



CITY OF KIRKLAND
Department of Public Works
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www.kirklandwa.gov

MEMORANDUM

To: Kurt Triplett, City Manager

From: Julie Elsom, Senior Operation and Finance Analyst
 Marilynne Beard, Interim Public Works Director

Date: September 8, 2014

Subject: 2015 - 2016 UTILITY RATES PART II

RECOMMENDATION

Staff recommends that the City Council reviews the proposed 2015-2016 Surface Water, Sewer and Water rates and provides direction to staff for final adoption at a future Council meeting.

BACKGROUND

In preparation for the budget process, City staff has been updating the utility rate projections for 2015-2016 for all four City utilities (water, sewer, surface water and solid waste). Consultants assisted with the process as needed. At the September 2 meeting, Council received a general overview of the rate setting process and a summary of the proposed solid waste rates. At the September 16th meeting, the proposed utility rate recommendations for water, sewer and surface water will be reviewed.

A summary of the recommended single family rates are shown below, followed by a detailed description of each utility's financial and programmatic factors that were considered in the rate proposal:

	2014 Monthly Rate*	2015 Proposed Rate	Monthly impact \$	% increase	2016 Proposed Rate	Monthly impact \$	% increase
Water	\$ 39.95	\$ 41.91	\$ 1.96	4.9%	\$ 43.30	\$ 1.39	3.3%
Sewer	65.41	68.15	2.74	4.2%	68.91	0.76	1.1%
Surface Water	15.60	16.22	0.62	4.0%	16.87	0.65	4.0%
Solid Waste**	22.25	23.05	0.80	3.6%	23.87	0.82	3.6%
Subtotal	\$ 143.21	\$ 149.33	\$ 6.12	4.2%	\$ 152.95	\$ 3.62	3.0%
Effective Utility Tax*	15.72	16.40	0.68		16.80	0.40	
KC Hazardous Waste	1.08	1.08	0.00		1.08	0.00	
TOTAL	\$ 160.01	\$ 166.81	\$ 6.80	4.2%	\$ 170.83	\$ 4.02	2.4%

* Effective Utility Tax rate varies among the utilities. Water 13.38%, Sewer 10.50%, Surface Water 7.5%, Solid Waste 10.5%

** Solid waste rates are based on the 35 gallon cart, weekly pickup, this is the most popular cart size

2015-2016 Utility Rate Development

The process of developing the 2015-2016 proposed rates was based on a combination of the financial performance of the utilities over the past several years, needs identified through updating the Surface Water Master Plan and the Water System Plan, and contractual obligations. The rates were designed to ensure the future financial integrity of the utility, keeping in mind impacts on ratepayers. The rates developed reflect the following overarching principles:

- 1) Fully fund ongoing operations
- 2) Maintain or replenish reserves
- 3) Maintain or enhance capital contributions
- 4) Achieve modest and steady rate adjustments rather than periodic large increases
- 5) Reduce or maintain customer cross-subsidies

SURFACE WATER:

The Surface Water Utility rate recommendation reflects continuation of basic services and implementation of the recommendations contained in the Draft Surface Water Master Plan update. A combination of existing rate revenue, proposed reserves and a modest rate increase is sufficient to implement the plan over the coming ten year period.

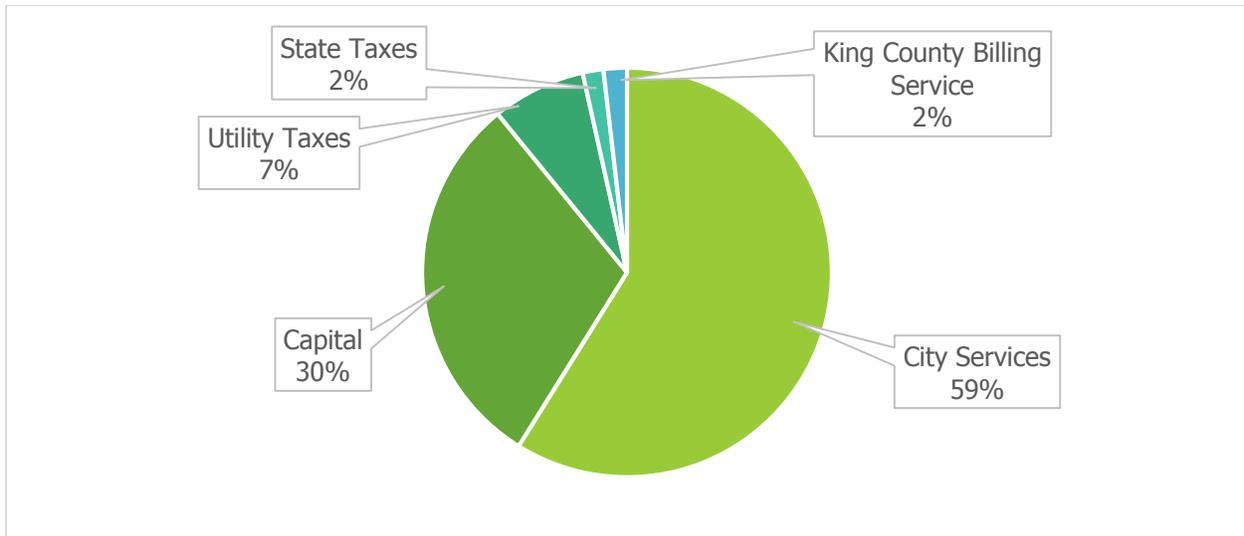
The current monthly surface water rate for single family residential is \$15.60; there was no rate increase for 2013 or 2014.

Budget

The Surface Water Budget is approximately \$9 million per year with 60% dedicated to ongoing operations including system maintenance and engineering and education and outreach programs. The surface water management fee is billed by King County on the property tax bill. The City pays King County a fee for this service. Another 30%, or \$2.5 million, is transferred to the surface water capital projects fund for surface water capital facilities. The remaining 9% is composed of taxes and fees collected and passed through to the State of Washington and other City Funds:

- The City collects a utility tax that is charged on the utility bill and then transferred from the utility fund to the General Fund; and
- The State of Washington imposes a B&O tax on the "gross revenues" of the utility.

The following chart is a proportionate representation of the Surface Water budget:



2015-2016 Utility Rate Assumptions in support of fiscal policies

System Reinvestment Funding (Goal: 1.0 times the annual depreciation expense)

The target annual system reinvestment funding is 1.0 times the annual depreciation expense. The City is currently meeting this target. The proposed rates assume the current practice will continue. The purpose of a system reinvestment policy is to fund replacement of aging system facilities and ensure sustainability of the system for ongoing operations. Annual depreciation is intended to recognize the consumption of utility assets over their useful lives.

Surface Water Master Plan Update

The draft Surface Water Master Plan update is under review. An overview of the findings and recommendations was provided to the City Council at the September 2 meeting. The updated plan reflects the 2011 annexation of Finn Hill, Juanita and Kingsgate and the requirements of the National Pollutant Discharge Elimination System (NPDES) permit requirements. Many program and capital project additions were recommended to reduce flooding, improve water quality, protect and maintain infrastructure, and improve aquatic habitat conditions. It is important to note that NPDES permit holders are required to implement Capacity, Management, Operation and Maintenance (CMOM) programs; therefore, there is also an impact to the wastewater utility rates. CMOM programs are described in more detail under the wastewater section of this memo.

Program additions were identified as either 'required' or 'augmented'. 'Required' additions are those expenditures necessary to maintain the minimal level of service and to comply with conditions of the NPDES permit requirements by the June 2018 deadline. 'Augmented' services enhance the current level of service or make implementation of the requirements easier and more efficient.

Required Program Additions

Required program recommendations are largely related to maintenance of infrastructure, with system inspection and ditch maintenance being the largest operating expenses identified, as well as the highest-priority items.

System inspection of pipes is the use of a close circuit camera (CCTV) truck and crew to inspect surface water and sewer pipes. Inspection is critical and serves several purposes including inspection of pipes prior to overlay to ensure necessary repairs are concurrent with street construction, to help plan for system replacement and to satisfy requirements of the NPDES permit and CMOM programs. Inspection helps to identify failing infrastructure and cross bores. Cross bores occur when one utility becomes inadvertently installed through or damages another pre-existing utility. Inspection identifies the need for repair or replacement before failure results in flooding, sanitary sewer overflows or other system impacts. Inspection data should be updated on an approximate 10 year cycle to ensure pipes have not deteriorated to a point where repair or replacement is necessary. The NPDES permit requires that at least 10% of the total system be inspected per year. Over the last seven years less than 20% of the system has been inspected with the City's one camera truck and crew. As more of the system is inspected, additional needs may be identified. The Proposed program includes a new TV inspection truck and a 2-person crew. Related costs will be shared 50/50 with the Wastewater Utility.

Ditch Maintenance is necessary to prevent flooding and protect water quality. The rate proposal funds ditch maintenance needs in the annexation area and along the CKC. The annexation area and the CKC contain some 98 miles of ditches, which represents a 126% increase over the length in pre-annexation Kirkland. The ditching program includes the purchase of equipment, including a backhoe and a multiuse dump truck, and a 4-person crew to provide maintenance and required flagging.

Onetime costs include other programs such as adoption of updated stormwater design regulations and review of codes for incorporation of low impact development stormwater features which are mandatory requirements of the NPDES Phase II Municipal Stormwater Permit. One-time investments are assumed to be funded from existing reserves.

	Total	Surface Water	Sewer
System Inspection	2.0 FTE's	1.0 FTE	1.0 FTE
Ditch Maintenance	4.0 FTE's	4.0 FTE	
Total Staffing	6.0 FTE's	5.0 FTE	1.0 FTE
Total ongoing cost	\$720,000	\$600,000	\$120,000
Onetime cost – Equipment	\$760,000	\$580,000	\$180,000
Onetime cost – LID related	\$100,000	\$100,000	

Augmented Program Additions

Augmented program additions are enhancements to the surface water operations that implement the recommendations of the Surface Water Master Plan Update.

A Surface Water Inspector will allow time-critical inspections of facilities required per NPDES after large storm events. Storms trigger the need to inspect and measure sediment buildup in all tanks, vaults, filter vaults and ponds. In addition, the entire storm water conveyance and treatment system must be inspected every 5 years city-wide. The program will assist with fats, oils and grease (FOG) and NPDES inspection and will be split between the Waste Water Utility and Surface Water Utility. The relationship of this position to FOG is discussed under the Waste Water section of the memo. The addition includes one staff person and a vehicle equipped with the proper supplies and gear to respond quickly to emergency spills, reducing the potential for water quality issues in the surface water system.

Surface Water Engineer is listed as augmented however, this person could take the place of a consultant for some of the one-time required items. This position would assist with needs associated with implementation of the NPDES Permit and programs identified in the Surface Water Master Plan update.

Several onetime studies and programs were identified that help to achieve the major goals of the plan: reduced flooding, improved water quality, infrastructure maintenance, and improve habitat.

	Total	Surface Water	Sewer
Inspector FOG/NPDES	1.0 FTE	0.50 FTE	0.50 FTE
Surface Water Engineer	1.0 FTE	1.00 FTE	
Total Staffing	2.0 FTE's	1.50 FTE	0.50 FTE
Total ongoing cost	\$195,000	\$150,000	\$45,000
One time cost – Equipment	\$220,000	\$220,000	
One time cost – Studies	\$420,000	\$420,000	

Other Activities

Consistent with the findings of the Surface Water Comp Plan Policy review, staff recommends continuing financial support of half a Planner and half of the Urban Forester positions as long as the services provided are related to mitigating the impacts of storm and surface water runoff.

Regional Detention Project - Forbes Creek in addition to the capital projects discussed above, a \$10 million Regional Detention Project was identified. Due to the size of the project, the recommendation is to use a combination of debt and reserves to fund the project in the future.

Reserves

The operating reserve target is 180 days of cash operating expenses, excluding all capital transfers and rate-funded system reinvestment. The average target over the 10 year planning horizon is \$4 million. Current operating reserves are \$4.4 million.

The capital reserve target is 10% of the 6 year CIP, not including surface water transportation projects. The average target over the 10 year planning horizon is \$2 million. Current capital reserves are almost \$8 million, including funds for surface water capital and surface water transportation capital.

The technical infeasibility of several large capital projects, consistent revenue receipts and customer growth have all contributed to the gradual accumulation of cash reserves over the last several years. The accumulated reserves are proposed as the funding source for many of the one-time programs and capital projects proposed in the Surface Water Master Plan update. Use of reserves will mitigate future rate increases over the life of the plan, while still maintaining reserves at target levels.

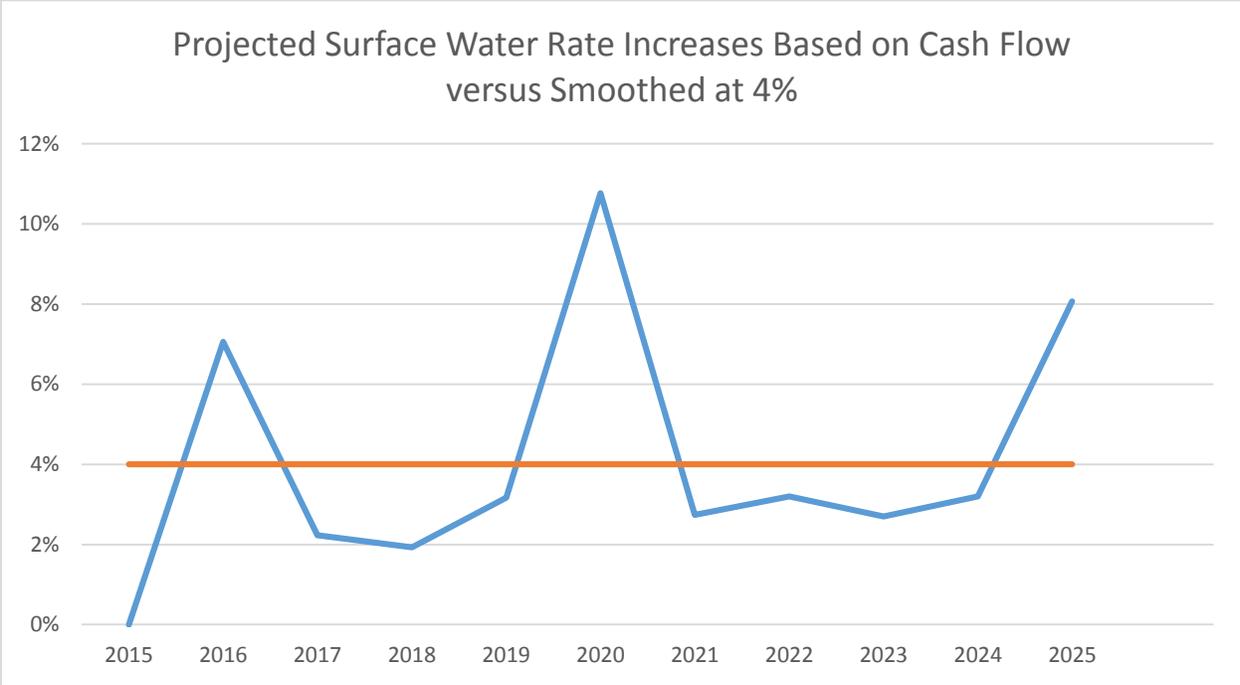
Transportation Capital Contribution Reduction

Much of the surface water conveyance system is constructed in conjunction with City street projects; therefore, historically \$950,000 has been transferred to Capital and set aside for the surface water related portion of Transportation projects. Over the last several years the actual average expense has been under \$500,000 per year. This has resulted in the accumulation of \$4.7 million in reserves, set aside for Surface Water Transportation Projects.

The Transportation Master Plan update is currently underway, which includes an updated 2014–19 transportation improvement plan. Based on the revised plan, the average annual capital expenditure for surface water purposes is estimated at \$495,000. In order to more closely reflect current annual surface water costs associated with transportation projects, staff recommends a reduction in the transfer from \$950,000 to \$500,000 to better align with past actual expenditures and future projections. In addition, staff recommends the use of accumulated reserves for all surface water projects rather than segregating reserves between surface water and transportation purposes.

RATE SCENARIOS

There are several alternatives to implementing the recommendations identified in the Surface Water Master Plan (SWMP) depending on how quickly the City Council wants to implement the plan and the associated rate impacts. The consultants that analyzed the financial condition of the Utility and the costs of implementing the SWMP recommendations developed a rate model that allows for testing different rate policies. Based on available cash resources in the Utility capital fund and the most immediate operating needs, the consultants identified annual rate increases that range from 0% to 11% over the next ten years to implement the plan. As an alternative to fluctuating rate increases, the consultants proposed a “smoothing” policy that calls for steady but modest rate increases of 4% per year. The following chart shows the difference between funding the SWMP implementation on a cash flow basis and a smoothed rate over time. Both scenarios assume implementation of SWMP programs in time to comply with the NPDES deadlines and funds other projects and programs over time.



City Council reviews rates every two years and the need for the 4% annual increase in future years will be reevaluated with the next biennial budget.

This rate analysis includes the following assumptions:

- The surface water transportation transfer is reduced to \$500,000,
- Use of available cash reserves to fund one time operating costs and capital projects,
- Accumulated reserves set aside for the surface water component of transportation capital projects are available for all surface water capital projects, and
- Operating and capital reserve levels are maintained.

Proposed Rates

Staff is proposing a rate increase of 4% per year in 2015 and 2016 (compared with a 0% in 2015 and 7% in 2016 per the “cash flow” approach). The modest rate increase is made possible through the reallocation of transportation capital funding to operations and the use of accumulated capital reserves that resulted from the technical infeasibility of several larger past CIP projects.

The following is a summary of the impact of the recommended rate increase to single family residents:

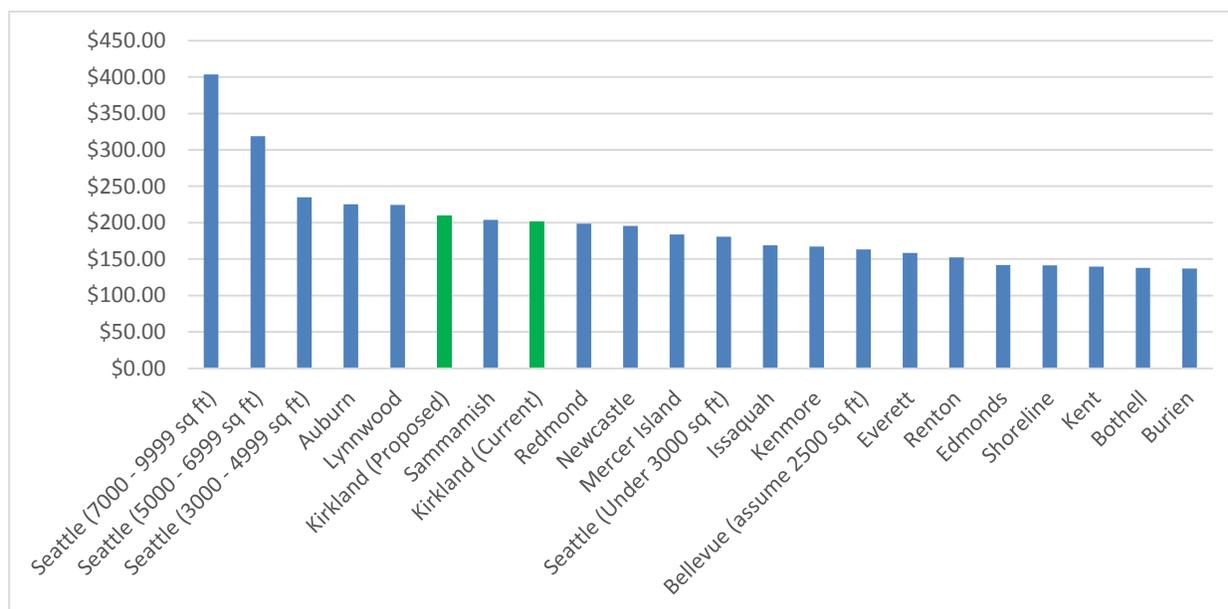
	2014	Recommended 2015	Recommended 2016
Typical Monthly Bill	\$ 15.60	16.22	16.87
Monthly \$ increase:		0.62	0.65
Percentage increase:		4.0%	4.0%

*Typical Single Family monthly bill before utility tax

Multifamily and commercial bills will increase by the same percentage amount. It should be noted that the rate proposal is to adopt both 2015 and 2016 rates and that all rates are reviewed every two years as part of the budget process.

The graph that follows illustrates how Kirkland's annual surface water cost (including utility tax) compares to the rates charged by other utilities in 2014:

ANNUAL RESIDENTIAL SURFACE WATER UTILITY BILL
 (Including utility charges and utility tax)



*annual typical single family surface water bill including utility tax

WASTEWATER:

The wastewater (sewer) utility provides for Kirkland's share of the regional wastewater collection, treatment, disposal, and bio-solids reuse program that is administered by the Wastewater Treatment Division of King County (KCWTD). In addition, the utility allows for the construction, operation and maintenance of the City's local wastewater collection and transmission system.

The current monthly sewer rate for single family residential is \$65.41; the effective utility tax is 10.5%. The last rate increase was in 2013 and reflected the King County Council adopted rate increase for sewage treatment of 10% and continued phase-in of capital reinvestment funding based on the annual depreciation of assets.

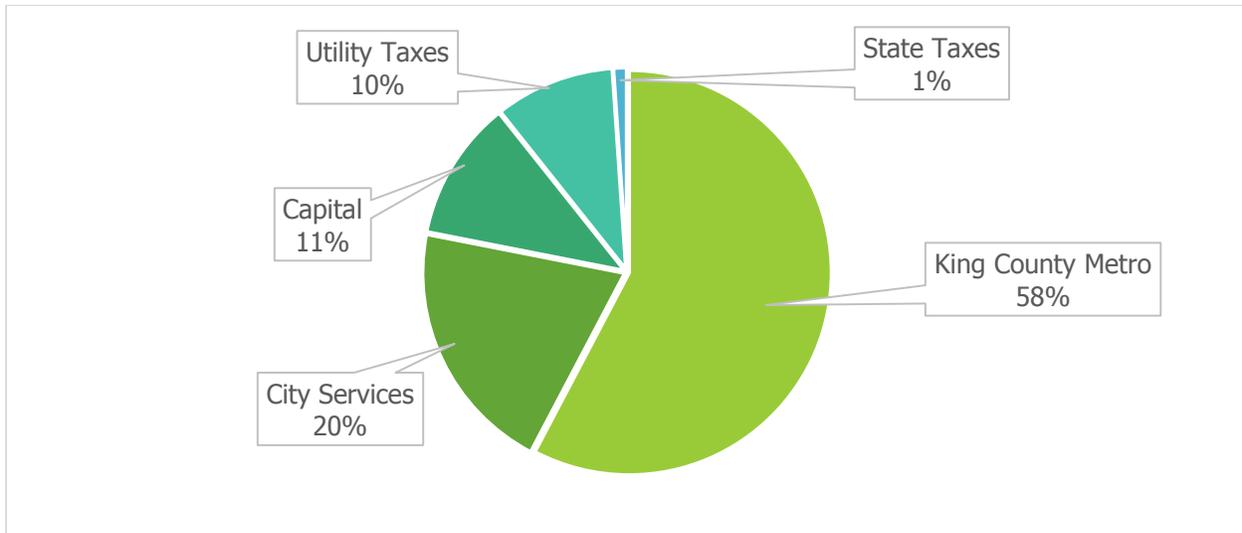
Budget

The annual sewer utility budget is approximately \$12.5 million. Approximately 58% of the annual expenditures are payments made to KCWTD for regional wastewater services. Another

20% is for ongoing operations and maintenance. The contribution to capital projects accounts for 11% of the budget. The remaining 11% is composed of taxes and fees collected and passed through to the State of Washington and other City Funds:

- The City collects a utility tax that is charged on the utility bill and then transferred from the utility fund to the General Fund; and
- The State of Washington imposes a B&O tax and public utility tax on the utility.

The following chart is a proportionate representation of the Wastewater budget:



2015-2016 Utility Rate Assumptions in support of fiscal policies

King County Wastewater Treatment (KCWTD)

The King County Council recently adopted a rate increase taking the monthly rate from \$39.79 in 2014 to \$42.03 for 2015 and 2016 (a 5.6% increase). Some of the key factors contributing to the rate increase are:

- a. Implementation of "Our Waters" program: The program intent is to engage residents, businesses, community organizations, and customers in actively working to improve water quality in the KCWTD service area.
- b. Compliance with the Federal Consent Decree to complete its remaining Combined Sewer Overflow control projects.

System Reinvestment Funding (Goal: 1.65 times the annual depreciation expense)

The target annual system reinvestment funding is 1.65 times the annual depreciation expense. The City continues to implement incremental increases of .05 in order to gradually phase in meeting this target. The current level of funding is \$1.6 million or 1.2 times the annual depreciation expense, this will increase to \$1.9 million or 1.3 times the annual depreciation expense in 2016. The multiplier applied to the depreciation expense recognizes that the cost to replace infrastructure over time will be higher than the original cost on which depreciation is based.

Shared Costs Resulting from the Surface Water Master Plan Update

The Surface Water Master Plan update identified several program additions necessary to comply with the requirements of the NPDES permit. NPDES permit holders are required to implement Capacity, Management, Operation and Maintenance (CMOM) programs. CMOM programs are to assure that a sewage system is properly managed, operated and maintained at all times, has adequate capacity to convey peak flows, and all feasible steps are taken to eliminate excessive infiltration and inflow from the system with a goal of eliminating sewer overflows. The following Sewer additions were identified as necessary to support plan implementation:

	Sewer
System Inspection	1.00 FTE
FOG Inspector	0.50 FTE
Total Staffing	1.50 FTE
Total ongoing cost	\$165,000
One time cost – Equipment	\$180,000

Required Program additions

System inspection must be completed every five years. CCTV inspection has been identified as the most cost effective way to comply. In addition, information pertinent to meeting other CMOM requirements will be obtained. Television inspection is an aide in identifying lines with obstructions, with corrosion problems and with potential for failure. This program includes a new CCTV inspection truck and a 2-person crew to be shared 50/50 with the Surface Water Utility. The Wastewater Utility’s share is identified in the above table and includes 1 person and half of the new CCTV truck.

The **Inspector** was identified as an “augmented” service under Surface Water because it is not required per state or federal regulations related to surface water, however, the inspector is required per CMOM. The inspector is considered a preventative maintenance measure to reduce sanitary sewer blockages and reduce maintenance costs. The inspector will assist business with the Fats, Oils and Grease (FOG) program compliance. FOG buildup in pipes causing clogs, backups and wastewater overflows and spills onto private property, streets and into local surface waters. FOG buildup increases the cost of maintaining the system. Current sewer staff conducts FOG inspections, however inspection requirements have increased and new FOG generators continue to be added to the program. Current staff can no longer absorb the duties without significantly impacting other maintenance and operations tasks. This program includes a half time position to assist with inspections.

PROPOSED RATES

Staff is proposing adoption of rates for two years. The following is a summary of the impact of the recommended rate increase to an average single family residential customer.

	2014	Recommended 2015	Recommended 2016
Typical Monthly Bill	\$ 65.41	68.15	68.91
Monthly \$ increase:		2.74	0.76
Percentage increase:		4.2%	1.1%

*Typical Single Family monthly bill before utility tax

Multifamily and commercial bills are expected to increase by the same overall percentage.

WATER

The water utility provides for construction, replacement, and rehabilitation of water distribution and storage facilities, funds the purchase of water from the Cascade Water Alliance (CWA), and ongoing maintenance and operations of the water utility infrastructure. City participation in CWA allows Kirkland to have a voice and a vote over reliable and adequate drinking water supplies.

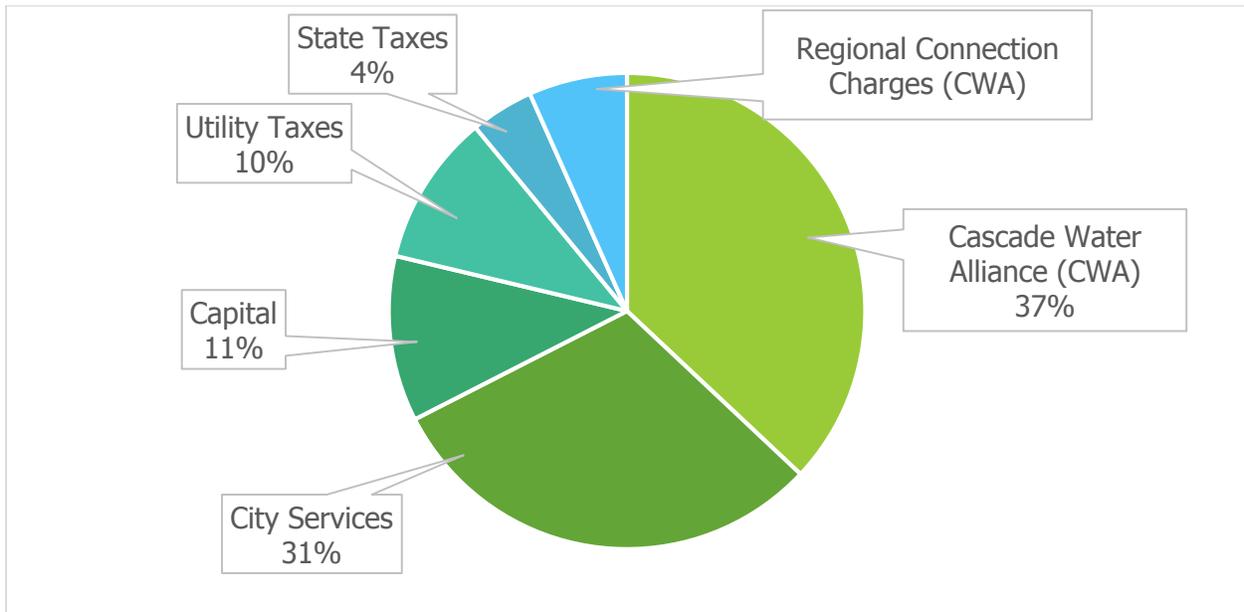
The current monthly water rate for single family residential is \$39.95; the effective utility tax is 13.38% (which includes a component for fire hydrant maintenance). The last rate increase was in 2014 and reflected Cascade Water Alliance rate increase for the purchase of water and continued phase-in of funding for the City's annual capital reinvestment based on depreciation of assets.

Budget

The annual Water utility budget is approximately \$12 million. Approximately 37% of the annual expenditures are payments made to CWA for membership dues and the purchase of water. Another 7% is for the regional capital facility charges imposed by CWA for all new water connections; this fee is collected by the City but passed through to CWA. Kirkland's direct costs for maintenance and operations account for 31% of the annual expenditures. The contribution to capital accounts for 11% of the budget. The remaining 14% is composed of taxes and fees collected and passed through to the State of Washington and other City Funds:

- The City collects a utility tax that is charged on the utility bill and then transferred from the utility fund to the General Fund; and
- The State of Washington imposes a B&O tax and public utility tax on the utility.

The following chart is a proportionate representation of the Waste Water budget:



2015-2016 Utility Rate Assumptions in support of fiscal policies

Cascade Water Alliance (CWA)

Rate increases proposed by CWA for Kirkland are 3.7% in 2015 and 3.3% in 2016. Key factors contributing to the rate increase are smoothing of previous years debt issued for purchase of water and Lake Tapps operations.

System Reinvestment Funding (Goal: 1.25 times the annual depreciation expense)

The target annual system reinvestment funding is 1.25 times the annual depreciation expense. The City continues to implement incremental increases of .05 in order to gradually phase in meeting this target. The current level of funding is \$1.4 million or 1.1 times the annual depreciation expense, which will increase to \$1.7 million or 1.2 times the annual depreciation expense in 2016.

Water System Plan

The recommendation is consistent with the Water System Plan update currently underway, which will be presented to the City Council on October 7.

Cross subsidization

Over the last several months, consultants conducted a review of the cost recovery by customer class. Findings indicate that some cross-subsidy exists between rate classes (see Attachment I for a more detailed description of the consultant's findings). For rates to reflect a true cost of service, a significant shift in cost recovery from multi-family and commercial customers to residential and irrigation customers is necessary. The following chart shows relative cost recovery levels by customer class assuming an overall 3% increase in rates:

Customer Class	2015	
	Across the Board Rate	Cost of Service Rate
Residential	2.9%	12.9%
Multi-Family	2.9%	-16.4%
Commercial	2.9%	-12.6%
Irrigation	2.9%	28.7%
Rate Impact	2.9%	2.9%

As shown in the table above, residential rates would need to increase 13% and irrigation 29%, while multi-family and commercial rates would need to decrease 16% and 13%, respectively, to implement a true cost of service rate and generate adequate revenue. Irrigation usage tends to be the most volatile usage from year to year – i.e. from a revenue stability perspective it is less reliable revenue. The existing rates are based on a structure that was established many years ago and the gradual shift in cost recovery among classes can be attributable to the evolution of the City’s customer base over time both in terms of which classes have grown relative to others and how water usage patterns have changed. Results suggest peak capacity needs may be driving the cost structure, as single family residential and irrigation customers bear a greater share of peak capacity costs than base capacity costs.

Rather than significantly reducing rates for multifamily and commercial customers, the consultant suggests a multi-year strategy to phase in true cost of service rates. The recommendation for 2015 and 2016 is to maintain the current multi-family and commercial rates (0% rate increase) and increase single-family residential and irrigation rates by an amount needed to generate the required revenue to meet the water utility budget. The following chart shows the recommendation by customer class:

Class	2015		2015 Phase In COS		2016 Phase In COS
	ATB Rate	COS Rate			
Residential	2.9%	13.0%	4.9%		3.3%
Multi-Family	2.9%	-16.4%	0%		0%
Commercial	2.9%	-12.6%	0%		0%
Irrigation	2.9%	29.0%	4.9%		3.3%
Rate Impact	2.9%	2.9%	2.9%		2.0%

Although this rate proposal does not eliminate the cross-subsidy, it begins to realign rates without too great of an impact to customers.

PROPOSED RATES

Staff is proposing adoption of rates for two years. The following is a summary of the impact of the recommended rate increase to an average single family residential customer.

	2014	Recommended 2015	Recommended 2016
Typical Monthly Bill	\$ 39.95	41.91	43.30
Monthly \$ increase:		1.96	1.39
Percentage increase:		4.9%	3.3%

*Typical Single Family monthly bill before utility tax

There will be no increase to multifamily and commercial water rates in 2015 and 2016 under the proposed rates.

RECOMMENDED RATES – ALL UTILITIES

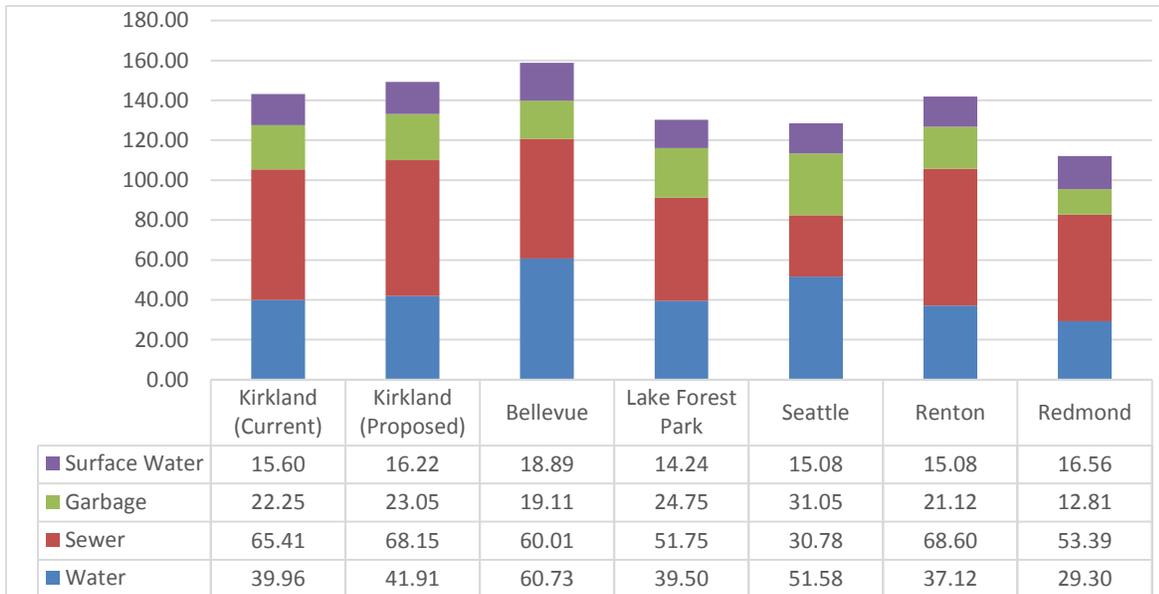
A summary of the combined single family rates for all utilities is shown in the chart below:

	2014 Monthly Rate*	2015 Proposed Rate	Monthly impact \$	% increase	2016 Proposed Rate	Monthly impact \$	% increase
Water	\$ 39.95	\$ 41.91	\$ 1.96	4.9%	\$ 43.30	\$ 1.39	3.3%
Sewer	65.41	68.15	2.74	4.2%	68.91	0.76	1.1%
Surface Water	15.60	16.22	0.62	4.0%	16.87	0.65	4.0%
Solid Waste**	22.25	23.05	0.80	3.6%	23.87	0.82	3.6%
Subtotal	\$ 143.21	\$ 149.33	\$ 6.12	4.2%	\$ 152.95	\$ 3.62	3.0%
Effective Utility Tax*	15.72	16.40	0.68		16.80	0.40	
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TOTAL	\$ 160.01	\$ 166.81	\$ 6.80	4.2%	\$ 170.83	\$ 4.02	2.4%

* Effective Utility Tax rate varies among the utilities. Water 13.38%, Sewer 10.50%, Surface Water 7.5%, Solid Waste 10.5%

** Solid waste rates are based on the 35 gallon cart, weekly pickup, this is the most popular cart size

The following graphic shows Kirkland's 2014 and proposed rate compared to neighboring Cities, 2014 rates.



CAPITAL FACILITY CHARGES

Capital Facilities Charges (CFC) are charges imposed on new customers (from new construction) as a contribution toward the impact the new customers place on the system. The charge is intended to recover an equitable level of investment in the system from new customers. The fee is a one-time payment and is based on the meter size for water and sewer and either per dwelling and/or impervious surface for Surface Water. The fees have been updated to reflect plan updates currently underway.

The following table is a summary of the recommend increases to the CFCs:

	Current Rate	Recommended Rate	Change	Last Updated
Water CFC	\$ 3,128	3,406	278	2009
Sewer CFC	\$ 3,056	3,106	50	2009
Surface Water CFC	\$ 481	508	27	2006

In addition, the ordinances that establish these facility charges need to be updated so that the language is consistent with current practices.

SUMMARY AND NEXT STEPS

Based on Council feedback and direction, Public Works will develop a rate ordinance for Council consideration at the October 7, 2014 meeting.

Rates Adoption Timeline

<u>Month/Date</u>	<u>Task</u>	<u>Status</u>
July 29	Finance Committee review Part I	Complete
September 2	City Council Meeting, Utility Rate Review Part I	Complete
September 4	Finance Committee review Part II	Complete
September 16	City Council Meeting, Utility Rate Review Part II	Pending
October 7	City Council Meeting, Utility Rate Ordinance/Adoption	Pending
October 21	Deadline to pass rates ordinance	Pending

Once utility rates are adopted, an informational letter will be mailed to all utility customers describing the rate increases and the factors contributing to the changes. Information will also be posted to the City's website.

Attachment 1: Water Utility Cost of Service Analysis



Memorandum

To: Julie Elsom; City of Kirkland

Date: July 29, 2014

From: John Ghilarducci, Chris Gonzalez, Ryan Bert; FCS GROUP

RE: Water Utility Cost-of-Service Analysis

Consistent with standard industry ratemaking practices, the City of Kirkland imposes cost-based utility rates on its customers. In utility ratemaking, the term “cost-based” is commonly defined on two levels:

- ◆ The first level relates to the cost of doing business, focusing on how much revenue rates generate in aggregate. A utility’s fiscal policies often establish financial performance standards, defining “sufficient” revenue levels based on the utility’s financial obligations. These obligations include the cost of operations and maintenance, payments due on outstanding debt, and policy-based revenue needs such as reserve funding and system reinvestment. The City regularly reviews the financial performance of its utilities to verify that rates are generating enough revenue to meet their financial obligations.
- ◆ The second level relates to the cost of serving specific customers, focusing on how the rate structure recovers costs from customer classes. The City periodically undertakes more in-depth reviews of how costs should be allocated to its customer classes given their demand characteristics and service needs.

The City has requested an updated cost-of-service analysis (COSA) in tandem with its revenue planning for the 2015 – 2016 biennium. This technical memorandum documents the assumptions, methodology, and findings of the updated COSA.

The COSA allocates the water utility’s costs to customer classes using the industry-standard methodology identified by the American Water Works Association (AWWA) in *Manual M1: Principles of Water Rates, Fees and Charges*. This methodology involves a two-step process in which the utility’s costs are first allocated to defined service functions; the costs assigned to each function are then split between customer classes based on their demand characteristics and service requirements.

A. Functional Cost Allocation

The water utility’s costs are allocated to the following functions of service:

- ◆ **Customer.** These are the costs associated with establishing, maintaining, and serving water customer accounts – in the context of the City’s budget structure, this includes costs related to customer service and communications, printing and mailing bills, and underground locates. These costs generally do not depend on meter size or water usage.
- ◆ **Meters & Services.** These costs are associated with the installation and maintenance of meters and services. As these costs are not typically identified separately in the City’s budget structure,

a portion of the water utility’s general operation and maintenance costs are assigned to this function based on an allocation of water utility assets.

- ◆ **Base Capacity.** These costs relate to providing capacity to meet “base” or average water demands. In the City’s budget structure, this category includes variable commodity costs such as electricity for pumping (e.g. utility services) and a portion of the water utility’s general operating costs based on an allocation of water utility assets.
- ◆ **Peak Capacity.** These costs relate to providing additional capacity to meet incremental water demand during peak demand periods, which usually occur during the summer months. The City’s budget structure does not identify direct costs of meeting peak capacity needs, but a portion of the utility’s general operating expenses are allocated to this function based on an allocation of water utility assets.
- ◆ **Fire Protection.** These are the costs associated with operating and maintaining facilities that are used to provide fire protection service. This includes both facilities that are directly related to fire protection (e.g. hydrants) and facilities that are oversized to accommodate fire flow (e.g. mains, reservoirs, pump stations). The City’s budget structure explicitly identifies costs associated with hydrant maintenance – these costs, along with a portion of general operation and maintenance costs are assigned to fire protection.

As noted above, a significant portion of the water utility’s operating costs are allocated to functions based on an allocation of the water utility’s assets. There are certain costs in the City’s budget structure (such as postage and customer service costs) that are directly attributable to a specific service function – however, these costs represent a relatively small portion of the water utility’s total expenses. There are costs that are attributable to specific asset types (e.g. reservoir maintenance), but the majority of costs (such as labor costs and taxes) are not attributable to a specific function or asset type. In both cases, an allocation of assets to service functions informs the functional allocation of these costs. **Exhibit 1** summarizes the functional allocation of the water utility’s assets.

Exhibit 1: Functional Cost Allocation of Water Utility Assets

Asset Category	Total Cost	Functional Allocation					
		Customer	Meters & Services	Base Capacity	Peak Capacity	Fire Protection	As All Other
Pumping	\$ 2,508,175	0.00%	0.00%	26.02%	31.08%	42.91%	0.00%
Storage	5,987,197	0.00%	0.00%	45.64%	54.36%	0.00%	0.00%
Transmission & Distribution	48,281,465	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%
Meters & Services	3,239,062	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%
Hydrants	2,031,098	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
General Plant	44,638	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Total	\$62,091,635	\$ -	\$3,239,062	\$24,205,880	\$29,019,219	\$5,582,837	\$ 44,638
Allocation of “As All Other”	-	-	2,330	17,414	20,877	4,016	(44,638)
Reallocated Total	\$62,091,635	\$ -	\$3,241,392	\$24,223,294	\$29,040,096	\$5,586,853	\$ -
% of Total	100.00%	0.00%	5.22%	39.01%	46.77%	9.00%	0.00%
% of Total Excluding Fire	100.00%	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%

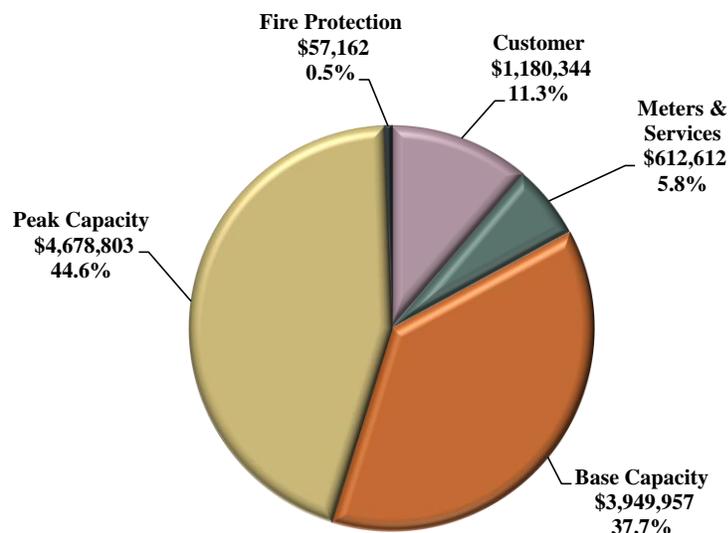
Exhibit 1 shows that pumping, storage, and transmission / distribution mains are allocated between base capacity, peak capacity, and fire protection. The percentages shown are derived in a more detailed allocation of the related assets to functions of service, and reflect the following assumptions:

- ◆ Table 4-9 of the Draft 2014 Water Comprehensive Plan indicates that the City’s water system exhibits a peak-day demand that is 2.20 times its average-day demand. Consequently, 1 / 2.20 = 45.45% of the water system’s capacity is attributed to meeting “base” demands; the remaining 54.55% is attributable to the incremental capacity needed to meet peak demands.

- ◆ The pump stations are allocated between functions individually. Per Table 7-3 of the Draft 2014 Water Comprehensive Plan, 1/3 of the capacity of the 650 Zone Pump Station is available for domestic demands; the remainder is for fire flow. Because the 545 Zone Pump Station is primarily used to transfer water between the North Reservoir and the South Reservoir, none of its capacity is attributed to fire flow. Of the total 7,015 gpm of capacity in these two pump stations, 42.91% is allocated to fire protection; the remaining 57.09% is split between base and peak capacity using the “base / peak” split listed above (45.45% to base, 54.55% to peak).
- ◆ Reservoir capacity is allocated between functions based on the allocation of existing storage capacity shown in Table 7-4 of the Draft 2014 Water Comprehensive Plan. The 1.81 million gallons (MG) of operational storage capacity is allocated to base capacity; the 2.14 MG of equalizing storage capacity is allocated to peak capacity. The 3.96 MG of standby storage capacity is split between base capacity and peak capacity using the “base / peak” split. The 1.50 MG of fire-related storage is assumed to be nested in the City’s standby capacity, as allowed under Section 246-290-235 (4) of the Washington Administrative Code (WAC).
- ◆ Most of the costs associated with mains are split between base and peak capacity using the “base / peak” split. Mains between 8” and 14” in diameter are assumed to be oversized by one size increment to accommodate fire flow (e.g. an 8” main could be a 6” main absent fire flow requirements). Based on estimated replacement costs, the portion attributable to the oversizing of these mains is allocated to fire protection.

To the extent that water utility costs are not attributable to a specific function of service, they are split between functions using the asset allocations in **Exhibit 1**. For example, maintenance of distribution mains would be allocated 43.14% to base capacity, 51.77% to peak capacity, and 5.09% to fire protection based on the allocation of transmission and distribution mains. Debt service costs might be allocated using an aggregate asset allocation, or based on a more detailed allocation of the specific assets funded by the debt. To reflect the perspective that the “fire protection” category should only include the incremental costs incurred to provide fire protection service, **Exhibit 1** also shows an aggregate allocation of assets excluding costs allocated to fire protection. **Exhibit 2** provides a summary of the functional cost allocation of costs that will be recovered through rate revenues (net of offsetting revenues and adjustments).

Exhibit 2: Water Utility Functional Cost Allocation Summary



The water utility cost allocation shown in **Exhibit 2** indicates that the majority of costs are associated with providing capacity to meet base and peak demands. It is worth noting that **Exhibit 2** shows only \$57,162 of fire protection costs being funded through water rates because most of those costs are funded by an annual transfer from the General Fund. This transfer is projected to be \$265,956 for 2015, meaning that the total cost allocated to fire protection for 2015 is actually \$323,118 (or about 3.1% of total costs). The City could choose to increase the utility tax rate to fully fund the cost of fire protection through the General Fund transfer – however, since the passing of House Bill 1512 in mid-2013, the City also has the option of reducing the water utility tax and discontinuing the transfer altogether. As the City can recover fire protection costs through water rates or tax-funded General Fund transfers (or any combination of the two funding sources), City staff has decided to leave the water utility tax rate and resulting General Fund transfers intact.

Appendix A provides the detailed cost allocations supporting the results presented in **Exhibit 2**.

B. Customer Class Cost Allocation

Once the customer classes were defined, functional cost pools (shown in **Exhibit 2**) were then allocated to the City's customer classes based on the demand that each class places on the system. For this study, the water rate revenue requirement is allocated to the City's customer classes based on the following principles:

- ◆ **Customer Costs.** Because these costs do not vary based on meter size or water usage, they are allocated to classes based on the number of customer accounts.
- ◆ **Meters & Services Costs.** To reflect the fact that meters of larger sizes are more costly to install and maintain than smaller meters, these costs are allocated to classes based on the number of meter capacity equivalents (MCEs). The American Water Works Association has established a scale of MCEs based on the maximum continuous flow rate of each meter size.
- ◆ **Base Capacity Costs.** These costs are allocated based on total annual water use.
- ◆ **Peak Capacity Costs.** These costs are allocated to customer classes based on their water usage during the summer months (July – October).
- ◆ **Fire Protection Costs.** As previously noted, most of the costs allocated to fire protection are funded by General Fund transfers. The portion that is recovered through water rates is allocated to customer classes based on fire flow gallons per minute and duration requirements, applied to meter capacity equivalents.

This analysis uses projected 2015 customer counts and usage statistics to allocate the water utility's costs to classes as described above. These statistics are based on 2013 actual billing data provided by the City, adjusted downward by 1.8% to reconcile with actual reported water rate revenue. The adjusted 2013 statistics are then adjusted for anticipated growth to project 2015 statistics. Based on recent growth experienced by the City, this analysis assumes an annual growth rate of 0.60% – 1.23% in customer accounts, depending on the class; consistent with the per-capita water use projections shown in Table 4-11 of the Draft 2014 Water Comprehensive Plan (for the scenario assuming future conservation), it also assumes an average annual reduction of 0.05% in per-capita demand (meaning that demand is assumed to grow by 0.55% – 1.18% per year, depending on the class).

Exhibit 3 summarizes the findings of the COSA, showing cost recovery under the existing water rate structure for comparative purposes. Appendix B provides supporting detail of the underlying calculations.

Exhibit 3: Summary of 2015 Revenue Requirement Allocations

Class	2015 Revenue Under		Difference	% Difference
	Existing Rates	COS Rates ^[1]		
Residential	\$ 5,008,402	\$ 5,656,141	\$647,739	+12.93%
Multi-Family	2,287,627	1,912,872	(374,755)	-16.38%
Commercial	1,963,369	1,715,672	(247,696)	-12.62%
Irrigation	928,117	1,194,192	266,075	+28.67%
Total	\$10,187,514	\$10,478,877	\$291,363	+2.86%

[1] Reflects planned 2015 revenue increase of 2.86%.

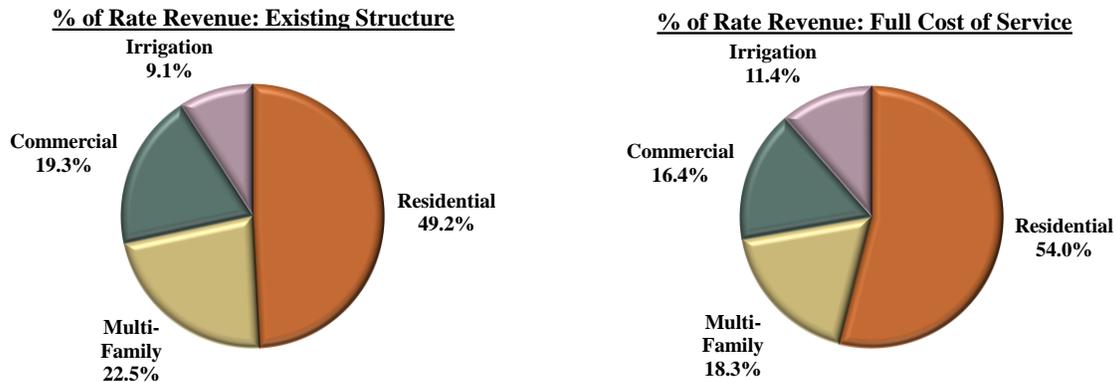


Exhibit 3 shows that interclass adjustments are warranted. In particular, the COSA suggests that there should be a significant shift in cost recovery from multi-family and commercial customers to residential and irrigation customers. As the existing rates are based on a structure that was put in place a number of years ago, this shift is primarily attributable to the evolution of the City’s customer base over time (both in terms of which classes have grown relative to others, and how water usage patterns have changed). The results shown in **Exhibit 3** also suggest that peak capacity needs may be driving the water utility’s cost structure more now than in the past, as single-family residential and irrigation customers bear a greater share of peak capacity costs than base capacity costs.

C. Recommendations

Exhibit 3 suggests that moving to a “pure” or “full” cost-of-service rate structure would result in significant shifts in how the City’s rate structure recovers costs from its customer classes. Although equity is an important policy objective in ratemaking, there are other policy objectives that the City must consider when choosing how to set rates. One such objective would be managing financial impacts to its customers – in general, it is common to phase significant changes in over a period of time rather than implementing them fully upfront. This is a desirable approach in that it would allow the City to monitor customer usage patterns over time and verify that the changes it makes are based on consistent trends rather than year-to-year variations (and potential anomalies).

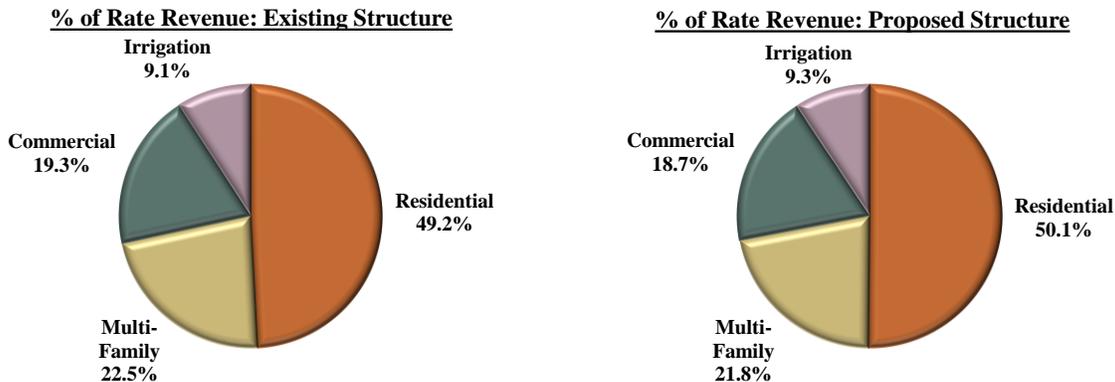
Another policy objective that has recently garnered attention in the water industry is revenue stability. Considering the specific results of the City’s COSA, it is worth noting that a significant shift in cost recovery to irrigation customers could increase the volatility of the City’s water rate revenue stream (as irrigation usage tends to be the most volatile usage from year to year).

With these considerations, **Exhibit 4** summarizes the recommended 2015 rate strategy:

Exhibit 4: Summary of Recommended 2015 Rate Strategy

Class	2015 Revenue Under		Difference	% Difference
	Existing Rates	Proposed Rates ^[1]		
Residential	\$ 5,008,402	\$ 5,254,213	\$245,811	+4.91%
Multi-Family	2,287,627	2,287,627	-	+0.00%
Commercial	1,963,369	1,963,369	-	+0.00%
Irrigation	928,117	973,668	45,552	+4.91%
Total	\$10,187,514	\$10,478,877	\$291,363	+2.86%

[1] Reflects planned 2015 revenue increase of 2.86%.



The proposed rate strategy shown in **Exhibit 4** keeps multi-family and commercial rates at their existing level, increasing single-family residential and irrigation rates proportionately to generate the targeted \$291,363 of additional revenue. Comparing the pie charts in **Exhibit 3** and **Exhibit 4**, the projected cost recovery under the proposed 2015 rates is expected to cover between 17% – 21% of the total shift shown in **Exhibit 3** for the single-family, multi-family, and commercial classes. This suggests that if the City were to freeze multi-family and commercial rates and impose similar annual rate increases to single-family and irrigation rates, it could be on track to reach “full” cost-of-service rates in 5 – 6 years for all classes except irrigation. The irrigation class would take around 12 years to reach full cost of service given this trajectory.

We recommend that the City consider a multi-year strategy to phase in a shift in cost recovery from multi-family and commercial customers to single-family residential and irrigation customers. This strategy would not compel the City to adopt multi-year rates, but rather guide rate decisions as part of the City’s regular revenue planning. It would be prudent for the City to continue to monitor trends in growth and water usage, adjusting the COSA phasing strategy as needed.



Allocation of Plant in Service									
Plant in Service	Total Costs	FUNCTIONS OF WATER SERVICE					As All Others	TOTAL	ALLOCATION BASIS
		Customer	Meters & Services	Base Capacity	Peak Capacity	Fire Protection			
Supply/Treatment	\$ -	0.00%	0.00%	45.45%	54.55%	0.00%	0.00%	100.00%	Peak Demand Ratio Pumping Storage Transmission & Distribution Meters & Services Hydrants As All Others
Pumping	2,508,175	0.00%	0.00%	26.02%	31.08%	42.91%	0.00%	100.00%	
Storage	5,987,197	0.00%	0.00%	45.64%	54.36%	0.00%	0.00%	100.00%	
Transmission & Distribution	48,281,465	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	
Meters & Services	3,239,062	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	
Hydrants	2,031,098	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	
General Plant	44,638	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	
Total Utility Plant	\$ 62,091,635	\$ -	\$ 3,239,062	\$ 24,205,880	\$ 29,019,219	\$ 5,582,837	\$ 44,638	\$ 62,091,635	
Water Service Functions		0.00%	5.22%	39.01%	46.77%	9.00%		100.00%	
Allocation of "As All Others"		\$ -	\$ 2,330	\$ 17,414	\$ 20,877	\$ 4,016	\$ (44,638)	\$ -	
TOTAL	\$ 62,091,635	\$ -	\$ 3,241,392	\$ 24,223,294	\$ 29,040,096	\$ 5,586,853	\$ -	\$ 62,091,635	
Allocation Percentages		0.00%	5.22%	39.01%	46.77%	9.00%	0.00%	100.00%	
General Water Service - Plant Allocation		0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	

Allocation of Pumping									
Pumps	Pumping Capacity (gpm)	FUNCTIONS OF WATER SERVICE					As All Others	TOTAL	ALLOCATION BASIS
		Customer	Meters & Services	Base Capacity	Peak Capacity	Fire Protection			
650 Zone Pump Station [a]	4,515	0.00%	0.00%	15.15%	18.18%	66.67%	0.00%	100.00%	Custom
545 Zone Pump Station [b]	2,500	0.00%	0.00%	45.64%	54.36%	0.00%	0.00%	100.00%	Storage
[Extra]	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	[Extra]
TOTAL PUMPING	7,015	0.00%	0.00%	26.02%	31.08%	42.91%	0.00%	100.00%	

[a] 2007 Water Comp Plan: Kirkland's share is 86% of the 5,250 gpm available supply, 1,750 gpm of the total 5,250 gpm capacity is available for domestic demands
[b] 2007 Water Comp Plan: Primary purpose is to transfer water between North Reservoir and South Reservoir

Allocation of Storage									
Function	Million Gallons of Storage	FUNCTIONS OF WATER SERVICE					As All Others	TOTAL	ALLOCATION BASIS
		Customer	Meters & Services	Base Capacity	Peak Capacity	Fire Protection			
Operational Storage	1.81	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	All Base
Equalizing Storage	2.14	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	All Peak
Standby Storage	3.96	0.00%	0.00%	45.45%	54.55%	0.00%	0.00%	100.00%	Peak Demand Ratio
Fire Suppression Storage [d]	-	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	All Fire
Total Storage: "As all Others" separated	7.91	0.00%	0.00%	45.64%	54.36%	0.00%	0.00%	100.00%	
TOTAL STORAGE		0.00%	0.00%	45.64%	54.36%	0.00%	-	100.00%	

[c] 2007 Water Comp Plan: Table 7-4
[d] Specified as 1.50 MG in Table 7-4 of the 2014 Water System Plan; however, WAC 246-290-235 (4) allows fire and standby storage volumes to be nested.

Allocation of Transmission & Distribution										
Main Size	Length (ft.) [e]	Replacement Cost per lf. [f]	Estimated Cost	Incremental Fire Cost [g]	FUNCTIONS OF WATER SERVICE			As All Others	TOTAL	ALLOCATION BASIS
					Base Capacity	Peak Capacity	Fire Protection			
2-in and less	23,126	\$ 252	\$ 5,827,853		45.45%	54.55%	0.00%	0.00%	100.00%	Peak Demand Ratio
3-in	2,323	272	631,910		45.45%	54.55%	0.00%	0.00%	100.00%	Peak Demand Ratio
4-in	34,435	292	10,055,137		45.45%	54.55%	0.00%	0.00%	100.00%	Peak Demand Ratio
6-in	137,615	308	42,385,420		45.45%	54.55%	0.00%	0.00%	100.00%	Peak Demand Ratio
8-in	489,180	333	162,896,940	12,229,500	42.04%	50.45%	7.51%	0.00%	100.00%	Fire Increment
10-in	27,360	354	9,685,440	574,560	42.76%	51.31%	5.93%	0.00%	100.00%	Fire Increment
12-in	135,665	375	50,874,375	2,848,965	42.91%	51.49%	5.60%	0.00%	100.00%	Fire Increment
14-in	760	417	316,540	31,540	40.93%	49.11%	9.96%	0.00%	100.00%	Fire Increment
16-in	33,032	458	15,128,656		45.45%	54.55%	0.00%	0.00%	100.00%	Peak Demand Ratio
18-in	673	469	315,301		45.45%	54.55%	0.00%	0.00%	100.00%	Peak Demand Ratio
20-in	10,085	479	4,830,715		45.45%	54.55%	0.00%	0.00%	100.00%	Peak Demand Ratio
24-in	5,911	500	2,955,500		45.45%	54.55%	0.00%	0.00%	100.00%	Peak Demand Ratio
TOTAL T&D	900,166		\$ 305,903,787	\$ 15,684,565	43.12%	51.75%	5.13%	0.00%	100.00%	

[e] Table 2-4 of the 2014 Water System Plan.
[f] 2010 COSA Study
[g] Incremental unit cost times linear feet of pipe at each size



City of Kirkland
Water - Cost of Service Analysis
Functional Allocation

Allocation of Operating Expenses									
Test Year → 2015		FUNCTIONS OF WATER SERVICE					As All Others	TOTAL	ALLOCATION BASIS
OPERATING EXPENSE	TOTAL COSTS	Customer	Meters & Services	Base Capacity	Peak Capacity	Fire Protection			
STATE TAXES	611,423	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Water Maintenance of Facilities									
Salaries and Wages	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Salaries and Wages	2,738	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Supplies	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Small Tools & Equipment	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Other Services and Charges	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Intrfnd Rental-Fleet Oper Chrg	1,343	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Intrfnd Rental-Fleet Repl Chrg	1,456	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Utility Services	902	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Water Maintenance of Dist Mains									
Salaries and Wages	-	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution
Regular Salaries & Wages	121,532	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution
Overtime Pay	5,985	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution
Benefits	-	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution
Budgeted Benefits - Salaried	-	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution
Supplies	-	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution
Office Supplies	-	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution
Operating Supplies	16,974	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution
Maintenance Inventory	67,526	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution
Small Tools & Minor Equipment	2,334	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution
Other Services and Charges	-	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution
Professional Services	11,458	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution
Operating Rentals & Leases	1,061	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution
Intrfnd Rental-Fleet Oper Chrg	29,682	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution
Intrfnd Rental-Fleet Repl Chrg	28,628	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution
Utility Services	30,766	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	All Base
Repairs and Maintenance	1,697	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution
Water Maintenance of Services									
Salaries and Wages	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Regular Salaries & Wages	108,353	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Overtime Pay	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Benefits	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Budgeted Benefits-Salaried	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Supplies	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Operating Supplies	16,974	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Maintenance Inventory	36,601	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Small Tools & Minor Equipment	5,092	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Other Services and Charges	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Communication	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Intrfnd Rental-Fleet Oper Chrg	33,790	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Intrfnd Rental-Fleet Repl Chrg	32,534	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Wtr Maintenance of Meters									
Salaries and Wages	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Regular Salaries & Wages	20,598	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Hourly Wages	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Overtime Pay	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Benefits	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Budgeted Benefits-Salaried	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Supplies	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Operating Supplies	530	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Maintenance Inventory	42,436	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Other Services and Charges	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Operating Rentals & Leases	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Intrfnd Rental-Fleet Oper Chrg	3,733	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Intrfnd Rental-Fleet Repl Chrg	3,533	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Printing	424	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Wtr Maintenance of Hydrants									
Salaries and Wages	-	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	Hydrants
Regular Salaries & Wages	65,844	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	Hydrants
Hourly Wages	-	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	Hydrants
Supplies	-	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	Hydrants
Operating Supplies	3,183	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	Hydrants
Maintenance Inventory	20,157	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	Hydrants
Small Tools & Minor Equipment	1,697	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	Hydrants
Other Services and Charges	-	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	Hydrants
Operating Rentals & Leases	-	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	Hydrants
Intrfnd Rental-Fleet Oper Chrg	10,300	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	Hydrants
Intrfnd Rental-Fleet Repl Chrg	9,937	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	Hydrants



City of Kirkland
Water - Cost of Service Analysis
Functional Allocation

W/S Maintenance Supervision (Water)									
Salaries and Wages	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Division Managers' Salary	115,007	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Support Salaries	122,017	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Hourly Wages	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Benefits	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Division Managers' Benefits	42,276	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Support Benefits	55,819	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Hourly Benefits	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Supplies	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Office Supplies	1,332	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Operating Supplies	333	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Office Furniture & Equipment	333	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Other Services and Charges	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Prof Service - Underground Locates	3,997	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer
Prof Service - Annual Water Modeling	15,914	0.00%	5.22%	39.01%	46.77%	9.00%	0.00%	100.00%	As Plant in Service
Prof Service - Water Rate Consultant	2,122	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Prof Service - Sewer Rate Consultant	-	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Legal Services	-	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Communication	4,997	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer
Postage	3,331	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer
Travel/Subsistence	333	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Advertising	100	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer
Interfund Rentals	80,522	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Repairs and Maintenance	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Training	-	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Training, Printing, Software	-	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer
Dues - alloc	1,543	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Dues - specific	25,372	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Dues - Cascade Water Dues	-	0.00%	0.00%	45.45%	54.55%	0.00%	0.00%	100.00%	Supply/Treatment
Dues - Cascade Water RCFC Growth	-	0.00%	0.00%	45.45%	54.55%	0.00%	0.00%	100.00%	Supply/Treatment
Printing	7,528	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer
Computer Software	-	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Water Maintenance of Pumps									
Supplies	-	0.00%	0.00%	26.02%	31.08%	42.91%	0.00%	100.00%	Pumping
Office Supplies	-	0.00%	0.00%	26.02%	31.08%	42.91%	0.00%	100.00%	Pumping
Operating Supplies	-	0.00%	0.00%	26.02%	31.08%	42.91%	0.00%	100.00%	Pumping
Water - Road Patching									
Salaries and Wages	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Regular Salaries & Wages	15,750	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Supplies	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Operating Supplies	63,654	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Other Services and Charges	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Intrfrd Rental-Fleet Oper Chrg	7,825	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Intrfrd Rental-Fleet Repl Chrg	9,892	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services
Water Purchase									
Supplies	-	0.00%	0.00%	45.45%	54.55%	0.00%	0.00%	100.00%	Supply/Treatment
Wtr/Power/Gas Purch for Resale	4,991,476	0.00%	0.00%	45.45%	54.55%	0.00%	0.00%	100.00%	Supply/Treatment
Water Maintenance-Facilities									
Salaries and Wages	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Regular Salaries & Wages	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Supplies	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Operating Supplies	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Other Services and Charges	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Professional Services	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Communication	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Intrfrd Rental - Fleet Oper Chrg	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Intrfrd Rental - Fleet Rental Chrg	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Insurance	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Utility Services	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Repairs and Maintenance	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant
Water Maintenance - Reservoirs									
Salaries and Wages	-	0.00%	0.00%	45.64%	54.36%	0.00%	0.00%	100.00%	Storage
Regular Salaries & Wages	17,430	0.00%	0.00%	45.64%	54.36%	0.00%	0.00%	100.00%	Storage
Overtime Pay	210	0.00%	0.00%	45.64%	54.36%	0.00%	0.00%	100.00%	Storage
Benefits	-	0.00%	0.00%	45.64%	54.36%	0.00%	0.00%	100.00%	Storage
Budgeted Benefits - Salaried	-	0.00%	0.00%	45.64%	54.36%	0.00%	0.00%	100.00%	Storage
Supplies	-	0.00%	0.00%	45.64%	54.36%	0.00%	0.00%	100.00%	Storage
Operating Supplies	743	0.00%	0.00%	45.64%	54.36%	0.00%	0.00%	100.00%	Storage
Small Tools & Minor Equipment	530	0.00%	0.00%	45.64%	54.36%	0.00%	0.00%	100.00%	Storage
Other Services and Charges	-	0.00%	0.00%	45.64%	54.36%	0.00%	0.00%	100.00%	Storage
Professional Services	17,187	0.00%	0.00%	45.64%	54.36%	0.00%	0.00%	100.00%	Storage
Intrfrd Rental-Fleet Oper Chrg	3,809	0.00%	0.00%	45.64%	54.36%	0.00%	0.00%	100.00%	Storage
Intrfrd Rental-Fleet Repl Chrg	2,843	0.00%	0.00%	45.64%	54.36%	0.00%	0.00%	100.00%	Storage
Insurance	20,593	0.00%	0.00%	45.64%	54.36%	0.00%	0.00%	100.00%	Storage
Utility Services	7,426	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	All Base
Repairs and Maintenance	5,305	0.00%	0.00%	45.64%	54.36%	0.00%	0.00%	100.00%	Storage



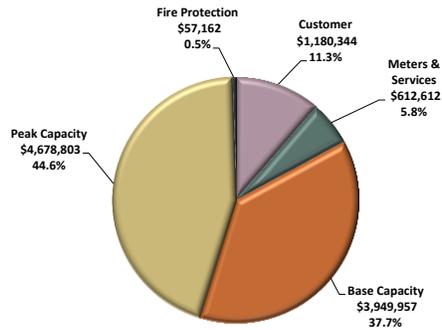
City of Kirkland
Water - Cost of Service Analysis
Functional Allocation

W/S General Administration (Water)										
Salaries	150,720	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant	
Reallocation of Admin Management	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant	
Benefits	352,861	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant	
Office Furniture and Equipment	67	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Prof service - Water & Sewer rate analysis	10,609	0.00%	5.22%	39.01%	46.77%	9.00%	0.00%	100.00%	As Plant in Service	
Internal Prof. Services - Central Svcs	674,069	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer	
Internal Prof. Services - Engineering Svcs	-	0.00%	5.22%	39.01%	46.77%	9.00%	0.00%	100.00%	As Plant in Service	
Communication	333	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer	
Postage	-	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer	
Travel and Subsistence	333	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Interfund Rentals	71,470	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Interfund Rental - Facilities Charges	102,590	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Insurance	111,826	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant	
Training	2,798	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Software	2,998	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Combined Utility - Customer Services										
Salaries and Wages	-	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer	
Regular Salaries & Wages	85,515	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer	
Supplies	-	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer	
Small Tools & Minor Equipment	-	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer	
Other Services and Charges	-	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer	
Professional Services	9,134	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer	
Internal Professional Services	253,496	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer	
Postage	-	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer	
Intrfnd Rental-Fleet Oper Chrg	5,231	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer	
Intrfnd Rental-Fleet Repl Chrg	3,558	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer	
Repairs and Maintenance	2,092	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer	
Added Lockbox Charges	-	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer	
Xfr to Technology CIP for Springbrook/Hansen U	30,439	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer	
Miscellaneous	-	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Customer	
Joint Services - Dist Mains (Water)										
Salaries and Wages	-	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution	
Regular Salaries & Wages	5,775	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution	
Supplies	-	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution	
Operating Supplies	1,591	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution	
Other Services and Charges	-	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution	
Interfund Rental-Fleet Oper Chrg	652	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution	
Interfund Rental-Fleet Repl Chrg	558	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution	
Repairs and Maintenance	1,061	0.00%	0.00%	43.12%	51.75%	5.13%	0.00%	100.00%	Transmission & Distribution	
Joint Services - Meter Maint										
Salaries and Wages	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services	
Regular Salaries & Wages	3,780	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services	
Supplies	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services	
Operating Supplies	1,061	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services	
Other Services and Charges	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services	
Professional Services	1,591	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services	
Interfund Rental-Fleet Oper Chrg	212	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services	
Interfund Rental-Fleet Repl Chrg	143	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services	
Utility Services	318	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	All Base	
Repairs and Maintenance	1,273	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	All Meters & Services	
Joint Facilities - Telemetry										
Salaries and Wages	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant	
Regular Salaries & Wages	5,775	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant	
Overtime Pay	420	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant	
Standby Pay	13,311	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant	
Benefits	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant	
Budgeted Benefits - Salaried	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant	
Supplies	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant	
Operating Supplies	1,061	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant	
Maintenance Inventory	743	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant	
Other Services and Charges	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant	
Professional Services	5,305	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant	
Communication	15,914	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant	
Interfund- IT	415	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant	
Interfund Rental-Fleet	286	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant	
Capital Outlay	-	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant	
Work Equipment	10,609	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant	
Joint Services - Pumps Maintenance										
Salaries and Wages	-	0.00%	0.00%	26.02%	31.08%	42.91%	0.00%	100.00%	Pumping	
Regular Salaries & Wages	20,580	0.00%	0.00%	26.02%	31.08%	42.91%	0.00%	100.00%	Pumping	
Supplies	-	0.00%	0.00%	26.02%	31.08%	42.91%	0.00%	100.00%	Pumping	
Operating Supplies	3,713	0.00%	0.00%	26.02%	31.08%	42.91%	0.00%	100.00%	Pumping	
Other Services and Charges	-	0.00%	0.00%	26.02%	31.08%	42.91%	0.00%	100.00%	Pumping	
Professional Services	2,122	0.00%	0.00%	26.02%	31.08%	42.91%	0.00%	100.00%	Pumping	
Interfund Rental-Fleet Oper Chrg	1,746	0.00%	0.00%	26.02%	31.08%	42.91%	0.00%	100.00%	Pumping	
Interfund Rental-Fleet Repl Chrg	1,226	0.00%	0.00%	26.02%	31.08%	42.91%	0.00%	100.00%	Pumping	
Insurance	4,325	0.00%	0.00%	26.02%	31.08%	42.91%	0.00%	100.00%	Pumping	
Utility Services	6,896	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	All Base	
Repairs and Maintenance	12,731	0.00%	0.00%	26.02%	31.08%	42.91%	0.00%	100.00%	Pumping	
Water Operating Transfer Out (GIS)	71,276	0.00%	5.74%	42.87%	51.39%	0.00%	0.00%	100.00%	General Water Service - Plant	
Add'l O&M from CIP	-	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Total Operating Expenses	\$ 9,065,383	\$ 1,083,822	\$ 477,972	\$ 2,995,147	\$ 3,538,757	\$ 148,637	\$ 821,048	\$ 9,065,383		
Water Service Functions		13.15%	5.80%	36.33%	42.92%	1.80%		100.00%		
Allocation of "As All Others"		\$ 107,937	\$ 47,601	\$ 298,285	\$ 352,422	\$ 14,803	\$ (821,048)	\$ -		
TOTAL	\$ 9,065,383	\$ 1,191,759	\$ 525,573	\$ 3,293,431	\$ 3,891,180	\$ 163,440	\$ -	\$ 9,065,383		
Allocation Percentages		13.15%	5.80%	36.33%	42.92%	1.80%	0.00%	100.00%		



City of Kirkland
Water - Cost of Service Analysis
Functional Allocation

Allocation of Revenue Requirement									
Design Rates For =>		2015							
REVENUE REQUIREMENT	TOTAL COSTS	FUNCTIONS OF WATER SERVICE					As All Others	TOTAL	ALLOCATION BASIS
		Customer	Meters & Services	Base Capacity	Peak Capacity	Fire Protection			
OPERATING AND CAPITAL EXPENSES									
Cash Operating Expenses	\$ 9,065,383	13.15%	5.80%	36.33%	42.92%	1.80%	0.00%	100.00%	As O&M Expenses
Existing Debt Service	-	0.00%	5.22%	39.01%	46.77%	9.00%	0.00%	100.00%	As Plant in Service
New Debt Service	117,940	0.00%	5.22%	39.01%	46.77%	9.00%	0.00%	100.00%	As Plant in Service
Additional Rate Funded CIP	-	0.00%	5.22%	39.01%	46.77%	9.00%	0.00%	100.00%	As Plant in Service
Rate Funded System Reinvestment	1,662,852	0.00%	5.22%	39.01%	46.77%	9.00%	0.00%	100.00%	As Plant in Service
Additions to Meet Minimum Operating Targ	-	0.00%	5.22%	39.01%	46.77%	9.00%	0.00%	100.00%	As Plant in Service
Total Expenses	\$ 10,846,174	10.99%	5.70%	36.77%	43.56%	2.98%	0.00%	100.00%	
OTHER REVENUES AND ADJUSTMENTS									
Less:									
Water Service Penalties	\$ (55,724)	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Water On/Off Charge	(91,185)	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Transfer from General Fund for Fire Costs	(265,956)	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	All Fire
Estimated Final Bill Fee	-	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Intergovernmental Revenue: Other Gen Gov	(47,741)	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Other Gen Govt Svcs, Interfund-Other Gen C	(19,096)	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Facilities Leases (LT) - Other	(47,741)	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Housing Rentals/Leases	-	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Sale of Scrap Material	(3,713)	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Other Judgements & Settlements	(5,000)	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Other Misc Revenue	(1,061)	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
[Extra]	-	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Operating Fund & Debt Reserve Fund Intere	(33,788)	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Plus:									
Net Cash Flow After Rate Increase	154,675	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Incremental Taxes from Rate Increase	49,033	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Adjustment for Partial Year Increase	-	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Rate Revenue Requirement	\$ 10,478,877	\$ 1,191,759	\$ 618,536	\$ 3,988,157	\$ 4,724,051	\$ 57,715	\$ (101,341)	\$ 10,478,877	
Water Service Functions		11.26%	5.85%	37.69%	44.65%	0.55%		100.00%	
Allocation of "As All Others"		\$ (11,415)	\$ (5,925)	\$ (38,200)	\$ (45,249)	\$ (553)	\$ 101,341	\$ -	
Rate Revenue Requirement	\$ 10,478,877	\$ 1,180,344	\$ 612,612	\$ 3,949,957	\$ 4,678,803	\$ 57,162	\$ -	\$ 10,478,877	
Allocation Percentages		11.26%	5.85%	37.69%	44.65%	0.55%	0.00%	100.00%	





City of Kirkland
Water - Cost of Service Analysis
Customer Allocation

Projected 2015 Statistics
 Accounts
 MCEs
 MSEs
 Summer Use
 Winter Use
 Total Use
 Incremental Summer Use
 Peak Month Use
 Fire Flow Requirement
 Fire Flow Rate
 Duration

Projected 2015 Statistics				
Residential	Multi-Family	Commercial	Irrigation	Total
10,270	793	741	209	12,013
11,333	3,736	3,066	683	18,818
10,558	1,636	1,536	334	14,064
380,473 ccf	132,689 ccf	125,411 ccf	127,459 ccf	766,032 ccf
454,859 ccf	244,935 ccf	196,609 ccf	32,561 ccf	928,965 ccf
835,332 ccf	377,624 ccf	322,020 ccf	160,020 ccf	1,694,997 ccf
153,044 ccf	10,222 ccf	27,106 ccf	111,178 ccf	301,550 ccf
105,530 ccf	34,520 ccf	32,101 ccf	41,451 ccf	213,603 ccf
180,000 gal	540,000 gal	630,000 gal	0 gal	1,350,000 gal
1,500 gpm	3,000 gpm	3,500 gpm		
120 Minutes	180 Minutes	180 Minutes		

% of Total				
Residential	Multi-Family	Commercial	Irrigation	Total
85%	7%	6%	2%	100%
60%	20%	16%	4%	100%
75%	12%	11%	2%	100%
50%	17%	16%	17%	100%
49%	26%	21%	4%	100%
49%	22%	19%	9%	100%
51%	3%	9%	37%	100%
49%	16%	15%	19%	100%
13%	40%	47%	0%	100%

Customer
 Meters & Services
 Base Capacity
 Peak Capacity
 Fire Protection
 Total

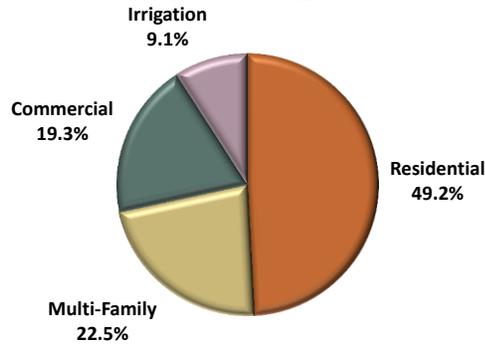
Allocation Basis	Allocation of 2015 Revenue Requirement				
	Residential	Multi-Family	Commercial	Irrigation	Total
Accounts	\$ 1,009,077	\$ 77,929	\$ 72,773	\$ 20,565	\$ 1,180,344
MCEs	\$ 368,948	\$ 121,631	\$ 99,809	\$ 22,223	\$ 612,612
Total Use	\$ 1,946,626	\$ 880,002	\$ 750,424	\$ 372,905	\$ 3,949,957
Summer Use	\$ 2,323,869	\$ 810,445	\$ 765,990	\$ 778,499	\$ 4,678,803
Fire Flow Requirement	\$ 7,622	\$ 22,865	\$ 26,676	\$ -	\$ 57,162
Total	\$ 5,656,141	\$ 1,912,872	\$ 1,715,672	\$ 1,194,192	\$ 10,478,877

2015 Unit Cost				
Residential	Multi-Family	Commercial	Irrigation	Total
\$ 8.19	\$ 8.19	\$ 8.19	\$ 8.19	\$ 8.19
\$ 2.71	\$ 2.71	\$ 2.71	\$ 2.71	\$ 2.71
\$ 2.33	\$ 2.33	\$ 2.33	\$ 2.33	\$ 2.33
\$ 6.11	\$ 6.11	\$ 6.11	\$ 6.11	\$ 6.11
\$ 0.06	\$ 0.51	\$ 0.73	\$ -	\$ 0.25

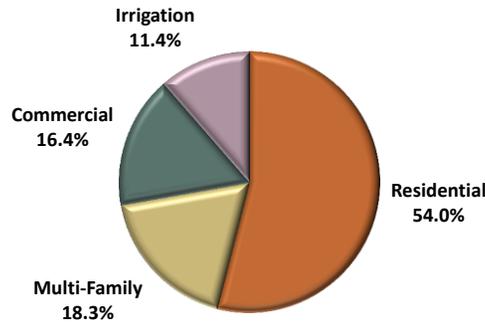
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Cost of Service								
Class	EXISTING STRUCTURE		COST OF SERVICE		DIFFERENCE		PROPOSED PHASE-IN	
	2015 Revenue at Existing Rates	Percent of Total	COSA 2015 Revenue	Percent of Total	\$ Difference	Rate Adj. Needed to Cover	2015 Revenue	Percent of Total
Residential	\$ 5,008,402	49.16%	\$ 5,656,141	53.98%	\$ 647,739	12.93%	\$ 5,254,213	50.14%
Multi-Family	2,287,627	22.46%	1,912,872	18.25%	(374,755)	-16.38%	2,287,627	21.83%
Commercial	1,963,369	19.27%	1,715,672	16.37%	(247,696)	-12.62%	1,963,369	18.74%
Irrigation	928,117	9.11%	1,194,192	11.40%	266,075	28.67%	973,668	9.29%
Total	\$ 10,187,514	100%	\$ 10,478,877	100%	\$ 291,363	2.86%	\$ 10,478,877	100%

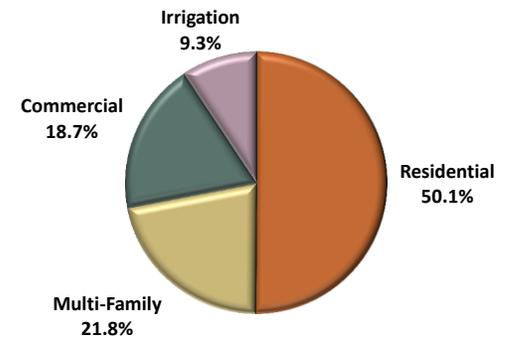
% of Rate Revenue: Existing Structure



% of Rate Revenue: Full Cost of Service



% of Rate Revenue: Proposed Structure



[a] Multi-Family and Commercial see no increase/decrease. Incremental revenue requirement is made up between Residential and Irrigation