Six

Funding and Rate Analysis

VI.A Introduction

The City of Kirkland recently adopted a sequence of two stormwater rate increases, supported by City staff analysis, effective in 2005 and then 2006. The resulting 2005 monthly rate is $10.90 per equivalent residential unit (ESU).[1] The City concurrently contracted with Financial Consulting Solutions Group, Inc. (FCS Group) to perform a stormwater rate study intended to both validate the sufficiency of the adopted rate increases and incorporate the results of the stormwater system master plan. A summary of the work plan is provided below.

- Review the utility's capital financing status, and financial policies and procedures.
- Address key policy issues impacting the utility, including but not limited to the following:
- Capital facilities charges – their basis and potential applications for both water quantity and water quality; and
- Utility fiscal policies.
- Develop an estimated revenue requirement and cash flow projection for the next 6 years of capital construction, incorporating the capital projects list currently in development by City staff and Parametrix, Inc., current financial information, and key policy recommendations.
- Calculate accompanying capital facilities charges (CFCs) for consideration.

This report provides the study methodology, assumptions, and resulting calculations. Appendix O includes the detailed spreadsheets supporting the study results. Three issue papers discussing "capital facility charges", "utility fiscal policies", and "local program comparisons" are included in Appendix O.

VI.B Revenue Requirements

Approach

The revenue requirements analysis forecasts the amount of annual revenue needed from rates. The analysis incorporates operating revenues, operating and maintenance (O&M) expenses, debt service payments (if any), rate funded capital needs, and any other identified revenues or expenses related to utility operations, and determines the sufficiency of the current level of rates. Revenue needs are also impacted by specific fiscal policies and financial goals of the utilities, as described herein.

The analysis determines the amount of revenue needed in a given year to meet that year's expected financial obligations. For this analysis, two revenue sufficiency criteria have been developed to reflect the financial goals and constraints of the utility: (1) cash needs must be met and (2) revenue bond coverage requirements must be realized. In order to operate successfully with respect to these goals, both tests of revenue sufficiency must be met. Since the utility has no outstanding revenue bond obligations and does not plan to issue bonds in the near future, the coverage requirement is not a factor in this study.

The cash flow test identifies all known cash requirements for the utility in each year of the study period. First, capital needs are identified and a capital funding strategy is established. Typically, this may include the use of debt, cash reserves, outside assistance, and rate funding. Cash requirements *to be funded from rates* are then determined. Typically, these include O&M expenses, debt service, system replacement funding or directly funded capital outlays, and any additions to specified reserve balances. The total annual cash needs of the utility are then compared to projected cash revenues under current rates. Any projected revenue shortfalls are identified and the rate increases necessary to make up the shortfall are then estimated.

Fiscal Policies

In concert with the revenue requirement analysis, fiscal policies are identified to maintain the long-term financial health and performance of the utility. A brief summary of the key policies incorporated into the revenue requirement analysis is provided below.

System Replacement Funding The purpose of system replacement funding is to provide for the replacement of aging system facilities to ensure sustainability of the system for ongoing operations. A common approach of municipal utilities is to incorporate a replacement funding (or equity accumulation) mechanism based on annual depreciation expense as a reasonable level of reinvestment in the system.

Annual depreciation is a non-cash expense intended to recognize the consumption of utility assets over their useful lives. Collecting annual depreciation expense through rates provides a funding source for those capital expenditures related to repair and replacement of existing utility plant. Further, funding depreciation through rates helps to ensure that existing ratepayers pay for the use of the assets serving them, with the cash flow funding at least a portion of the eventual replacement of those assets.

Reserve Levels Financial reserves are a necessary and appropriate part of prudent utility management practices. The City maintains separate accounting for an "Operating Fund" and "Capital Fund" in order to distinguish the different "sources" and "uses" of the operating and capital funds.

- ***Operating Reserves.*** Operating reserves are designed to provide a liquidity cushion to ensure that adequate cash working capital will be maintained to deal with significant cash balance fluctuations, such as seasonal fluctuations in billings and receipts, unanticipated cash operating expenses, or lower than expected revenue collections. Target funding levels are generally expressed in number of days' cash operating expenses, with the minimum requirement varying with the expected risk of unanticipated needs.

City of Kirkland stormwater rates are based on the amount of developed area on each individual parcel, and are billed *annually* on the King County property tax statement. Because the basis of charging changes very little from year to year, the stormwater utility generates relatively constant and predictable total rate revenue. Due to the fee's inclusion on the property tax statement, however, approximately eighty percent of stormwater utility rate revenue is received *after the October property tax payment deadline*. To ensure ongoing fiscal health, this revenue pattern requires that the City either (1) begin each year with at least ten months of cash operating expenses or (2) be prepared to use warrants (intra-City loans) to fund ongoing stormwater operations until October revenue is received – something the City has not historically done. In this analysis, target operating fund balance is assumed to be 310 days (10 months) of cash O&M expenditures.

- ***Capital Contingency Reserves.*** The capital fund holds loan and bond proceeds; other capital-related revenues, and surplus operating fund balances designated for capital construction and replacement projects. The study assumes that cash from rates for system replacement funding and balances in excess of the minimum requirements in the operating fund are transferred to the capital fund at year's end and become available (but not restricted) for capital use in subsequent years.

A capital contingency reserve is an amount of cash set aside in case of an emergency, should a piece of equipment or a portion of the utility's infrastructure fail unexpectedly. Additionally, the reserve could be used for other unanticipated capital needs, including project cost overruns. These reserves are not intended to cover the costs of system-wide failures resulting from catastrophic events; a more common practice is to carry insurance for such purposes.

There are several ways to set the level of contingency reserves. The City has historically reserved 10% of the total cost of utility's 6-year CIP. We recommend that the City maintain a contingency reserve minimum balance equal to the greater of 1% of assets (original cost), resulting in a reserve level of $298,700[2], and 10% of cost of the CIP, or $847,400[3]. This analysis assumed a minimum target capital fund balance set at the latter level.

A more detailed discussion of above summarized fiscal policies and FCS Group's recommendations are provided in issue paper #2 (Appendix O).

Assumptions, Major Study Findings and Conclusions

The rate study results are based on the following major assumptions:

- Revenues and O&M expenditure projections are based on the 2005 budget.
- Customer growth rates are based on the estimated number of ESUs at build out and the assumption that build out will be attained in 20 years. The resulting annual growth rate is estimated to be 0.55%.
- Annual labor cost inflation and general inflation rates are assumed to be 5% and 3%, respectively. Annual capital construction cost inflation is assumed to be 4%.
- In addition to projected O&M expenditures based on the current service levels, 29% of the increase in rehabilitation associated with the annual street overlay program and costs for increased customer service are included in the O&M projections as additional program costs starting from 2006. These costs are estimated by City staff to be $90,000 and $145,000 in 2006, respectively.
- The annual fund earnings rate is assumed to be 2.5%.
- It is assumed that the utility will annually fund capital transfers equal to depreciation expense ($581,000 in 2005) as a source for system replacement funding.
- No capital facilities charge revenue is assumed in the projections, although a charge is calculated and proposed.

Operations and Maintenance In 2004, utility rate revenue was approximately $2.6 million and non-rate revenue was over $80,000. Total operating and maintenance expenditures were approximately $1.9 million. With the 45.3% rate increase in 2005, the utility budgeted for over $3.8 in rate revenues and $2.0 million for O&M expenditures (excluding operating transfers for capital). Hence, the utility is expected to generate $1.9 million cash surplus from its operations. This surplus will be used for replenishing operating reserves and funding budgeted capital projects. At the beginning of 2005, the utility had close to $1.0 million in its operating fund.

In anticipation of higher capital expenditures, planned implementation of system replacement funding, and additional O&M program costs, the City also adopted a 29.8% rate increase in 2006. With this increase, rate revenues are estimated to be around $5.0 million in 2006. O&M expenses are projected to rise to $2.37 million in 2006 due to inflation, overlay expenses and additional customer service costs. Hence the utility will continue to generate excess cash from operations that will be available for capital expenditures.

Capital Projects and Funding Sources The utility had little over $1.2 million in its capital fund at the beginning of 2005. The budgeted capital expenditures in 2005 were close to $1.0 million. As explained above, the excess cash flow from operations will be enough to pay for the budgeted capital expenditures in 2005. The City also compiled a list of capital projects that would be built in the coming years. The total cost of the utility's proposed capital improvement program is close to $8.5 million in 2004 dollars. The City plans to implement the proposed CIP in six (6) years starting in 2006. Based on the direction from City staff, it is assumed that the City would maintain a relatively uniform level of capital spending over the next six years (2006-2011). Therefore, the estimated total CIP cost is distributed evenly over the six years (i.e. approximately $1.42 million a year in 2004 dollars) and adjusted for assumed construction cost increases (4% per year). In addition to proposed capital improvements, a provision for $1.0 million a year for transportation projects is included in the utility's projected capital funding needs.

Considering the already adopted 29.8% rate increase in 2006, we project that the utility will continue to generate considerable amount of cash from its operations. This excess cash flow from operations will fund the proposed CIP, and the utility is not expected to seek outside funding sources for its capital needs.

Table VI. 1 Summary of Revenue Requirement Analysis Results

Capital Funding	2005	2006	2007	2008	2009	2010	2011
Total Capital Projects	**$ 994,700**	**$ 2,527,580**	**$ 2,588,683**	**$ 2,652,230**	**$ 2,718,319**	**$ 2,787,052**	**$ 2,858,534**
Use of Capital Fund Balance	$ 994,700	$ 1,340,160	$ 1,314,105	$ 1,359,782	$ 1,274,179	$ 1,047,564	$ 939,277
Direct Rate Funding	-	1,187,420	1,274,578	1,292,449	1,444,140	1,739,489	1,919,258
Total Funding Sources	**$ 994,700**	**$ 2,527,580**	**$ 2,588,683**	**$ 2,652,230**	**$ 2,718,319**	**$ 2,787,052**	**$ 2,858,534**

Revenue Requirements	2005	2006	2007	2008	2009	2010	2011
Revenues							
Rate Revenues Under Existing Rates	$ 3,876,285	$ 3,897,552	$ 3,918,936	$ 3,940,437	$ 3,962,056	$ 3,983,794	$ 4,005,651
Non-Rate Revenues	46,051	65,645	72,355	74,299	76,324	78,435	80,633
Total Revenues	**$ 3,922,336**	**$ 3,963,197**	**$ 3,991,291**	**$ 4,014,736**	**$ 4,038,380**	**$ 4,062,228**	**$ 4,086,284**
Expenses							
Cash O&M Expenses	$ 2,055,542	$ 2,389,012	$ 2,480,657	$ 2,576,133	$ 2,675,611	$ 2,783,372	$ 2,896,453
Rate Funded System Reinvestment	-	644,430	709,148	775,453	843,411	913,088	984,551
Rate Funded CIP	-	1,187,420	1,274,578	1,292,449	1,444,140	1,739,489	1,919,258
Total Expenses	**$ 2,055,542**	**$ 4,220,862**	**$ 4,464,382**	**$ 4,644,035**	**$ 4,963,162**	**$ 5,435,948**	**$ 5,800,261**
Annual Rate Adjustment	**45.33%**	**29.82%**	**0.00%**	**0.00%**	**0.00%**	**5.29%**	**6.14%**
Rate Revenues After Rate Increase	$ 3,876,285	$ 5,059,802	$ 5,087,562	$ 5,115,475	$ 5,143,541	$ 5,445,467	$ 5,811,287
Net Cash Flow After Rate Increase	1,866,794	904,585	695,536	545,739	256,703	87,954	91,659

Fund Balances	2005	2006	2007	2008	2009	2010	2011
Operating Fund	$ 1,745,803	$ 2,014,217	$ 2,091,971	$ 2,172,979	$ 2,257,385	$ 2,345,338	$ 2,436,998
Capital Fund	1,340,160	1,314,105	1,359,782	1,274,179	1,047,564	939,277	1,008,033
Total	**$ 3,085,963**	**$ 3,328,322**	**$ 3,451,753**	**$ 3,447,158**	**$ 3,304,948**	**$ 3,284,615**	**$ 3,445,031**
Combined Minimum Target Balance	*$ 1,100,823*	*$ 2,861,617*	*$ 2,939,371*	*$ 3,020,379*	*$ 3,104,785*	*$ 3,192,738*	*$ 3,284,398*

VI.C Capital Facilities Charges

Methodology

Capital Facilities Charges (CFCs) are sources of funding used by utilities to support capital needs. CFCs are imposed on new customers as a condition of service. The underlying premise of the CFC is that new customers should pay for a pro rata share of the cost of providing system capacity, and through this mechanism offset growth-related costs that would not have been necessary in the absence of customer growth.

The purpose of the CFC is twofold: (1) to provide a funding source for capital construction; and (2) to recover an equitable portion of investment in the system from new customers. In the absence of a CFC, growth-related costs would be borne by existing customers to a large extent. Intended to recover a pro-rata share of the capital cost of the utility's capital facilities, the CFC should be imposed *in addition to* any operational cost of connecting to the system (e.g., a meter installation charge).

The cost of the system to be recovered by the capital facilities charge can be defined in two parts:

- ***The cost of existing facilities.*** Original construction cost is the cost basis for existing facilities. 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.*** It is also recommended that the City include projects planned for construction and contained in an adopted comprehensive plan in the CFC basis. Projects funded by developers or special assessments may not be included in this calculation.

With these costs established, the CFC calculation is simply the cost of capacity divided by some unit of capacity representative of a typical customer's needs, in this case ESUs. A more detailed discussion of allowable costs and basis for charging CFCs is provided in issue paper #1 (Appendix O). It is possible to impose CFCs lower than the legal maximum as a matter of policy.

Capital Facilities Charge Calculation

As discussed above, the capital facilities charge cost basis includes two components: one to recover a share of existing asset value and another to recover a portion of anticipated capital improvement costs. Each component is addressed below.

- ***Existing Cost Basis.*** The allocable asset base calculation is based on the year-end 2004 asset schedule. According to that schedule, the original cost of capital assets is $29.9 million. Contributions-in-aid of construction (CIAC), grant funding and other outside source-funded assets, equal to $27.7 million, were then subtracted from the total asset base amount to determine the net asset value eligible for CFC inclusion. The net asset value equals $2.2 million.

Washington law allows for the recovery of up to ten years' worth of interest on existing non-contributed assets, at the interest rate prevailing at the time of construction. We used the fixed asset schedule to determine cumulative allocable interest. For each individual asset, we first determined the applicable age (the minimum of the actual age or 10 years), and the interest rate at the time of construction (based on bond buyer's revenue bond index). The applicable age and interest rates were then applied to each asset's original cost. The aggregate interest cost eligible for recovery under CFC is approximately $203,000, and this amount was added to the CFC existing cost basis.

The total existing cost basis eligible for recovery through the CFC (net asset value plus eligible interest) equals $2,361,174.

- *Future Cost Basis.* The capital improvement plan calls for about $14.5 million in new projects over the next six years. Of this amount, approximately $13.0 million is classified as repair and replacement, and thus is not eligible for recovery through the CFC. This classification is based on the assumption that the proposed capital improvement projects will benefit the existing and future customers proportionately. The net amount, which includes projects identified as upgrade and/or expansion net of future contributions, is equal to $1.5 million. This amount is included in the total cost basis to be recovered through the CFC.
- *Capital Facilities Charge* The existing cost basis ($2.4 million) is divided by the total customer base at built out (32,329) to arrive at the CFC component for existing plant. This equates to a charge of $73 per ESU. The future cost basis ($1.5 million) is divided by future customer base growth of 3,351 (the difference between the projected number of ESUs at build out and the existing number of ESUs) to arrive at the CFC component for future plant. This equates to a charge of $448 per ESU. The capital facilities charge is the sum of these two components, or $521 per ESU.

At an annual growth rate of .55%, the CFC would generate between $80,000 and $85,000 per year for capital purposes. Actual results will vary significantly, due to the reliance of charge revenues on growth patterns. The following are sample stormwater capital facilities charges for a typical single family residence.

Footnotes:

[1] One ESU = 2,600 square feet of impervious surface area for non-single family residential customers and 1 dwelling unit for single family residences.

[2] Total plant-in-service as of 12/31/04 estimated at $29.87 million.

[3] Cost of transportation projects are excluded from minimum target capital fund balance calculation.

Table VI. 2 Comparison of Stormwater Capital Facility Charges (CFCs)	
Agency	**CFC**
Issaquah	$1,520
Duvall	$1,400
Kirkland (Proposed)	$521
Redmond	$400
Bellevue	NA
Bothell	NA
King County	NA
Kirkland (Current)	NA
Seattle	NA
Woodinville	NA