



**INTEGRATED
UTILITIES
GROUP, INC.**

MEMORANDUM

TO: Michael Adams, City of Sweet Home

FROM: Paul L. Matthews
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DATE: November 17, 2004

SUBJECT: Sewer SDC Methodology

PROJECT: P162.041.SD

Introduction

Like many municipal sewer utilities in Oregon, the City of Sweet Home (City) is faced with increasing costs for the expansion of its sewer system's capacity to serve growth. To mitigate this cost of growth in its sewer system, the City has historically assessed system development charges (SDCs) to new customers. As part of its routine business practices, the City has engaged Integrated Utilities Group, Inc. (IUG) to review its SDCs to ensure these charges are:

- Fair and Equitable, and
- Avoid subsidizing either growth or existing customers.

The assessment of SDCs in Oregon is governed by state law.¹ Among other requirements, Oregon Revised Statutes (ORS) 223.304 requires that "...the methodology supporting the system development charge shall be available at least 60 days prior to the first hearing." This memorandum presents the proposed SDC methodology for the City.

SDC Methodology

The proposed SDC methodology is based on historical investments by the City and future capital improvements as identified by City staff based on the City's December 2002 *Sanitary Sewer Master Plan* developed by Brown and Caldwell and City staff's knowledge of the system. This methodology employs cost indices as allowed by ORS 223.304² to account for future inflation.

¹ See Oregon Revised Statutes (ORS) 223.297 to 223.314.

² ORS 223.304 states in part: "A change in the amount of a reimbursement fee or an improvement fee is not a modification of the system development charge if the change in the amount is based on the periodic application of an adopted specific cost index or on a modification to any of the factors related to rate that are incorporated in the established methodology."

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Reimbursement Fee

The reimbursement fee is based on the capacity buy-in approach, and requires three steps:

1. Fixed asset valuation,
2. Capacity definition, and
3. Assessment schedule development.

The following is a description of each step.

Fixed Asset Valuation

Under the proposed methodology, the value of the City's fixed assets is based on the replacement cost new less depreciation (RCNLD) estimates developed by the City based on insurance coverage estimates and Linn County's land and property values. In addition to the City's fixed assets, the valuation also includes \$772,826 of cash provided by existing customers.

The City's system is designed to meet the needs of its customers and provide safe and reliable sewer service throughout its service area. The system consists of individual components that serve specific functions. To estimate the value of assets related to each function, the RCNLD of each asset is allocated to one or more of four functions. The City's functions are:

1. Collection System
2. Interceptor System
3. Treatment Plant
4. Exclude from SDC

Assets captured under the *Collection System* function are typically contributed by developers and thus are excluded from the calculation of the reimbursement fee. To explicitly show the amount of excluded assets, the assets initially assigned to this function were reassigned to the *Excluded from SDC* function. Table 1 summarizes the asset values attributed to each function. Based on the analysis, the total value of the City's system for fiscal year (FY) 2004 including a credit for existing debt⁵ is \$25.31 million. Of the total value, \$18.26 million are excluded from the SDC because these assets are considered to have been contributed or to be obsolete. Thus, for the purpose of establishing a reimbursement fee, the City's remaining sewer system is valued as \$7.05 million.

⁵ The outstanding debt was estimated to be \$434,369 for the 1993 OEDD Promissory Note and \$150,953 for the DEQ Promissory Note. The total net value of the system was therefore calculated by reducing the total system value of \$25.9 million by the amount of outstanding debt.

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Capacity Definition

The next step in determining the reimbursement fee under the capacity buy-in approach is to define the system capacity. Specifically, under the capacity buy-in approach the system capacity is based on the unused capacity of the system for each function identified above. The City provided data used for this analysis.

Table 2 lists the current capacities of each function. Table 3 estimates the amount of capacity in the existing system that is available for growth. Underlying the numbers shown in this table is the assumption that one equivalent dwelling unit (EDU) contributes 3,354 cubic feet of sewer flow per month or 110.2 cubic feet per day. This estimate is based on the City's historical average wet weather flows during FY2004. Using this assumption and the capacities for each function summarized in Table 3, the number of EDUs that can be served by each function are calculated. Subtracting the number of EDUs currently served by the utility generates the number of EDUs available for growth. A description of how the number of EDUs currently served by the City is estimated follows below.

Assessment Schedule Development

Table 4 provides an inventory of the number of EDUs by meter size. The number of EDUs is based on the analysis of the City's water system. The equivalency factors are calculated based on the average daily water use of a single-family residential meter with a 3/4-inch meter.

Analysis of the City's historical water consumption records for FY2002 and FY2003 indicated that the number of observations underlying the equivalency factors for meters greater than 1½-inch were too few for the data to be reliable. The proposed methodology augments the City's historical data for meters above 1½-inch in size by equivalency factors developed from data of the Tualatin Valley Water District (TVWD). Although a different agency, comparison of the data for the utilities showed little variation in the consumption of meters up to 1½-inch. The proposed equivalency schedule is presented in Table 4.

Based on the number of meters served by the City in July 2004 and the equivalency schedule presented in Table 4, the total number of EDUs served by the City is 3,638.

Fee Calculation

The total costs to be recovered from the reimbursement fee are based on the percentage of remaining capacities by functions calculated in Table 3 and the total system asset values shown in Table 1. Table 5 presents the total reimbursement amount by function. The total amount attributable to the reimbursement fee is \$4,783,849. Table 6 calculates the reimbursement fee per EDU for each of the functions. The total reimbursement fee per EDU is \$624.

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Improvement Fee

A review of the City's sewer capital improvement program (CIP) indicated that none of the proposed projects are growth related. Therefore, the City's SDC only contains a reimbursement fee SDC.

Recommendations

As shown in Tables 6 the total reimbursement fee is calculated to be \$624 per EDU. Table 7 presents the resulting schedule of SDCs by meter size.

Table 1: Net Fixed Asset Valuation	
Description	FY 2004 Assets
Collection System	\$0
Interceptor System	4,906,955
Treatment Plant	2,147,056
Exclude from SDC	18,263,872

Total	\$25,317,883

System Component	Capacities	Units
Collection System	0.0	NA
Interceptor System	12.3	MGD
Treatment Plant	6.0	MGD
Exclude from SDC	0.0	NA

Table 3: Used and Unused Capacities of Existing System

System Component	Requirements per EDUs	Units	Unit Conversion	EDUs Available	Used Capacity (EDUs)	Unused Capacity (EDUs)	Remaining Capacity
Collection System	110.2	Cubic Feet per Day	133,690	0	3,638	0	0.00%
Interceptor System	110.2	Cubic Feet per Day	133,690	14,916	3,638	11,278	75.61%
Treatment Plant	110.2	Cubic Feet per Day	133,690	7,276	3,638	3,638	50.00%
Exclude from SDC	0.0	NA	133,690	0	3,638	0	0.00%

Table 4: Inventory of EDUs for FY2004			
Meter Size	Number of Meters	Equivalency Factor	EDUs
3/4-Inch	2,283	1.00	2,283
1-Inch	73	2.12	155
1 1/2-Inch	38	7.96	302
2-Inch	21	15.13	318
3-Inch	2	28.03	56
4-Inch	7	45.34	317
6-Inch	1	73.83	74
8-Inch	1	132.78	133
Total	2,426		3,638

Table 5: Calculation of Reimbursement Totals		
System Component	Capacity Available for Growth	Reimbursement Total
Collection System	0.00%	\$0
Interceptor System	75.61%	3,710,234
Treatment Plant	50.00%	1,073,615
Exclude from SDC	0.00%	0
Total		----- \$4,783,849

Table 6: Reimbursement Fee per EDUs	
System Component	Proposed Reimbursement SDC
Collection System	\$0
Interceptor System	329
Treatment Plant	295
Exclude from SDC	0

Total	\$624

Table 7: Proposed SDC by Meter Size

Meter Size	Reimbursement	Improvement	Total
3/4-Inch	\$624	\$0	\$624
1-Inch	1,322	0	1,322
1 1/2-Inch	4,965	0	4,965
2-Inch	9,439	0	9,439
3-Inch	17,494	0	17,494
4-Inch	28,295	0	28,295
6-Inch	46,074	0	46,074
8-Inch	82,862	0	82,862