

CHAPTER 9

Financial Program

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Financial Program

This chapter addresses the Sammamish Plateau Water and Sewer District's water utility financial condition and, thus, its ability to pay for the capital improvements and operating costs identified in Chapter 8. Beginning with a review of the past 6 years' financial history, this chapter evaluates the District's current financial condition and financial management policies, as well as the revenue sources available to pay for the District's capital needs. Revenues and expenses are projected 20 years into the future (through 2020), and a recommended program of rate revenue increases is presented. The chapter closes with a qualitative assessment of the District's current water rates and makes general recommendations for changes to the retail water rate structure. A rate study is currently under way, but will not be completed in time for inclusion in this document.

Three general imperatives guide this chapter and the analyses that underlie its recommendations:

- **Adherence to financial policies.** The District has a set of specific rules and procedures that guide its financial management. These policies are generally sound, and the analysis herein presumes adherence to the District's stated financial management policies.
- **Growth pays for growth.** Pursuant to direction received from the District's Board of Commissioners, the financial program described herein seeks to minimize the impact of growth upon the District's general water rates. By assuming higher general facilities charges and introducing an equalizing charge, much of growth's cost burden is shifted to new customers connecting to the water system.
- **Water rate study.** This chapter provides only a cursory examination of the District's rate structure and does not address the utility's financial policies in detail. A full rate study for the water utility could address rate and financial planning questions in greater depth. It is strongly recommended that the District perform a full water rate study in the near future to accompany the rate revenue increases projected in this chapter.

9.1 Past and Present Financial Status

9.1.1 Water Utility Historical Financial Performance: Past 6 Years

The District provides both water and wastewater services to its customers. For general accounting purposes and for its reports to the Washington State Auditor, the District has historically maintained a single set of financial records for both utilities. Thus, the process of segregating water financial records from wastewater requires a historical reconstruction. Fund balances, debt service, and operating and capital expenses were allocated to water and wastewater functions based on consultation with District staff. In some cases, the water-wastewater split was clear (e.g., the Water General Facilities Fund was clearly money allocable solely to the water function), but other cases required a degree of judgment to allocate money to the two utilities (e.g., the Maintenance Fund was split 70 percent to water,

30 percent to sewer, pursuant to direction from District staff). The result is a retrospective look at the District's water utility financial health that is generally reliable but not exacting in the details.

Bearing this caveat in mind, over the past 6 years District's water utility has shown a stable financial position (Table 9-1). While cash flows have been slightly negative over the past few years, when transfers for construction are considered, the water utility's ample operating reserve balances have remained very strong and have allowed the water utility to operate smoothly. Moreover, when depreciation funding is removed from the calculation, water utility cash flows have been positive with substantial surpluses over the past 6 years. Depreciation funding is not required by statute, but District financial policies call for a moderate level of depreciation funding (discussed further below) to be set aside in a replacement reserve. The District's debt service coverage ratio has been very strong over the past 6 years, and the utility continues to experience very strong growth, averaging over 7 percent annually from 1994 through 1999.

TABLE 9-1
Water Utility Revenue & Expense Summary: 1994-1999

Year Ending	1994	1995	1996	1997	1998	1999
Revenue						
Water Rates	\$2,478,099	\$2,705,573	\$2,794,500	\$3,092,250	\$3,206,000	\$3,355,000
Other Revenue	30,301	48,918	65,212	128,864	140,849	200,845
Use of Reserves*	-	-	-	207,587	299,203	383,274
Total Revenue:	\$2,508,400	\$2,754,492	\$2,859,712	\$3,428,701	\$3,646,052	\$3,939,119
Expenses						
Operating Expense	\$1,800,384	\$1,853,462	\$1,931,512	\$2,117,544	\$2,446,246	\$2,649,951
Debt Service**	-	-	150,741	241,387	232,705	236,166
Rate-Funded Capital Outlays	-	-	-	-	-	-
Depreciation	1,518,314	1,518,314	1,013,178	1,069,770	1,084,442	1,053,002
Total Expense:	<u>\$3,318,698</u>	<u>\$3,371,776</u>	<u>\$3,095,432</u>	<u>\$3,428,701</u>	<u>\$3,763,394</u>	<u>\$3,939,119</u>
Surplus Deficit						
W/ Depreciation	\$(810,298)	\$(617,285)	\$(235,720)	\$ -	\$(117,342)	\$ -
W/o Depreciation	\$708,016	\$908,423	\$785,070	\$862,183	\$667,898	\$669,728
Debt Service Coverage Ratio**	-	-	17.07	9.27	9.49	10.07
Customer Base						
Equivalent Residential Units (ERUs)***	10,366	11,045	11,953	12,681	13,451	14,419

*Reserves only used when assuming depreciation funding.

**Rate-funded debt service only; General Facilities Charges pay remainder of debt service. Records of debt service prior to 1996 issue not available at time of study.

***From District billing records.

9.1.2 Current Budget and Financial Condition

The District entered the year 2000 with budgeted rate revenues of nearly \$3.49 million for the year, against expenses of \$3.76 million (or \$2.99 million without depreciation). Reserve levels were also strong at the beginning of 2000, with total water utility reserves at \$14.42 million (see Table 9-2). Five separate funds comprise the water utility's discretionary financial reserves; most have specific sources, are restricted in their use, and carry minimum and maximum balances. Each fund is described briefly below, along with the basic rules governing its sources and uses. A sixth reserve, the Northeast Sammamish Joint Fund, provides for funding of facilities jointly owned with the Northeast Sammamish Sewer and Water District and is not addressed here.

TABLE 9-2
Water Utility Reserve Balances at Beginning of 2000

Fund/Reserve	1 January 2000 Balance
Maintenance Fund*	\$2,882,174
System Replacement Fund*	33,328
Water General Facilities Charge Fund	8,864,171
Cascade View Facilities Charge Fund	322,768
Debt Service Reserve	<u>2,314,481</u>
Total	<u>\$14,416,921</u>

*Estimated water utility share.

9.1.2.1 Maintenance Fund

The District's retail water charges and other miscellaneous operating revenue flow into the Maintenance Fund. In turn, the Maintenance Fund is used to pay for the District's day-to-day operations and maintenance. In practice, the District's water and wastewater revenue and operating expenses both flow through the Maintenance Fund. District staff indicated that approximately 70 percent of the Maintenance Fund's assets are allocable to the water utility.

In the future, the District may consider fully segregating water revenue and expenses from wastewater revenue and expenses. This segregation of revenue and expenses will ease future financial analyses and help ensure equity in a rate structure (i.e., eliminate potential water-wastewater cross subsidies).

The District's stated financial policies call for a minimum balance in the Maintenance Fund equal to 30 days' operating expense and a maximum balance equal to 180 days' operating expense. Money in excess of this maximum balance is transferred to the System Replacement Fund.

9.1.2.2 System Replacement Fund

The District's System Replacement Fund contains money restricted to capital purposes. Depreciation funding flows into this reserve, as do proceeds from debt issues and surplus Maintenance Fund balances. As with the Maintenance Fund, District staff indicated that approximately 70 percent of the System Replacement Fund's assets are allocable to the water utility. At the beginning of 2000, the System Replacement Fund's balance was low due to a delayed transfer of surplus Maintenance Fund balance.

As with the Maintenance Fund, the District may segregate the System Replacement Fund into separate water and sewer funds to eliminate potential water-wastewater cross subsidies. There are no minimum or maximum balance requirements for the System Replacement Fund.

9.1.2.3 Water General Facilities Charge Fund

Revenue collected from the District's General Facilities Charges (GFCs) flows into this fund. GFCs are fees paid to the District as a condition of a new connection to the District's water utility, and are intended to recover a pro rata share of the utility's general facility costs (discussed further, below). The District maintains a fund for its water GFCs separate from its wastewater GFCs. Consistent with state law, money in the General Facilities Charge Fund may be used only for capital purposes, including debt service. No minimum or maximum balance policies apply to this fund.

The District recently revised its GFCs and, at the time of this writing, the District is in the process of developing a new GFC to be adopted along with this capital improvement program. It is likely that the new GFC will be substantially higher than the existing charge of \$1,810 per ERU in the Plateau Zone and \$4,594 per ERU in the Cascade View. A higher GFC will drive higher revenue flows into the General Facilities Charge Fund.

9.1.2.4 Cascade View Zone GFC Fund

The District imposes a somewhat higher GFC on connections in the Cascade View Zone than the Plateau Zone; the additional GFC levied in the Cascade View Zone flow into this fund. Money in the Cascade View GFC Fund may be used only for capital purposes, including debt service. No minimum or maximum balance policies apply to this fund.

9.1.2.5 Debt Service Reserve

The District maintains this fund as a condition of its debt service covenants, and these covenants govern its sources, uses, and balances. The District maintains a combined debt service reserve for the water and wastewater utilities. About 42 percent of the reserve is allocated to the water utility, based on the water utility's share of the District's outstanding debt.

9.1.2.6 Existing Rates

The District's existing rates are low relative to several other water utilities in King County, as shown in Figure 9-1. According to the 2000 budget, existing water rates are anticipated to generate about \$3.5 million.

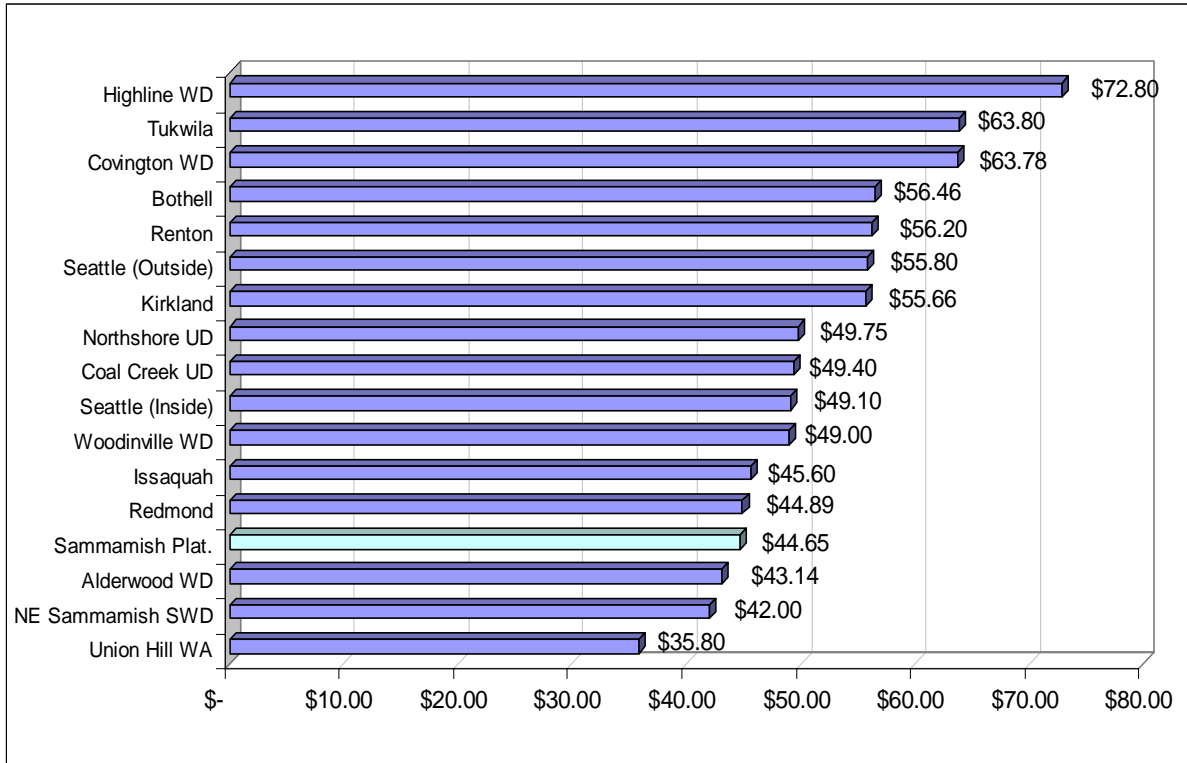


Figure 9-1
 Sample Single-Family Residential Bimonthly
 Water Rates for Year 2000
 Water Comprehensive Plan
 Sammamish Plateau Water & Sewer District

Note: Assumed 3/4-inch meter and 20 ccf summer consumption

9.1.3 Improvements

The financial analysis presented herein is based on the capital improvement program for the supply alternative combination #3 presented as the North Regional Water Supply to Segregated Plateau Zone program in Chapter 8. That program calls for \$78.5 million of improvements to the Plateau Zone water system through 2015 to be paid for by the District, with another \$3.9 million of improvements to the Cascade View Zone over the same period. When adjusted for anticipated annual construction inflation of 3.61 percent (based on the Engineering News Record index) and modifications to the project schedule outlined in this subsection, the capital program totals about \$99.2 million through 2015. Analysis focuses on this supply option because its relatively high costs make it a prudent basis for financial planning. If the District ultimately pursues a less expensive supply alternative, projected rate increases would be somewhat lower overall than those projected here. Appendix X contains a complete list of the inflation-adjusted project costs. The financing plan discussed in this chapter assumes the District will pay for projects as they occur according to the schedule identified in Chapter 8.

9.2 Available Capital Funding Sources

The funding options available to the District for capital projects consist primarily of debt funding through a variety of available mechanisms, cash funding through various user charges, and/or cash funding through existing reserves.

9.2.1 State and Federal Capital Funding Sources

Historically, federal and state grant programs were available to local utilities for capital funding assistance; however, these assistance programs have been mostly eliminated or replaced by loan programs. Remaining miscellaneous grant programs are generally lightly funded and heavily subscribed. Nonetheless, the benefit of even low-interest loans makes the effort of applying worthwhile. State programs identified as potential funding sources for the utility improvements set forth in this Water Comprehensive Plan are summarized below.

- **Public Works Trust Fund.** The Public Works Trust Fund (PWTF) is a commonly used, low-cost revolving-loan fund established by the 1985 State Legislature to provide financial assistance to local governments for public works projects. Eligible projects include repair, replacement, rehabilitation, reconstruction, or improvement of eligible public works systems to meet current standards for existing users. With recent revisions to the program, growth-related projects consistent with 20-year projected needs are now eligible.

PWTF loans are available at interest rates of 0.5 percent, 1 percent, and 2 percent, with the lower interest rates given to applicants who pay a larger share of the total project costs. The loan applicant must pay a minimum of 5 percent towards the project cost to qualify for a 2 percent loan, 10 percent for a 1-percent loan, and 15 percent for a 0.5 percent loan. The useful life of the project determines the loan term up to a maximum of 20 years.

The applicant must be a local government, such as a city, county, or special purpose utility district, and have an approved long-term plan for financing its public works needs. Local governments must compete for PWTF dollars since more funds are requested each year than are available. The Public Works Board evaluates each application and transmits a prioritized list of projects to the legislature. The legislature then indicates its approval by passing an appropriation from the Public Works Assistance Account to cover the cost of the approved loans. Once the Governor has signed the appropriations bill into law, the local governments receiving the loans are offered a formal loan agreement with the appropriate interest rate and term, as determined by the Public Works Board.

- **Community Economic Revitalization Board.** Managed by the Department of Community Trade and Economic Development, this program provides grants and loans to fund public facilities that result in specific private-sector development. Eligible projects include water, sewer, roads, and bridges.
- **Community Development Block Grant (CDBG) Program.** A federal government program administered by the State Department of Community Trade and Economic

Development, the CDBG program provides grants and loans for infrastructure improvements, including water projects, for business development that create or retain jobs for low and moderate-income residents.

- **Department of Ecology.** The Department’s Water Quality Financial Assistance Program sponsors four grant and loan programs: the Centennial Clean Water Fund, Federal 319 Programs, State Revolving Fund Loans, and the Aquatic Weeds Grant Programs. While most of the funding goes to wastewater programs, projects such as development and implementation of groundwater and wellhead protection programs are included. The U.S. Congress has authorized a limited amount of money for the Drinking Water State Revolving Fund (DWSRF) loan specifically for programs to improve water quality. Funding is generally limited to 50 percent and comes as either a grant or low-interest loan (0 percent for up to 5 years, increasing to 4.8 percent for 15 to 20 years).

Of these programs, the PWTF is the most attractive program for the District. However, given the level of competition for these funds and the near-term need for financing for the District, the PWTF should not be relied on as a source of funding for this program.

In absence of such subsidized funding sources, the most likely and advantageous sources of capital funding probably are existing reserves (discussed above) and revenue bond debt. Issuing revenue bonds may be an appealing alternative for at least three reasons. First, the majority of the capital costs associated with this plan are intended to serve growth. Assuming a long-term revenue bond (20 or more years), debt funding will spread the cost of growth across rates for many years, thus ensuring that the new customers pay for a share of the capital costs for the improvements built for them. Second, revenue bonds will allow the District to soften the near-term impact of these capital costs by spreading costs over the long-term. Finally, revenue bonds can offer tremendous flexibility not found in other debt instruments. For example, a bond issue may be structured to require only interest payments for a number of years with “balloon payments” of principal at specific points in the amortization schedule. Such a structured debt can be especially appealing for utilities like the District that are experiencing high growth rates. A balloon-payment structure could further reduce immediate rate impacts by allowing the District to accumulate GFCs in anticipation of balloon payments at 5-, 10-, or 20-year intervals.

9.2.2 User Charges as Capital Funding Source

Rates paid by customers for water service are the primary source of funding for all District water utility activities. Whether paying for debt service or directly funding capital projects, rate revenues are available for capital funding. The chief advantage of rates as a financing mechanism is their stability and low cost (no interest expense is required). However, relying on rates for capital funding can cause high near-term rate increases.

9.2.3 General Facilities Charges (GFCs)

As noted above, General Facilities Charges are sources of funding typically used by utilities to support capital needs. GFCs are a form of connection charges authorized in the Revised Code of Washington 57.08.010. GFCs are imposed on new customers connecting to the system as a condition of service, in addition to any other costs incurred to connect the customer such as meter installation charges. Typically, the basis for the GFC is the capital

cost the utility will or has incurred to provide the water system. The underlying premise of the GFC is that growth (i.e., future customers) will pay for growth-related costs that would not have been necessary in absence of customer base growth.

The purpose of the GFC is twofold: (1) to provide funding sources for capital financing and (2) to recover an equitable level of investment in the system from new customers. In the absence of such a right-to-connect charge, growth-related costs would be borne, in large part, by existing customers. In addition, the current customers' net investment in the utility would be diluted by the addition of new customers absent a GFC. This dilution would, in effect, be a subsidy to new customers.

Excluding installation expenses, the cost of the system to be recovered by the general facilities charge can be defined in two parts:

- **The cost of existing facilities of general benefit.** Examples of such facilities include storage tanks and transmission mains. In addition, State law allows collection of up to 10 years of interest on the cost of these assets. This cost is net of donated facilities, whether from grants, developers, or through ULIDS.
- **The cost of future capital facilities.** Statutes allow water utility projects identified in the CIP for the next 10 years to be included in the GFC basis of calculation. Projects funded by developers or special assessments may not be included in this calculation.

As noted above, the District is in the process of updating its GFC to reflect current capital conditions and the improvement program set forth in this plan. The scale of past capital investments and currently planned improvements suggests that a much larger GFC may be warranted. Any substantial increase in GFC as a result of this update could reduce future District borrowings and/or rate increases.

9.3 Capital Funding Strategy

Table 9-3 shows the capital funding strategy anticipated for the projects planned over the next 6 years. This analysis projects a total of three water revenue bond issues pursuant to this capital program: \$10.0 million in 2001, \$18.0 million in 2003, and \$6.7 million in 2005.

In addition to the debt issuances noted above, a number of critical assumptions underlie the capital funding strategy shown in Table 9-3. The most important of these assumptions are listed here:

- GFCs increase to \$3,423 per ERU in the Plateau Zone and \$4,606 in the Cascade View Zone by mid-2001, as indicated by initial draft GFC study findings. These GFC adjustments are consistent with the District's general "growth pays for growth" policy. The forecast assumes that the District uses revenue generated through GFCs to fund its capital program and that rate revenue will cover all operating expenses and debt service. While GFC revenue may be used to repay debt service, assuming rate revenue will bear the full debt service obligation is a more conservative basis for financial forecasting.

- Depreciation is funded at full cost less annual re-investment (cash-funded project construction and principal paid on debt service).
- An appropriate program of rate increases accompanies the funding strategy (discussed in Section 9.4.3).

TABLE 9-3
Capital Funding Strategy: 2000-2006

Financing Source	2001	2002	2003	2004	2005	2006
Public Works Trust Fund	\$ ---	\$ ---	\$ ---	\$ ---	\$ ---	\$ ---
Revenue Bonds	10,000,000	---	15,042,128	---	6,650,000	---
Replacement Reserve	1,322,647	---	---	3,105,766	---	---
Cascade View GFC Fund	447,944	67,195	---	298,380	127,887	133,002
District GFC Fund	2,807,492	8,791,701	---	4,933,932	2,541,687	1,951,582
Current Year Rate Revenue	---	---	---	<u>532,415</u>	<u>1,641,561</u>	<u>954,759</u>
Total*	<u>\$14,578,082</u>	<u>\$8,858,896</u>	<u>\$15,042,128</u>	<u>\$8,870,492</u>	<u>\$10,961,135</u>	<u>\$3,039,344</u>

*Differences in totals due to rounding.

9.4 Projected Rate Revenue Requirement

9.4.1 Methodology

The analysis of revenue requirements determines the rate revenue necessary to meet the annual operating, capital, and debt service requirements of the utility. Consistent with industry standards for such analysis, two separate conditions must be met for user charge revenues to be sufficient: annual cash needs must be met (cash flow test) and the minimum revenue bond debt service coverage requirement must be realized (coverage test).

The cash flow test identifies the cash requirement for the utility in each year addressed. Those requirements can include cash operating and maintenance expenses, debt service, directly funded capital outlays, required depreciation funding, and any projected additions to reserves. The total cash needs are then compared to projected utility revenues. Any shortfalls are identified and the level of rate increase necessary to make up the shortfall is estimated.

The coverage test is based on the bond covenants for revenue bonds, which require a specific test of revenue sufficiency. This requirement states that revenues must be sufficient to meet operating expenses plus a factor, set at 1.25 times annual debt service on all revenue bonds. The coverage factor adds some protection for bondholders against the risk of poor financial performance.

9.4.2 Forecast Assumptions

Several important assumptions underlie the analysis presented here. The most important of these analytical assumptions are listed below:

- Revenue is calculated to increase with growth for future years. The annual growth assumption is 4.0 percent based on engineering and District staff input.
- District rate revenue is assumed to increase 6.0 percent in 2001 in addition to growth impacts as a result of a pre-set rate increase to take effect in January 2001.
- The District is assumed to begin purchasing water from Seattle Public Utilities (SPU) between 2003 and 2005 with an annual cost of about \$711,000, increasing annually with customer base growth.*
- The District is assumed to adhere to its stated financial policies, including sources and uses of funds, minimum and maximum fund balances, and depreciation funding;
- The District is assumed to pay for its capital program using the strategy outlined in Section 9.3 of this chapter, with all revenue bond debt service set on a standard amortization schedule.
- Once regional water is connected to the District, the District will impose an “equalizing charge” for every new ERU connecting to the system to recover the marginal per-unit operating cost that the District will incur with its new reliance on SPU wholesale water supply.

The last assumption listed here, the equalizing charge, merits further explanation. The equalizing charge is intended to pass on the additional cost of SPU wholesale water directly to the new customers connecting to the system. Inasmuch as the average cost of water produced from the District’s groundwater supply is less than the average cost of wholesale water, introduction of SPU wholesale water into the District system will raise the overall average unit cost of water. Under traditional rate structures, this higher average cost will translate into higher water rates for all water customers, new and old alike. The equalizing charge would recover in one lump sum the annuity value of the additional cost per unit of water that a new customer would cost the District.

The equalizing charge is another manifestation of the “growth pays for growth” policy held by the District. With this upfront payment, a new customer’s operating expense would be economically equal to an existing customer’s expense, and uniform rates for all customers would remain equitable. It is important to note that this equalizing charge is intended to recover operating costs, and thus is levied in addition to the District’s GFC. Revenues collected from the equalizing charge would be operating revenue and therefore unrestricted in use.

Such equalizing charges are apparently allowed under the statute enabling rates and charges for utility districts (RCW 57.08.081). Based on the forecasted revenues and expenses outlined in this chapter and on the assumption that the District would begin receiving

* Wholesale water cost projections are based on SPU’s existing “New Water” charge. The District should carefully review the rate provisions of its service agreement with SPU when contracting for wholesale water to ensure that its charges remain stable as forecasted.

regional water in 2003, the equalizing charge for the District's new customers would be \$1,791 per ERU, as derived in Table 9-4. Based on the growth projected for 2003, the District could expect to collect \$1.21 million in equalizing charge revenue in that year.

TABLE 9-4
Derivation of Equalizing Charge*

District Operating Cost Basis	
Annual Operating Expense	\$4,243,938
Plus: Additions to Operating Reserves	1,108
Less: Purchased Water Cost	<u>(712,000)</u>
<i>Applicable Operating Costs:</i>	<u>\$3,533,046</u>
Annual District Water Consumption (ccf)	2,429,014
Average District Unit Cost of Water (per ccf)	\$1.455
Wholesale Water Cost	\$712,000
Annual Wholesale Water Purchases	323,400
Average Wholesale Water Cost (per ccf)	\$2.202
Equalizing Payment	
Average District Unit Cost of Water (per ccf)	\$1.455
Average Wholesale Water Cost (per ccf)	2.202
<i>Difference in Unit Cost (per ccf):</i>	\$(0.7471)
Annual District Water Consumption (ccf)	2,429,014
District Equivalent Residential Units (ERU)	17,626
Average Annual Consumption per ERU	138
Annual Added Cost per ERU for Wholesale Water	\$103
EQUALIZING CHARGE	\$1,791
<i>Annuity Value at District's Capital Borrowing Rate</i>	

*Assuming regional water connection in 2003

This calculation is shown to demonstrate the equalizing charge concept; the District should undertake a more thorough analysis of such an equalizing charge as part of an overall rate study before adopting it as part of a rate regime.

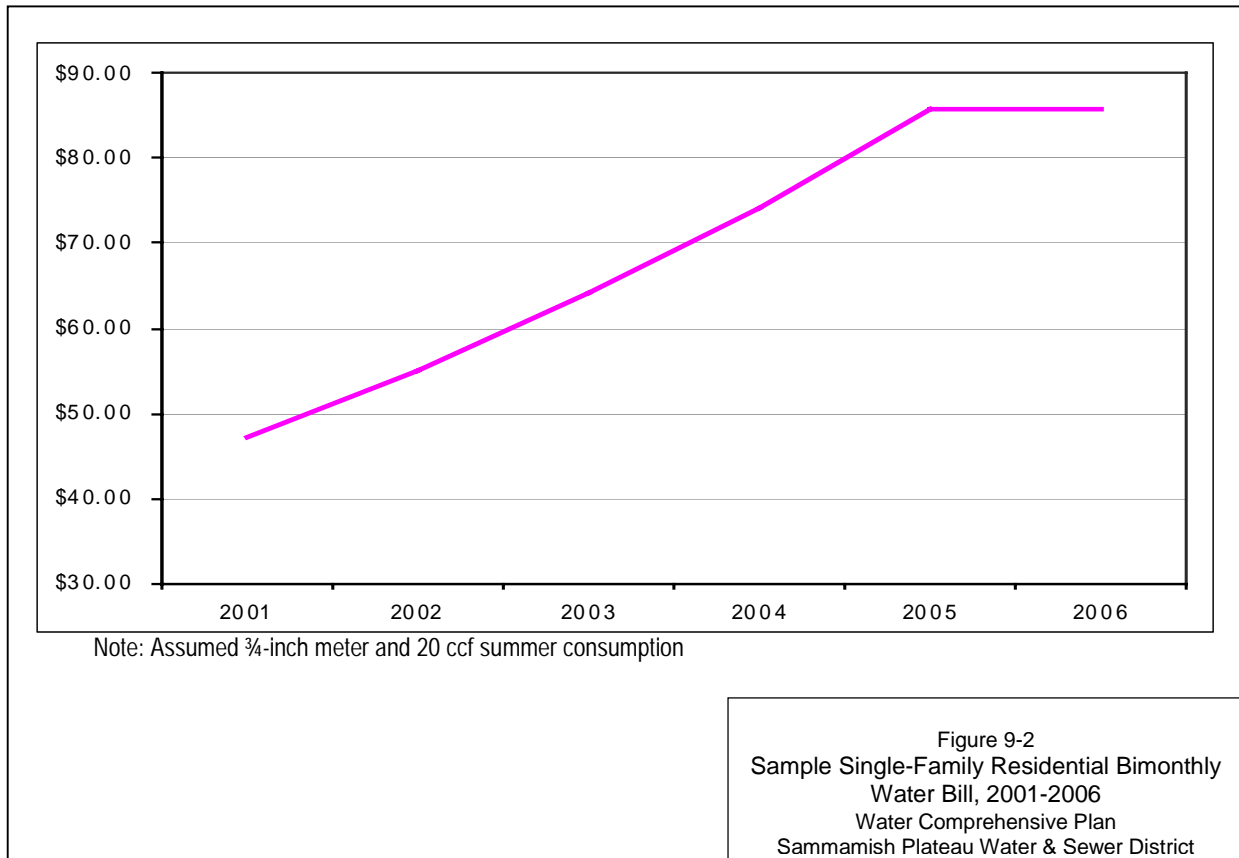
9.4.3 Rate Revenue Requirement

Based on the assumptions identified above, the analysis projects a rate revenue requirement increase of 81.7 percent through 2006, introduced with annual increases of 16.8 percent in 2002 and 2003, with additional 15.5 percent increases in 2004 and 2005. Table 9-5 shows projected increases over the next 6 years. Figure 9-2 shows how these percentage increases would impact a residential bill if increases are applied "across-the-board" on all existing rates and charges. See Appendix X for full details of the forecast.

TABLE 9-5
Annual Rate Revenue Requirement, 2001-2006

Revenue Requirement	<i>FY Ending</i>	Projected 2001	Projected 2002	Projected 2003	Projected 2004	Projected 2005	Projected 2006
Revenues							
Water Rate Revenue Before Rate Increase		\$3,846,494	\$4,000,354	\$4,160,368	\$4,326,783	\$4,499,854	\$4,679,848
Other Revenue		194,987	172,694	1,366,107	1,364,955	1,369,328	1,433,016
Use of Operating Reserves		<u>522,140</u>	<u>579,079</u>	---	---	---	---
<i>Total Revenue</i>		<u>\$4,563,621</u>	<u>\$4,752,127</u>	<u>\$5,526,475</u>	<u>\$5,691,738</u>	<u>\$5,869,182</u>	<u>\$6,112,864</u>
Expenses							
Operating Expenses		3,001,058	3,110,349	4,243,938	4,476,212	4,743,720	4,909,865
Debt Service		578,561	1,218,466	1,787,384	2,691,629	3,164,971	3,605,380
Additional Coverage Required, Less GFC Coverage		---	---	---	---	---	---
Additions to Capital and Operating Reserves		---	---	1,108	19,078	5,972	13,646
Depreciation Funding		989,002	1,002,861	1,009,797	175,456	---	---
Cash-Funded Capital Outlays		---	---	---	532,415	1,641,561	954,759
Adjustment to Levelize Rate Impact		---	<u>92,000</u>	---	<u>16,000</u>	---	---
<i>Total Expenses</i>		<u>\$4,563,621</u>	<u>\$5,423,676</u>	<u>\$7,042,227</u>	<u>\$8,180,789</u>	<u>\$9,556,224</u>	<u>\$9,483,651</u>
NET CASH SURPLUS (DEFICIT)		\$---	\$(671,548)	\$(1,515,752)	\$(2,489,051)	\$(3,687,043)	\$(3,370,787)
Coverage Without Revenue Increase		5.61	3.88	2.57	1.88	2.14	1.76
Total Annual Rate Revenue		\$3,846,494	\$4,671,902	\$5,676,120	\$6,815,834	\$8,186,897	\$8,050,635
Utility Rate Increase Required							
Annual Increase Required		0.00%	16.79%	16.82%	15.46%	15.50%	0.00%
Cumulative Increase Required		0.00%	16.79%	36.43%	57.53%	81.94%	81.94%

Capital improvement costs are the primary drivers of the projected increases. While increased GFCs, revenue bond issues, and equalizing payments may help mitigate rate impacts, the District nonetheless will require increased revenue in the near term to pay for the initial increases in debt service that will accompany the capital program. In providing the financial resources to meet the projected needs, the District may wish to consider a number of creative financing techniques to take advantage of the growth it anticipates and further mitigate near-term rate increases. A few alternatives are noted briefly here, and should be more fully evaluated in a comprehensive rate study.



- Secure Lower Cost Debt Instruments.** Section 9.2 of this report identifies a number of alternative debt instruments that the District might use to finance capital improvements. The most attractive among the alternatives cited probably is a loan or loans from the State Public Works Trust Fund. For example, if the District were to secure a PWTF loan for its initial \$10.0 million borrowing instead of using revenue bonds, the initial annual debt service could decrease by more than \$400,000. Moreover, the relatively liberal security rules associated with PWTF loans offer additional rate relief. Such savings could cut the initial increase over the first 2 years by about 10 percent overall.
- Use General Facilities Charge Revenue to Pay Debt Service.** The District may use its GFC revenue to pay for debt service, but spending GFC revenue on debt service reduces or eliminates GFCs as a source of capital project funding. Also, capital markets generally disfavor utilities that rely on relatively volatile sources of revenue, such as GFCs, for payment of ordinary annual debt service. Thus, use of GFCs to pay annual

debt service might result in a higher overall cost of capital and higher long-term rates, if not actually inhibit access to financial markets. Moreover, if growth slows significantly or ceases entirely, the District's rates would bear the full burden of debt service. Notwithstanding these potential drawbacks, using GFC revenue to pay debt service could eliminate rate increases entirely through 2003. As annual debt service begins to outstrip annual GFC revenue, however, the rate increases in 2004 and beyond could be even greater than those shown in Table 9-5.

- **Structure Revenue Bond Debt to Take Advantage of Growth.** Much of the District's capital outlay scheduled for the next few years is intended to accommodate growth in the District's customer base. As noted above, new customers will generate additional rate and GFC revenue for the District. However, increased revenue will occur gradually over time, while the capital costs—and associated debt service—are incurred immediately. The District may wish to address this expense-revenue mismatch by using an alternative bond amortization schedule. For example, the District could pay interest only on its outstanding debt and pay off the principal in a series of periodic "balloon payments" every 5 or 10 years. The District might choose to use a "term bond," which requires full principal payment in a single balloon payment at the end of the bond's amortization period. These structures would allow the District to accumulate GFC revenue and set aside rate revenue in anticipation of these balloon payments, thus insulating existing ratepayers against some or all of the bond's principal payments. Such an arrangement might reduce the 2002 and 2003 rate increases to about 14 percent each.

None of these alternatives can completely insulate ratepayers from the impact of the capital program; however these or other alternative strategies may mitigate rate increases to some extent. Thorough investigation of these or other alternative financing schemes is beyond the scope of this report. Investigation of alternative funding strategies is best addressed as part of a full financial analysis and rate study, following formal adoption of the comprehensive plan and a complementary updated GFC.

9.5 Assessment of Rates

As noted earlier, the District's rates for residential water service are currently low relative to many similar utilities in King County. The District has kept the same basic water rate structure for the past several years. Customers pay a fixed bimonthly charge that varies by meter size, plus volume charges per unit of water consumed that escalate at higher levels of consumption. This scheme is commonly called a "fixed plus inclining block" rate structure. The fixed charge is intended to cover some of the fixed costs of the utility and provide a stable revenue base. The inclining block rate structure is designed to provide a price signal to encourage conservation.

Table 9-6 shows the District's current bimonthly water service rates for a single-family residential customer with a 5/8-inch x 3/4-inch meter connection.

TABLE 9-6
Bimonthly Single-Family Residential Water Rates, Years 2000 & 2001*

Year	Fixed Charge	Block One (0-15 ccf)	Block Two (16-60 ccf)	Block Three (60+ ccf)
2000	\$13.25	\$1.49	\$1.81	\$3.85
2001	\$15.63	\$1.49	\$1.81	\$3.85

* Assumes a 5/8 x 3/4 meter connection.

This rate structure provides a modest conservation price signal, but that signal has been eroded to some degree by recent rate increases; rates adopted for 2000 and 2001 raise the fixed portion of the charge while leaving the volume charges unchanged. These increases weaken the conservation signal, since the volume charges represent a smaller portion of the customer's bimonthly bill.

Further, the volume allowed in each rate block provides a relatively mild conservation signal. Covering bimonthly consumption from 0 to 15 ccf every 2 months, the first volume block is about equal to the District's winter average usage per ERU. Many customers reach consumption blocks two and three (see Table 9-6) during the peak irrigation period only. This structure therefore provides little financial incentive to curb indoor water use, since the unit cost of water remains relatively stable for indoor, winter consumption. Moreover, the incremental cost of water from one block to the next is relatively small, with the highest block, block three, consumers pay only about 2.6 times more per unit for water than conservative customers are in the lowest block.

To enhance the rate structure's equity and further encourage conservation, the District should consider reducing the volume allowed in block one and/or reducing the block one volume charge. Generally speaking, conservative customers with little summer peak demand do not drive the need for the District's capacity expansions. Thus, equity principles suggest that these relatively conservative customers should not bear the rate increases that capacity expansions will bring. A carefully designed rate structure can protect and reward these conservative customers while placing the greatest cost burden on those customers whose demand characteristics drive the need for new capacity.

Under many conservation structures, the first block is intended to encompass typical off-peak indoor use, with higher blocks capturing seasonal irrigation demands. At 15 ccf bimonthly, the first block allowance is probably higher than a typical customer's indoor winter water consumption. Shrinking the first block could reward conservative customers and push greater costs toward high-volume water customers. Moreover, the second block is very large; customers must use more than 60 ccf bimonthly before entering block three. Lowering the block three boundary will move customers into higher volume blocks more often.

As noted in Chapter 4, the District seeks improved conservation, or reduced water consumption—particularly in the summer peak periods—per ERU served. Research in the field of water supply suggests that some conservation can be achieved through water rate

structure. In the future, the District will consider a number of rate and/or billing features to enhance the conservation elements of the water rate structure:

- Monthly meter reading and billing instead of bimonthly cycles. While more costly to implement, more frequent billing provides more immediate connection between water use and the customer's bill. Monthly billing also enhances the conservation signal in that it reduces the probability that a customer's high peak usage could be obscured by an offsetting low-usage time within the same billing period.
- Lower fixed charges relative to the volume portion of the typical bill.
- "Lifeline" rates for very conservative customers with low average use and little or no peak consumption.
- Smaller blocks to further encourage conservation. This would force more usage into the higher, more expensive blocks.
- Addition of another consumption block for excessive water usage priced equal to the marginal cost of new supply, transmission, and storage capacity.
- Adjusting the residential structure to one more based on each residence average winter usage. The District could charge customers a certain price for their winter average or some fraction thereof, and then establish a series of usage blocks of fixed size that begin at the benchmark volume.
- Developing a pattern-based rate structure. This structure would have a conservative user discount and actively reward customers that use less water. Examples of this program could include sending a rebate check at the end of the year if the customer met certain conservation goals or having an automatic adjustment on their bills to reward them if their usage history conforms to some targeted pattern.

Exploration and/or adoption of any of these rate alternatives require a cost of service analysis and a more detailed rate revenue requirement study. The District may perform such a study in the near future to guide future financial and ratemaking policy.