax supported activities fail this test since funding sources have historically been from general revenues, or from revenues which emanate, at least in part, from the properties now developing. Second, the cost basis is allocated between used and unused capacity, and, capacity available to serve growth. In the absence of a detailed asset by asset analysis, it is appropriate to allocate the cost of existing facilities between used and available capacity proportionally based on the forecasted population growth as converted to equivalent dwelling units over the planning period. This approach reflects the philosophy, consistent with the District's Updated Master Plans, that facilities have been sized to meet the demands of the customer base within the established planning period.

Improvement Fee Methodology

There are three basic approaches used to develop improvement fee SDCs: "standards driven," "improvements-driven," and "combination/hybrid" approaches. The "standards-driven" approach is based on the application of Level of Service (LOS) standards for facilities. Facility needs are determined by applying the LOS standards to projected future demand, as applicable. SDC-eligible amounts are calculated based on the costs of facilities needed to serve growth. This approach works best where level of service standards have been adopted but no specific list of projects is available. The "improvements-driven" approach is based on a specific list of planned capacity increasing capital improvements. The portion of each project that is attributable to growth is determined, and the SDC-eligible costs are calculated by dividing the total costs of growth-required projects by the projected increase in projected future demand, as applicable. This approach works best where a detailed master plan or project list is available, and the benefits of projects can be readily apportioned between growth and current users. Finally, the combination/hybrid-approach includes elements of both the "improvements driven" and "standards-driven" approaches. Level of Service standards may be used to create a list of planned capacity-increasing projects, and the growth required portions of projects are then used as the basis for determining SDC eligible costs. This approach works best where levels of service have been identified and the benefits of individual projects are not easily apportioned between growth and current users.

In the past, the District has utilized the "improvements-driven" approach for the calculation of SDCs. This study continues to use this method and has relied on the capital improvement plans that are incorporated in the master plans, and plan updates for the water systems.

For this SDC methodology update, the improvement fee represents a proportionate share of the cost to expand the systems to accommodate growth. This charge is based on the newly adopted capital improvement plans established by the District for water services. The costs that can be applied to the improvement fees are those that can reasonably be allocable to growth. Statute requires that the capital improvements used as a basis for the charge be part of an adopted capital improvement schedule, whether as part of a system plan or independently developed, and that the improvements included for SDC eligibility be capacity or level of service expanding. The improvement fee is intended to protect existing customers from the cost burden and impact of expanding a system that is already adequate for their own needs in the absence of growth.

The key step in determining the improvement fee is identifying capital improvement projects that expand the system and the share of those projects attributable to growth. Some projects may be entirely attributable to growth, such as a water distribution line that exclusively serves a newly developing area.

Other projects, however, are of mixed purpose, in that they may expand capacity, but they also improve service or correct a deficiency for existing customers. An example might be a water main oversizing project that both expands capacity to serve a newly developing area and corrects a chronic capacity issue for existing users. In this case, a rational allocation basis must be defined.

The improvement portion of the SDC is based on the proportional approach toward capacity and cost allocation in that only those facilities (or portions of facilities) that either expand the respective system's capacity to accommodate growth or increase its respective level of performance have been included in the cost basis of the fee. As part of this SDC update, District Staff wase asked to review the planned capital improvement lists in order to assess SDC eligibility. The criteria in Figure 1 were developed to guide the District's evaluation:

Figure 1 - SDC Eligibility Criteria

ORS 223

- Adopted capital improvement plan required

- Assest limited to water supply, transmission, treatment, pumping, and distribution

- The SDC improvement base shall consider the cost of projected capital improvements needed to increase the capacity of the systems to which the fee is related

- An increase in system capacity is established if a capital improvement increases the "level of performance or service" provided by existing facilities or provided by new facilities.

District Decision Rules

- Repair costs are not to be included

- Replacement costs will not be included unless the replacement includes an upsizing of system capacity and/or the level of performance of the facility is increased

- New regulatory compliance facility requirements fall under the level of performance definition and should be proportionately included

- Costs will not be included which bring deficient systems up to established design levels

In developing the improvement fee, the project team in consultation with District staff evaluated each of its CIP projects to exclude costs related to correcting existing system deficiencies or upgrading for historical lack of capacity. Only capacity increasing/level of performance costs were used as the basis for the SDC calculation, as reflected in the capital improvement schedules developed by the District. The improvement fee is calculated as a function of the estimated number of projected additional Equivalent Residential Units (expressed in ¾" water meter equivalents) for water over the planning horizon. Once the future costs to serve growth have been segregated (i.e., the numerator), they can be divided into the total number of new EDUs that will use the capacity derived from those investments (i.e., the denominator).

Methodology for the Granting of Credits, Discounts, and Exemptions

SDC Credits Policy

ORS 223.304 requires that credit be allowed for the construction of a "qualified public improvement" which is required as a condition of development approval, is identified in the Capital Improvement Plan, and either is not located on or contiguous to property that is the subject of development approval or is located on or contiguous to such property and is required to be built larger or with greater capacity than is necessary for the particular development project. The credit for a qualified public improvement may only be applied against an SDC for the same type of improvement and may be granted only for the cost of that portion of an improvement which exceeds the minimum standard facility size or capacity needed to serve the particular project. For multi-phase projects, any excess credit may be applied against SDCs that accrue in subsequent phases of the original development project. In addition to these required credits, the District may, if it so chooses, provide a greater credit, establish a system providing for the transferability of credits, provide a credit for a capital improvement not identified in the Capital Improvement Plan, or provide a share of the cost of an improvement by other means.

SDC Discount Policy

The District, at its sole discretion, may discount the SDC rates by choosing not to charge a reimbursement fee for excess capacity, or by reducing the portion of growth-required improvements to be funded with SDCs. A discount in the SDC rates may also be applied on a pro-rata basis to any identified deficiencies, which must be funded from sources other than improvement fee SDCs. The portion of growth-required costs to be funded with SDCs must be identified in the CIP. Because discounts reduce SDC revenues, they increase the amounts that must come from other sources, such as user fees or general fund contributions, in order to acquire the facilities identified in the Updated Master Plan(s).

Partial and Full SDC Exemption

The District may exempt certain types of development from the requirement to pay SDCs. Exemptions reduce SDC revenues and, therefore, increase the amounts that must come from other sources, such as user fees and property taxes.

Water SDCs

Water Capital Improvement Plan

The principal sources of data for the water system CIP are the 2022 capital improvement plans for water supply, treatment, storage, transmission, and distribution systems. District Staff have periodically updated these plans for current development conditions. With the assistance of District Staff, the project team has summarized the 2022 water system CIPs for this SDC methodology update. The 2022 water system CIP is shown in Table 3.

Table 3 - 2022 Water System CIP

Project No. or Priority	Project Description	Total Project Cost	Projected Funding Sources				
			Rates	Outside of 20 Year Planning Window	Developer Contributions	System Development Charges	Total
Functional Cost Allocations:							
Distribution System Improvements							
2	Reservoir transmission alternative #2	408,320	365,170	-	-	43,150	408,320
3	Carson/Murdoch new 6" line	147,175	147,175	-	-	-	147,175
4	Murdoch/Walling new 6" line	168,200	168,200	-	-	-	168,200
5	Walling/Queen new 6" line	210,250	210,250	-	-	-	210,250
6	A street new 6" line	100,920	100,920	-	-	-	100,920
7	B street replace 2" with new 6" line	71,485	71,485	-	-	-	71,485
8	Marcola road east replace 4" with new 6" line	126,150	126,150	-	-	-	126,150
9	Alcorn street section of 2" replaced with new 6" line	210,250	210,250	-	-	-	210,250
10	Shields crossing main 100' directional drilling (river crossing)	198,650	198,650	-	-	-	198,650
11	Railroad land new 2" line	127,600	127,600	-	-	-	127,600
12	Maple/Spicer new 2" line	127,600	127,600	-	-	-	127,600
13	Roberts crossing main 100' directional drilling (river crossing)	242,875	242,875	-	-	-	242,875
	Subtotal distribution system	**$2,139,475**	**$2,096,325**	**$0**	**$0**	**$43,150**	**$2,139,475**
Phase 1 Water Supply Improvements							
H	Roberts well arsenic removal	$20,000	$20,000	-	-	-	$20,000
H	New 150,000 gallon reservoir	874,000	781,639	-	-	92,361	874,000
H	Reservoir no. 2 improvements	150,000	150,000	-	-	-	150,000
H	Annual leak survey	70,000	70,000	-	-	-	70,000
H	Water meter replacement program	123,500	123,500	-	-	-	123,500
H	Well capacity replacement	200,000	200,000	-	-	-	200,000
H	Telemetry upgrades	30,000	30,000	-	-	-	30,000
M	Water master plan update	60,000	53,659	-	-	6,341	60,000
	Subtotal phase 1 water supply	**$1,527,500**	**$1,428,798**	**$0**	**$0**	**$98,702**	**$1,527,500**
	Total master plan CIP cost	**$3,666,975**	**$3,525,123**	**$0**	**$0**	**$141,852**	**$3,666,975**
	Total master plan CIP percentages	**100%**	**96%**	**0%**	**0%**	**4%**	

Water Customers Current and Future Demographics

Existing Water Demand and Population Growth

Current Utility water demands are based on historical customer billing records, and actual water meters in service as of October 2024. Projected demands are estimated based on an approximate population growth rate of 0.56 percent per year within the established limits of the District's service area. This annual population growth factor is based on the population forecasts contained in the District's adopted 2022 Water Master Plan (Section 2.4 – Population and Growth).

Estimated Demand per Equivalent 3/4" Water Meter

The District principally serves single-family residential customers and, to a lesser extent, small commercial and institutional customers. Single-family residential water services generally have a consistent daily pattern of water use whereas water demands for multifamily residences, commercial and institutional users may vary significantly from service to service depending on the number of multifamily units per service or the type of commercial enterprise. When projecting future water demands based on population change, the water needs of nonresidential and multi-family residential customers are represented by comparing the water use volume at these services to the average single-family residential water service. A method to estimate this relationship is to calculate "equivalent dwelling units (EDUs)." In the case of the District, the standard residential unit of demand is the rated capacity (in gallons per minute) of the 3/4" water meter. As of November 2024, the District had 237 active water meters in service, 220 of which were 3/4" meters serving single family residential customers. In other words, roughly 93% of all active water services were assigned to the single-family residential customer class. The process for calculating equivalent 3/4" meters is shown below in Table 4.

Meter Size	Total Meters In Service	AWWA Rated Flow (GPM)*	Flow Factor Equivalence	5/8" Meter Equivalents
Small/residential meters:				
0.625" x 0.75" - Displacement or Multi-jet	-	30	1.00	-
0.75"x 0.75" - Displacement or Multi-jet	220	30	1.00	220
1.00 inch - Displacement or Multi-jet	13	50	1.67	22
1.50 inch - Displacement or Class I Turbine	1	100	3.33	3
2.00 inch - Displacement or Class I & II Turbine	3	160	5.33	16
Large/commercial & industrial meters:				
3 inch meters:				
Displacement	-	300	10.00	-
Compound	-	320	10.67	-
Class I & II turbine	-	350	11.67	-
4 inch meters:				
Displacement or Compound	-	500	16.67	-
Class I turbine	-	600	20.00	-
6 inch meters:				-
Displacement or Compound	-	1000	33.33	-
Class I turbine	-	1250	41.67	-
8 inch meters:				-
Compound	-	1600	53.33	-
Class I turbine	-	1800	60.00	-
10 inch meters:				-
Compound	-	2300	76.67	-
Class I turbine	-	2900	96.67	-
Total	237			261
	93%			

* - AWWA Manual of Practice M6; Water Meters - Selection, Installation, Testing, and Maintenance; Table 2-2 Total Quantities Registered per Month by Meters Operating at Varying Percentages of Maximum Capacity

Projected Demands

The planning horizon that was used for the District's 2022 adopted water facilities CIP is 20 years, 2021 through the year 2041. We have modified that forecast horizon to be 2024 through 2044 for the water SDC update. In the master plan, the average annual growth rate (AAGR) of the District over the planning period has been approximately 0.56% for population. For general planning purposes, the year 2037 population forecast was 607 persons reflecting the 0.56% AAGR. This is somewhat less than the Lane County forecast of 0.80% AAGR over the same period. The authors of the Master Plan felt the lower growth rate was more representative of actual conditions given historical billing records. For this SDC update, the project team extrapolated the 2021 service population to a 2024 base and grew it by the 0.56% AAGR to arrive at the 2044 service population. With the benefit of actual meters in service, and a population growth forecast that is predicated on existing growth trends for the District a forecast of future

equivalent ¾" meters was developed. Based upon these decision rules, the forecast of equivalent meters in use for this water SDC update are shown below in Table 5.

Table 5 – Forecast of Equivalent ¾" Meters for the 2024 Water SDC Update Study

	2017	2021	2024	2041	2044	Growth	CAGR[1]
2022 Water Master Plan horizon		2021		2041			
2024 SDC Methodology Study horizon			2024		2044		
Service Population Forecast[2]	540	552	562	617	628	66	0.5600%
Total number of 5/8" or 3/4" meter equivalents[3]		261	265	292	297	31	0.5600%
Water Equivalent Dwelling Units[2]	270	276	281	309	314	33	0.5600%

[1] Compound Annual Growth Rate

[2] Source: Marcola Water District Water System Master Plan; July, 2022; Pace Engineering

[3] Source: Marcola Water District Water utility billing system records

Reimbursement Fee Calculations

As discussed earlier in this report, the reimbursement fee represents a buy-in to the cost, or value, of infrastructure capacity within the existing system. In theory, this should be a simple calculation. Simply go to the Utility's balance sheet, find the book value of assets in service, and divide that cost by the number of forecasted new connections to the water system. That is a simple calculation, and it is wrong. In order to determine an equitable reimbursement, we have to account for some key issues of rate equity;

- First, the cost of the system to the District's existing customers may be far less than the total plant-in-service value. This is due to the fact that elements of the existing system may have been contributed, whether from developers, governmental grants, and other sources.

- Second, the value of the existing system to a new customer is less than the value to an existing customer, since the new customer must also pay, through an improvement fee, for expansion of some portions of the system.

- Third, the accounting treatment of asset costs generally has no relationship to the capacity of an asset to serve growth. In the absence of a detailed asset by asset analysis detailed in the balance sheet (or fixed asset schedule), a method has to be used to allocate cost to existing and future users of the asset. Generally, it is industry practice to allocate the cost of existing facilities between used and available capacity proportionally based on the forecasted population growth as converted to equivalent dwelling units (i.e., equivalent ¾" meters) over the planning period.

- Fourth, the Oregon SDC statute has strict limitations on what type of assets can be included in the basis of the reimbursement fee. ORS 223.299 specifically states that a "capital improvement" does not include costs of the operation or routine maintenance of capital improvements. This means the assets on the balance sheet such as certain vehicles and equipment used for heavy

repair and maintenance of infrastructure cannot be included in the basis of the reimbursement fee.

For this water SDC methodology update, the following discrete calculation steps were followed to arrive at the recommended water reimbursement fee.

Step 1: Calculate the original cost of water fixed assets in service. From this starting point, eliminate any assets that do not conform to the ORS 223.299 definition of a capital improvement. This results in the **adjusted original cost of water fixed assets**.

Step 2: Subtract from the adjusted original cost of water fixed assets in service the accumulated depreciation of those fixed assets. This arrives at the **modified book value of water fixed assets in service**.

Step 3: Subtract from the modified book value of water assets in service any grant funding or contributed capital. This arrives at the **modified book value of water fixed assets in service net of grants and contributed capital**.

Step 4: Subtract from the modified book value of water fixed assets in service net of grants and contributed capital any principal outstanding on long term debt used to finance those assets. This arrives a **gross water reimbursement fee basis**.

Step 5: Subtract from the gross water reimbursement fee basis the fund balance held in the Water Reimbursement SDC fund (if available). This arrives at the **net water reimbursement fee basis**.

Step 6: Divide the net water reimbursement fee basis by the sum of existing and future EDUs to arrive at the **unit net reimbursement fee**.

The actual data that was used to calculate the total water reimbursement fee is shown below in Table 6.

Table 6 - Calculation of the Water Reimbursement Fee

Line Item Description		2024
Utility Plant-in-Service (original cost):[1]		
Land and land improvements	$	1,300
Buildings		63,392
Service lines		64,161
Mains		580,683
Meters		14,791
Hydrants		23,536
Pump equipment		94,390
Corrosion control		13,210
Reservoirs		143,444
Wells		125,294
Equipment		23,822
Total Utility Plant-in-Service		1,148,023
Accumulated depreciation[1]		
Total accumulated depreciation		882,209
Book value of water utility plant-in-service @ June 30, 2024		265,814
Eliminating entries:		
Principal outstanding on bonds, notes, and loans payable[2]		
December, 2016 CoBank refunding loan		70,891
Developer Contributions		-
Grants, net of amortization		-
Total eliminating entries		70,891
Net basis in utility plant-in-service available to serve future customers	$	194,923
Estimated existing and future 3/4" Meter Equivalents (MEs)		314
Calculated reimbursement fee - $ per 3/4" ME	$	621

[1]   Source: Marcola Water District records

[2]   Source: Marcola Water District Audit Report for the fiscal year ended June 30, 2023; Note 7 - Long Term Debt; page 14

Improvement Fee Calculations

The calculation of the water improvement fee is more streamlined than the process used to calculate the water reimbursement fee. This study continues to use the improvements-driven method and has relied on the 2022 water system capital improvement plan. Under this methodology, only three steps are required to arrive at the improvement fee. These steps are:

Step 1: Accumulate the future cost of planned improvements needed to serve growth. This arrives at the **gross improvement fee basis**. In this process, particular attention was paid to the issue of sources of supply, storage, transmission, and distribution. Concerning the water transmission and distribution systems, the Water System Master Plan modeled upsizing of system lines to provide a balanced flow through the system to serve growth in multiple areas around the District. This is different than the development of water transmission mains as a system backbone which can be more costly than targeted upsizing of the existing system. The projects or portions thereof identified in the capital improvement plan as system development charge (SDC) fee eligible were approved by the District's Staff. All projects or portions thereof that do not increase the District's water system capacity by either increasing the level of performance or service provided by existing facilities or providing new facilities were excluded from the total SDC eligible costs.

Step 2: Subtract from the gross improvement fee basis the fund balance held in the Water Improvement SDC Fund. This arrives at **the net water improvement fee basis**.

Step 3: Divide the net water improvement fee basis by the forecasted number of growth EDUs over the planning period. This arrives at **the total water improvement fee**.

The actual data that was used to calculate the total water improvement fee is shown below in Table 7.

Table 7 - Calculation of the Water Improvement Fee

Line Item Description	Total Cost	SDC Ineligible	SDC Eligible
Distribution System Improvements			
Reservoir transmission alternative #2	408,320	365,170	43,150
Carson/Murdoch new 6" line	147,175	147,175	-
Murdoch/Walling new 6" line	168,200	168,200	-
Walling/Queen new 6" line	210,250	210,250	-
A street new 6" line	100,920	100,920	-
B street replace 2" with new 6" line	71,485	71,485	-
Marcola road east replace 4" with new 6" line	126,150	126,150	-
Alcorn street section of 2" replaced with new 6" line	210,250	210,250	-
Shields crossing main 100' directional drilling (river crossing)	198,650	198,650	-
Railroad land new 2" line	127,600	127,600	-
Maple/Spicer new 2" line	127,600	127,600	-
Roberts crossing main 100' directional drilling (river crossing)	242,875	242,875	-
Subtotal distribution system	$ 2,139,475	$ 2,096,325	$ 43,150
Miscellaneous System Improvements			
Roberts well arsenic removal	$ 20,000	$20,000	$ -
New 150,000 gallon reservoir	874,000	781,639	92,361
Reservoir no. 2 improvements	150,000	150,000	-
Annual leak survey	70,000	70,000	-
Water meter replacement program	123,500	123,500	-
Well capacity replacement	200,000	200,000	-
Telemetry upgrades	30,000	30,000	-
Water master plan update	60,000	53,659	6,341
Subtotal phase 1 water supply	$ 1,527,500	$ 1,428,798	$ 98,702
Capital Improvement Plan Total	$ 3,666,975	$ 3,525,123	$ 141,852
	100%	96%	4%

Total Improvement Fee Eligible Costs for Future System Improvements	$ 141,852
less: Water improvement SDC Fund balance as of June 30, 2024	-
Adjusted Improvement Fee Eligible Costs for Future System Improvements	$141,852
Total Growth in 3/4" Meter Equivalents (20 year forecast)	33
Calculated Water Improvement Fee SDC per Meter Equivalent	$4,276

Water SDC Model Summary

The 2025 water SDC methodology update was done in accordance with ORS 223.297 – 223.314, and with the benefit of adopted capital improvement plans and plan updates for water services. We recommend the District update the SDC charge and methodology to reflect the current capital improvement program. A comparison of the proposed and current water SDCs for the average single-family residential customer is shown below in Table 8.

Table 8 - Proposed and Current Water SDCs for a 3/4" Meter

Water SDC Components	Proposed	Current	Difference
Reimbursement fee	621	572	49
Improvement fee	4,276	1,904	2,372
Compliance fee at 5%	245	-	245
Total water SDC	$ 5,142	$ 2,476	$ 2,666

For water meters larger than ¾," the schedule of water SDC uses the same flow factors that were developed for the water SDCs (i.e., AWWA standards for displacement and compound meters). The complete proposed schedule of water SDCs by potential meter size are shown in Table 9.

Table 9 - Proposed Schedule of Water SDCs by Potential Water Meter Size

Meter Size	AWWA Rated Flow (GPM)*	Flow Factor Equivalence	Proposed Schedule of Water SDCs			
			Reimbursement	Improvement	Compliance	Total
Small/residential meters:						
0.625" x 0.75" - Displacement or Multi-jet	30	1.00	$ 621	$ 4,276	$ 245	$ 5,142
0.75"x 0.75" - Displacement or Multi-jet	30	1.00	621	4,276	245	5,142
1.00 inch - Displacement or Multi-jet	50	1.67	1,035	7,127	408	8,570
1.50 inch - Displacement or Class I Turbine	100	3.33	2,070	14,253	817	17,140
2.00 inch - Displacement or Class I & II Turbine	160	5.33	3,312	22,805	1,307	27,424
Large/commercial & industrial meters:						
3 inch meters:						
Displacement	300	10.00	6,210	42,760	2,450	51,420
compound	320	10.67	6,624	45,611	2,613	54,848
Class I & II turbine	350	11.67	7,245	49,887	2,858	59,990
4 inch meters:						
Displacement or Compound	500	16.67	10,350	71,267	4,083	85,700
Class I turbine	600	20.00	12,420	85,520	4,900	102,840
6 inch meters:						
Displacement or Compound	1000	33.33	20,700	142,533	8,167	171,400
Class I turbine	1250	41.67	25,875	178,167	10,208	214,250
8 inch meters:						
Compound	1600	53.33	33,120	228,053	13,067	274,240
Class I turbine	1800	60.00	37,260	256,560	14,700	308,520
10 inch meters:						
Compound	2300	76.67	47,610	327,827	18,783	394,220
Class I turbine	2900	96.67	60,030	413,347	23,683	497,060

* - AWWA Manual of Practice M6; Water Meters - Selection, Installation, Testing, and Maintenance; Table 2-2 Total Quantities Registered per Month by Meters Operating at Varying Percentages of Maximum Capacity

Appendix A – Historical Price Movements in the Engineering News Record Construction Cost Index

HOW ENR BUILDS THE INDEX: 200 hours of common labor at the 20-city average of common labor rates, plus 25 cwt of standard structural steel shapes at the mill price prior to 1996 and the fabricated 20-city price from 1996, plus 1.128 tons of portland cement at the 20-city price, plus 1,088 board ft of 2 x 4 lumber at the 20-city price.

ENR'S CONSTRUCTION COST INDEX HISTORY (1990-2024)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVG.	Annual Percent Change
2025														
2024	13515	13518	13532	13532	13532	13547	13556	13594	13632	13632	13632	13632	13571	1.60%
2023	13175	13176	13176	13230	13288	13345	13425	13473	13486	13498	13511	13515	13358	2.70%
2022	12556	12684	12791	12899	13004	13111	13167	13171	13173	13175	13175	13175	13007	7.07%
2021	11627	11698	11749	11849	11989	12112	12237	12463	12464	12464	12647	12482	12148	5.95%
2020	11392	11396	11397	11412	11418	11436	11439	11455	11499	11539	11579	11626	11466	1.46%
2019	11206	11213	11228	11228	11230	11268	11293	11311	11539	11326	11381	11381	11300	2.16%
2018	10878	10889	10959	10971	11013	11069	11116	11124	11170	11183	11184	11186	11062	3.04%
2017	10531	10559	10667	10678	10692	10703	10789	10826	10823	10817	10870	10873	10736	3.84%
2016	10132	10181	10242	10279	10315	10337	10379	10385	10403	10434	10442	10530	10338	3.02%
2015	9972	9962	9972	9992	9975	10039	10037	10039	10065	10128	10092	10152	10035	2.33%
2014	9664	9681	9702	9750	9796	9800	9835	9846	9870	9886	9912	9936	9807	2.72%
2013	9437	9453	9456	9484	9516	9542	9552	9545	9552	9689	9666	9668	9547	2.56%
2012	9176	9198	9268	9273	9290	9291	9324	9351	9341	9376	9398	9412	9308	2.63%
2011	8938	8998	9011	9027	9035	9053	9080	9088	9116	9147	9173	9172	9070	3.08%
2010	8660	8672	8671	8677	8761	8805	8844	8837	8836	8921	8951	8952	8799	2.67%
2009	8549	8533	8534	8528	8574	8578	8566	8564	8586	8596	8592	8641	8570	3.13%
2008	8090	8094	8109	8112	8141	8185	8293	8362	8557	8623	8602	8551	8310	4.30%
2007	7880	7880	7856	7865	7942	7939	7959	8007	8050	8045	8092	8089	7967	2.78%
2006	7660	7689	7692	7695	7691	7700	7721	7722	7763	7883	7911	7888	7751	4.10%
2005	7297	7298	7309	7355	7398	7415	7422	7479	7540	7563	7630	7647	7446	4.65%
2004	6825	6862	6957	7017	7065	7109	7126	7188	7298	7314	7312	7308	7115	6.28%
2003	6581	6640	6627	6635	6642	6694	6695	6733	6741	6771	6794	6782	6695	2.39%
2002	6462	6462	6502	6480	6512	6532	6605	6592	6589	6579	6578	6563	6538	3.09%
2001	6281	6272	6279	6286	6288	6318	6404	6389	6391	6397	6410	6390	6342	1.94%
2000	6130	6160	6202	6201	6233	6238	6225	6233	6224	6259	6266	6283	6221	2.67%
1999	6000	5992	5986	6008	6006	6039	6076	6091	6128	6134	6127	6127	6060	2.35%
1998	5852	5874	5875	5883	5881	5895	5921	5929	5963	5986	5995	5991	5920	1.64%
1997	5765	5769	5759	5799	5837	5860	5863	5854	5851	5848	5838	5858	5825	3.61%
1996	5523	5532	5537	5550	5572	5597	5617	5652	5683	5719	5740	5744	5622	2.76%
1995	5443	5444	5435	5432	5433	5432	5484	5506	5491	5511	5519	5524	5471	1.18%
1994	5336	5371	5381	5405	5405	5408	5409	5424	5437	5437	5439	5439	5408	3.78%
1993	5071	5070	5106	5167	5262	5260	5252	5230	5255	5264	5278	5310	5210	4.53%
1992	4888	4884	4927	4946	4965	4973	4992	5032	5042	5052	5058	5059	4985	3.10%
1991	4777	4773	4772	4766	4801	4818	4854	4892	4891	4892	4896	4889	4835	2.18%
1990	4680	4685	4691	4693	4707	4732	4734	4752	4774	4771	4787	4777	4732	