CITY OF PENTICTON
UTILITY RATE REVIEW

Submitted to:

City of Penticton

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Executive Summary

The City of Penticton ("City") owns and operates electric, sanitary sewer and water utilities serving approximately 17,000 residential, commercial and industrial customers. InterGroup Consultants Ltd. ("InterGroup") was retained by the City to review and make recommendations for rate adjustments for the City's electric, water and sanitary sewer utilities for the period from 2016 through 2020. The City requested rate proposals that reflected an appropriate balance between return on investment, consumer affordability and business competitiveness.

The review of the City's electric, water and sewer rates provides the basis for the City to implement rates that will allow each utility to be financially sustainable. Proposed rate adjustments between customer classes will also help ensure rates reflect the costs to serve different types of customers. The five-year time horizon also provides customers with information on what they can expect for utility rate changes over the next several years. In particular, rate adjustments for electricity customers are proposed that will be lower than currently forecast rate increases for Fortis BC. Proposed changes to administration fees, the electric utility dividend to the City and revenue to cost coverage adjustments are phased in over time to avoid rate shock.

InterGroup reviewed City budgets for each utility in order to develop rate proposals. This review included reviewing the administration fees charged to each utility and the level of the dividend paid by the electric utility to the City. Based on a review of key cost drivers for the existing administration charges, it is recommended that the administration charges to the electric utility be reduced and the administration charges to the water and sewer utilities be increased. This would more properly reflect the true cost of support services required by the utilities. It is also recommended that the City change the method for calculating the dividend from the electric utility to align with common practice for other utilities.

Based on the review of the budgets it was determined that rate revenues would need to increase for each utility to maintain minimum reserve balances and ensure sufficient revenue to fund ongoing operating costs and an average annual capital program. Based on this review, the average annual rate increases proposed for each utility are:

- 3.19% each year from 2016 to 2020 for the electric utility
- 11.5% for 2016 and 2017 and 4.43% for 2018 to 2020 for the water utility
- 8.78% each year from 2016 to 2020 for the sewer utility

A cost of service analysis was also undertaken for each utility to determine the relative increases for each type of customer. The cost of service analysis indicated that residential customers were generally underpaying for electricity and water service and overpaying for sewer service. Commercial and industrial customers were generally overpaying for electricity and water service and under paying for sewer service.

A review of rates with other municipalities in Canada indicated in particular that Penticton's existing electricity rates are higher than similar sized communities in British Columbia. The review also indicated that the City's existing fixture charge rate structure for sewer service is not consistent with most other municipalities. Therefore it is recommended the City transition to a sewer rate structure based on a fixed charge and a variable charge based on water consumption. It is recommended the City delay this change in sewer rate structure until 2017 in order to effectively communicate the change in rate structure to customers.

Public consultation opportunities were provided during the course of the study, including:

- A small working group was established with some key stakeholders identified by the City. Presentations and discussions were held with members of this stakeholder group on April 15th, April 16th, July 27th and November 2, 2015.
- **Public open houses**: Public open houses were held August 24th at the City Council Chambers; August 25th at Cherry Lane Mall; and August 26th at the Penticton Library. The open houses included story boards with information about the rate study, surveys that participants could fill out and the opportunity to discuss results with City staff and the consultant.
- **City Website:** Information about the study was provided on the City's website and an online survey was available for interested parties to fill out.

Rates were developed that would provide sufficient revenue to pay for operating costs and an average annual capital program and transition all customers toward full cost of service by 2020. Preliminary rate options were developed and presented at public open houses in August 2015. Final rate proposals were developed based on feedback from the City and residents. The combined effect of the rate proposals on electric, water and sewer bills for average customers are estimated as follows:

- Between 4.5% to 6.6% annual increases for residential customers. The transition to the new sewer rate structure is expected to reduce sewer bills for residential customers so these customers may see a small decrease in their overall utility bills when this new rate structure is implemented.
- Between 2.5% to 7.1% annual increases for small commercial customers. The transition to the new sewer rate structure is expected to slightly increase utility bills for these customers when the new rate structure is implemented.
- Between 1.9% to 5.4% annual increases for industrial customers. The transition to the new sewer rate structure is expected to slightly increase utility bills for these customers when the new rate structure is implemented.

Electricity rates are generally the largest portion of each customer's total utility cost, therefore the average rate increases for each type of customer reflect a heavier weighting on the electricity portion of the total utility bill.

Figures 1-1 to 1-3 provide an illustration of the combined effects to the customers from proposed electric, water and sanitary sewer rate changes.

Figure 1-1:
City of Penticton Residential Bill Comparison for 2015 through 2020

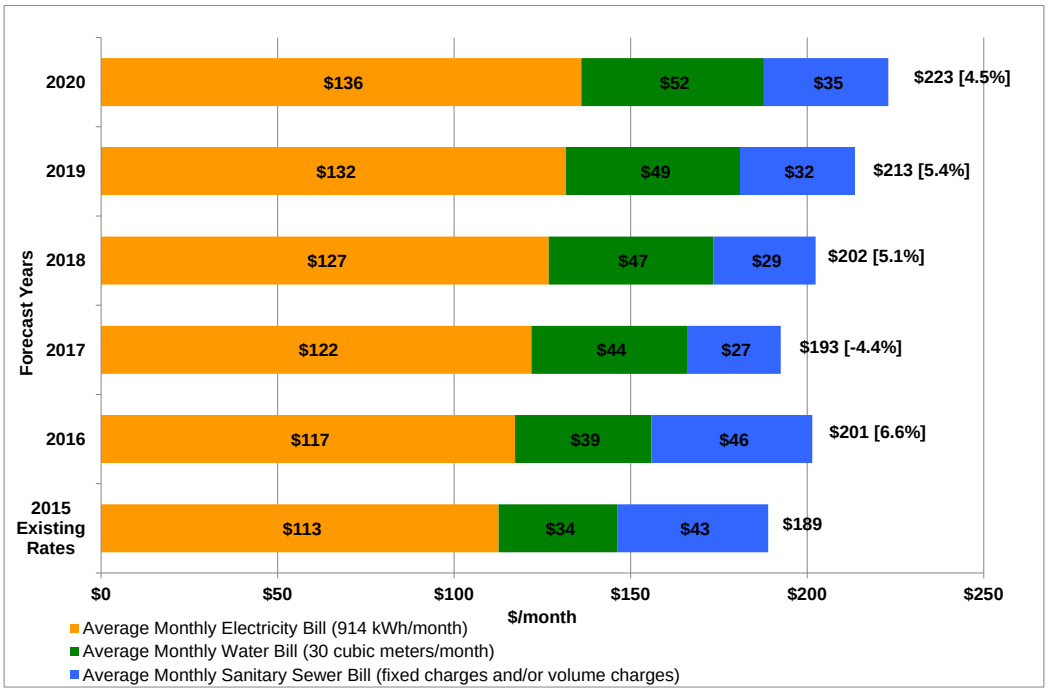


Figure 1-2:
City of Penticton Small Commercial Bill Comparison for 2015 through 2020

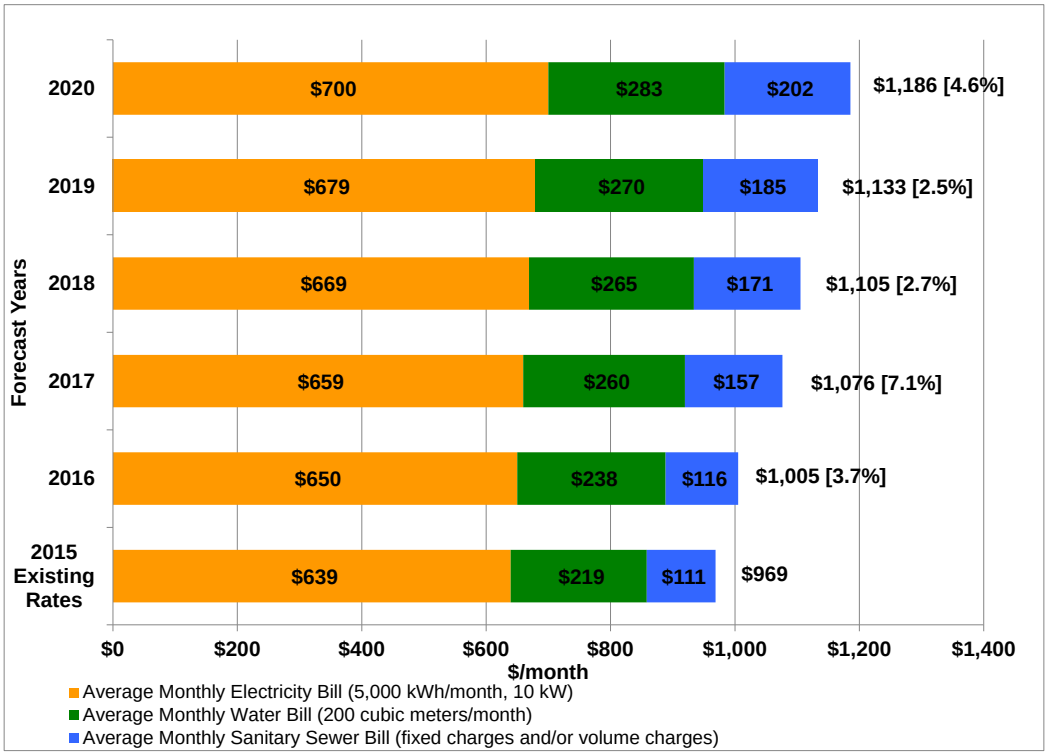
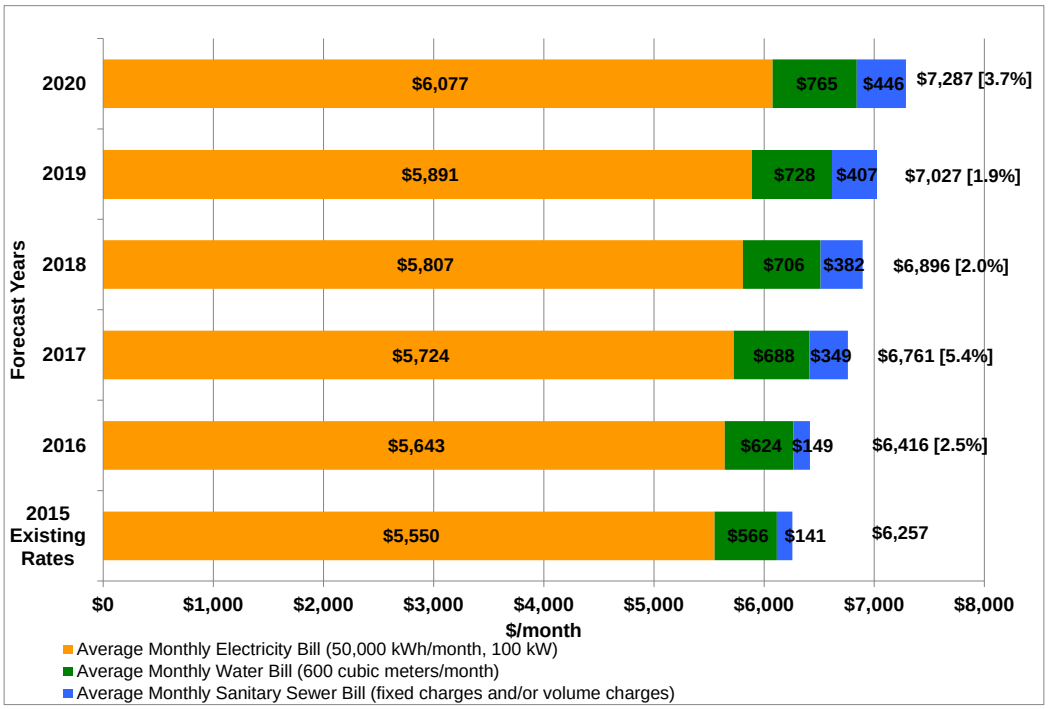


Figure 1-3:
City of Penticton Large Commercial / Industrial Bill Comparison for 2015 through 2020



It is recommended the City adopt the following process for implementing the proposed rate changes:

1. City Council adopt the electrical, sewer and water rates schedules for the 2016 to 2020 as presented in Section 7 of this report. Rates were designed to reflect a balance of the following rate design criteria:

    a. Ensure utility rates are sufficient to maintain at least minimum reserve balances in each year.

    b. Ensure utility rates are sufficient to recover the full utility revenue requirements including an average annual capital program by 2020.

    c. Finance a portion of major expansions and upgrades in capital programs for the water and sanitary sewer utilities in order to smooth out the required rate increases.

    d. Phase in changes to Administration Fees and Electric Utility Dividend by 2020.

    e. Target utility rates for each rate class equal to the cost of service by 2020.

    f. Implement a new sanitary sewer rate structure based on treated water use in 2017.

2. Rescind the current Rate Setting Policy and review the proposed rates each year as part of the annual budget process to address any unexpected costs or changes in revenues. It is also anticipated that this alignment with the City's annual budget process will enable residents to consider proposed changes to utility rates in the context of other City budget and revenue changes, such as property taxes.

3. The City undertake a detailed review of revenues and costs after three years, to ensure rates continue to fairly reflect the costs to serve each customer class. Future detailed rate studies should be prepared based on a three to five year forward looking basis to provide customers with some predictability about future rate changes.

4. It is recommended the City transition to monthly billing for water, sewer and electrical service.

5. It is recommended that the City not adopt an Institutional Utility Rate.

6. It is recommended that the City not implement an increasing block rate structure for residential electrical rates and water use.

7. It is recommended that for future capital planning, the City conduct an analysis of the replacement cost of its utility assets and ensure its capital budgets are sufficient to address ongoing requirements for infrastructure renewal, as well as any necessary expansion projects.

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1.0 INTRODUCTION AND OVERVIEW

The City of Penticton ("City") owns and operates electric, sanitary sewer and water utilities serving approximately 17,000 residential, commercial and industrial customers. InterGroup Consultants Ltd. ("InterGroup") was retained by the City to review and make recommendations for rate adjustments for the City's electric, water and sanitary sewer utilities for the period from 2016 through 2020. The City requested rate proposals that reflect an appropriate balance between return on investment, consumer affordability and business competitiveness. InterGroup's review involved the following steps for each utility:

1. **Develop Revenue Requirement:** A utility revenue requirement includes a consideration of the operations and maintenance expenses; capital costs; and administration costs required to operate the utility in a safe and reliable manner. The revenue requirement analysis also includes a consideration of sales and revenue forecasts at existing rates.

2. **Cost of Service Analysis:** A cost of service analysis looks at the costs to provide utility service to each type of customer. The cost of service analysis considers how each customer class contributes to fixed costs and variable costs.

3. **Peer Municipality Comparison:** InterGroup also undertook a comparison of existing bills for customers in other municipalities to understand how Penticton's utility rates compare to other municipalities in Canada.

4. **Rate Structure:** Design of rates to find appropriate balance between the operating and capital revenue requirements of the utilities, ratepayer affordability and competitiveness of the rates compared to the peer municipalities.

In addition, InterGroup was asked to review and provide recommendations on certain other special rate design topics:

1. Calculation and allocation of the administration fee charged to each utility.

2. Calculation of a dividend from the electric utility.

3. Potential for an institutional electricity rate for schools.

4. Potential for inclining block rates for electrical and water rates.

5. Transitioning from the existing fixture count-based sewer rates to rates based on water consumption.

6. Recovery of connection costs from new customers.

This report summarizes the results of the review in the following sections:

- Section 2 summarizes the review of the special rate design topics.

- Sections 3, 4 and 5 summarize the review of the revenue requirements, cost of service analysis and peer municipality comparisons for each utility.

- Section 6 summarizes the results of the public consultation undertaken as part of the review.
- Section 7 provides proposed rates for each utility for 2016 through 2020 and summarizes the impact of the proposed rates
- Section 8 summarizes the estimated monthly bills for electric, water, sewer and property taxes for customers in a sample of Canadian municipalities.
- Section 9 provides a series of bill comparisons with proposed rates
- Section 10 provides an outline of an implementation plan and rate adjustment policy
- Section 11 provides a summary of conclusions and recommendations.

2.0 SPECIAL RATE DESIGN TOPICS

2.1 CITY ADMINISTRATION FEE

Each utility receives administrative services from City departments such as revenue and collections, human resources, finance, communications and information technology. The City charges each utility an administration fee for providing these services. The City and InterGroup reviewed the calculation of the administration fee for each utility. The process involves first identifying the dollar value of the pool of services provided to the utilities. The review of this step identified a slightly lower total administration fee than previously used by the City. The second step involves allocating these fees to each utility. Previously, the City allocated the administration fee to each utility based on revenues. However upon review, it was determined that an allocation based on labour costs would be more consistent with cost causation. The previous method over allocated administration costs to the electric utility, as a result of its much higher revenues. Table 2-1 summarizes the previous allocation of administration fees to each utility and the proposed allocation.

Table 2-1:
City of Penticton Allocation of Administration Fees

	Current Admin Fee for 2015	Proposed Admin Fee for 2015
Electric Utility	$2,231,000	$1,280,000
Water Utility	$457,000	$845,000
Sewer Utility	$374,000	$793,000
Total	**$3,062,000**	**$2,918,000**

It is recommended that the City adopt the revised calculation of the administration fees and phase in the changes over a five year period.

2.2 ELECTRICAL UTILITY DIVIDEND TO GENERAL CAPITAL

The City's electric utility currently makes an annual payment to the general reserve fund of $3.052 million. InterGroup was asked to review the reasonableness of the payment by the electric utility and the calculation of the payment. The following points are noted:

- Most electric utilities in Canada, including municipally owned electric utilities, include in their rates a provision for a return on investment for their shareholders.
- The return on investment is generally calculated based on a mixture of debt and equity financing the assets of the utility. On average, utilities in Canada have been earning returns on capital in the range of 7% of net capital assets.
- 7% of the forecast net book value of the City's electrical assets is approximately $2.80 million for 2015.

Based on these observations, it is recommended that the City adopt the revised calculation of the transfer to the general reserve and phase in the change over a five year period. It is also recommended that the City review its records of capital assets to ensure it is current and does not include any assets no longer in use by the electric utility.

2.3 INSTITUTIONAL UTILITY RATES

The City requested that InterGroup review the possibility of implementing special electricity rates for institutional customers such as schools. Based on a review of similar rates from other jurisdictions, the following comments are noted:

- Typically where special institutional rates were found to be offered, these rates were not justified on a cost causation basis (i.e. the cost of service the customer is the same), but for other policy reasons.
- It is estimated institutional customers purchase approximately 12.5 GW.h per year. Discounting rates to these customers by 10% would reduce revenues by approximately $0.190 million at current electricity rates. These revenues would need to be recovered from other customer classes or offset by other costs, such as a reduction in the dividend from the electric utility.
- The results of the electricity cost of service analysis completed in this study suggests that commercial and industrial customers (including institutional customers) should receive lower than average rate increases. Moving rates toward the cost of service should help mitigate future rate increases for these customers.

Also, creation of an Institutional Rate was not broadly supported through public consultations held in City of Penticton.

Based on these observations, it is not recommended that the City implement an institutional electricity rate structure at this time.

2.4 INCLINING BLOCK RATE STRUCTURE FOR ELECTRICAL AND WATER

The City requested that InterGroup review the possibility of implementing an inclining block rate structure for electricity and water rates. Inclining block rates involve increasing the rate for consumption above a certain level. These rates are typically implemented in order to provide an incentive to customers to reduce their consumption. Based on discussion with City staff the following comments are noted:

- Penticton has a large number of electric heat customers. These customers tend to be particularly affected by a conservation block rate but may not have the ability to reduce their consumption substantially on very cold days. Further, these types of customers are often renters, who do not have the ability to switch from electric heat to other heating options.
- For water rates, the City is facing a substantial need to invest in capital improvement and renewals. This puts upward pressure on rates in the near-term.

Based on these observations, it is not recommended that the City move toward conservation block rates at this time.

2.5 SANITARY SEWER RATE BASED ON WATER USE

The City's current sanitary sewer rates are based on a fixed charge related to the number of fixtures installed. The rate structure does not include a variable component that varies by consumption volume.[1] The City also charges Sewer Levy which is collected as part of property tax bills. InterGroup reviewed 28 municipalities in BC, Alberta, Saskatchewan, Ontario and Manitoba. The sewer rate structure in majority of the municipalities include both fixed and variable charges. Based on this review and discussions with City staff, it is recommended the City move to a sewer rate structure with a fixed charge and a variable charge component based on water consumption.

2.6 UTILITY CONTRIBUTIONS ON NEW CONNECTIONS

The City requested that InterGroup review its policy with respect to contributions to connection costs for new customers. InterGroup reviewed connection policies for other municipal utilities. The review indicated the following:

- Many municipalities charge the full actual cost of new connections to the customer.
- Larger utilities and some municipalities will contribute a portion of the connection costs and charge the customer any additional costs incurred [e.g. BC Hydro will pay the first $1,450 of new connection costs per single family dwelling, or $200 per kW of load for new commercial customers].
- The portion of the cost for customer extensions not recovered through customer contributions are usually included in total revenue requirement and recovered through rates.
- Penticton currently allows customers with good credit ratings to pay for service connections over a 5-year period.

Based on these observations, it is recommended that the City maintain its existing policy with respect to connection costs for new customers.

[1] Based on City bylaw No 2014-07, the 2015 rates at $141/year for the first six fixtures, plus $25.7/year for each additional fixture.

3.0 ELECTRIC UTILITY

3.1 OVERVIEW OF ELECTRIC UTILITY

The Electric Department ("Electric Department" or "Electric Utility") is responsible for providing safe, efficient, and reliable electrical service to residential, commercial and industrial customers within the municipal boundaries of the City of Penticton.

The electrical system is comprised of four substations distributing power to customers through a network of 17 feeders operating at either 8,000 volts (8KV) or 12,000 volts (12KV). The City owns 272 km of overhead power lines, 86 km of underground cable, and 2,719 distribution transformers to serve more than 17,200 electrical customers. At year-end 2014 the total net book value of the tangible electrical assets was at $38.476 million.[2]

The City purchases bulk power from FortisBC at wholesale rates, which is then supplied to the customers through City-owned distribution systems. The Electric Utility staff are responsible for operating and maintaining the associated electrical infrastructure including: above- and below-ground electrical lines, distribution substations.

3.2 CUSTOMER AND RATE CLASSES AND CURRENT RATES

The City's electrical tariff includes nine rate classes. City of Penticton rates are not subject to regulation by the British Columbia Utilities Commission ("BCUC"). The rates are approved through City bylaws.

A review of the current rates[3], effective July 1, 2015, leads to the following observations:

- The same basic charge for all rate classes;
- One rate for all consumption for the residential customers;
- Three block declining rate for general service customers [second block rate at about 79% of the first block rate, third block rate at about 55% of the first block rate];
- Rates for Rate Code 45 – General – City Accounts and Rate Code 55 – Street Light & Other unmetered Loads designed to pay the cost related to power purchases from Fortis BC [with no basic charge and demand charge for Rate Code 45].

Table 3-1 summarizes the existing electricity rates, effective July 1, 2015.

[2] The data from City of Penticton 2014 Annual Report, page 19. The amount of electrical tangible assets from Note 9 to the 2014 Annual Report. The original cost of assets at $68.634 million.
[3] Approved by City bylaw No 2014-07, Appendix 7. Amended by Bylaw No. 2015-32 Effective July 1, 2015 with 1.83% increase.

Table 3-1:
City of Penticton Electric Existing Rates

Rate Class	July 1, 2015 Existing Rates						
	Basic Charge ($/ m/ cust.)	Demand ($/kVA)	Energy (¢/kW.h)				Fixture Watt or Volt Ampere (¢/W or ¢/VA)
			All KW.h	First 10,000 KW.h	Next 90,000 KW.h	> 100,000 KW.h	
Rate Code 10 - Residential	17.19		11.81				
Rate Code 15 - Residential/Special Service	17.19		13.58				
Rate Code 20 - General - Sec. Met. and City Owned Transf.	17.19	9.78		13.87	10.92	7.65	
Rate Code 25 - General - Prim. Met. and City Owned Transf.	17.19	9.62		13.67	10.74	7.56	
Rate Code 30 - General - Sec. Met. and Cust. Owned Transf.	17.19	8.89		13.87	10.92	7.65	
Rate Code 35 - General - Prim. Met. and Cust. Owned Transf.	17.19	8.75		13.67	10.75	7.56	
Rate Code 45 - General - City Accounts			8.06				
Rate Code 55 - Street Lighting & Other Un-metered Loads - per fixture watt or volt ampere							8.99
Rate Code 55 - Street Lighting & Other Un-metered Loads - based on name plate data							16.99

3.3 LOAD FORECASTS

A load forecast for 2015 is based on forecast prepared for 2015 rate increases by the City staff, a load forecast for 2016 through 2020 are based on annual load growth rate of 0.49% for each rate class over 2015 base year. The load growth assumption was based on the average annual growth in power purchases from 1997 to 2015. The number of customers increased by 0.49% each year and average usage per customer was used to forecast sales by each rate class.

3.4 REVENUE REQUIREMENT

The revenue requirement is the total operation and maintenance, capital and administration costs necessary to provide safe and reliable utility services. The revenue requirement for an electric also typically includes a provision for a return on investment.

The revenue requirement is recovered by way of rates charged for electrical services, as well as non-electrical revenues from pole rentals and other sources. This section reviews the City of Penticton Electric Utility forecast revenue requirement for 2015 through 2020.

There are five major components of the revenue requirement for the Electric Utility:

- Cost of Electrical Energy, i.e. cost of power purchases from Fortis BC;
- Operating and Maintenance costs, including, salaries and wages not allocated to capital projects, supplies and services expenses;
- Capital Costs, for capital expenditures in each year;
- Corporate Administrative Costs for services provided by the City to the electric utility such as revenue collection, information technology and financial reporting; and
- Transfers to the City's General Capital and the Electric Utility Operating Reserves.

Future revenues from rates were forecast to meet two key tests:

1. Maintain at least minimum reserve balances in each year.

2. Achieve annual revenues by 2020 to recover all operating costs and fund an average annual capital program.

Table 3-2 summarizes and Figure 3-1 illustrates the forecast revenue requirements for 2015 to 2020.

Table 3-2:
City of Penticton Electric Utility Revenue Requirement for 2015-2020

Line No.		2015 Revised Forecast	2016 Forecast	2017 Forecast	2018 Forecast	2019 Forecast	2020 Forecast	2015-2020 Average
1	Total Cost of Electrical Energy (Purchase Power) *Fortis BC Annual Increase Included*	26,662,040	28,278,733 *6.1%*	30,050,474 *6.3%*	31,933,223 *6.3%*	33,933,937 *6.3%*	36,060,007 *6.3%*	31,153,069 *6.2%*
2	Operation & Maintenance Expense	2,067,440	2,101,521	2,136,283	2,171,738	2,207,900	2,244,784	2,154,944
3	Capital Cost	4,749,458	2,953,639	5,017,095	4,987,407	5,347,993	3,410,867	4,411,076
4	Corporate Administrative Costs	2,238,703	2,060,080	1,881,457	1,702,834	1,524,211	1,345,588	1,792,146
5	Transfer to General Capital and Operating Reserves	3,190,300	3,184,140	3,177,992	3,171,856	3,165,733	3,159,622	3,174,940
6	**Total Revenue Requirement**	**38,907,940**	**38,578,113**	**42,263,301**	**43,967,058**	**46,179,775**	**46,220,868**	**42,686,176**
7	**Less: Other Revenues (Pole rental, etc.)**	**212,464**	**216,722**	**221,065**	**225,495**	**230,014**	**234,623**	**223,397**
8	**Net Revenue Required from Rates**	**38,695,476**	**38,361,391**	**42,042,236**	**43,741,563**	**45,949,761**	**45,986,245**	**42,462,779**
9	**Forecast Revenues at 2015 Rates**	**38,447,131**	**38,970,603**	**39,160,847**	**39,352,023**	**39,544,136**	**39,737,190**	**39,201,988**
10	**Surplus/(Deficiency) at 2015 Rates**	**(248,346)**	**609,212**	**(2,881,389)**	**(4,389,540)**	**(6,405,625)**	**(6,249,055)**	**(3,260,791)**
11	**Required Annual Year-to-Year Rate Increase to Recover 2020 Revenue Requirement and Average Capital**		**3.19%**	**3.19%**	**3.19%**	**3.19%**	**3.19%**	
12	**Revenue Forecast at Proposed Rates**	**38,447,131**	**40,229,409**	**41,695,910**	**43,228,519**	**44,830,666**	**46,482,660**	**42,485,716**

Electric Utility Combined Reserve Fund Continuity Schedule After Rate Increases

		2015 Forecast	2016 Forecast	2017 Forecast	2018 Forecast	2019 Forecast	2020 Forecast
13	**Opening Balance**	**10,186,167**	**5,125,732**	**7,158,343**	**6,976,610**	**6,628,158**	**5,673,657**
14=8	Revenue Required from Rates	38,695,476	38,361,391	42,042,236	43,741,563	45,949,761	45,986,245
15=12	Forecast Revenues from Domestic Ratepayers at Proposed Rates	38,447,131	40,229,409	41,695,910	43,228,519	44,830,666	46,482,660
16=15-14	Surplus/(Deficiency)	(248,346)	1,868,018	(346,326)	(513,044)	(1,119,095)	496,415
17	Additional One-Time Revenues/Transfers and Interest	(4,812,089)	164,593	164,593	164,593	164,593	14,593
18	**Closing Balance**	**5,125,732**	**7,158,343**	**6,976,610**	**6,628,158**	**5,673,657**	**6,184,665**
	Required Minimum Combined Reserve Balance	**3,100,000**	**3,100,000**	**3,100,000**	**3,100,000**	**3,100,000**	**3,100,000**

Figure 3-1:
Electric Utility Revenue Requirement 2015-2020

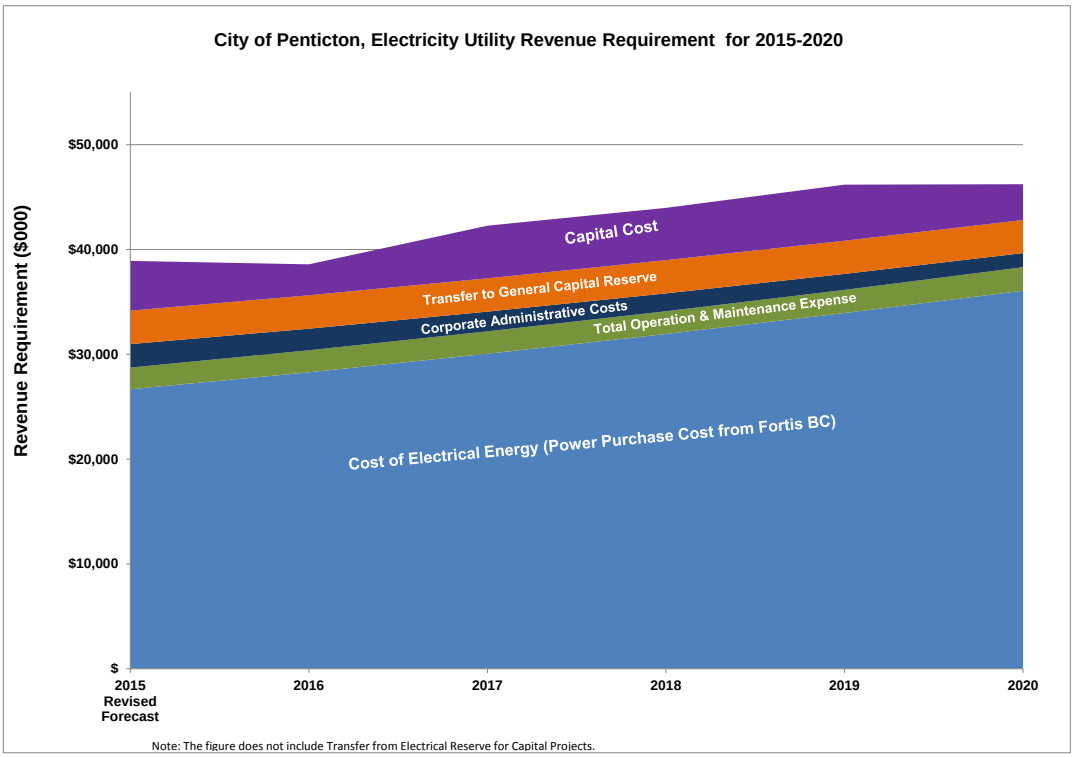


Table 3-2 and Figure 3-1 indicate that the City would require rate increases of approximately 3.19% annually to maintain minimum reserve balances and ensure rates are sufficient to fund operating costs and an average capital program. Key drivers of the need for this rate increase include:

- **Cost of Electrical Energy:** Purchased power costs are the major portion of revenue requirement. This cost is about 70% of total revenue required from rates for 2015 increasing to about 76% by 2018/19. This cost is difficult for the City to control in the short-run, but options for energy efficiency or alternative sources of supply could help manage this cost in the medium to longer term.

- **Capital costs** is also a key driver of revenue requirement changes year over year. Average annual amortization of assets are approximately $2.2 million for the electric utility. This represents the investment needed to sustain current assets at original cost, in practice replacement costs are higher than original costs and service extensions and improvements are not included in amortization costs. In addition an upgrade to the Carmi substation is planned which has a total capital cost of approximately $7 million from 2016 to 2018.

- **Operating and Maintenance Costs:** This includes costs related to purchase supplies and services, salaries and wages not allocated to capital projects. Operating and Maintenance costs account for about 5% of the total revenue requirement.

3.5 COST OF SERVICE

Under normal ratemaking principles, the relative levels of rates charged to the various customer classes of a utility are ideally developed based on principles of "cost of service". This involves determining a fair allocation of total costs to the various rate classes based on their usage characteristics. Key cost drivers for an electric utility include (i) the peak demand (in kVA) the utility must plan to serve, (ii) the total energy (in kWh), and (iii) the number of customers served in each rate class.

A cost of service study starts with a utility's revenue requirement, and in general has three key steps – functionalization of the costs (determining what function or role the costs relate to, such as power purchases, distribution and general costs), classification (for each function, determining what types of use drive the cost, such as demand, energy consumption and number of customers) and allocation based on customer class characteristics.

The energy and customer allocation factors are based on metered energy usage and number of customers, however, the demand allocation factors, coincident and non-coincident peaks, are not metered at the class level. Therefore, for cost of service purposes the load parameters from Fortis BC 2009 cost of service analysis[4] have been used. Table 3-3 below illustrates the load parameters used in the cost of service analysis.

Table 3-3:
City of Penticton Electric Utility Customer Load Parameters

Rate Class	Load Factor	Coincidence Factor
Residential	40%	80%
General Service	43%	75%
Street and Traffic Lighting	27%	100%

The cost of service study provides an opportunity to check how reasonable the current rates are. A revenue to cost coverage (RRC) ratio is calculated by dividing revenues from a class by the costs to serve that class. A RCC ratio of over 100% indicates that revenues exceed costs and that customers in that class are paying rates higher than the costs to serve them. A RCC ratio of less than 100% indicates that revenues do not fully recover that costs to serve that class of customers.

[4] Retrieved from http://www.fortisbc.com/About/RegulatoryAffairs/ElecUtility/OtherApplications/Pages/COSAandRDA.aspx and http://www.bcuc.com/Documents/Proceedings/2009/DOC_23627_B-1_FortisBC%202009%20Rate%20Design%20Application.pdf. Schedule 8.1 and Schedule 8.2 of 2009 COSA [accessed on September 22, 2015].

Table 3-4 provides a summary of the RCC ratio for each rate class based on existing rates. Supporting tables showing the calculation of the RCC ratios are provided in Appendix B.

Table 3-4[5]:
City of Penticton Electric Utility Revenue to Cost Ratio for 2015 and 2019 at Existing Rates

Rate Class	Number of Customers (2015 Forecast)	2015 Forecast			2019 Forecast		
		Revenue Forecast at Existing Rates ($000)	100% COS Results ($000)	RCC Ratio compared to COS	Revenue Forecast at Existing Rates ($000)	100% COS Results ($000)	RCC Ratio compared to COS
		A	B	C=A/B	D	E=B	F=D/E
Residential [Rate Codes 10 & 15]	15,551	20,446	21,515	95.0%	21,023	24,609	85.4%
Commercial/Industrial [Rate Codes 20, 25, 30 &35]	1,595	16,488	15,455	106.7%	16,968	18,026	94.1%
Rate Code 45 - General - City Accounts	81	1,368	1,560	87.7%	1,408	1,986	70.9%
Street Lighting	28	141	160	88.1%	141	204	69.2%
Traffic Lighting	1	4	5	88.8%	4	6	69.8%
Total	**17,257**	**38,447**	**38,695**	**99.4%**	**39,544**	**44,831**	**88.2%**

Table 3-4 indicates the following results:

- Residential customers generally have lower than average RCC ratios, indicating current rates are recovering less than the average cost of service.
- Commercial/Industrial customers generally have higher than average RCC ratios, indicating current rates are recovering higher than average cost of service.
- General City Accounts, streetlights and traffic lights generally have lower than average RCC ratios indicating current rates are recovering less than the average cost of service.
- At the existing rates, by 2019 all rate classes will not be generating revenues sufficient to cover their costs.

The differences in RCC ratios for residential and general service customers arise primarily as a result of the different load and coincidence factors. Residential customers have a lower load factor, meaning that they purchase less total energy compared to the demand costs they impose on the system. As a result, there are fewer unit energy sales available from residential customers to recover fixed costs. This leads to a lower RCC ratio for residential customers.

The Proposed Rates section (Section 7) of this report provides RCC ratio based on proposed rates.

3.6 PEER CITY ELECTRICAL RATE COMPARISON

An analysis of the competitiveness of the City's electric utility rate was undertaken by comparing the City's current electrical rates to those of other 28 municipalities in BC, Alberta, Saskatchewan, Manitoba and

[5] The total of $44.831 million in the table reflects net revenue requirement after transfers from electrical reserve to fund capital projects.

Ontario. These results are illustrative only and should be interpreted with caution. Income disparity, ability to pay, and the degree to which rates fully recover costs will vary.

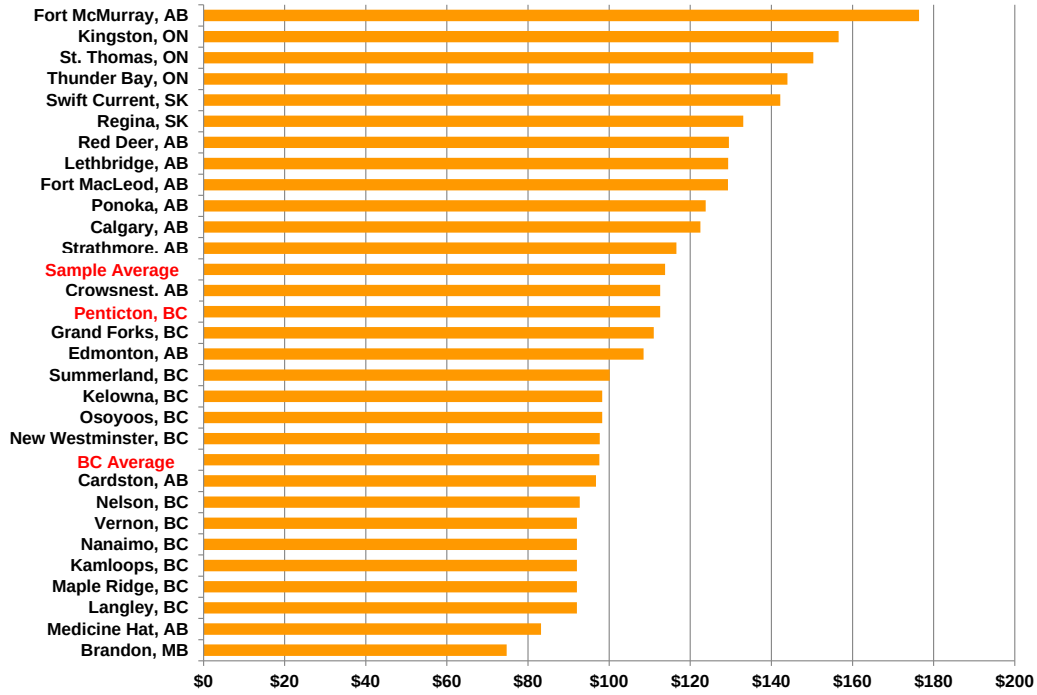
Monthly electricity bill comparisons were prepared for residential, small commercial and large commercial/industrial customers based on the following assumptions:

- Residential
    - Assumes consumption at 914 kWh/month, based on Penticton average monthly consumption of Rate Code 10.
    - Applies Rate Code 10 for Penticton and the appropriate residential rate schedules for other comparator municipalities.
- Small Commercial
    - Assumes consumption at 5,000 kWh, 10 kVa, based on Penticton average monthly consumption for all general service customers consuming less than 10,000 kWh per month.
    - Applies Rate Code 20 for Penticton and the appropriate small commercial rate schedules for other comparator municipalities.
- Large Commercial/Industrial
    - Assumes consumption at 50,000 kWh, 100 kVa, based on Penticton average monthly consumption for all general service customers consuming more than 10,000 kWh per month.
    - Applies Rate Code 35 for Penticton and the appropriate industrial rate schedules for other comparator municipalities.

Figures 3-2 through 3-4 illustrate the electricity bill comparison:

- Residential – Average monthly Penticton electricity bill is $113, which is 1.0% ($1) lower than the average of all municipalities ($114) and 15% ($15) higher than the BC average ($98).
- Small Commercial - Average monthly Penticton electricity bill is $639, which is 15.8% ($87) higher than the average of all municipalities ($552) and 16.0% ($88) higher than the BC average ($551).
- Large Commercial/Industrial - Average monthly Penticton electricity bill is $5,550, which is 20.5% ($944) higher than the average of all municipalities ($4,606) and 28.9% ($1,243) higher than the BC average ($4,307).

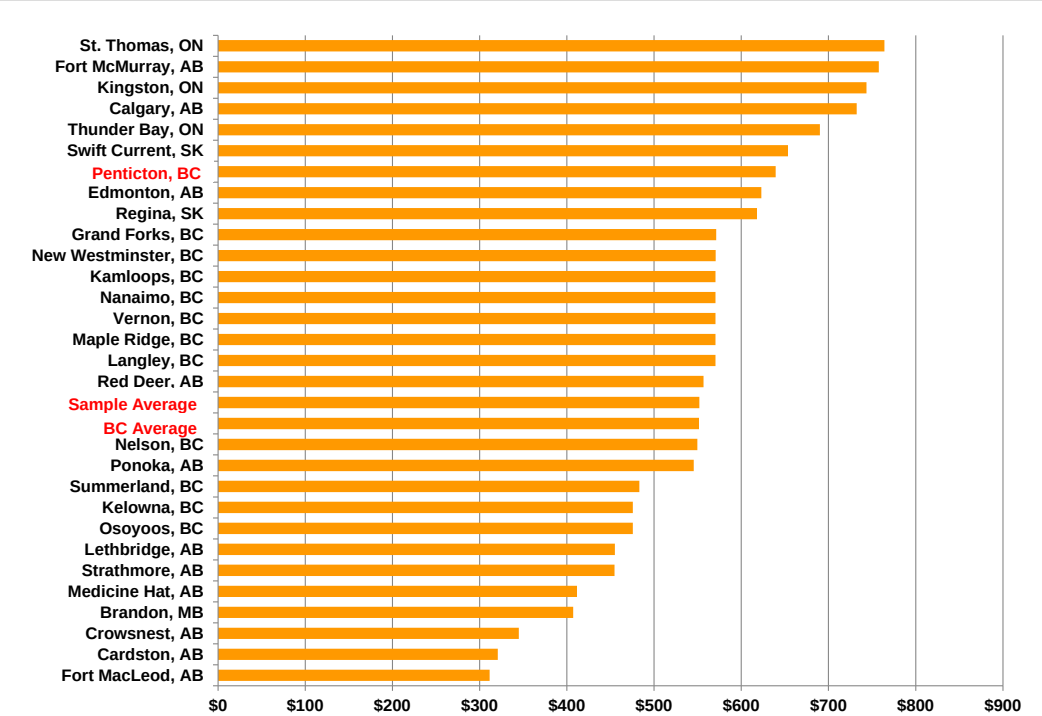
Figure 3-2:
Comparison of Residential Customers Average Monthly Electricity Bill (914 kWh/month)[6]



Note: Electricity bills (before taxes) include discount and riders whenever applicable.

[6] All rates are for 2015 based on availability. Please see Appendix C for details.

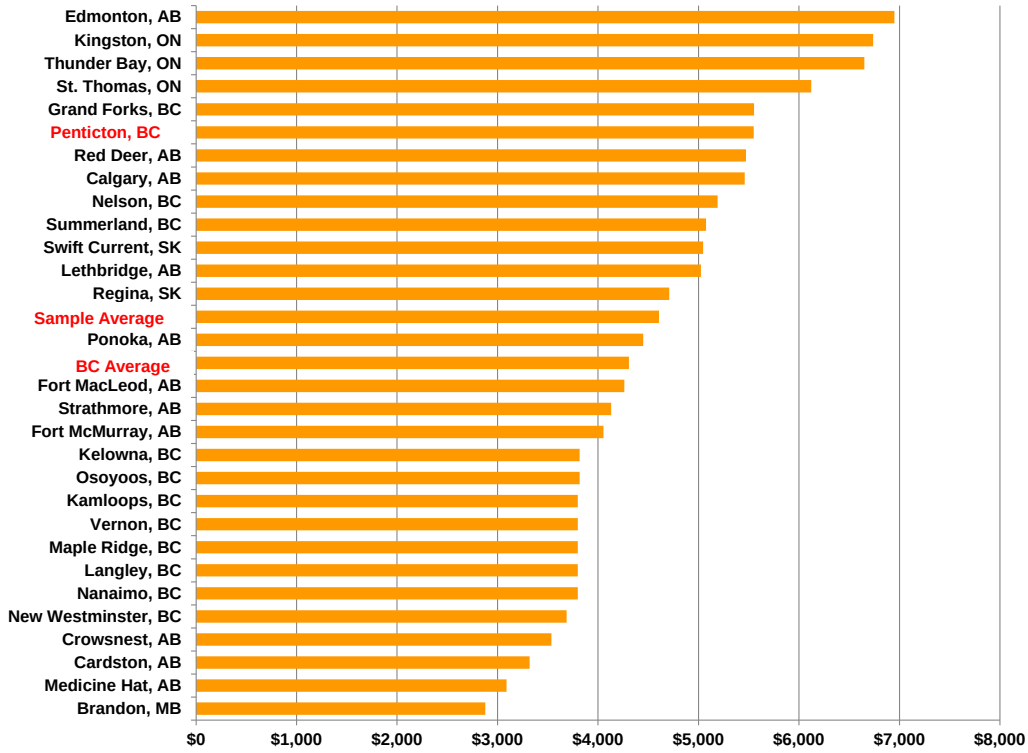
Figure 3-3:
Comparison of Small Commercial Customer Average Monthly Electricity Bill
(5,000 kWh/month, 10 kVA)[7]



Note: Electricity bills (before taxes) include energy and demand usage. Bills include discount and riders whenever applicable.

[7] All rates are for 2015 based on availability. Please see Appendix C for details.

Figure 3-4:
Comparison of Large Commercial / Industrial Customer Average Monthly Electricity Bill (50,000 kWh / month, 100 kVA)[8]



Note: Electricity bills (before taxes) include energy and demand usage. Bills include discount and riders whenever applicable.

[8] All rates are for 2015 based on availability. Please see Appendix C for details.

InterGroup CONSULTANTS

4.0 WATER UTILITY

4.1 OVERVIEW OF WATER UTILITY

The City's water system consists of six reservoirs, three pump stations, two booster stations, 197 km of distribution mains, 900 fire hydrants and 9000 water service connections to serve a population of 35,000.[9] The City's Water Treatment Plant (WTP) is a multi-barrier system that is designed to treat water from two different sources: Okanagan Lake and Penticton Creek. The WTP treats between 8,200 and 37,000 cubic meters of water every day with a peak capacity of 88,000 cubic meters per day.[10]

In 2014, the City conducted equipment optimization initiatives including PLC/SCADA programming and equipment replacement, rebuilt Lake Pump No.6, installed chlorine analyzers in reservoirs, and completed Okanagan Lake intake dive inspection and the installation of electrical surge arrestors at all pump stations and flow control at Carmi Reservoir.

By end of 2014 the net book value of the tangible water infrastructures was at 33.659 million.[11]

4.2 CUSTOMER CLASSES AND CURRENT RATES

The City maintains rate classes based on meter size. The current rates include a fixed monthly charge and a variable charge depending on water consumption. Table 4-1 summarizes the existing treated water rates.

[9] City of Penticton, 2013 Annual Report - Water Treatment Plant, page 11, http://www.penticton.ca/assets/Departments/Documents/2013%20Yearend%20Report%20Final%20May23.pdf
[10] City of Penticton, 2014 Annual Report, page 21.
[11] City of Penticton, 2014 Annual Report, Note 9. The original cost at $50.797 million.

Table 4-1:
City of Penticton Existing Treated Water Rates[12]

	2015 Existing Rates		
	Basic Charge ($/ month/ customer)	Variable Charge ($/100 cubic feet)	Unmetered Monthly Charge ($/ month/ customer)
Treated Water			
19mm (3/4 inch)	19.77	1.67	33.25
25mm (1 inch)	42.37	1.67	68.80
38mm (1 1/2 inches)	125.03	1.67	204.20
50mm (2 inches)	275.18	1.67	442.26
75mm (3 inches)	790.06	1.67	1,300.57
100mm (4 inches)	1,736.28	1.67	2,820.64

4.3 LOAD FORECASTS

An annual consumption growth rate of 1% was used in the analysis. This assumption was based on the City's 2015 operating budget information.

4.4 REVENUE REQUIREMENT

The revenue requirement is the total operation and maintenance, capital and administration costs necessary to provide safe and reliable utility services.

The revenue requirement analysis focused on the domestic water utility. The City had previously undertaken an analysis of costs for the agricultural irrigation system. Revenues from the agricultural irrigation system included in the City's budgets are used to offset the costs of the domestic water system revenue requirement.

There are four major components of the revenue requirement for the domestic Water Utility:

- Operating and Maintenance costs, including, salaries and wages not allocated to capital projects, supplies and services expenses;
- Capital Costs, for capital expenditures in each year;
- Debt Service Costs, related to capital investments that are recovered over a longer term; and

[12] Approved by City bylaw No 2014-07, Appendix 29. The rate schedule also includes 6-12 inch meter sizes, however, City of Penticton do not have customers with those meter sizes.

- Corporate Administrative Costs for services provided by the City to the water utility such as revenue collection, information technology and financial reporting.

Future revenues from rates were forecast based on the following conditions:

1. Maintain at least minimum reserve balances in each year.
2. Achieve annual revenues by 2020 to recover all operating costs and fund an average annual capital program.
3. Fund major capital expansion projects with new 10-year debt.

Table 4-1 summarizes and Figure 4-1 illustrates the forecast revenue requirements for 2015 to 2020.

Table 4-2:
City of Penticton Water Utility Revenue Requirement for 2015-2020

Line No.		2015 Forecast	2016 Forecast	2017 Forecast	2018 Forecast	2019 Forecast	2020 Forecast	2015-2020 Average
1	**Total Operation & Maintenance Expense**	**2,420,274**	**2,456,542**	**2,494,204**	**2,533,328**	**2,573,991**	**2,616,271**	**2,515,768**
2	**Capital Cost**	3,428,845	2,550,000	4,417,500	3,611,120	3,597,530	3,770,444	3,562,573
3	**Debt Service Cost**	1,347,553	1,353,355	1,648,933	1,648,933	1,854,902	2,179,675	1,672,225
4	**Corporate Administrative Costs**	457,314	543,372	629,430	715,488	801,546	887,604	672,459
5	**Total Revenue Requirement**	**7,653,986**	**6,903,270**	**9,190,067**	**8,508,869**	**8,827,969**	**9,453,994**	**8,423,026**
6	**Less: West Bench Revenues**	83,205	84,034	84,871	85,716	86,570	87,432	85,305
7	**Less: Fire Hydrant Connection Revenues**	3,000	3,030	3,060	3,091	3,121	3,152	3,076
8	**Less: Irrigation Revenues**	322,284	332,943	344,028	355,555	367,544	380,011	350,394
8	**Net Revenue Required from Treated Water Rates**	**7,245,497**	**6,483,263**	**8,758,108**	**8,064,507**	**8,370,735**	**8,983,398**	**7,984,251**
9	**Forecast Revenues from Domestic Ratepayers at Existing Rates**	**5,982,080**	**6,041,662**	**6,101,836**	**6,162,611**	**6,223,990**	**6,285,981**	**6,133,027**
10	**Surplus/(Deficiency)**	**(1,263,417)**	**(441,602)**	**(2,656,272)**	**(1,901,896)**	**(2,146,744)**	**(2,697,417)**	**(1,851,225)**
11	**Required Annual Average Increase in Revenues**		**11.50%**	**11.50%**	**4.43%**	**4.43%**	**4.43%**	
12	**Revenue Forecast at Proposed Rates**	**5,982,080**	**6,736,453**	**7,585,956**	**8,000,787**	**8,438,304**	**8,899,746**	**7,607,221**
	Water Utility Combined Reserve Fund Continuity Schedule After Rate Increases							
13	**Opening Balance**	**3,195,766**	**1,980,286**	**2,263,180**	**1,124,975**	**1,078,130**	**1,161,871**	
14=8	Revenue Required from Rates	7,245,497	6,483,263	8,758,108	8,064,507	8,370,735	8,983,398	
15=12	Forecast Revenues from Domestic Ratepayers at Proposed Rates	5,982,080	6,736,453	7,585,956	8,000,787	8,438,304	8,899,746	
16=15-14	Surplus/(Deficiency)	(1,263,417)	253,189	(1,172,153)	(63,720)	67,569	(83,652)	
17	Interest	47,936	29,704	33,948	16,875	16,172	17,428	
18	**Closing Balance**	**1,980,286**	**2,263,180**	**1,124,975**	**1,078,130**	**1,161,871**	**1,095,647**	
19	**Required Minimum Combined Reserve Balance**	**990,000**	**990,000**	**990,000**	**990,000**	**990,000**	**990,000**	

Figure 4-1:
Water Utility Revenue Requirement 2015-2020

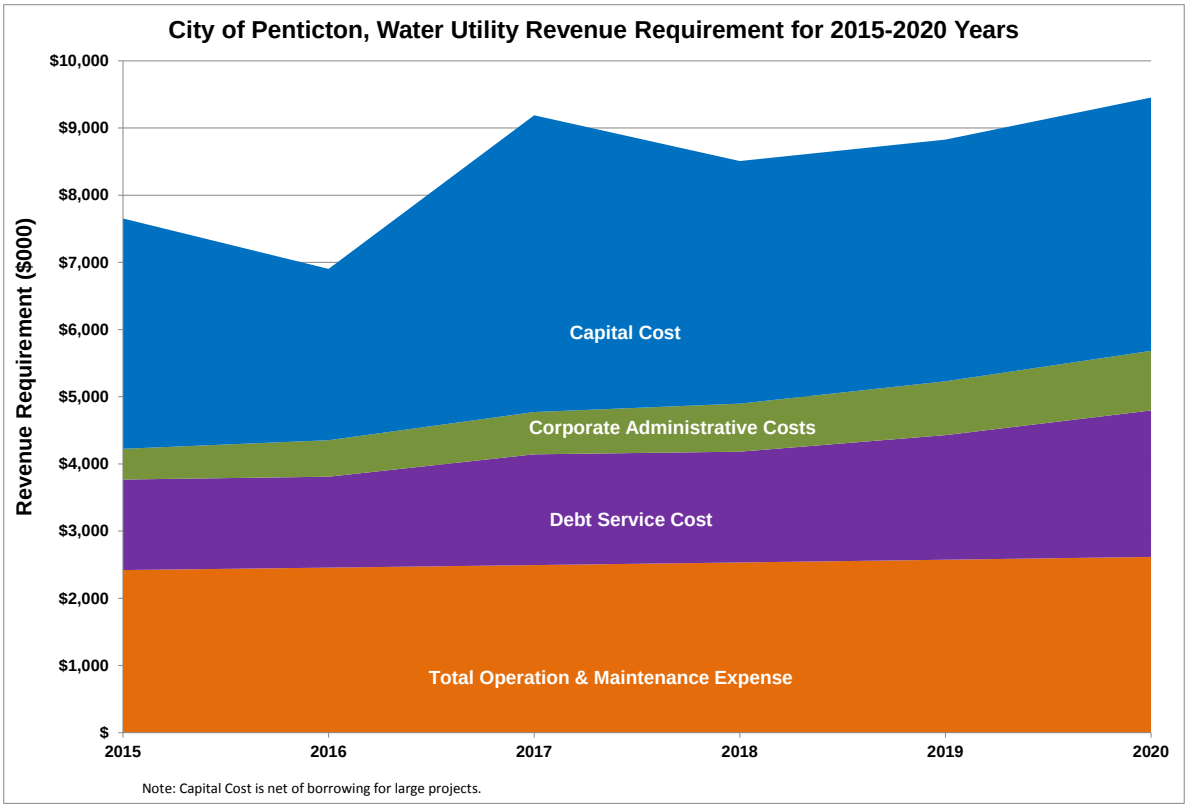


Table 4-2 and Figure 4-1 indicate that the City would require rate increases of approximately 11.5% in 2016 and 2017 and 4.43% in 2018 through 2020 in order to maintain minimum reserve balances and ensure sufficient revenues to fund operating costs and an average capital program. Key drivers of the need for these rate increases include:

- **Capital costs** are a key driver of revenue requirement changes year over year. In particular the Ridgedale Reservoir Upgrade; Carmi Reservoir Expansion and Chlorine Generation System projects are key drivers of changes in capital costs.
- **Corporate Administrative Costs:** The review of the allocation of corporate administrative costs indicated that the water utility should be allocated a larger share of administrative costs.

4.5 COST OF SERVICE

The relative levels of rates charged to the various customer classes of a utility are ideally developed based on principles of "cost of service". Key cost drivers for water utility include (i) the water demand (at peak day and peak hour), (ii) the water consumption, and (iii) the number of customers served in each rate class.

A cost of service study starts with a utility's revenue requirement, and consistent with Manual of American Water Works Association, M1 Principles of Water Rates, Fees and Charges, 6th Edition ("AWWA Manual")

has three key steps – functionalization of the costs (determining what function or role the costs relate to, such as pumping, treatment, distribution and general costs), allocation to cost components (base, maximum day demand and peak hour demand and number of customers) and distribution to customer classes based on customer class characteristics. The cost of service study provides an opportunity to check how reasonable the current rates are. A revenue to cost coverage (RRC) ratio is calculated by dividing revenues from a class by the costs to serve that class. A RCC ratio of over 100% indicates that revenues exceed costs and that customers in that class are paying rates higher than the costs to serve them. A RCC ratio of less than 100% indicates that revenues do not fully recover that costs to serve that class of customers.

Table 4-3 provides a summary of the RCC ratio by meters size based on existing rates. Details of the cost of service study are provided in Appendix B.

Table 4-3:
City of Penticton Water Utility Revenue to Cost Ratio for 2015 and 2019 at Existing Rates

		2015 Forecast			2019 Forecast		
Rate Class	Number of Customers (2015 Forecast)	Revenue Forecast at Existing Rates ($000)	100% COS Results ($000)	RCC Ratio	Revenue Forecast at Existing Rates ($000)	100% COS Results ($000)	RCC Ratio
		A	B	C=A/B	D	E=B	F=D/E
Treated Water							
19mm (3/4 inch)	8,037	3,131.4	4,083.3	76.7%	3,258.0	4,759.6	68.5%
25mm (1 inch)	225	316.0	518.1	61.0%	328.8	591.3	55.6%
38mm (1 1/2 inches)	252	619.1	690.1	89.7%	644.1	788.8	81.7%
50mm (2 inches)	132	765.5	889.0	86.1%	796.5	1,014.8	78.5%
75mm (3 inches)	48	680.2	645.3	105.4%	707.7	736.8	96.0%
100mm (4 inches)	16	469.8	419.9	111.9%	488.8	479.3	102.0%
Total Treated Water	**8,711**	**5,982**	**7,245**	**82.6%**	**6,224**	**8,371**	**74.4%**

Table 4-3 indicates the following results:

- Smaller meter sizes generally have lower than average RCC ratios, indicating current rates are recovering less than the average cost of service.
- 3 inch and 4 inch meter sizes generally have higher than average RCC ratios, indicating current rates are recovering higher than average cost of service.
- Without a rate increase the RCC ratios for all meter sizes, except 4 inch, would be lower than 100%, i.e. not recovering the cost of serving, by 2019.

The Proposed Rates section (Section 7) of this report provides RCC ratio based on proposed rates.

These cost of service results arise primarily as a result of the different levels of fixed charges for each meter size. The review of City's existing fixed charges show that the monthly fixed rates for the larger meter customers are generally higher than those in other municipalities. Table 4-4 below compares the fixed monthly charge ratios by meter size under the existing rates for City of Penticton to the AWWA meter equivalent ratio, as well as fixed rate ratios in other peer British Columbia municipalities. As a result of these higher fixed charges, the larger meter sizes are over paying relative to other smaller meter sizes.

Table 4-4:
City of Penticton Water Utility 2015 Existing Rates Meter Equivalent Ratios[13]

Meter Size (Inches)	City of Penticton		AWWA meter equivalent ratios relative to 3/4" meter	Other BC Municipalities, Ratio relative to 3/4" meter					
	Existing Fixed Monthly Charges (2015)	Ratio relative to 3/4" meter		Kelowna	Summerland	Kamloops	Nelson (commercial)	New Westminster	Maple Ridge
	$/m								
3/4	19.77	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1	42.37	2.1	1.7	1.3	1.0	2.0	1.0	1.5	1.0
1 1/2	125.03	6.3	3.3	1.9	1.0	5.0	1.0	3.8	1.5
2	275.18	13.9	5.3	3.1	1.0	12.0	1.0	5.4	2.4
3	790.06	40.0	11.7	10.2	1.0	25.0	1.0	35.7	4.4
4	1,736.28	87.8	21.0	13.9	1.0	45.0	1.0	51.0	6.2

4.6 PEER CITY WATER RATE COMPARISON

A comparison of average monthly bills was prepared for Penticton and a sample of other communities. These results are illustrative only and should be interpreted with caution. Income disparity, ability to pay, and the degree to which water rates in some communities are funded through sewer charges compared to property taxes or other sources will vary.

The monthly water bill comparison was based on the following assumptions:

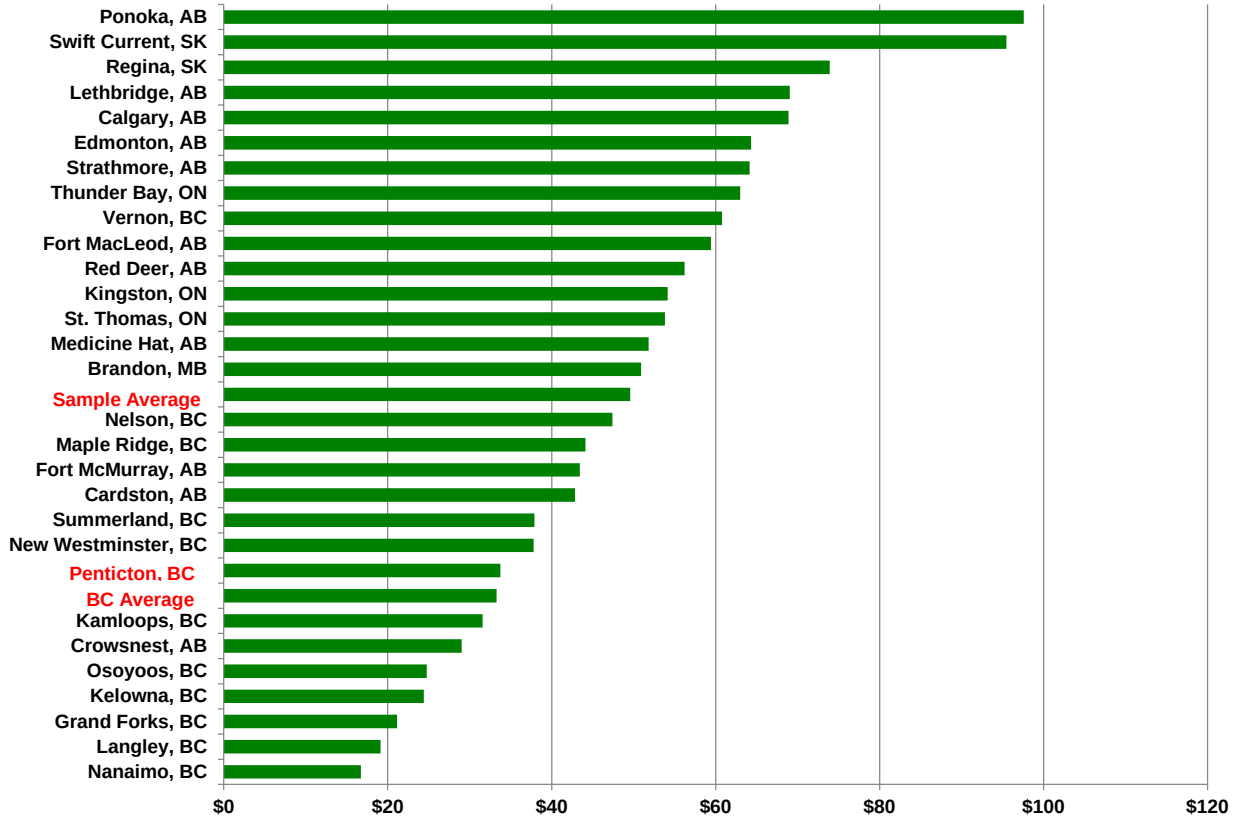
- Residential
    - Assumes water usage at 30 cubic meters/month, based on the average monthly consumption for customers with meter size of 13mm/16mm/19mm (1/2 inch, 5/8 inch and 3/4 inch).
- Small Commercial
    - Assumes water usage at 200 cubic meters, based on the average monthly consumption for customers with meter size of 38mm (1 and 1/2 inches).
- Large Commercial/Industrial
    - Assumes water usage at 600 cubic meters, based on the average monthly consumption for customers with meter size of 50mm (2 inches).

Figure 4-2 through 4-4 illustrates the water bill comparison:

[13] Based on 2015 rates, where available.

- Residential - Average monthly water bill is $34, which is 32.0% ($16) lower than the average of all municipalities ($50) and nearly the same as the BC average ($33).
- Small Commercial - Average monthly water bill is $219, which is 11.3% ($28) lower than the average of all municipalities ($246) and 36.9% ($59) higher than the BC average ($160).
- Large Commercial/Industrial - Average monthly water bill is $566, which is 14.6% ($97) lower than the average of all municipalities ($663) and 39.4% ($160) higher than the BC average ($406).

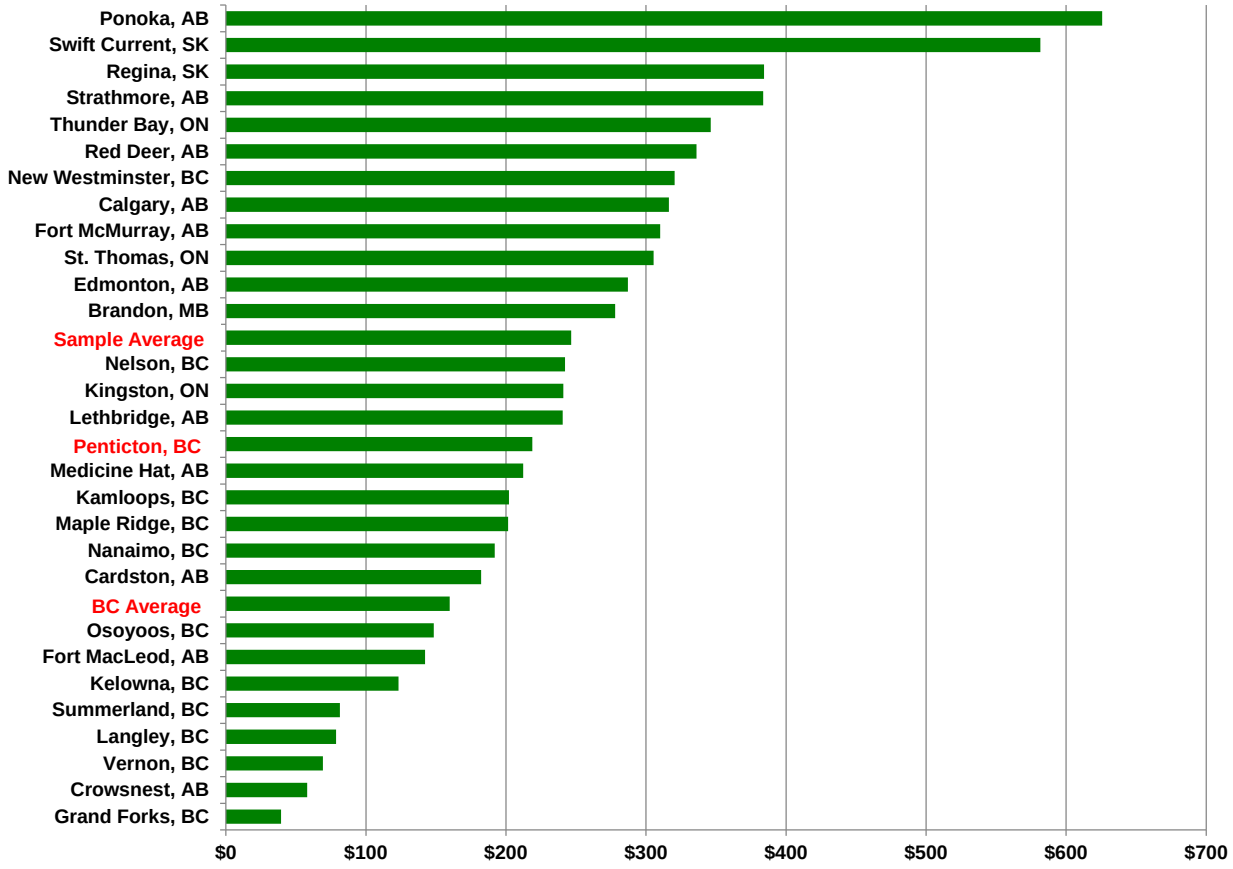
Figure 4-2:
Comparison of Residential Customer Average Monthly Water Bill (30 cubic meters/month)[14]



Note: Water bills (before taxes) include discount whenever applicable.

[14] All rates are for 2015 based on availability. Please see Appendix C for details.

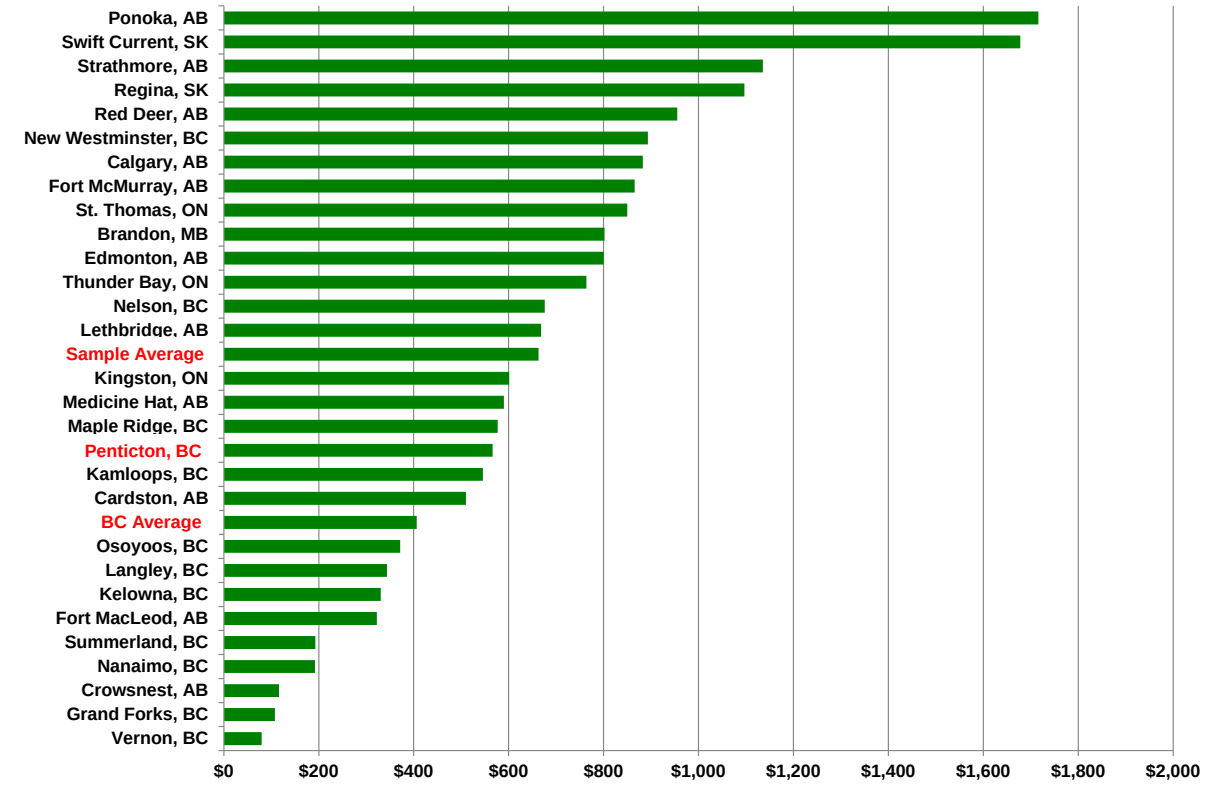
Figure 4-3:
Comparison of Small Commercial Customer Average Monthly Water Bill
(200 cubic meters/month)[15]



Note: Water bills (before taxes) include discount whenever applicable.

[15] All rates are for 2015 based on availability. Please see Appendix C for details.

Figure 4-4:
Comparison of Large Commercial / Industrial Customer Average Monthly Water Bill
(600 cubic meters / month)[16]



Note: Water bills (before taxes) include discount whenever applicable.

[16] All rates are for 2015 based on availability. Please see Appendix C for details.

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5.0 SANITARY SEWER UTILITY

5.1 OVERVIEW OF SANITARY SEWER UTILITY

The gravity sanitary sewer system is maintained by the Public Works Department of the City. The Wastewater Treatment Division looks after ten lift stations that collect the wastewater from the gravity system, which is then pumped to the Advanced Wastewater Treatment Plant (AWWTP).[17]

The AWWTP treats between 10,000 and 16,000 cubic metres of waste water each day, with a peak capacity of 27,000 cubic metres per day. In 2014, the average citizen of Penticton discharged 331 litres per day into the sanitary sewer. The average cost to treat a cubic metre (1,000 litres) of waste water in 2014 was $0.46. In 2014, AWWTP staff replaced several aging elements of the facility, including: a high-efficiency aeration blower, rebuilt one of two 25-yearold secondary clarifiers, half of the UV disinfection lamps, electrical/control components at the lift stations, treatment plant roofs on two buildings, variable frequency drives on reclaimed water pumps and replacing two of three Archimedes influent screw pumps.[18] By end of 2014 the net book value of the tangible water infrastructures was at 41.632 million.[19]

5.2 CUSTOMER CLASSES AND CURRENT RATES

Current fixture rates are set out in Table 5-1. In addition, the City charges a sewer levy as part of the property tax bill.

Table 5-1:
City of Penticton Sanitary Sewer Existing Rates for 2015[20]

	2015 Existing Fixtures Charges	
	Not Exceeding Six Fixtures, $/year	In Excess of Six Fixtures, $/year/fixture [for each additional fixture]
Sanitary Sewer Fixture Charges	$141.00	$25.70

5.3 SALES FORECASTS

City of Penticton is proposing to change the rate design for Sanitary Sewer Utility, from uniform fixed rates for all rate classes which is charged based on number of fixtures to the fixed and variable rate structure

[17] City of Penticton, 2013 Annual Report – Waste Water Treatment Plant, page 5.
http://www.penticton.ca/Assets/Departments/WWTP/2013-Final.pdf
[18] City of Penticton, 2014 Annual Report, page 21.
[19] City of Penticton, 2014 Annual Report, Note 9. The original cost at $48.980 million.
[20] Approved by City bylaw No 2014-07, Appendix 25. In addition to these rates, the City of Penticton rate payers also pay Sewer Levy as part of property tax bills.

which would be charged based on water consumption. Therefore, the cost allocation step of the cost of service used Water utility load forecasts.

Based on a review of total water production and sewage generation data and discussions with City staff, it is estimated that about 50%[21] of the summer, April to September, water sales for residential customers are used for domestic irrigation and other uses which are not returned to the sewer system. For the winter period from October to March, 100% of water sales are assumed to be returned to the sewer system.

Commercial and industrial water users have different use patterns. It is assumed commercial and industrial meter customers would be billed based on 100% of water their water usage every month. Individual commercial and industrial customers could apply to the City to have their water use adjusted to account for any non-sewer related water use. For modelling purposes it has been assumed that 90% of all year round water consumption would be billed for sanitary sewer use based on a certain number of customers receiving an exemption.

5.4 REVENUE REQUIREMENT

The revenue requirement is the total operation and maintenance, capital and administration costs necessary to provide safe and reliable utility services.

There are four major components of the revenue requirement for the Sanitary Sewer Utility:

- Operating and Maintenance costs, including, salaries and wages not allocated to capital projects, supplies and services expenses;
- Capital Costs, for capital expenditures in each year;
- Debt Service Costs, related to capital investments that are recovered over a longer term;
- Corporate Administrative Costs for services provided by the City to the electric utility such as revenue collection, information technology and financial reporting; and

Future revenues from rates were forecast to meet two key tests:

1. Maintain at least minimum reserve balances in each year.
2. Achieve annual revenues by 2020 to recover all operating costs and fund an average annual capital program.
3. Fund major capital expansion projects with new 10-year debt.

Table 5-2 summarizes and Figure 5-1 illustrates the forecast revenue requirements for 2015 to 2020.

[21] The review total input to the water treatment plant shows that summer water peak is about twice higher than annual average peak. The sewer flows with 50%/summer and 100%/winter for residential, and 90%/year round for non-residential customers estimated to be about 77% of total water consumption level which is within a reasonable range estimated based on actual total sewer flows.

Table 5-2:
City of Penticton Sewer Utility Revenue Requirement for 2015-2020

Line No.		2015 Forecast	2016 Forecast	2017 Forecast	2018 Forecast	2019 Forecast	2020 Forecast	2015-2020 Average
1	**Total Operation & Maintenance Expense**	**2,465,830**	**2,509,192**	**2,553,996**	**2,600,310**	**2,648,205**	**2,697,757**	**2,579,215**
2	**Capital Cost**	1,348,658	2,384,000	2,308,456	1,320,000	1,330,000	1,880,691	1,761,968
3	**Debt Service Cost**	1,348,887	1,354,689	1,603,013	1,603,013	1,603,013	1,603,013	1,519,271
4	**Corporate Administrative Costs**	373,581	465,587	557,594	649,601	741,608	833,615	603,598
5	**Total Revenue Requirement**	**5,536,956**	**6,713,468**	**7,023,059**	**6,172,924**	**6,322,826**	**7,015,075**	**6,464,051**
	Less:							
6	**Other Revenues**	**610,886**	**615,170**	**623,914**	**632,026**	**631,514**	**632,195**	**624,284**
7	**Sewer Levy**	**1,348,200**	**1,348,200**	**-**	**-**	**-**	**-**	
8	**Net Revenue Required from Sewer Charges**	**3,577,870**	**4,750,099**	**6,399,146**	**5,540,898**	**5,691,312**	**6,382,880**	**5,839,767**
9	**Forecast Revenues from Sewer Existing Charges**	**3,829,640**	**3,887,085**	**3,945,391**	**4,004,572**	**4,064,640**	**4,125,610**	
10	**Surplus/(Deficiency)**	**251,770**	**(863,014)**	**(2,453,755)**	**(1,536,326)**	**(1,626,671)**	**(2,257,270)**	
11	**Required Annual Average Increase in Revenues**		**8.78%**	**8.78%**	**8.78%**	**8.78%**	**8.78%**	
12	**Revenue Forecast at Proposed Rates**	**3,829,640**	**4,228,356**	**4,668,584**	**5,154,645**	**5,691,312**	**6,283,853**	**4,976,065**

Sewer Utility Combined Reserve Fund Continuity Schedule After Rate Increases

		2015 Forecast	2016 Forecast	2017 Forecast	2018 Forecast	2019 Forecast	2020 Forecast
13	**Opening Balance**	**5,685,826**	**6,022,884**	**5,591,484**	**3,944,795**	**3,617,714**	**3,671,980**
14=8	Revenue Required from Rates	3,577,870	4,750,099	6,399,146	5,540,898	5,691,312	6,382,880
15=12	Forecast Revenues from Domestic Ratepayers at Proposed Rates	3,829,640	4,228,356	4,668,584	5,154,645	5,691,312	6,283,853
16=15-14	Surplus/(Deficiency)	251,770	(521,743)	(1,730,562)	(386,253)	0	(99,027)
17	Interest	85,287	90,343	83,872	59,172	54,266	55,080
18=13+16+17	**Closing Balance**	**6,022,884**	**5,591,484**	**3,944,795**	**3,617,714**	**3,671,980**	**3,628,033**
19	**Required Minimum Combined Reserve Balance**	**713,000**	**713,000**	**713,000**	**713,000**	**713,000**	**713,000**

Figure 5-1:
Sanitary Sewer Utility Revenue Requirement 2015-2020

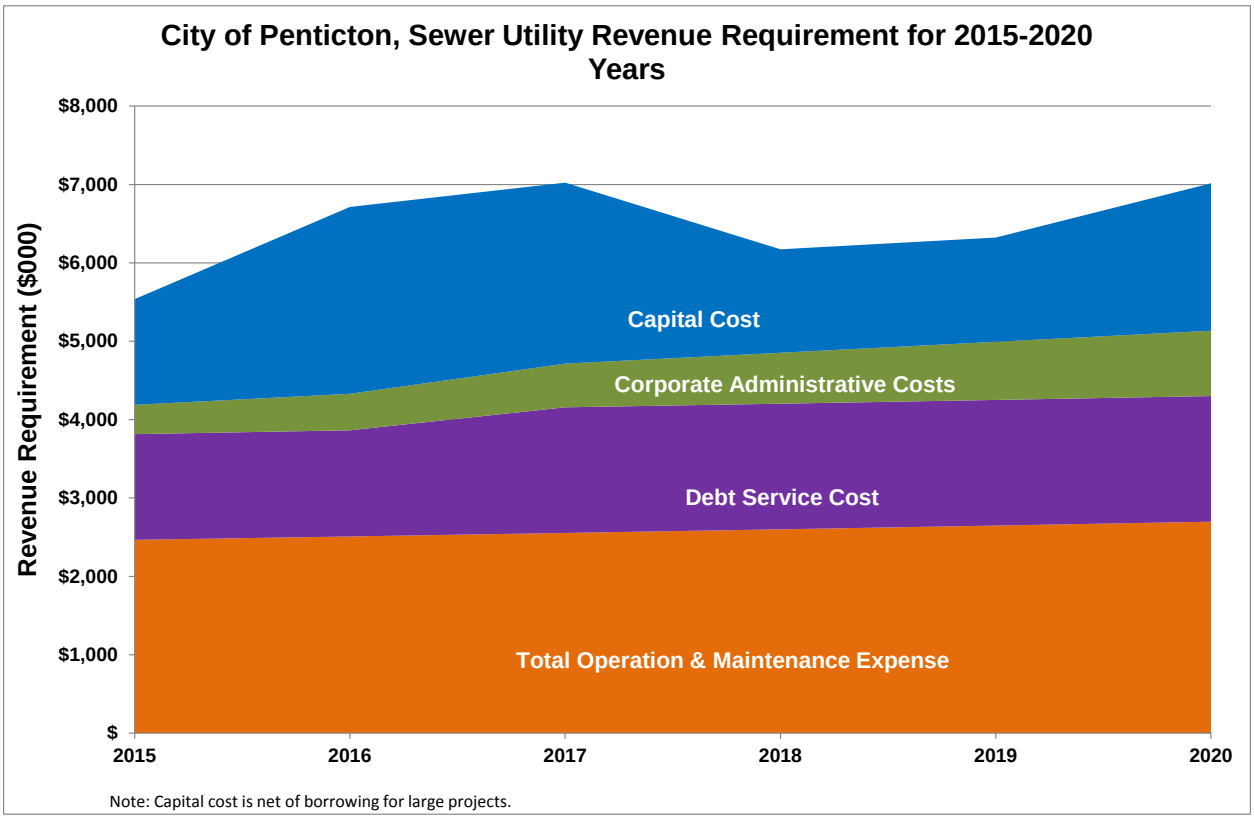


Table 5-2 and Figure 5-1 indicate that the City would require rate increases of approximately 8.78% annually in order to maintain minimum reserve balances and ensure sufficient revenues to fund operating costs and an average capital program. Key drivers of this increase include:

- **Capital costs:** Capital costs are a key driver of revenue requirement changes year over year. In particular, the North Penticton Interceptor – Fairway Road Treatment Plan ($2.1 million).
- **Corporate Administrative Costs:** The review of the allocation of corporate administrative costs indicated that the water utility should be allocated a larger share of administrative costs.

5.5 COST OF SERVICE

The sanitary sewer utility cost of service is separated to functions similar to the Water Utility. The functions are also similar to those used in the Cost-of-Service and Rate Design Methodology Review by the Halifax Regional Water Commission.[22] ("Halifax Methodology")

After the costs are functionalized, they are allocated to the Base Charge component, which includes Customer related and Base fixed charges related costs, and to a Discharge or Variable cost component. This is consistent with Halifax Methodology as well as similar to the approach noted in the Guidelines for Municipal Water Pricing by Environment Canada (1991).[23]

Currently the City charges a uniform fixed rate based on number of fixtures, plus a sewer levy on the property tax bill. It is recommended the City transition to a fixed and variable rate structure which would be charged based on water consumption. Therefore, the cost allocation step of the cost of service used the Water utility sales forecast. The equivalent meter size ratios from the AWWA Manual have been used for allocating fixed costs to the meter sizes, and summer/winter water consumption for variable portion of the costs.

Based on City water and sewer data and discussions with City staff, it is estimated that about 50% of the summer, April to September, water sales for residential customers are used for domestic irrigation and other uses that do not return water to the sewer system. 100% of water use in winter, October to March, are assumed to be returned to the sewer system.

Commercial and industrial water users have different use patterns. It is assumed commercial and industrial meter customers would be billed based on 100% of water their water usage every month. Individual commercial and industrial customers could apply to the City to have their water use adjusted to account for any non-sewer related water use. For modelling purposes it has been assumed that 90% of all year round water consumption would be billed for sanitary sewer use based on a certain number of customers receiving an exemption.

A revenue to cost coverage (RRC) ratio is calculated by dividing revenues from a class by the costs to serve that class. A RCC ratio of over 100% indicates that revenues exceed costs and that customers in that class are paying rates higher than the costs to serve them. A RCC ratio of less than 100% indicates that revenues do not fully recover that costs to serve that class of customers.

Table 5-3 provides a summary of the RCC ratio by meters size based on existing rates. Details of the cost of service study are provided in Appendix B.

[22] Available at Halifax municipal government website [accessed on August 27, 2015]. http://www.halifax.ca/hrwc/documents/CostofServiceandRateDesignMethodologyReviewandRecommendations.pdf, page 43.
[23] The copy of the guideline is available at http://www.obwb.ca/fileadmin/docs/water_pricing_guide.pdf [accessed on August 27, 2015].

Table 5-3:
City of Penticton Water Utility Revenue to Cost Ratio for 2015 and 2019 at Existing Rates

		2015 Forecast			2019 Forecast		
Meter Size	Number of Customers (2015 Forecast)	Revenue Forecast at Existing Rates, 2015 Includes Sewer Levy ($000)	100% COS Results ($000)	RCC Ratio	Revenue Forecast at Existing Rates, 2019 Excludes Sewer Levy ($000)	100% COS Results ($000)	RCC Ratio
		A	B	C=A/B	D	E=B	F=D/E
19mm (3/4 inch)	8,037	3,128	2,584	121.0%	3,316	3,239	102.4%
25mm (1 inch)	225	281	313	89.9%	300	384	78.2%
38mm (1 1/2 inches)	252	199	278	71.7%	212	582	36.5%
50mm (2 inches)	132	152	229	66.4%	162	671	24.2%
75mm (3 inches)	48	51	116	43.9%	54	498	10.9%
100mm (4 inches)	16	18	58	31.5%	19	317	6.1%
Total	**8,711**	**3,830**	**3,578**	**107.0%**	**4,065**	**5,691**	**71.4%**

Table 5-3 indicates the following results (based on the existing sanitary sewer rates):

- Residential customers, i.e. smaller meter sizes have higher than average RCC ratios, indicating current rates are recovering more than the average cost of service.
- Larger meter sizes, i.e. non-residential customers generally have lower than average RCC ratios, indicating current rates are recovering less than average cost of service.

These results arise primarily as a result of the existing fixed sewer rate structure that does not bill based on water consumption. The Proposed Rates section (Section 7) of this report provides RCC ratio based on proposed rates.

5.6 PEER CITY SANITARY SEWER RATE COMPARISON

A comparison of average monthly bills was prepared for Penticton and a sample of other communities. These results are illustrative only and should be interpreted with caution. Income disparity, ability to pay, and the degree to which sewer rates in some communities are funded through sewer charges compared to property taxes or other sources will vary.[24]

The monthly sewer bill comparison was based on the following assumptions:

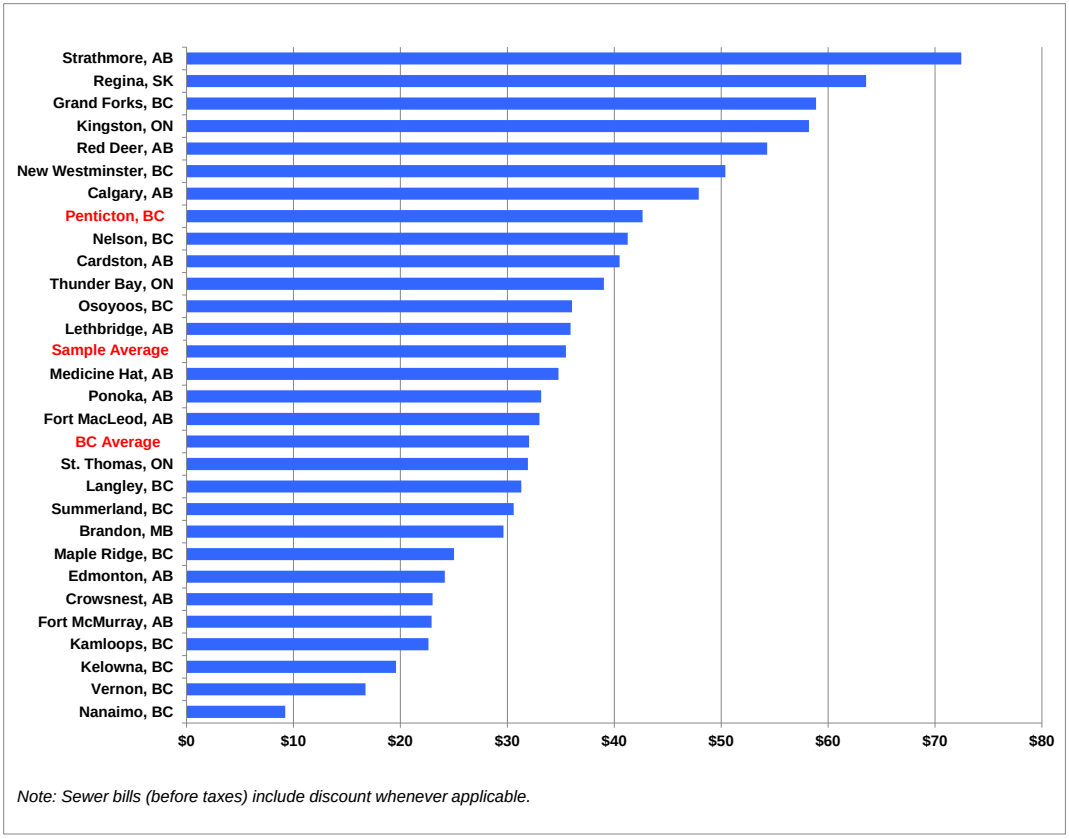
- Residential, Small Commercial and Large Commercial/Industrial
    - For Penticton, the 2015 bill is the average monthly fixture charges.
    - For other communities, sewer usages base on the amount of water used with specific assumption from each community.

[24] Some other municipalities also use parcel taxes to fund their sewer services. The tax component of the sanitary sewer charges were not included in the figures as it was not possible to extract it from what other municipalities charge through taxation. The combined monthly bill comparisons, which also includes property taxes, are provided in Section 8 of this report.

Figure 5-1 through 5-3 illustrates the sanitary sewer bill comparison:

- Residential – Average monthly sewer bill is $43, which is 20.2% ($7) higher than the average of all municipalities ($35) and 33.2% ($11) higher than the BC average ($32).
- Small Commercial - Average monthly sewer bill is $111, which is 41.7% ($79) lower than the average of all municipalities and the BC average ($190).
- Large Commercial/Industrial - Average monthly sewer bill is $141, which is 72.9% ($378) lower than the average of all municipalities ($519) and 73.1% ($382) lower than the BC average ($523).

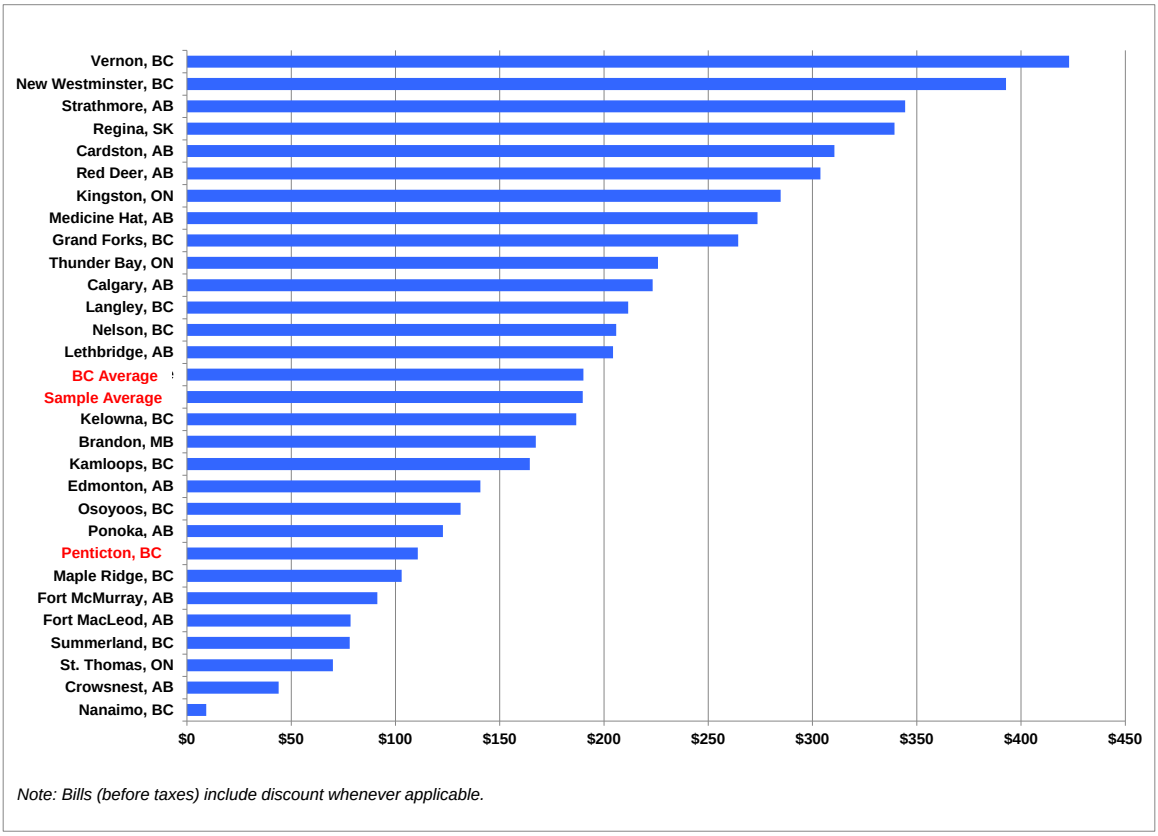
Figure 5-2:
Comparison of Residential Customer Average Monthly Sanitary Sewer Bill[25]



Note: Sewer bills (before taxes) include discount whenever applicable.

[25] All rates are for 2015 based on availability. Please see Appendix C for details.

Figure 5-3:
Comparison of Small Commercial Customer Average Monthly Sanitary Sewer Bill[26]

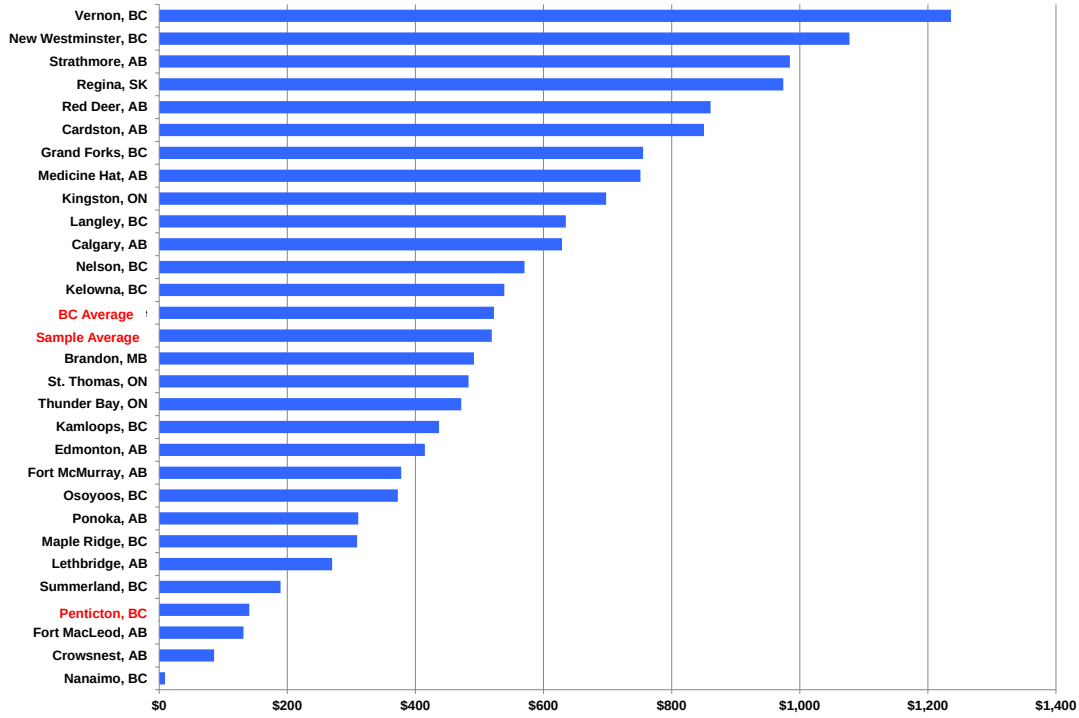


Note: Bills (before taxes) include discount whenever applicable.

[26] All rates are for 2015 based on availability. Please see Appendix C for details.

InterGroup CONSULTANTS

Figure 5-4:
Comparison of Large Commercial / Industrial Customer Average Monthly Sanitary Sewer Bill[27]



Note: Bills (before taxes) include discount whenever applicable.

[27] All rates are for 2015 based on availability. Please see Appendix C for details.

6.0 PUBLIC CONSULTATION SUMMARY

The following public consultation opportunities were provided during the course of the study:

- **Stakeholder workshops:** A small working group was established with some key stakeholders identified by the City. Presentations and discussions were held with members of this stakeholder group on April 15th, April 16th, July 27th and November 2, 2015.
- **Public open houses**: Public open houses were held August 24th at the City Council Chambers; August 25th at Cherry Lane Mall; and August 26th at the Penticton Library. The open houses included story boards with information about the rate study, surveys that participants could fill out and the opportunity to discuss results with City staff and the consultant.
- **City Website:** Information about the study was provided on the City's website and an online survey was available for interested parties to fill out.

6.1 SUMMARY OF PUBLIC COMMENTS

Utility Financial Sustainability

The survey asked respondents to indicate their level of support for ensuring utilities can finance their operating and capital costs through utility rates. A majority of respondents (65%) indicated they moderately to strongly supported this idea.

Overall there was concern expressed by most participants about the magnitude of the potential increases to customers. Participants all expressed an interest in the City examining ways to reduce the preliminary rate increases.

There was also support for planning for utility rate increases on a multi-year basis, so that customers have some ability to budget for more than one year out.

Borrowing for Capital Projects

Information was provided during the public consultation sessions that the City was facing increased capital spending requirements, particularly for the water and sewer utility. It was noted that continuing to finance large capital programs through cash each year would lead to requirements for large rate increases and draw down reserves.

A majority of survey respondents indicated they moderately to strongly supported using debt financing to fund large capital programs and smooth out rate increase requirements. Comments made in person at the open houses and stakeholder meetings also indicated a preference for debt financing over substantial rate fluctuations.

While most participants indicated a preference for borrowing to minimize large rate increases, many respondents also indicated they wanted to limit the extent to which the City borrows to fund utility capital projects. A majority of respondents indicated borrowing should be limited to no more than 30 to 50% of an annual capital program.

Monthly Billing

Currently the City bills customers monthly for electricity, twice per year for water service and once a year for sewer service. Survey respondents were asked if they would prefer to receive all their utility bills monthly. A majority of survey respondents indicated they would prefer to receive all their utility bills monthly.

Rate Rebalancing by Customer Class

During the public presentations information was provided that indicated different classes of customers were over or under contributing to utility revenues based on the existing rate structures. Survey respondents were asked to indicate what time period the adjustments should be made over. Most respondents indicated they would prefer to see the adjustments made over a three to five year period.

Electric Utility Dividend

The City currently receives a dividend of approximately $3.05 million annually from the electric utility. During the public consultation sessions, opinions were mixed on whether electricity ratepayers should pay rates that support a dividend. Some participants indicated they didn't think the utility customers should be making payments to the general reserve. Other participants indicated they accepted the idea, but wanted to ensure the payment was not out of line with payments made by other utilities to their shareholders. Survey respondents supported the

Institutional Customer Class

Survey respondents were asked if they supported the creation of an institutional class of customers including schools and hospitals that would pay a lower rate than commercial or industrial customers. Support for this concept was mixed with some indicating they did not support this idea and some indicating some level of support. Other participants commented that they didn't think the City utilities should be subsidizing provincial government services.

School District 67 indicated in their view an institutional rate could be implemented by lowering the dividend paid from the electric utility to the City, without a corresponding increase to other customers.

Sewer Rate Structure

Information was provided on a potential change to the sewer rate structure, from the existing fixture charge to a combination of a fixed charge and a variable charge based on water consumption, adjusted for irrigation use. A majority of survey respondents supported this change.

Some participants noted the proposed change in the sewer rate structure should be phased in, because it was a substantial change compared to what customers are used to.

Some participants expressed concern with the proposed 50% reduction in water consumption used for billing purposes for sewer rates during summer months. Some respondents expressed concern that this would provide too much of an advantage to large water users. Some respondents suggested billing for sewer service by excluding use during summer months.

Administration Fee

Information was provided on the administration fee charged to the utilities to recover the costs of providing financial reporting, billing and collections, information technologies and other services. Some participants indicated they felt the City's current charges over-collected fees from the electric utility.

Concern was also expressed by some participants that the City could not justify its administration charges to the utilities or how they were allocated to each utility. Some respondents noted variations in the forecast administration charges and questioned the credibility of the forecasts. Some respondents suggested allocating administration charges based on effort rather than revenues was an improvement, but still not ideal.

There were also concerns expressed about how the City would recover the administration costs it used to charge to the utilities, if those charges were reduced.

Bill Comparisons and Jurisdiction Comparisons

It was noted bill comparisons for a larger variety of customer use levels would be helpful. It was also commented that the comparisons of municipal property taxes paid in different municipalities are not useful because property values are different across municipalities.

Other Comments

Other comments and questions provided by participants included:

- A perspective was noted that the City should have included consideration of municipal tax rates in the study. Some participants noted the City has recently lowered the multiplier on municipal taxes for commercial and industrial properties. It was also noted that residential customers may have the ability to defer taxes, but cannot defer paying utility bills. It was noted this should have been considered in the study.
- A perspective was noted that the City should improve its budgeting process and accuracy.
- The City should consider selling the electric utility to FortisBC, noting that Kelowna had recently sold their electric utility.
- It was noted that seniors, people with low income and seasonal workers have less ability to pay utility bills than businesses and industrial customers. Participants asked that the City consider this in setting utility rates.
- Questions were asked about how the report would be implemented. It was noted the final report would be reviewed with City staff and at a Council meeting.
- Some respondents indicated they appreciated the information provided and trusted the City to manage the utilities in a sustainable way.
- Some respondents expressed their view that they believed the City had already determined the outcome it wanted and would not listen to public input.

- Some respondents provided their view that the City should be doing more to conserve electricity and water (for example, maintaining sprinklers so there is less water used). Climate change adaptation was also raised by some respondents as an issue the City should be including in its utility planning.

- Some respondents expressed concern that the survey questions were not fairly worded and more neutral language should be used.

6.2 ADJUSTMENTS MADE FOLLOWING PUBLIC CONSULTATION

Based on comments received during the public consultation process, the following changes were made to proposed rates and recommendations:

- Capital plans were reviewed by the City to determine whether certain projects could be delayed or deferred to reduce the need for rate increases. City staff reviewed capital budgets and adjustments were made that reduced the overall revenue requirement for the utilities in the 5-year budgets.

- Borrowing for capital projects was revised to limit borrowing to large expansion or enhancement projects. This, coupled with the deferral of some larger capital projects reduced the debt requirements forecast for the utilities. Table 6-1 below provides a new borrowing schedule by utility and by year.

- Administrative costs were reviewed and reduced for the water and sewer utilities compared to preliminary figures prepared in July of 2015.

- A proposed delay in implementing new sewer rate structure until 2017 to provide an opportunity for the City to undertake necessary adjustments to billing procedures and additional customer discussions related to the new sewer rate structure.

Table 6-1[28]:
City of Penticton Water and Sanitary Sewer Utilities Proposed New Borrowing for 2016-2020

Forecast Annual Borrowing	Water Utility ($)	Sewer Utility ($)
2016	50,000	50,000
2017	2,547,000	2,140,000
2018	-	-
2019	1,775,000	-
2020	2,799,000	-
2016-2020 Total	**7,171,000**	**2,190,000**

[28] Based on proposed borrowing for the large projects. The numbers are subject to rounding.

7.0 PROPOSED RATES

Rate design is the method by which utilities set rates to recover the costs of providing service to customers. Rate design seeks to balance a number of objectives that sometimes compete with each other. There are many possible rate designs for any utility that will recover the required revenue. The objective in a rate design study is to calculate rates that represent a reasonable balance between different rate design objectives.

With respect to electricity rates, the review of comparison communities indicated that Penticton's current electricity rates are somewhat higher than many comparable communities. Going forward, as outlined in Section 3, average annual rate increases for the electric utility are proposed that are lower on average (3.19%) than anticipated wholesale rate adjustments from Fortis BC at 4.62% in 2016, and 5.75%/year for 2017 to 2020.[29]

With respect to rates for the water and sewer utilities, The British Columbia Water and Waste Association (BCWWA) published a Position Statement by on water service rate setting which notes the following:[30]

> BC Water & Waste Association advocates that all water and wastewater utilities implement full cost recovery rates designed to meet community objectives and promote fairness. In areas with limited resources, it may be appropriate to develop phase-in strategies to transition to full cost recovery in the near to mid-term.

A February 2015 BC Water and Waste Association report notes that the majority of BC municipalities are charging annual water and wastewater rates below the full cost required to operate, maintain and replace the systems. The report also indicates that for municipalities with population between 25,000 and 50,000, rates would need to be increased by up to 19% for lower quartile utilities in order for revenues to cover expenses including replacement costs for water utility and up to 66% for sewer utility.[31] The proposed rates for City of Penticton water and sanitary sewer utilities are designed to achieve financial sustainability for each utility so the rate revenues cover the full cost required to operate, maintain and replace the systems based on 2015-2020 forecast capital and operating cost forecasts. Steps were taken in the rate review process in order to smooth required rate increases over the years.[32]

Based on the review of cost of service studies, discussions with City staff and comments received from the public, proposed rates for each utility were designed based on the following criteria:

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[29] Purchase power increases shown in Section 3 include the effect of anticipated rate adjustments plus an allowance for load growth.

[30] Adopted by the BCWWA Board of Directors on June 2, 2013. Available at http://www.bcwwa.org/resourcelibrary/RateSetting%20Position%20Statement%20rev%20%2024-06-2013_final.pdf [accessed on August 25, 2015].

[31] "Are our Water Systems at Risk? Assessing the Financial Sustainability of BC's Municipal Water and Sewer Systems" February 2015, BCWWA, http://bcwwa.org/resourcelibrary/Are%20Our%20Water%20Systems%20at%20Risk%20-%20Full%20Report.pdf [accessed on August 25, 2015].

[32] For example, large capital projects are proposed to be financed through long-term debt, which reduces burden to a specific year; smooth annual rate increases as possible and cover annual shortfalls in some years through reserve balances [e.g. Sanitary Sewer utility average annual rate increase of 8.78% for 2016-2020 and annual shortfalls for 2016-2018 years are covered through reserve balance and get full revenue requirement recovery in 2019].

1. Ensure rates are sufficient to maintain at least minimum reserve balance in each year.
2. Ensure rates are sufficient to recover the full utility revenue requirement including an average annual capital program by 2020.
3. Phase-in changes to Administration and Electric Utility Dividend by 2020.
4. Target rates for each rate class equal to cost of service by 2020.
5. No class rate revenue decreases in any year for any rate classes.
6. To extent feasible, have similar average year over year rate increases.
7. Propose delay in implementing new sewer rate structure until 2017.

7.1 ELECTRICITY RATE STRUCTURE

Table 7-1 summarizes proposed rates for the Electric utility for 2016 to 2020.

Table 7-1:
City of Penticton Electric Utility Proposed Rates for 2016-2020

Rate Class	July 1, 2015 Existing Rates							2016 Proposed Rates						
	Basic Charge ($/ m/ cust.)	Demand ($/kVA)	Energy (¢/kW.h)				Fixture Watt or Volt Ampere (¢/W or ¢/VA)	Basic Charge ($/ m/ cust.)	Demand ($/kVA)	Energy (¢/kW.h)				Fixture Watt or Volt Ampere (¢/W or ¢/VA)
			All KW.h	First 10,000 KW.h	Next 90,000 KW.h	> 100,000 KW.h				All KW.h	First 10,000 KW.h	Next 90,000 KW.h	> 100,000 KW.h	
Rate Code 10 - Residential	17.19		11.81					17.58		12.33				
Rate Code 15 - Residential/Special Service	17.19		13.58					17.58		14.16				
Rate Code 20 - General - Sec. Met. and City Owned Transf.	17.19	9.78		13.87	10.92	7.65		17.58	9.94		14.09	11.10	7.78	
Rate Code 25 - General - Prim. Met. and City Owned Transf.	17.19	9.62		13.67	10.74	7.56		17.58	9.79		13.88	10.93	7.66	
Rate Code 30 - General - Sec. Met. and Cust. Owned Transf.	17.19	8.89		13.87	10.92	7.65		17.58	9.05		14.09	11.10	7.78	
Rate Code 35 - General - Prim. Met. and Cust. Owned Transf.	17.19	8.75		13.67	10.75	7.56		17.58	8.91		13.88	10.93	7.66	
Rate Code 45 - General - City Accounts			8.06							8.73				
Rate Code 55 - Street Lighting & Other Un-metered Loads - per fixture watt or volt ampere							8.99							9.77
Rate Code 55 - Street Lighting & Other Un-metered Loads - based on name plate data							16.99							18.46

Rate Class	2017 Proposed Rates							2018 Proposed Rates						
	Basic Charge ($/ m/ cust.)	Demand ($/kVA)	Energy (¢/kW.h)				Fixture Watt or Volt Ampere (¢/W or ¢/VA)	Basic Charge ($/ m/ cust.)	Demand ($/kVA)	Energy (¢/kW.h)				Fixture Watt or Volt Ampere (¢/W or ¢/VA)
			All KW.h	First 10,000 KW.h	Next 90,000 KW.h	> 100,000 KW.h				All KW.h	First 10,000 KW.h	Next 90,000 KW.h	> 100,000 KW.h	
Rate Code 10 - Residential	18.14		12.84					18.72		13.37				
Rate Code 15 - Residential/Special Service	18.14		14.74					18.72		15.34				
Rate Code 20 - General - Sec. Met. and City Owned Transf.	18.14	10.09		14.29	11.26	7.89		18.72	10.23		14.49	11.43	8.01	
Rate Code 25 - General - Prim. Met. and City Owned Transf.	18.14	9.93		14.08	11.09	7.77		18.72	10.08		14.27	11.26	7.89	
Rate Code 30 - General - Sec. Met. and Cust. Owned Transf.	18.14	9.18		14.29	11.26	7.89		18.72	9.31		14.49	11.43	8.01	
Rate Code 35 - General - Prim. Met. and Cust. Owned Transf.	18.14	9.04		14.08	11.09	7.77		18.72	9.17		14.27	11.26	7.89	
Rate Code 45 - General - City Accounts			9.53							10.41				
Rate Code 55 - Street Lighting & Other Un-metered Loads - per fixture watt or volt ampere							10.71							11.74
Rate Code 55 - Street Lighting & Other Un-metered Loads - based on name plate data							20.24							22.19

Table 7-1:
City of Penticton Electric Utility Proposed Rates for 2016-2020 (continued)

Rate Class	2019 Proposed Rates							2020 Proposed Rates						
	Basic Charge ($/ m/ cust.)	Demand ($/kVA)	Energy (¢/kW.h)				Fixture Watt or Volt Ampere	Basic Charge ($/ m/ cust.)	Demand ($/kVA)	Energy (¢/kW.h)				Fixture Watt or Volt Ampere
			All KW.h	First 10,000 KW.h	Next 90,000 KW.h	> 100,000 KW.h				All KW.h	First 10,000 KW.h	Next 90,000 KW.h	> 100,000 KW.h	
Rate Code 10 - Residential	19.32		13.92					19.94		14.35				
Rate Code 15 - Residential/Special Service	19.32		15.97					19.94		16.47				
Rate Code 20 - General - Sec. Met. and City Owned Transf.	19.32	10.38		14.69	11.59	8.12		19.94	10.71		15.15	11.96	8.38	
Rate Code 25 - General - Prim. Met. and City Owned Transf.	19.32	10.23		14.47	11.42	8.00		19.94	10.55		14.93	11.78	8.25	
Rate Code 30 - General - Sec. Met. and Cust. Owned Transf.	19.32	9.45		14.69	11.59	8.12		19.94	9.75		15.15	11.96	8.38	
Rate Code 35 - General - Prim. Met. and Cust. Owned Transf.	19.32	9.31		14.47	11.42	8.00		19.94	9.60		14.93	11.78	8.25	
Rate Code 45 - General - City Accounts			11.37							11.73				
Rate Code 55 - Street Lighting & Other Un-metered Loads - per fixture watt or volt ampere							12.87							14.11
Rate Code 55 - Street Lighting & Other Un-metered Loads - based on name plate data							24.32							26.67

Table 7-2 illustrates RCC ratios for 2019 at proposed rates.

Table 7-2[33]:
City of Penticton Electric Utility Revenue to Cost Ratio for 2019 at Proposed Rates

Rate Class	2019 Forecast		
	Revenue Forecast at Proposed Rates ($000)	100% COS Results ($000)	RCC Ratio
	A	B	C=A/B
Residential [Rate Codes 10 & 15]	24,620	24,609	100%
General Service [Rate Codes 20, 25, 30 &35]	18,015	18,026	100%
Rate Code 45 - General - City Accounts	1,986	1,986	100%
Street Lighting	204	204	100%
Traffic Lighting	6	6	100%
Total	**44,831**	**44,831**	**100%**

7.2 WATER RATE STRUCTURE

Table 7-3 illustrate proposed rates for the Water utility for 2016 to 2020.

[33] The total of $44.831 million in the table reflects net revenue requirement after transfers from electrical reserve to fund capital projects.

Table 7-3:
City of Penticton Water Utility Proposed Rates for 2016-2020

	2015 Existing Rates			2016 Proposed Rates			2017 Proposed Rates		
	Basic Charge ($/ month/ customer)	Variable Charge ($/100 cubic feet)	Unmetered Monthly Charge ($/ month/ customer)	Basic Charge ($/ month/ customer)	Variable Charge ($/100 cubic feet)	Unmetered Monthly Charge ($/ month/ customer)	Basic Charge ($/ month/ customer)	Variable Charge ($/100 cubic feet)	Unmetered Monthly Charge ($/ month/ customer)
Treated Water									
19mm (3/4 inch)	19.77	1.67	33.25	23.19	1.86	38.22	26.92	2.08	43.68
25mm (1 inch)	42.37	1.67	68.80	56.42	1.86	85.89	75.13	2.08	107.99
38mm (1 1/2 inches)	125.03	1.67	204.20	133.36	1.86	221.64	142.25	2.08	240.68
50mm (2 inches)	275.18	1.67	442.26	298.64	1.86	484.94	324.11	2.08	531.83
75mm (3 inches)	790.06	1.67	1,300.57	784.02	1.86	1,353.24	778.04	2.08	1,412.71
100mm (4 inches)	1,736.28	1.67	2,820.64	1,684.84	1.86	2,893.90	1,634.92	2.08	2,983.03

	2018 Proposed Rates			2019 Proposed Rates			2020 Proposed Rates		
	Basic Charge ($/ month/ customer)	Variable Charge ($/100 cubic feet)	Unmetered Monthly Charge ($/ month/ customer)	Basic Charge ($/ month/ customer)	Variable Charge ($/100 cubic feet)	Unmetered Monthly Charge ($/ month/ customer)	Basic Charge ($/ month/ customer)	Variable Charge ($/100 cubic feet)	Unmetered Monthly Charge ($/ month/ customer)
Treated Water									
19mm (3/4 inch)	28.80	2.17	46.30	30.60	2.26	48.87	32.39	2.36	51.48
25mm (1 inch)	92.58	2.17	126.90	114.97	2.26	150.80	121.71	2.36	159.13
38mm (1 1/2 inches)	141.12	2.17	243.91	139.70	2.26	247.04	147.89	2.36	259.98
50mm (2 inches)	324.92	2.17	541.84	329.27	2.26	555.80	348.58	2.36	585.13
75mm (3 inches)	750.32	2.17	1,413.11	721.39	2.26	1,413.52	691.17	2.36	1,413.95
100mm (4 inches)	1,580.05	2.17	2,987.85	1,522.74	2.26	2,992.88	1,462.90	2.36	2,998.14

Table 7-4 below illustrates RCC ratios for 2019 at proposed rates. The higher RCC ratio for 3 and 4 inch meter sizes are due to assumed no net class revenue decreases in 2018 and 2019 for those meter sizes (about $0.07 million additional transfer to Water Utility reserve).

Table 7-4:
City of Penticton Water Utility Revenue to Cost Ratio for 2019 at Proposed Rates

	2019 Forecast		
Rate Class	**Revenue Forecast at Proposed Rates ($000)**	**100% COS Results ($000)**	**RCC Ratio**
	A	**B**	**C=A/B**
Treated Water			
19mm (3/4 inch)	4,759.8	4,759.6	100.0%
25mm (1 inch)	591.3	591.3	100.0%
38mm (1 1/2 inches)	788.8	788.8	100.0%
50mm (2 inches)	1,014.8	1,014.8	100.0%
75mm (3 inches)	769.6	736.8	104.4%
100mm (4 inches)	514.0	479.3	107.2%
Total Treated Water	**8,438**	**8,371**	**101%**

7.3 SANITARY SEWER RATE STRUCTURE

Table 7-5 illustrate proposed rates for Sanitary Sewer utility for 2016 to 2020.

Table 7-5:
City of Penticton Sanitary Sewer Utility Proposed Rates for 2016-2020

	2015 Existing Fixtures Charges		2016 Proposed Fixtures Charges		2017 Proposed Rates	
	Not Exceeding Six Fixtures, $/year	In Excess of Six Fixtures, $/year/fixture [for each additional fixture]	Not Exceeding Six Fixtures, $/year	In Excess of Six Fixtures, $/year/fixture [for each additional fixture]	Monthly Fixed Charge, $/month/customer	Variable Charge (Residential 100% of Winter and 50% of Summer usage; Non-Residential 100% year-round use), $/100 cubic feet
19mm (3/4 inch)	$141.00	$25.70	$153.38	$27.96	$15.41	$2.23
25mm (1 inch)	$141.00	$25.70	$153.38	$27.96	$25.69	$2.23
38mm (1 1/2 inches)	$141.00	$25.70	$153.38	$27.96	$51.37	$2.23
50mm (2 inches)	$141.00	$25.70	$153.38	$27.96	$82.19	$2.23
75mm (3 inches)	$141.00	$25.70	$153.38	$27.96	$179.80	$2.23
100mm (4 inches)	$141.00	$25.70	$153.38	$27.96	$323.64	$2.23

	2018 Proposed Rates		2019 Proposed Rates		2020 Proposed Rates	
	Monthly Fixed Charge, $/month/customer	Variable Charge (Residential 100% of Winter and 50% of Summer usage; Non-Residential 100% year-round use), $/100 cubic feet	Monthly Fixed Charge, $/month/customer	Variable Charge (Residential 100% of Winter and 50% of Summer usage; Non-Residential 100% year-round use), $/100 cubic feet	Monthly Fixed Charge, $/month/customer	Variable Charge (Residential 100% of Winter and 50% of Summer usage; Non-Residential 100% year-round use), $/100 cubic feet
19mm (3/4 inch)	$16.76	$2.45	$19.91	$2.52	$21.66	$2.77
25mm (1 inch)	$27.94	$2.45	$33.19	$2.52	$36.10	$2.77
38mm (1 1/2 inches)	$55.88	$2.45	$66.38	$2.52	$72.20	$2.77
50mm (2 inches)	$89.41	$2.45	$106.20	$2.52	$115.53	$2.77
75mm (3 inches)	$195.59	$2.45	$232.32	$2.52	$252.71	$2.77
100mm (4 inches)	$352.05	$2.45	$418.17	$2.52	$454.88	$2.77

Notes:

1. The winter months for the billing purposes are October through March.
2. Non-residential customers will be charged at 100% of their annual water consumption. However it is recommended the City develop a process by which non-residential customers can apply to have their water consumption modified for sewer billing purposes where they can demonstrate that water use is not returned to the sewer system.
3. It is recommended that the City develop a flat rate for sewer customers who do not take water service from the City.
4. It is recommended that the City identify the customers with water service, but without a sewer service to exclude them from sewer bills.

Table 7-6 below illustrates RCC ratios for 2019 at proposed rates.

Table 7-6:
City of Penticton Sanitary Sewer Utility Revenue to Cost Ratio for 2019 at Proposed Rates

	2019 Forecast		
Meter Size	Revenue Forecast at Proposed Rates ($000)	100% COS Results ($000)	RCC Ratio
	A	B	C=A/B
19mm (3/4 inch)	3,239	3,239	100%
25mm (1 inch)	384	384	100%
38mm (1 1/2 inches)	582	582	100%
50mm (2 inches)	671	671	100%
75mm (3 inches)	498	498	100%
100mm (4 inches)	317	317	100%
Total	**5,691**	**5,691**	**100%**

8.0 PEER CITY COMPARISONS ELECTRICAL, WATER, SANITARY SEWER AND TAXES

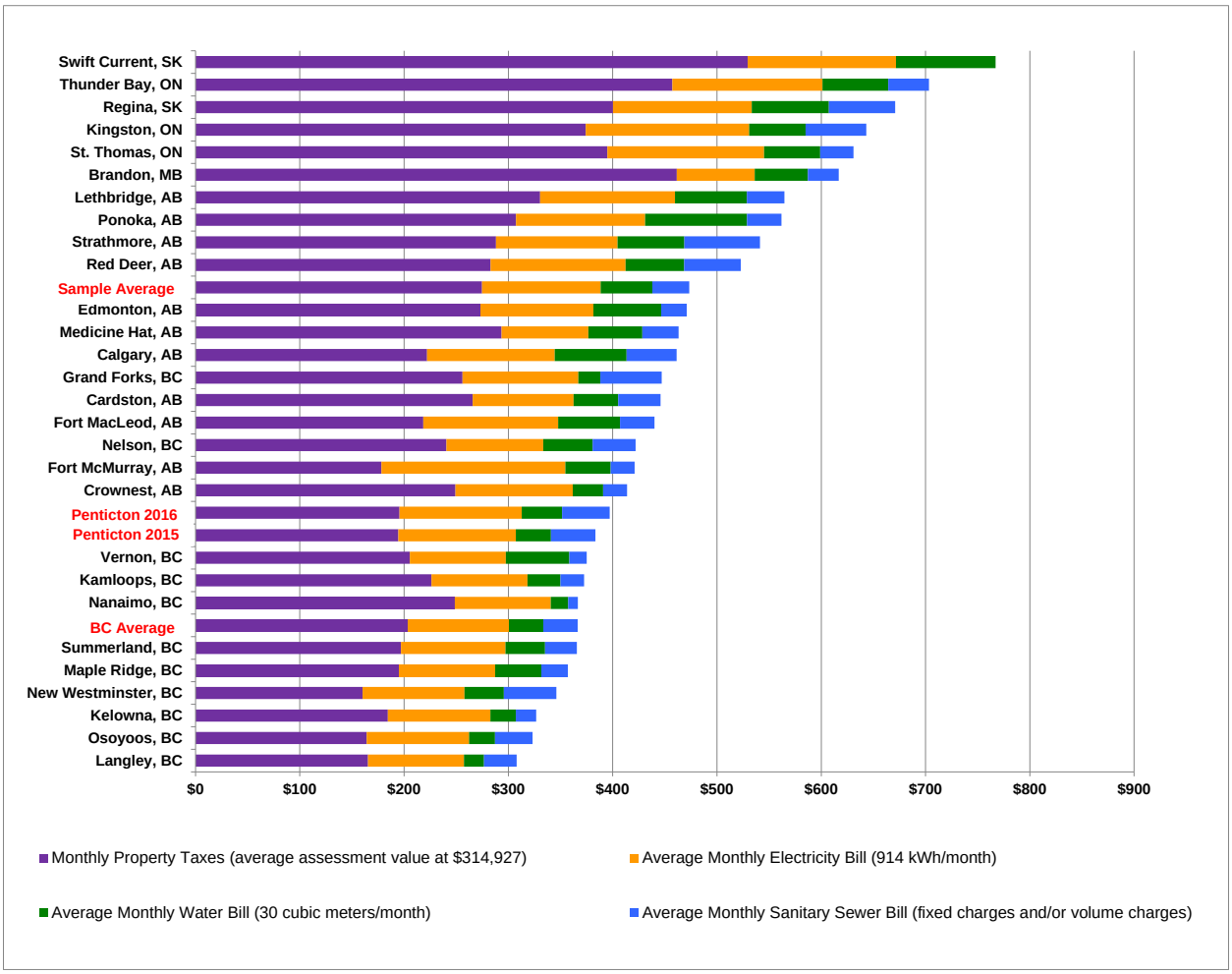
A comparison of combined electrical, water, sanitary sewer and property tax bill comparisons was undertaken for Penticton and a sample of other communities in Canada. These results are illustrative only and should be interpreted with caution. Income disparity, ability to pay, and the degree to which sewer rates in some communities are funded through sewer charges compared to property taxes or other sources will vary.

The results are provided in Figure 8-1 through Figure 8-3 and indicate the following:

- Residential – Average monthly consolidated bill is $383, which is 19.0% ($90) lower than the average of all municipalities ($474) and 4.7% ($17) higher than the BC average ($366).
- Small Commercial - Average monthly consolidated bill is $2,168, which is 18% ($474) lower than the average of all municipalities ($2,642) and 12.7% ($315) lower than the BC average ($2,483).
- Large Commercial/Industrial - Average monthly consolidated bill is $7,437, which is 0.3% ($22) higher than the average of all municipalities ($7,416) and 6.1% ($431) higher than the BC average ($7,007).

Electricity costs are generally the highest cost item for industrial customers. From an economic development perspective, the City may want to focus on ensuring electricity rates for industrial customers match the costs of serving these customers.

Figure 8-1:
Comparison of Residential Customer Average Monthly Consolidated Bill[34]



[34] All rates are for 2015 based on availability, property taxes for 2014. Please see Appendix C for details.

Figure 8-2:
Comparison of Small Commercial Customer Average Monthly Consolidated Bill[35]

[35] All rates are for 2015 based on availability, property taxes for 2014. Please see Appendix C for details.

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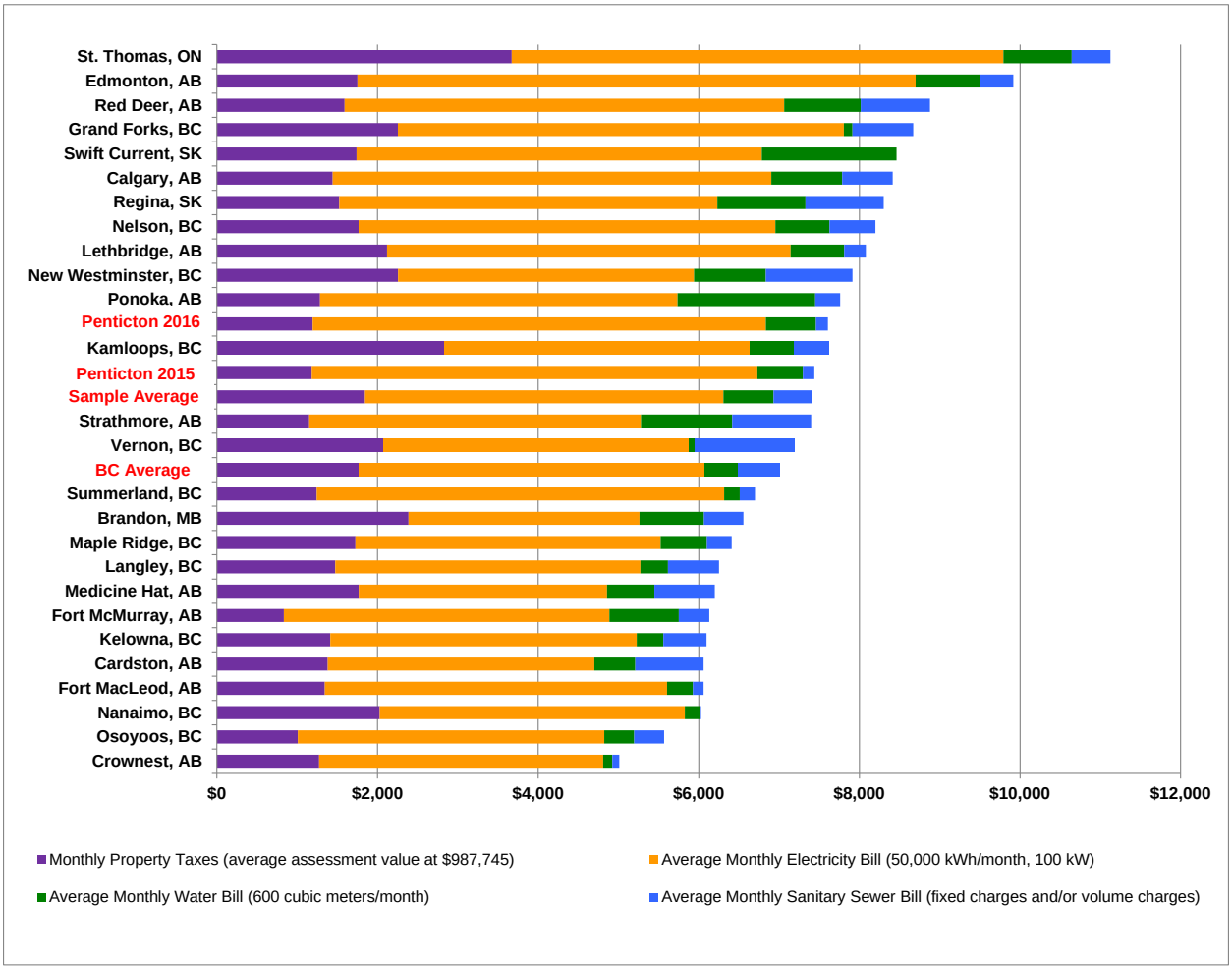
Figure 8-3:
Comparison of Large Commercial / Industrial Customer Average Monthly Consolidated Bill[36]



[36] All rates are for 2015 based on availability, property taxes for 2014. Please see Appendix C for details.

9.0 CUSTOMER BILL COMPARISONS WITH PROPOSED RATES

Figure 9-1 through 9-3 illustrate the combined electricity, water and sewer bills with existing rates for 2015 and proposed rates for 2016 to 2020. It should be noted that there is some difficulty in estimating the effect of the transition from the current sewer fixture charges to the proposed fixed and variable rate structure because the differences between the tax structure data and the utility billing data.

Residential

- Bill comparisons are prepared for a representative customer with 914 kWh/month electricity consumption, 30 cubic meters/month water consumption, and for sewer utility assuming averaged number of fixtures for 2015 and 2016 bills, and sewer bills based on fixed and variable rates for 2017 through 2020 bills [all water consumption in winter, October to March, and 50% of water consumption in summer].
- Customers currently paying $189 per month for their combined utility bills will see a 6.6% increase in 2016, followed by a 4.4% decrease in 2017 and an increase of 4.5%-5.4% for 2018 through 2020:
    - Customers currently paying $113 per month for electricity bill will see an average increase of 4.0% for 2016 through 2019 and an increase of 3.2% in 2020.
    - Customers currently paying $34 per month for water bill will see 15% and 14% increases for 2016 and 2017, followed by an average increase of 5.5% for 2018 through 2020.
    - Customers currently paying $43 per month for sewer bill will see a 6.8% increase in 2016, a 41.7% decrease in 2017, and an average increase of 9.9% for 2018 through 2020.

Small Commercial

- Bill comparisons are prepared for a representative customer with 5,000 kWh/month electricity consumption, 200 cubic meters/month water consumption, and for sewer utility assuming averaged number of fixtures for 2015 and 2016 bills, and sewer bills based on fixed and variable rates for 2017 through 2020 bills [100% all water consumption].
- Customers currently paying $969 per month for their combined utility bills will see an average annual increase of 4.1% for 2016 through 2020 [ranging between 2.5% and 7.1%]:
    - Customers currently paying $639 per month for electricity bill will see an average increase of 1.5% for 2016 through 2019 and an increase of 3.2% in 2020.
    - Customers currently paying $219 per month for water bill will see a 9.1% increase in 2016 and 2017, 1.9% increase in 2018 and 2019, and 5.1% increase in 2020.
    - Customers currently paying $111 per month for sewer bill will see a 5.2% increase in 2016, a 34.5% increase in 2017, and an average increase of 8.9% in 2018 to 2020.

Large Commercial / Industrial

- Bill comparisons are prepared for a representative customer with 50,000 kWh/month electricity consumption, 600 cubic meters/month water consumption, and for sewer utility assuming averaged number of fixtures for 2015 and 2016 bills, and sewer bills based on fixed and variable rates for 2017 through 2020 bills [100% all water consumption].

- Customers currently paying $6,257 per month for their combined utility bills will see an average annual increase of 3.1% for 2016 through 2020 [ranging between 1.9% and 5.4%]:

    - Customers currently paying $5,550 per month for electricity bill will see an average increase of 1.5% for 2016 through 2019 and an increase of 3.2% in 2020.

    - Customers currently paying $566 per month for water bill will see a 10.2% increase in 2016 and 2017 and an average increase of 3.6% in 2018 to 2020.

    - Customers currently paying $141 per month for sewer bill will see a 6.1% increase in 2016, a 133.6% increase in 2017, and an average increase of 8.5% in 2018 to 2020.

Figure 9-1:
City of Penticton Residential Bill Comparison for 2015 through 2020

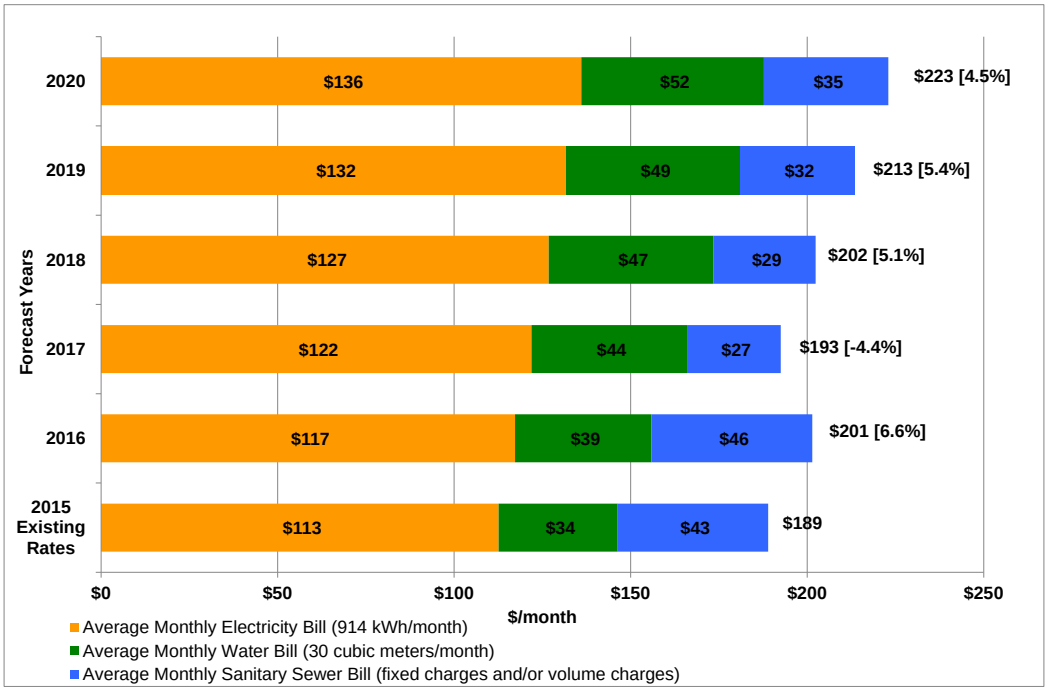


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Figure 9-2:
City of Penticton Small Commercial Bill Comparison for 2015 through 2020

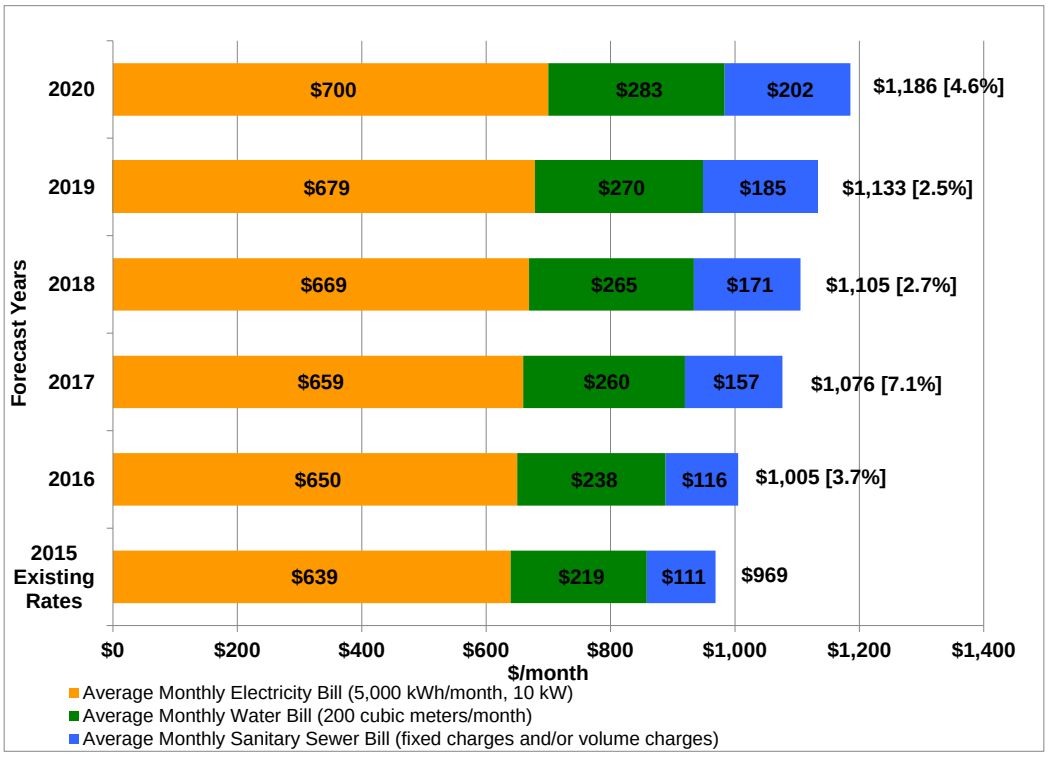
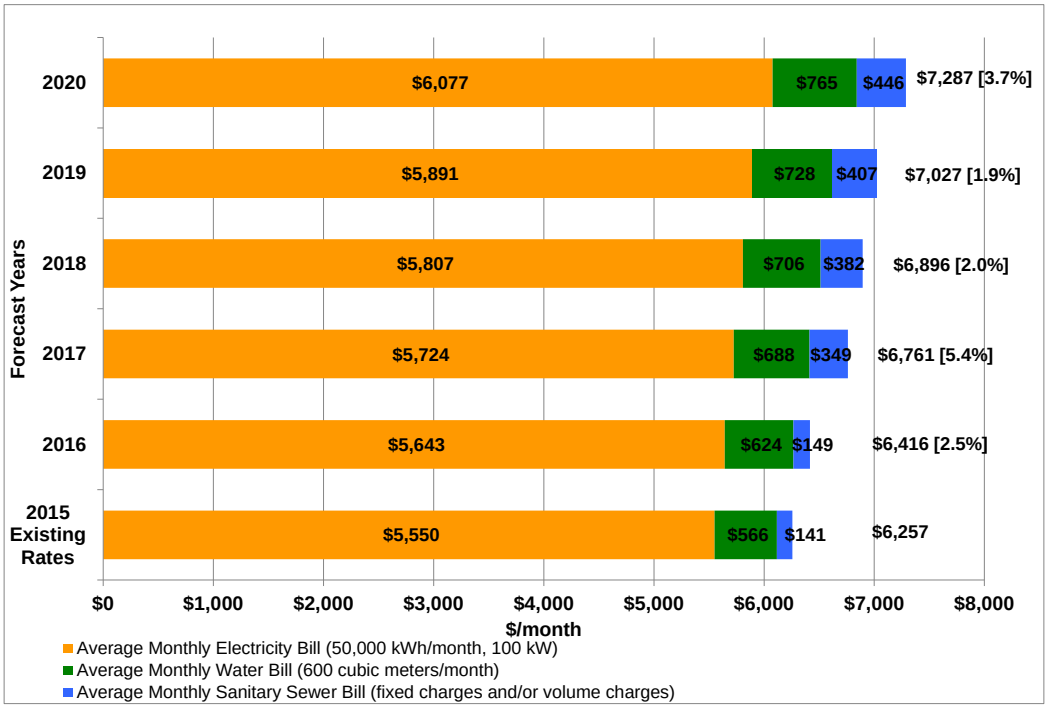


Figure 9-3:
City of Penticton Large Commercial / Industrial Bill Comparison for 2015 through 2020



10.0 IMPLEMENTATION PLAN AND RATE ADJUSTMENT POLICY

It is recommended the City adopt the following process for implementing the rates proposed in this report:

1. City Council adopt the electrical, sewer and water rates schedules for the 2016 to 2020 as presented in Section 7 of this report.

2. The current Rate Setting Policy be eliminated and that the proposed rates be reviewed each year as part of the annual budget process to address any unexpected costs or changes in revenues. It is also anticipated that this alignment with the City's annual budget process will enable residents to consider proposed changes to utility rates in the context of other City budget and revenue changes.

3. The City undertake a detailed review of revenues and costs after three years, to ensure rates continue to fairly reflect the costs to serve each customer class. Future detailed rate studies should be prepared based on a 3 to 5-year forward looking basis to provide customers with some predictability about future rate changes.

4. It is recommended the City transition to monthly billing for water, sewer and electrical service.

5. It is recommended the City delay implementing the transition from the fixture charge for sewer rates to the two part fixed and variable rate structure until 2017. This will allow the City an opportunity to ensure the billing system transition can be completed and the changes to the rate structure be communicated to customers.

11.0 SUMMARY CONCLUSIONS AND RECOMMENDATIONS

It is recommended the City adopt the following recommendations as a result of this study:

1. City Council adopt the electrical, sewer and water rates schedules for the 2016 to 2020 as presented in Section 7 of this report. Rates were designed to reflect a balance of the following rate design criteria:

    a. Ensure utility rates are sufficient to maintain at least minimum reserve balances in each year.

    b. Ensure utility rates are sufficient to recover the full utility revenue requirements including an average annual capital program by 2020.

    c. Finance a portion of major expansions and upgrades in capital programs for the water and sanitary sewer utilities in order to smooth out the required rate increases.

    d. Phase in changes to Administration Fees and Electric Utility Dividend by 2020.

    e. Target utility rates for each rate class equal to the cost of service by 2020.

    f. Implement a new sanitary sewer rate structure based on treated water use in 2017.

2. Rescind the current Rate Setting Policy and review the proposed rates each year as part of the annual budget process to address any unexpected costs or changes in revenues. It is also anticipated that this alignment with the City's annual budget process will enable residents to consider proposed changes to utility rates in the context of other City budget and revenue changes, such as property taxes.

3. The City undertake a detailed review of revenues and costs after three years, to ensure rates continue to fairly reflect the costs to serve each customer class. Future detailed rate studies should be prepared based on a three to five year forward looking basis to provide customers with some predictability about future rate changes.

4. It is recommended the City transition to monthly billing for water, sewer and electrical service.

5. It is recommended that the City not adopt an Institutional Utility Rate.

6. It is recommended that the City not implement an increasing block rate structure for residential electrical rates and water use.

7. It is recommended that for future capital planning, the City conduct an analysis of the replacement cost of its utility assets and ensure its capital budgets are sufficient to address ongoing requirements for infrastructure renewal as well as any necessary expansion projects.

APPENDIX A:

Revenue Requirement Supporting Material

City of Penticton Proposed Phase-in of Corporate Administrative Costs

	2015	2016	2017	2018	2019	2020
Electric Utility						
2015 Budget	2,238,703					
Proposed without Phase-in	1,280,281	1,293,084	1,306,015	1,319,075	1,332,266	1,345,588
Proposed with Phase-in	2,238,703	2,060,080	1,881,457	1,702,834	1,524,211	1,345,588
Water Utility						
2015 Budget	457,314					
Proposed without Phase-in	844,525	852,970	861,500	870,115	878,816	887,604
Proposed with Phase-in	457,314	543,372	629,430	715,488	801,546	887,604
Sanitary Sewer Utility						
Current	373,581					
Proposed without Phase-in	793,156	801,087	809,098	817,189	825,361	833,615
Proposed with Phase-in	373,581	465,587	557,594	649,601	741,608	833,615

City of Penticton Proposed Phase-in of Electric Utility Transfer to General Capital and Operation Reserves

Electric Utility	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
2015 Budget Transfer to General Capital Reserve	3,052,900					
Net Plant in Service Opening Balance	38,476,318	40,043,102	39,804,223	39,971,675	40,024,700	42,623,156
Net Capital Additions	3,903,743	2,167,925	2,659,953	2,630,264	5,347,993	3,410,867
Estimated Depreciation	2,336,959	2,406,804	2,492,500	2,577,240	2,749,537	2,859,425
Net Plant in Service Closing Balance	40,043,102	39,804,223	39,971,675	40,024,700	42,623,156	43,174,598
Return on Assets %	7%	7%	7%	7%	7%	7%
Return on Assets, $	2,803,017	2,786,296	2,798,017	2,801,729	2,983,621	3,022,222
Proposed with Phase-in by 2019	3,052,900	3,046,740	3,040,592	3,034,456	3,028,333	3,022,222
Transfer to Operation Reserve	137,400	137,400	137,400	137,400	137,400	137,400
Total Transfer to General Capital and Operation Reserves	3,190,300	3,184,140	3,177,992	3,171,856	3,165,733	3,159,622

City of Penticton Sanitary Sewer Utility: Illustration of 2015 Forecast Billing Determinants based on Water Consumption, cubic feet

	3/4"	1"	1 1/2"	2"	3"	4"	**Total**
January	4,677,375	711,796	934,652	1,218,972	882,760	575,669	9,001,224
February	4,622,117	703,387	923,610	1,204,571	872,331	568,868	8,894,884
March	4,802,822	730,886	959,719	1,251,665	906,436	591,108	9,242,637
April	6,215,421	945,854	1,241,991	1,619,802	1,173,036	764,964	11,961,067
May	8,812,900	1,341,134	1,761,029	2,296,732	1,663,257	1,084,649	16,959,701
June	11,405,221	1,735,630	2,279,037	2,972,317	2,152,506	1,403,699	21,948,411
July	14,357,107	2,184,844	2,868,895	3,741,609	2,709,615	1,767,003	27,629,072
August	12,975,388	1,974,576	2,592,795	3,381,519	2,448,843	1,596,948	24,970,069
September	9,659,277	1,469,935	1,930,156	2,517,306	1,822,994	1,188,817	18,588,486
October	6,190,961	942,131	1,237,103	1,613,428	1,168,419	761,953	11,913,995
November	4,513,395	686,842	901,885	1,176,237	851,812	555,487	8,685,657
December	4,394,894	668,809	878,205	1,145,354	829,448	540,902	8,457,612
Total	**92,626,877**	**14,095,823**	**18,509,078**	**24,139,511**	**17,481,458**	**11,400,067**	**178,252,814**
Winter Total	**29,201,563**	**4,443,851**	**5,835,175**	**7,610,226**	**5,511,207**	**3,593,987**	**56,196,009**
Summer Total	**63,425,314**	**9,651,972**	**12,673,903**	**16,529,285**	**11,970,251**	**7,806,080**	**122,056,805**
Summer % to Sewer	**50.0%**	**90.0%**	**90.0%**	**90.0%**	**90.0%**	**90.0%**	
Winter % to Sewer	**100.0%**	**90.0%**	**90.0%**	**90.0%**	**90.0%**	**90.0%**	
Total to Sewer	**60,914,220**	**12,686,241**	**16,658,170**	**21,725,560**	**15,733,312**	**10,260,060**	**137,977,563**

Note: Non-residential customers will be charged at 100% of their annual water consumption in the sewer bill. However, some of the non-industrial customers do not use sewer system and to account those customers the table above uses 90% of total water consumption to estimate sewer billing determinants for non-residential customer class.

APPENDIX B:

Cost of Service Methods and Results by Utility

Cost of Service Study Methods and Results

November 2015

1.0 INTRODUCTION

The primary purpose of Cost of Service Study ("COSS" or "COS study") is to develop a method to fairly allocate the revenue requirement among the different customer classes served by the utility. While there are many potential allocation methods, the core objective is to allocate costs to the customer classes consistent with principles of cost causation based on customer characteristics such as energy consumption and peak demand.

There is no absolute right or wrong allocation method, as each utility's operating circumstances and cost drivers are different. The objective for the utility is to select methods which best represent cost causation and the equitable sharing of costs among customers in a manner appropriate for the unique circumstances of the utility.

A COS study is commonly used as an analytical tool in the ratemaking process. A COS study can provide useful information such as unit costs to serve different customers (such as $/kWh or $/cubic feet; $/customer month) and revenue to cost coverage ratios. However, it must be recognized that any COS study involves estimation and a degree of professional judgement and therefore the results cannot be considered exact. Further, the appropriate allocation methods for a COS study will change over time as the utility's operating environment and cost drivers change. To provide services to its customers, the utility must receive sufficient revenues to recover its costs. Adequate cost recovery is a necessary condition for maintaining reliable service by the utility. For cost of service modelling purposes, forecast costs for 2019 have been used.

2.0 COST OF SERVICE STUDIES

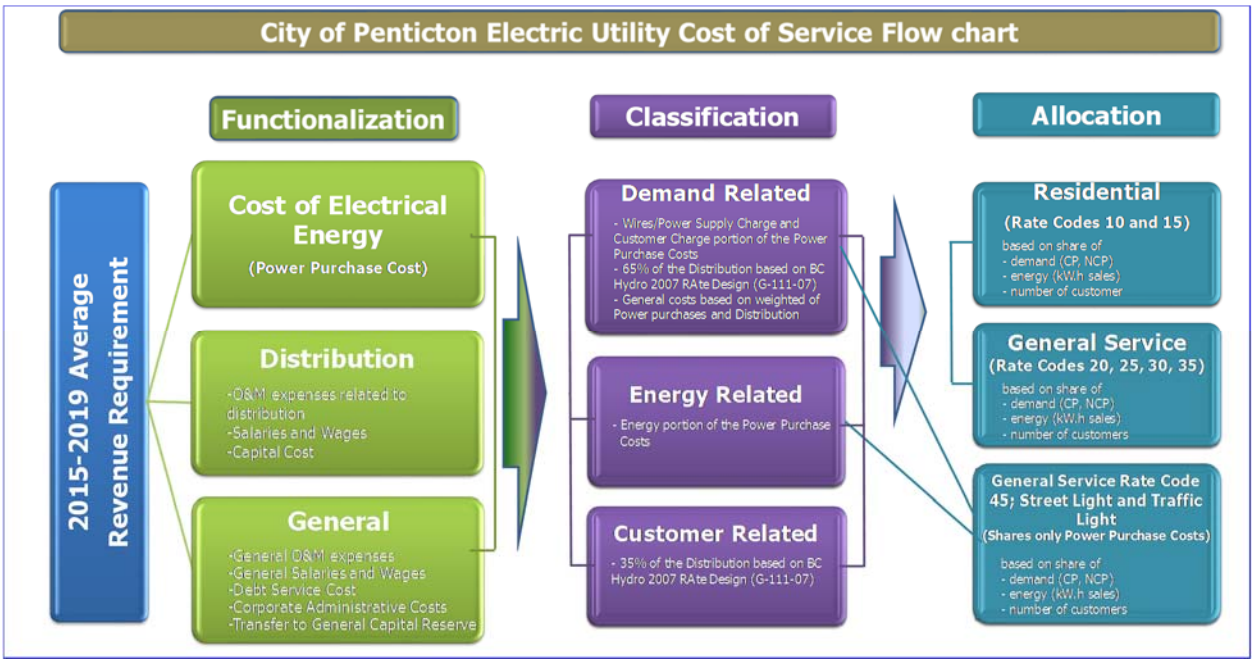
2.1 ELECTRIC UTILITY

The cost of service study for Electric Utility includes a three-step process:

1. Functionalization.
2. Classification.
3. Allocation.

Figure 2-1 provides an illustration of the steps involved in the COS study

Figure 2-1: Illustrative Steps of the Cost of Service Study Process



The following provides details of each step of COS for Electric Utility:

1. **Functionalization**: In this step each revenue requirement item is separated according to function. This step allows costs to be examined by the separate functions involved in the supply of electric service. Based on discussions with the City staff and experience with other electric utilities, the functions used in Electric Utility COS are:

    i. **Cost of Electrical Energy (Power Purchase Cost)**: This function includes costs related to power purchases from Fortis BC, including energy, wires/power supply charges as well as customer charge.

    ii. **Distribution**: The distribution function includes capital costs and expenses related to distribution of energy purchased from Fortis BC, including capital costs for distribution upgrades and extensions, and operating and maintenance expenses.

    iii. **General**: The general function consist of general expenses, including transfers to the general capital and operating reserves, corporate administrative costs, and costs that cannot be apportioned to the other two major cost functions.

2. **Classification**: The next step in the cost of service process is to separate the functionalized costs into classifications that reflect the key cost drivers for different expenses. The classification step involves the following categories:

   i. **Demand costs**: Costs which are primarily incurred as a result of the customer's contribution to coincident peak and non-coincident peak (i.e., costs that are primarily driven in proportion to the kW or kVa demand imposed by the customer). The demand charge portion, i.e. wires and power supply charge, of the power purchase relates to the cost to accommodate peak loads at the time of the highest load in the City. Therefore, the demand portion of power purchase costs[1] are classified to the Coincident Peak.

   Investment in distribution system is driven in part by the number and location of customers and the peak demand imposed by those customers at the time of total peak. Therefore, 65% of the distribution function costs are classified to Non-Coincident Peak demand.[2] This is consistent with the practice followed by other Canadian utilities, as well as the classification of distribution plant in the National Association of Regulatory Utility Commissioners (NARUC) Manual.

   This classification also includes general function expenses classified based on weighted average share of power purchase and distribution costs.[3]

   ii. **Energy costs**: Costs that are primarily incurred as a result of providing electrical energy (kWh) to each customer class. This includes energy charge costs from Fortis BC as well as general function expenses classified based on weighted average share of power purchase and distribution costs.

   iii. **Customer** costs: Costs which are primarily related to the number of customers served rather than the demand (kW) or energy (kWh) usage by each customer.

[1] The City of Penticton also pays a customer charge to Fortis BC, however the amount is not significant [less than 1% of total power purchase costs]. Therefore, customer charge is also classified to Coincident Peak along with demand charges.
[2] 65% of distribution related costs are classified to non-coincident peak demand consistent with BC Hydro 2007 Rate Design Application approved by British Columbia Utilities Commission (BCUC) Order G-111-07. The remaining 35% is classified to customers
[3] About 40% of total general expense function is classified to demand.

This includes 35% of the distribution function costs as well as general function expenses classified based on weighted average share of power purchase and distribution costs.

3. **Allocation**: The final step of the cost of service process involves allocating the classified costs to each customer class. Allocators are developed based on customer characteristics appropriate for each type of classified cost. In this step costs classified to demand are allocated to customer classes based on share of coincident and non-coincident peaks, energy are allocated to the customer classes based on the energy sales (kWh) to each customer class, and costs classified to customer based on number of customers in each customer class.

Energy sales are metered therefore energy allocation factors are available based on forecast loads for each customer class. The information on number of customers is also available based on number of connections for each customer class. However, coincident and non-coincident peaks are not metered at the customer class level. An estimate is required for customer class load factor and coincidence factor in order to estimate the coincident peak (CP) and non-coincident peak (NCP) for each class. Most small utilities do not undertake load research on individual customer classes because such research requires significant amount of effort and financial cost. Therefore, customer class load factor and coincidence factors from Fortis BC's 2009 Rate Design and Cost of Service Analysis have been used as provided in Table 2-1.[4]

[4] Fortis BC 2009 Rate Design and Cost of Service Analysis, available at http://www.bcuc.com/Documents/Proceedings/2009/DOC_23627_B-1_FortisBC%202009%20Rate%20Design%20Application.pdf [accessed on August 25, 2015]. Schedules 8.1 and 8.2.

Table 2-1: City of Penticton Electric Utility Customer Load Parameters

Rate Class	Load Factor	Coincidence Factor
Residential	40%	80%
General Service	43%	75%
Street and Traffic Lighting	27%	100%

The load parameters shown in COS schedules resulted in a calculated CP (before losses) of 71.4 MW for 331.5 GW.h sales forecast for 2019. This is within a reasonable range from the actual peaks purchased from Fortis BC at 70.4 MW that occurred in December 2013 [total annual purchases at 346.6 GW.h including losses] and 71.0 MW in December 2014 [total annual purchases at 344.9 GW.h including losses].

The Electric Utility Cost of Service Study is provided in Attachment B1.

2.2 WATER UTILITY

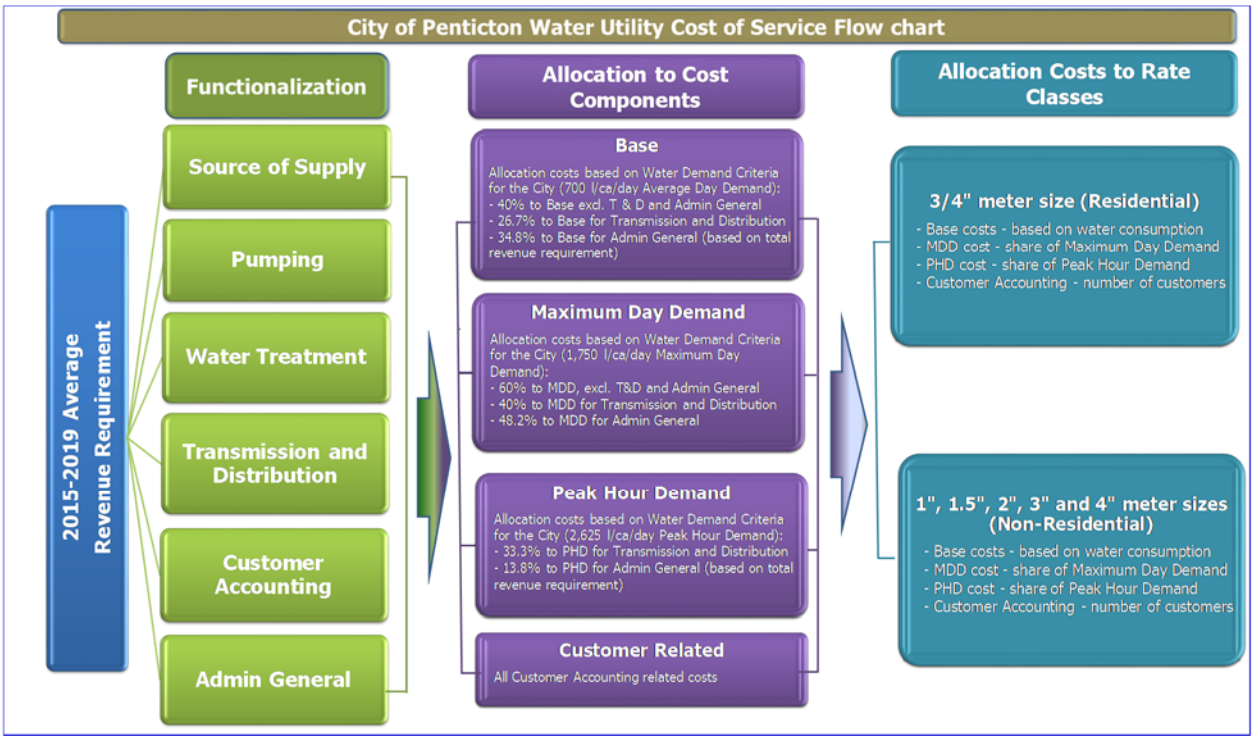
Similar to the Electric Utility, the cost of service study for Water Utility includes a three-step process:

1. Functionalization.
2. Allocation to Cost Components.
3. Distribution of Costs to Rate Classes.

This is consistent with the Manual of American Water Works Association, M1 Principles of Water Rates, Fees and Charges, 6th Edition (“AWWA Manual”).

Figure 2-2 provides an illustration of the steps involved in the Water Utility COS study.

Figure 2-2: Illustrative Steps of the Cost of Service Study Process



The following provides details of each step of COS for Water Utility:

1. **Functionalization**: In this step each revenue requirement item is separated according to function. In this step, the revenue requirement cost items are separated to the functions included in AWWA Manual based on discussions with City staff. The functions used in Water Utility COS are:
    i. **Source of Supply:** This function includes operating and maintenance, as well as capital costs related to reservoirs and wells.
    ii. **Pumping:** This function includes operating and maintenance, as well as capital costs related to pump stations.
    iii. **Water Treatment:** This function includes operating and maintenance, as well as capital costs related to Water Treatment Plant.
    iv. **Transmission and Distribution:** This function includes operating and maintenance, as well as capital costs related to water main maintenance, renewal, improvement/upgrade and replacement projects.

v. **Customer Accounting:** This function includes operating and maintenance costs related to meter maintenance, replacement and other customer service related costs.

vi. **Admin General:** This function includes operating and maintenance as well as capital costs related to perform general duties, including costs for master plans, tools, and other general operating and maintenance expenses that cannot be apportioned to the other functions. This function also includes debt service costs (i.e. repayment of long-term debt) and Corporate Administrative Costs.

2. **Allocation to Cost Components**: The next step in the cost of service process is to allocate the functionalized costs into cost components according to the AWWA Manual approach (Base, Extra Capacity, which includes Maximum Day and Peak Hour demands, and customer related) and based on water demand design criteria used for the City of Penticton.[5] Consistent with the AWWA Manual, the costs related to Source of Supply function are fully allocated to Base cost component as the costs associated with maintenance of the source of supply do not change with the level of consumption. The costs for Pumping and Water Treatment are allocated between Base and Maximum Day, Transmission and Distribution costs to Base, Maximum Day and Peak Hour Demand, Customer Accounting function costs directly assigned to customer cost component, and general admin costs based on weighted percentages for all other functions. Table 1 provides allocation factors calculated based on the water demand design criteria for City of Penticton Average.

Table 1: Allocation Factors between Base, Maximum Day and Peak Hour

	City Bylaw litre/ca/day	When Allocated to Base and MD	When Allocated to Base, MD and PH
Average Day Demand (ADD), Base	700	40.0%	26.7%
Maximum Day Demand (MDD)	1,750	60.0%	40.0%
Peak Hour Demand (PHD)	2,625		33.3%

[5] Water demand design criteria, Subdivision and Development Bylaw 2004-81, Schedule G. Available at http://www.penticton.ca/assets/City~Hall/Bylaws/Land~Use/Subdivision%20&%20Development%20Bylaw%20(Bylaw%202004-81).pdf [accessed on August 26, 2015]. Also noted in 2005 Water Study, page 16.

This step involves the following categories:

i. **Base**: Per AWWA Manual this cost component includes the costs associated with service customers under average load conditions without the elements of cost incurred to meet water use variations and resulting peak demands. Consistent with the WWA Manual, the Base cost component includes 100% of the costs related to Source of Supply function, 40% of the costs for Pumping and Water Treatment functions, 26.7% of the costs for Transmission and Distribution, and 31% of the costs related to General Admin [calculated based on weighted percentages for all other functions].

ii. Maximum Day: Per the AWWA Manual this cost component includes the costs associated with meeting maximum day peak demand rate of use requirements in excess of average (base) use. Consistent with AWWA Manual, Maximum Day cost component includes 60% of the costs for Pumping and Water Treatment functions, 40% of the costs for Transmission and Distribution, and 42.3% of the costs related to General Admin.

iii. Peak Hour: Per AWWA Manual this cost component includes the costs associated with meeting maximum hourly peak demand rate of use requirements. Consistent with AWWA Manual, Peak Hour cost component includes 33% of the costs for Transmission and Distribution, and also shares 22% of the costs related to General Admin.

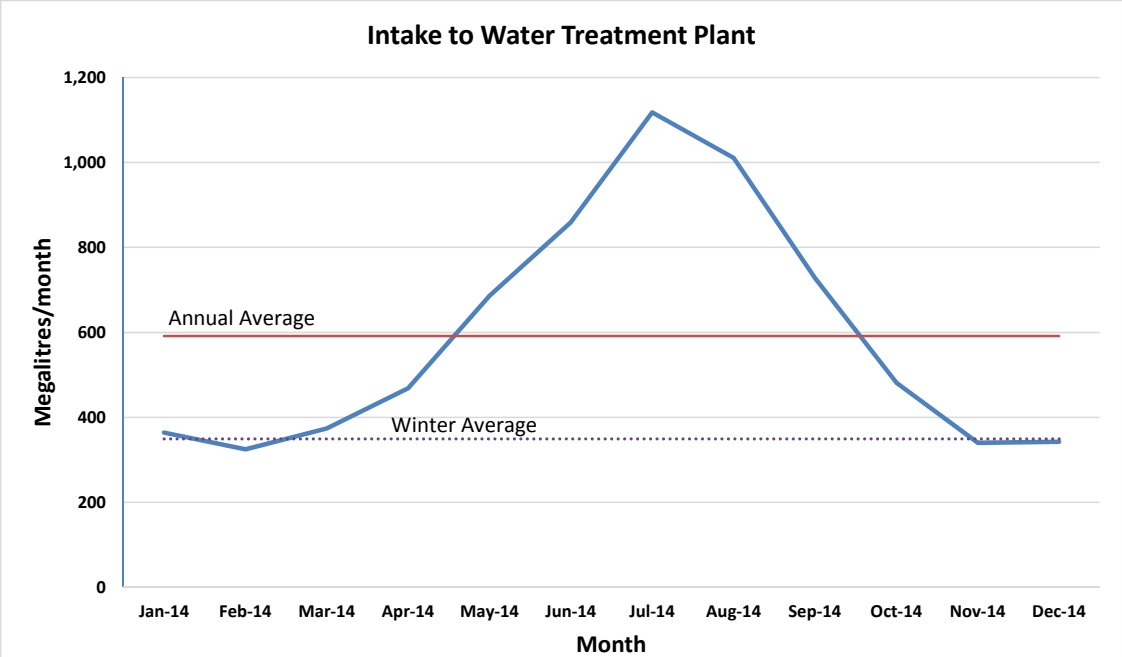
iv. Customer Related: Per the AWWA Manual this cost component includes the costs associated with serving customers regardless the use of water. Consistent with AWWA Manual, Customer Related cost component includes all costs for Customer Accounting function and also shares about 5% of the costs related to General Admin.

4. **Distribution of Costs to Rate Classes**: The final step of the cost of service process involves distributing the cost components to each customer class. Cost allocation factors are developed based on customer characteristics appropriate for each type of classified cost. In this step Base component costs are allocated to customer classes based on

consumption level for each meter size, i.e. rate class, maximum day and peak hour demand costs based on share of peak and customer related costs based on number of customers adjusted to equivalent meter size ratio based on AWWA Manual.[6]

Water consumption is metered therefore Base allocation factors are available based on load forecast for each meter size. The information on number of customers is also available based on number of connection for each meter size. However, Maximum Day and Peak Hour peaks are not metered and therefore require use estimated peak numbers available from the previous studies and/or from other water utilities.

Figure 2-3: 2014 Monthly Intake to Water Treatment Plant



The data provided by the City of Penticton for 2014 intake to the treatment plant shows that the peak month is July. The data for the previous years also confirms that. As provided in Figure 2-3 the peak in July is about 1.9 times higher than annual peak and the average intake during summer months is about 2.2 times higher than the average for winter months.

[6] AWWA Manual page 274 Table VI.2-5 - meter equivalent ratio based on standard maximum meter-flow capacity ratio.

The figure from City of Penticton's 2005 Water Study[7] also shows that July is highest peak with highest consumption by single family consumers. Based on this data it is estimated that Maximum Day peaking factor for residential rate class is about 220%.

The remaining peaking factors used for the COS are from AWWA Manual.[8] The calculation of Base, Maximum Day and Peak Hour allocations factors is provided in Exhibit 4 of the COS for Water Utility in Attachment B2.

The Water Utility Cost of Service Study is provided in Attachment B2.

2.3 SANITARY SEWER UTILITY

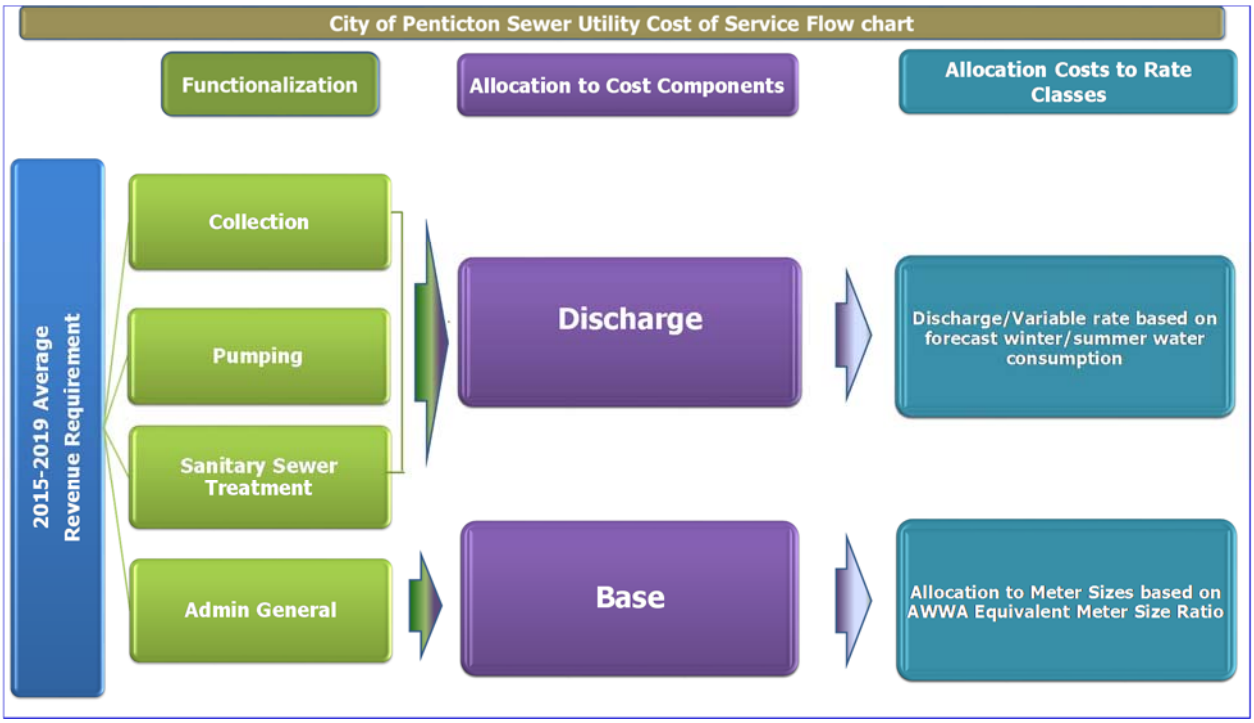
Sanitary Sewer Utility cost of service study also includes a three-step process:

1. Functionalization.
2. Allocation to Cost Components.
3. Distribution of Costs to Rate Classes.

Figure 2-4 provides an illustration of the steps involved in the Sanitary Sewer Utility COS study.

[7] Figure 6.1, Okanagan Monthly Domestic Water Use Trend on page 81 of 2005 Water Study.
[8] These peaking factors assumed to be represent an average utility. It has been confirmed with AWWA that the peaking factors in AWWA Manual are based on real data/information. The data available for other municipalities also show that peaking factors used in the COS are reasonable. For example, 2013 COS for City of Wilsonville [Oregon, US] with population of about 21,500 used a maximum day peaking factor for residential at 213%, but with 148% for commercial customer class; 2011 COS for South Lake Tahoe [California, US] with similar size of population used 200% peaking factor for residential and 150% for commercial. However, above mentioned Figure 6.1 from 2005 Water Study shows that commercial water use peak is also high. Therefore, the peaking factors from AWWA is considered to be reasonable for the purposes of this study.

Figure 2-4: Illustrative Steps of the Cost of Service Study Process



The following provides details of each step of COS for Sanitary Sewer Utility:

1. **Functionalization**: In this step the revenue requirement is separated to functions similar to the Water Utility based on discussions with the City staff. The functions are also similar to the Cost-of-Service and Rate Design Methodology Review and Recommendations by Halifax Regional Water Commission.[9]

   The functions used in Sanitary Sewer Utility COS are:

   i. **Collection:** This function includes operating and maintenance, as well as capital costs related to collection system and mains.

   ii. **Pumping:** This function includes operating and maintenance, as well as capital costs related to pump stations.

[9] Available at Halifax municipal government website [accessed on August 27, 2015]. http://www.halifax.ca/hrwc/documents/CostofServiceandRateDesignMethodologyReviewandRecommendations.pdf, page 43.

iii. **Sanitary Sewer Treatment:** This function includes operating and maintenance, as well as capital costs related to Sanitary Sewer Treatment Plant.

iv. **Admin General:** This function includes operating and maintenance as well as capital costs related to perform general duties, including costs for master plans, tools, and other general operating and maintenance expenses that cannot be apportioned to the other functions. This function also includes debt service costs (i.e. repayment of long-term debt) and Corporate Administrative Costs.

2. **Allocation to Cost Components**: The next step in the cost of service process is to allocate the functionalized costs into cost components. For this step, the approach used in the Cost-of-Service and Rate Design Methodology Review and Recommendations by Halifax Regional Water Commission has been applied. This includes allocating functionalized costs to the Base Charge component, which includes Customer related and Base fixed charges related costs, and to Discharge or Variable cost component. This exercise is similar to the approach noted in the Guidelines for Municipal Water Pricing by Environment Canada (1991)[10] which uses an approach to allocate costs to fixed and variable [fixed costs that don't change by volume of the sanitary sewer flows, while variable costs change by volume of the sanitary sewer flows].[11]

   Based on approach used in the Recommendations by Halifax Regional Water Commission Customer General Administrative costs are allocated to the fixed portion of the costs and the remaining functions to the variable portion.[12]

3. **Distribution of Costs to Rate Classes**: The final step of the cost of service process involves allocating the cost components to each customer class. The City of Penticton is

[10] The copy of the guideline is available at http://www.obwb.ca/fileadmin/docs/water_pricing_guide.pdf [accessed on August 27, 2015].
[11] For example, the presentation Rate Structure Design and the Universally Metered Water System at the BCWWA on 2015 Annual Conference noted that the best practice cost recovery is 30% to 40% from fixed charges.
[12] Cost-of-Service and Rate Design Methodology Review and Recommendations by Halifax Regional Water Commission also allocates 40% of the return on rate base to the fixed portion and 60% to the variable. City of Penticton Sanitary Sewer Utility revenue requirement does not include return on rate base, however includes administrative costs allocated to the Sanitary Sewer Utility and debt service costs. Considering the fact that these costs do not change by volume of the sanitary sewer flows all Admin General costs are allocated to the fixed cost portion.

proposing to change the rate design for Sanitary Sewer Utility, from uniform fixed rates charged based on number of fixtures to a rate structure with a fixed charge per month and a variable component charged based on water consumption. Therefore, the cost allocation step of the cost of service used Water utility load forecast. The equivalent meter size ratios from the AWWA Manual have been used for allocating fixed costs to the meter sizes, and summer/winter water consumption for variable portion of the costs.

Based on discussions with the City staff, it is estimated that about 50% of the summer, April to September, water sales for residential customers are used for lawn gardening and other uses that are not returned to the sewer system. All winter water sales (October to March) are assumed to be returned to the sewer system. Commercial and industrial customers have different usage characteristics. It is proposed that these customers be billed based on 100% of their usage year round. In a small number of cases, some customers may apply to the City to have their water consumption adjusted for billing purposes, where they can demonstrate that their water use is not returned to the sewer system. For modelling purposes it is estimated that that 90% of non-residential year round water consumption will be billed for sanitary sewer service.

The Sanitary Sewer Utility Cost of Service Study is provided in Attachment B3.

Attachment B1:

Electric Utility Cost of Service Study

City of Penticton: Electric Utility **2019 Forecast**
COST OF SERVICE
Exhibit 1 - Functionalization & Classification
of Revenue Requirements

Expense Description	Total	Demand Related: Coin. Peak CP	Demand Related: NC Peak NCP	Energy Related E	Customer Related: Actual CUST-1
Cost of Electrical Energy (Power Purchase Cost)					
Energy Charge	$22,004,539	$0	$0	$22,004,539	$0
Wires/Power Supply Charge plus Cust. Charge	$11,929,398	$11,929,398	$0	$0	$0
Subtotal	$33,933,937	$11,929,398	$0	$22,004,539	$0
Distribution					
Unallocated Salaries and Wages (net of Capital and Op	$266,571	$0	$173,271	$0	$93,300
Supplies and Services	$328,787	$0	$213,712	$0	$115,075
Capital	$5,347,993	$0	$3,476,195	$0	$1,871,797
Subtotal	$5,943,351	$0	$3,863,178	$0	$2,080,173
General					
Unallocated Salaries and Wages (net of Capital and Op	$1,256,847	$375,989	$121,759	$693,536	$65,563
Supplies and Services	$355,695	$106,407	$34,459	$196,275	$18,555
Corporate Administrative Costs	$1,524,211	$455,972	$147,660	$841,069	$79,509
Transfer to General Capital Reserve	$3,165,733	$947,037	$306,686	$1,746,871	$165,138
Transfer from Electrical Reserve for Capital Projects	($1,119,095)	$0	($727,412)	$0	($391,683)
Subtotal	$5,183,391	$1,885,406	($116,848)	$3,477,752	($62,918)
Total Revenue Requirement	**$45,060,680**	**$13,814,803**	**$3,746,330**	**$25,482,291**	**$2,017,255**
Other Revenues	$230,014	$70,518	$19,123	$130,075	$10,297
Total Net Revenue Requirement	**$44,830,666**	**$13,744,285**	**$3,727,207**	**$25,352,216**	**$2,006,958**

City of Penticton: Electric Utility **2019 Forecast**
COST OF SERVICE
Exhibit 2 - Functionalization & Classification Factors
of Revenue Requirements

Expense Description	CP	NCP	E	CUST-1	
				Basis of Classification	
Cost of Electrical Energy (Power Purchase Cost)					
Energy Charge	0.000	0.000	1.000	0.000	100% energy
Wires/Power Supply Charge plus Cust. Charge	1.000	0.000	0.000	0.000	100% demand
Subtotal	0.352	0.000	0.648	0.000	
Distribution					
Unallocated Salaries and Wages (net of Capital and Op	0.000	0.650	0.000	0.350	
Supplies and Services	0.000	0.650	0.000	0.350	Based on BC Hydro 2007 COS (G-111-07)
Capital	0.000	0.650	0.000	0.350	
Subtotal	0.000	0.650	0.000	0.350	
General					
Unallocated Salaries and Wages (net of Capital and Op	0.299	0.097	0.552	0.052	Average of Power Purchase and Distribution
Supplies and Services	0.299	0.097	0.552	0.052	Average of Power Purchase and Distribution
Corporate Administrative Costs	0.299	0.097	0.552	0.052	Average of Power Purchase and Distribution
Transfer to General Capital Reserve	0.299	0.097	0.552	0.052	Average of Power Purchase and Distribution
Transfer from Electrical Reserve for Capital Projects	0.000	0.650	0.000	0.350	Follows Capital Cost
Subtotal	0.364	(0.023)	0.671	(0.012)	
Total Revenue Requirement	0.307	0.083	0.566	0.045	
Other Revenues	0.307	0.083	0.566	0.045	Follows total revenue requirement
Total Net Revenue Requirement	0.305	0.083	0.563	0.045	

City of Penticton: Electric Utility
COST OF SERVICE
Exhibit 3 - Analysis of Load Data

2019 Forecast

	Sales (MW.h)	*Energy Alloc. Factor % of total*	*Energy Alloc. Factor % excl. Rate Code 45, Street Light and Traffic Light*	# of Customer
Residential (Rate Codes 10 & 15)	170,088	51%	55%	15,858
General Service (Rate Codes 20, 25, 30, 35)	139,982	42%	45%	1,627
Rate Code 45 - General - City Accounts	19,400	6%		83
Street Lighting	1,994	1%		29
Traffic Lighting	57	0%		1
Total	331,520	100%		17,597

Hours in Year 8,760

	Residential	General Service	Rate Code 45	Street Lighting	Traffic Lighting
kW.h Sales at the Meter	170,088,087	139,982,034	19,399,724	1,993,780	56,538
Load Factor	40%	43%	43%	27%	27%
NCP at the Meter for the Group (kW)	48,541	37,162	5,150	843	24
Coincidence Factor	80%	75%	75%	100%	100%
Coincident Peak (CP) at Meter (kW)	38,833	27,872	3,863	843	24

City of Penticton: Electric Utility
COST OF SERVICE
Exhibit 4 - Demand Allocation Factor

2019 Forecast

	Coincident Peak Alloc. Factor	*% of Total*	*% of Total* excl. Rate Code 45 Street Light and Traffic Light	*Noncoincident Peak Alloc. Factor*	*% of Total*	*% of Total* excl. Rate Code 45 Street Light and Traffic Light		*2019 Forecast Revenues at Existing rates*	*% of Total*
Residential	38,833	54.36%	58.22%	48,541	52.92%	56.64%	Residential	21,023,003	53.16%
General Service	27,872	39.02%	41.78%	37,162	40.52%	43.36%	General Service	16,968,186	42.91%
Rate Code 45	3,863	5.41%		5,150	5.62%		Rate Code 45	1,407,629	3.56%
Street Lighting	843	1.18%		843	0.92%		Street Lighting	141,281	0.36%
Traffic Lighting	24	0.03%		24	0.03%		Traffic Lighting	4,037	0.01%
Total	71,434	100%	100%	91,720	100%	100%	Total	$39,544,136	100%
Allocation Factor		*CP*	*CP-2*		*NCP*	*NCP-2*			

Method of CP demand allocation:
the peak responsibility method

Allocation Factor *RR*

City of Penticton: Electric Utility
COST OF SERVICE
Exhibit 5 - Customer Allocation Factor

	Total Customers	*% of Total*	*% of Total* excl. Rate Code 45 Street Light and Traffic Light
Residential	15,858	90.12%	90.70%
General Service	1,627	9.24%	9.30%
Rate Code 45	83	0.47%	
Street Lighting	29	0.16%	
Traffic Lighting	1	0.01%	
Total	17,597	100%	100%
Allocation Factor		*CUST-1*	*CUST-2*

City of Penticton: Electric Utility
COST OF SERVICE

2019 Forecast

Exhibit 5 - Allocation of Net Revenue Requirements

	Total Plant	Residential	General Service	Rate Code 45	Street Lighting	Traffic Lighting	Basis of Allocation
		Residential	Secondary & Primary Metered: City and Customer Owned Transformation	General - City Accounts			
DEMAND RELATED							
Coincident Peak	$13,744,285	$7,552,076	$5,420,353	$698,078	$71,744	$2,034	CP
Noncoincident Peak	3,727,207	$2,111,040	$1,616,167	$0	$0	$0	NCP-2
Total Demand	$17,471,492	$9,663,115	$7,036,520	$698,078	$71,744	$2,034	
ENERGY RELATED	$25,352,216	$13,125,898	$10,802,578	$1,287,650	$132,336	$3,753	E
CUSTOMER RELATED							
Actual	$2,006,958	$1,820,238	$186,719	$0	$0	$0	CUS-2
Total Customer	$2,006,958	$1,820,238	$186,719	$0	$0	$0	
Total Net Rev. Req.	$44,830,666	$24,609,252	$18,025,818	$1,985,728	$204,081	$5,787	

Exhibit 6 - Summary of Allocation

	Total	Residential	General Service	Rate Code 45	Street Lighting	Traffic Lighting
Revenues at Existing Rates	$39,544,136	$21,023,003	$16,968,186	$1,407,629	$141,281	$4,037
Allocated Rev. Req.	$44,830,666	$24,609,252	$18,025,818	$1,985,728	$204,081	$5,787
Balance	($5,286,530)	($3,586,249)	($1,057,632)	($578,099)	($62,800)	($1,751)
RCC ratio		85.4%	94.1%	70.9%	69.2%	69.8%

City of Penticton: Electric Utility
COST OF SERVICE
Exhibit 7 - Average Unit Costs

	Total	Residential	General Service	Rate Code 45	Street Lighting	Traffic Lighting
DEMAND - $/kW		$0.00	$44.67	$0.00	$0.00	$0.00
ENERGY - cents/kW.h		13.40	7.72	10.24	10.24	10.24
CUSTOMER - $/Cust/Month		$9.57	$9.57	$0.00	$0.00	$0.00
Billing Data:						
Annual kW		-	157,526	-	-	-
Annual kW.h		170,088,087	139,982,034	19,399,724	1,993,780	56,538
Number of Customers		15,858	1,627	83	29	1
Revenue Check:						
Demand	$7,036,520	$0	$7,036,520	$0	$0	$0
Energy	$35,787,188	$22,789,013	$10,802,578	$1,985,728	$204,081	$5,787
Customer	$2,006,958	$1,820,238	$186,719	$0	$0	$0
Total	$44,830,666	$24,609,252	$18,025,818	$1,985,728	$204,081	$5,787

Attachment B2:

Water Utility Cost of Service Study

City of Penticton: Water Utility **Major Capital with debt** **2019**
COST OF SERVICE
Exhibit 1 - Functionalization & Classification of Revenue Requirements

Expense Description	Total	Base	Extra Capacity		Customer Related
			Maximum Day	Peak Hour	
		Base	*MD*	*PH*	*CUS*
Source of Supply					
Unallocated Salaries and Wages (net of Capital and Ope	$24,151	$24,151	$0	$0	$0
Supplies and Services	$79,790	$79,790	$0	$0	$0
Capital	$35,000	$35,000	$0	$0	$0
Subtotal	$138,942	$138,942	$0	$0	$0
Pumping					
Unallocated Salaries and Wages (net of Capital and Ope	$40,253	$16,101	$24,152	$0	$0
Supplies and Services	$302,337	$120,935	$181,402	$0	$0
Capital	$0	$0	$0	$0	$0
Subtotal	$342,590	$137,036	$205,554	$0	$0
Water Treatment					
Unallocated Salaries and Wages (net of Capital and Ope	$528,309	$211,323	$316,985	$0	$0
Supplies and Services	$423,212	$169,285	$253,927	$0	$0
Capital	$40,000	$16,000	$24,000	$0	$0
Subtotal	$991,520	$396,608	$594,912	$0	$0
Transmission and Distribution					
Unallocated Salaries and Wages (net of Capital and Ope	$0	$0	$0	$0	$0
Supplies and Services	$439,231	$117,128	$175,693	$146,410	$0
Capital	$2,927,530	$780,675	$1,171,012	$975,843	$0
Subtotal	$3,366,761	$897,803	$1,346,705	$1,122,254	$0
Customer Accounting					
Unallocated Salaries and Wages (net of Capital and Ope	$57,847	$0	$0	$0	$57,847
Supplies and Services	$176,247	$0	$0	$0	$176,247
Subtotal	$234,095	$0	$0	$0	$234,095
Admin General					
Unallocated Salaries and Wages (net of Capital and Ope	$394,930	$122,232	$167,126	$87,351	$18,221
Supplies and Services	$107,683	$33,328	$45,569	$23,817	$4,968
Capital	$595,000	$184,154	$251,791	$131,603	$27,451
Debt Service Cost	$1,854,902	$574,097	$784,955	$410,270	$85,580
Corporate Administrative Costs	$801,546	$248,081	$339,198	$177,287	$36,981
Subtotal	$3,754,062	$1,161,893	$1,588,640	$830,328	$173,201
Total Revenue Requirement	**$8,827,969**	**$2,732,281**	**$3,735,810**	**$1,952,582**	**$407,296**
Other Revenues	$457,235	$141,516	$193,492	$101,132	$21,095
Total Net Revenue Requirement	**$8,370,735**	**$2,590,766**	**$3,542,318**	**$1,851,450**	**$386,200**

City of Penticton: Water Utility **Major Capital with debt** **2019**
COST OF SERVICE
Exhibit 2 - Functionalization & Classification of Revenue Requirements

Expense Description	Basis of Classification: Base	MD	PH	CUS	
Source of Supply					
Unallocated Salaries and Wages (net of Capital and Op	1.000	0.000	0.000	0.000	100% Base based on AWWA
Supplies and Services	1.000	0.000	0.000	0.000	100% Base based on AWWA
Capital	1.000	0.000	0.000	0.000	100% Base based on AWWA
Subtotal	1.000	0.000	0.000	0.000	
Pumping					
Unallocated Salaries and Wages (net of Capital and Op	0.400	0.600	0.000	0.000	40% to Base, 60% to Maximum-day based on Water Demand Criteria for the City [AWWA approach]
Supplies and Services	0.400	0.600	0.000	0.000	
Capital	0.400	0.600	0.000	0.000	
Subtotal	0.400	0.600	0.000	0.000	
Water Treatment					
Unallocated Salaries and Wages (net of Capital and Op	0.400	0.600	0.000	0.000	40% to Base, 60% to Maximum-day based on Water Demand Criteria for the City [AWWA approach]
Supplies and Services	0.400	0.600	0.000	0.000	
Capital	0.400	0.600	0.000	0.000	
Subtotal	0.400	0.600	0.000	0.000	
Transmission and Distribution					
Unallocated Salaries and Wages (net of Capital and Op	0.267	0.400	0.333	0.000	26.7% to Base, 40% to Maximum-day and 33.3% to Peak-hour based on Water Demand Criteria for the City [AWWA approach]
Supplies and Services	0.267	0.400	0.333	0.000	
Capital	0.267	0.400	0.333	0.000	
Subtotal	0.267	0.400	0.333	0.000	
Customer Accounting					
Unallocated Salaries and Wages (net of Capital and Op	0.000	0.000	0.000	1.000	Customer Related
Supplies and Services	0.000	0.000	0.000	1.000	Customer Related
Subtotal	0.000	0.000	0.000	1.000	
Admin General					
Unallocated Salaries and Wages (net of Capital and Op	0.310	0.423	0.221	0.046	Based on total Revenue Requirement excluding Admin General
Supplies and Services	0.310	0.423	0.221	0.046	
Capital	0.310	0.423	0.221	0.046	
Debt Service Cost	0.310	0.423	0.221	0.046	
Corporate Administrative Costs	0.310	0.423	0.221	0.046	
Subtotal	0.310	0.423	0.221	0.046	
Total Revenue Requirement	0.310	0.423	0.221	0.046	
Other Revenues	0.310	0.423	0.221	0.046	Follows total revenue requirement
Total Revenue Requirement	0.293	0.401	0.210	0.044	

City of Penticton: Water Utility
COST OF SERVICE
Exhibit 3 - Analysis of Load Data

Major Capital with debt **2019**

	Sales (cubic feet)	*Consumption Alloc. Factor % of total Water (excl. losses)*	# of Customer	Equivalent Meter Size Ratios (AWWA)		Customer Alloc. Factor *% of total*	*Rate Revenues*	*% of Total*
19mm (3/4 inch)	96,372,631	52.0%	8,362	1.5	12,543	74%	3,258,014	52.35%
25mm (1 inch)	14,665,846	7.9%	234	2.5	585	3%	328,827	5.28%
38mm (1 1/2 inches)	19,257,570	10.4%	262	5.0	1,312	8%	644,131	10.35%
50mm (2 inches)	25,115,693	13.5%	138	8.0	1,100	6%	796,491	12.80%
75mm (3 inches)	18,188,394	9.8%	50	17.5	880	5%	707,719	11.37%
100mm (4 inches)	11,861,076	6.4%	17	31.5	522	3%	488,808	7.85%
Total	185,461,210	100%	9,063		16,942	100%	$6,223,990	100%

	City Bylaw litre/ca/day	Allocation	Allocation
Average Day Demand (ADD)	700	40.0%	26.7%
Maximum Day Demand (MDD)	1,750	60.0%	40.0%
Peak Hour Demand (PHD)	2,625		33.3%

City of Penticton: Water Utility **Major Capital with debt** **2019**
COST OF SERVICE
Exhibit 4 - Demand Allocation Factor

	Base Units (cubic feet)			Maximum Day Units				Peak Hour Units			
	Annual Use (cubic feet/year)	Average Rate (cubic feet/day)	Share	Peaking Factor %	Total Capacity (cubic feet/day)	Extra Capacity (cubic feet/day)	Share	Peaking Factor %	Total Capacity (cubic feet/day)	Extra Capacity (cubic feet/day)	Share
19mm (3/4 inch)	96,372,631	264,035	52.0%	220%	580,296	316,261	56.4%	400%	1,056,138	475,843	60.9%
25mm (1 inch)	14,665,846	40,180	7.9%	200%	80,361	40,180	7.2%	325%	130,586	50,226	6.4%
38mm (1 1/2 inches)	19,257,570	52,760	10.4%	200%	105,521	52,760	9.4%	325%	171,472	65,951	8.4%
50mm (2 inches)	25,115,693	68,810	13.5%	200%	137,620	68,810	12.3%	325%	223,633	86,013	11.0%
75mm (3 inches)	18,188,394	49,831	9.8%	200%	99,662	49,831	8.9%	325%	161,951	62,289	8.0%
100mm (4 inches)	11,861,076	32,496	6.4%	200%	64,992	32,496	5.8%	325%	105,612	40,620	5.2%
Total (excl. losses)	185,461,210	508,113	100.0%		1,068,452	560,340	100.0%		1,849,393	780,940	100.0%

City of Penticton: Water Utility **Major Capital with debt** **2019**
COST OF SERVICE
Exhibit 5 - Allocation of Net Revenue Requirements

	Total Plant	19mm (3/4 inch)	25mm (1 inch)	38mm (1 1/2 inches)	50mm (2 inches)	75mm (3 inches)	100mm (4 inches)	Basis of Allocation
Extra Capacity								
Maximum Day	$3,542,318	$1,999,320	$254,010	$333,538	$434,999	$315,020	$205,432	MD
Peak Hour	$1,851,450	$1,128,126	$119,074	$156,355	$203,918	$147,675	$96,302	PH
Total Extra Capacity	$5,393,769	$3,127,445	$373,084	$489,893	$638,918	$462,694	$301,734	
Base	$2,590,766	$1,346,259	$204,872	$269,015	$350,849	$254,079	$165,691	Base
Customer Related	$386,200	$285,913	$13,346	$29,913	$25,077	$20,061	$11,891	CUS
Total Net Revenue Requirement	$8,370,735	$4,759,618	$591,302	$788,821	$1,014,843	$736,834	$479,316	

Exhibit 6 - Summary of Allocation

	Total	19mm (3/4 inch)	25mm (1 inch)	38mm (1 1/2 inches)	50mm (2 inches)	75mm (3 inches)	100mm (4 inches)
Present Rate Revenues	$6,223,990	$3,258,014	$328,827	$644,131	$796,491	$707,719	$488,808
Allocated Rev. Req.	$8,370,735	$4,759,618	$591,302	$788,821	$1,014,843	$736,834	$479,316
Balance	($2,146,744)	($1,501,605)	($262,474)	($144,690)	($218,353)	($29,115)	$9,492
RCC ratio		68.5%	55.6%	81.7%	78.5%	96.0%	102.0%

City of Penticton: Water Utility
COST OF SERVICE
Exhibit 7 - Average Unit Costs

Major Capital with debt **2019**

	Total	19mm (3/4 inch)	25mm (1 inch)	38mm (1 1/2 inches)	50mm (2 inches)	75mm (3 inches)	100mm (4 inches)
Base Monthly Charge - $/Cust/Month		$34.02	$137.51	$165.05	$402.39	$799.99	$1,578.19
Consumption Charge - $/100 cubic feet		1.40	1.40	1.40	1.40	1.40	1.40
Billing Data:							
Annual Consumption (cubic feet)		96,372,631	14,665,846	19,257,570	25,115,693	18,188,394	11,861,076
Number of Customers		8,362	234	262	138	50	17
Revenue Check:							
Base Monthly Charge	$5,779,969	$3,413,359	$386,430	$519,806	$663,994	$482,755	$313,625
Variable Consumption	$2,590,766	$1,346,259	$204,872	$269,015	$350,849	$254,079	$165,691
Total	$8,370,735	$4,759,618	$591,302	$788,821	$1,014,843	$736,834	$479,316

Attachment B3:

Sewer Utility Cost of Service Study

City of Penticton: Sewer Utility **2019**
COST OF SERVICE
Exhibit 1 - Functionalization & Classification of Revenue Requirements

Expense Description	Total	Classification ($) Base	Classification ($) Discharge/Variable Charge	Classification (%) Base	Classification (%) Discharge/Variable Charge
Pumping					
Unallocated Salaries and Wages (net of Capital and Operating Projec	$39,084	$0	$39,084	0%	100%
Supplies and Services	$62,837	$0	$62,837	0%	100%
Subtotal	$101,921	$0	$101,921	0%	100%
Sanitary Sewer Treatment					
Unallocated Salaries and Wages (net of Capital and Operating Projec	$846,504	$0	$846,504	0%	100%
Supplies and Services	$646,963	$0	$646,963	0%	100%
Capital	$155,000	$0	$155,000	0%	100%
Subtotal	$1,648,467	$0	$1,648,467	0%	100%
Treated Effluent					
Supplies and Services	$72,817	$0	$72,817	0%	100%
Subtotal	$72,817	$0	$72,817	0%	100%
Collection					
Unallocated Salaries and Wages (net of Capital and Operating Projec	$15,621	$0	$15,621	0%	100%
Supplies and Services	$660,429	$0	$660,429	0%	100%
Capital	$1,125,000	$0	$1,125,000	0%	100%
Subtotal	$1,801,050	$0	$1,801,050	0%	100%
Admin General					
Unallocated Salaries and Wages (net of Capital and Operating Projec	$223,585	$223,585	$0	100%	0%
Supplies and Services	$80,366	$80,366	$0	100%	0%
Capital	$50,000	$50,000	$0	100%	0%
Debt Service Cost	$1,603,013	$1,603,013	$0	100%	0%
Corporate Administrative Costs	$741,608	$741,608	$0	100%	0%
Subtotal	$2,698,571	$2,698,571	$0	100%	0%
Total Revenue Requirement	**$6,322,826**	**$2,698,571**	**$3,624,255**	43%	57%
Other Revenues	$631,514	$269,529	$361,985	43%	57%
Total Net Revenue Requirement	**$5,691,312**	**$2,429,042**	**$3,262,270**	43%	57%

Note:
1. The classification is based on approach used by Halifax Regional Water Comission.

City of Penticton: Sewer Utility **2019**
COST OF SERVICE
Exhibit 2 - Allocation Factors

	Allocated Cost
Base	$2,429,042
Discharge/Variable	$3,262,270
Total Net Revenue Required from Rates	$5,691,312

City of Penticton: Sewer Utility **2019**
COST OF SERVICE
Exhibit 3 - COS Rates by Meter Size - Fixed Charges

	Number of Customers	Equivalent Meter Size Ratios (AWWA) - relative to 3/4"	Monthly fixed charge ($/month/ customer)	Fixed Charge Revenues, $
19mm (3/4 inch)	8,362	1.0	$17.92	$1,798,278
25mm (1 inch)	234	1.7	$29.87	$83,939
38mm (1 1/2 inches)	262	3.3	$59.74	$188,140
50mm (2 inches)	138	5.3	$95.58	$157,722
75mm (3 inches)	50	11.7	$209.08	$126,173
100mm (4 inches)	17	21.0	$376.35	$74,790
Total	9,063			$2,429,042

City of Penticton: Sewer Utility **2019**
COST OF SERVICE
Exhibit 3 - COS Rates by Meter Size - Variable Charges

	Total Water Consumption, cubic feet	Water to Sewer, cubic feet	Variable charge, $/100 cubic feet	Variable Charge Revenues, $
19mm (3/4 inch)	96,372,629	63,377,539	$2.27	$1,440,224
25mm (1 inch)	14,665,846	13,199,262	$2.27	$299,947
38mm (1 1/2 inches)	19,257,569	17,331,812	$2.27	$393,857
50mm (2 inches)	25,115,692	22,604,123	$2.27	$513,668
75mm (3 inches)	18,188,394	16,369,554	$2.27	$371,990
100mm (4 inches)	11,861,076	10,674,968	$2.27	$242,584
Total	185,461,207	143,557,259		$3,262,270

Note: Rates reflect a 10% discount.

APPENDIX C:

Bill Comparisons with Other Jurisdictions

Comparison of Peer Utilities: Residential Customer Bills

	Municipality	Average Monthly Electricity Bill ($/month)[1]	Average Monthly Water Bill ($/month)[2]	Average Monthly Sanitary Sewer Bill ($/month)[3]	Municipal Taxes ($/month)[4]	Total Monthly Bill for Average Customer ($/month)
	Penticton	**$113**	**$34**	**$43**	**$194**	**$383**
BCMEU	Summerland	$100	$38	$31	$197	$366
	Grand Forks	$111	$21	$59	$256	$447
	Nelson	$93	$47	$41	$241	$422
	New Westminster	$98	$38	$50	$160	$346
BC	Kelowna	$98	$24	$20	$184	$327
	Vernon	$92	$61	$17	$206	$375
	Kamloops	$92	$32	$23	$226	$373
	Osoyoos	$98	$25	$36	$164	$323
	Nanaimo	$92	$17	$9	$249	$367
	Langley	$92	$19	$31	$165	$308
	Maple Ridge	$92	$44	$25	$196	$357
Alberta	Ponoka	$124	$98	$33	$307	$562
	Crows Nest	$113	$29	$23	$249	$414
	Fort McMurray	$176	$43	$23	$178	$421
	Cardston	$97	$43	$41	$266	$446
	Edmonton	$109	$64	$24	$274	$471
	Calgary	$123	$69	$48	$222	$461
	Fort MacLeod	$129	$59	$33	$218	$440
	Lethbridge	$129	$69	$36	$330	$565
	Medicine Hat	$83	$52	$35	$293	$463
	Strathmore	$117	$64	$72	$288	$541
	Red Deer	$130	$56	$54	$283	$523
Saskatchewan	Regina	$133	$74	$64	$400	$671
	Swift Current	$142	$95	N/A	$529	$767
Manitoba	Brandon	$75	$51	$30	$461	$617
Ontario	Thunder Bay	$144	$63	$39	$457	$703
	Kingston	$157	$54	$58	$374	$643
	St. Thomas	$150	$54	$32	$395	$631

Notes:

1. Assumes consumption at 914 kWh/month, based on Penticton average monthly consumption for Rate Code 10; applies Rate Code 10 for Penticton and the appropriate residential rate schedules for other comparator municipalities.

2. Assumes water usage at 30 cubic meters/month, based on the average monthly consumption for customers with meter size of 13mm/16mm/19mm (1/2 inch, 5/8 inch and 3/4 inch).

3. For Penticton, the 2015 sewer bill is the average monthly fixture charges from customers with number of fixtures not exceeding six and in excess of six. For other communities, sewer usages base on the amount of water used with specific assumption from each community.

4. Property assessed at $314, 927, based on the average Penticton property assessment for 2014.

Comparison of Peer Utilities: Commercial Customer Bills

	Municipality	Average Monthly Electricity Bill ($/month)[1]	Average Monthly Water Bill ($/month)[2]	Average Monthly Sanitary Sewer Bill ($/month)[3]	Municipal Taxes ($/month)[4]	Total Monthly Bill for Average Customer ($/month)
	Penticton	**$639**	**$219**	**$111**	**$1,199**	**$2,168**
BCMEU	Summerland	$483	$81	$78	$1,420	$2,063
	Grand Forks	$571	$39	$264	$1,878	$2,753
	Nelson	$550	$242	$206	$1,715	$2,713
	New Westminster	$571	$320	$393	$1,750	$3,033
BC	Kelowna	$476	$123	$187	$1,370	$2,155
	Vernon	$570	$69	$423	$1,668	$2,731
	Kamloops	$570	$202	$164	$1,914	$2,851
	Osoyoos	$476	$148	$131	$974	$1,730
	Nanaimo	$570	$192	$9	$1,989	$2,761
	Langley	$570	$79	$212	$1,387	$2,248
	Maple Ridge	$570	$201	$103	$1,720	$2,595
Alberta	Ponoka	$546	$626	$123	$1,299	$2,593
	Crows Nest	$345	$58	$44	$1,287	$1,734
	Fort McMurray	$758	$310	$91	$843	$2,002
	Cardston	$321	$182	$311	$1,395	$2,209
	Edmonton	$623	$287	$141	$1,771	$2,822
	Calgary	$732	$316	$223	$1,460	$2,732
	Fort MacLeod	$311	$142	$78	$1,360	$1,892
	Lethbridge	$455	$241	$204	$2,144	$3,044
	Medicine Hat	$412	$212	$274	$1,788	$2,685
	Strathmore	$455	$384	$344	$1,162	$2,345
	Red Deer	$557	$336	$304	$1,608	$2,805
Saskatchewan	Regina	$618	$384	$339	$1,541	$2,883
	Swift Current	$654	$582	N/A	$1,028	$2,263
Manitoba	Brandon	$407	$278	$167	$2,413	$3,266
Ontario	Thunder Bay	$690	$346	$226	$3,554	$4,816
	Kingston	$744	$241	$285	$3,209	$4,478
	St. Thomas	$764	$305	$70	$3,327	$4,466

Notes:

1. Assumes consumption at 5,000 kWh, 10 kVa, based on Penticton average monthly consumption for all general service customers consuming less than 10,000 kWh per month; o Applies Rate Code 20 for Penticton and the appropriate small commercial rate schedules for other comparator municipalities.
2. Assumes water usage at 200 cubic meters, based on the average monthly consumption for customers with meter size of 38mm (1 and 1/2 inches).
3. For Penticton, the 2015 sewer bill is the average monthly fixture charges from customers with number of fixtures not exceeding six and in excess of six. For other communities, sewer usages base on the amount of water used with specific assumption from each community.
4. Property assessed at $999,304, based on the average Penticton property assessment for 2014.

Comparison of Peer Utilities: Industrial Customer Bills

	Municipality	Average Monthly Electricity Bill ($/month)[1]	Average Monthly Water Bill ($/month)[2]	Average Monthly Sanitary Sewer Bill ($/month)[3]	Municipal Taxes ($/month)[4]	Total Monthly Bill for Average Customer ($/month)
	Penticton	**$5,550**	**$566**	**$141**	**$1,181**	**$7,437**
BCMEU	Summerland	$5,074	$193	$190	$1,242	$6,699
	Grand Forks	$5,552	$107	$755	$2,254	$8,669
	Nelson	$5,189	$676	$570	$1,763	$8,199
	New Westminster	$3,687	$893	$1,078	$2,255	$7,913
BC	Kelowna	$3,816	$331	$539	$1,411	$6,097
	Vernon	$3,799	$80	$1,236	$2,078	$7,193
	Kamloops	$3,799	$546	$437	$2,835	$7,617
	Osoyoos	$3,816	$371	$373	$1,007	$5,567
	Nanaimo	$3,799	$192	$9	$2,026	$6,027
	Langley	$3,799	$344	$635	$1,473	$6,251
	Maple Ridge	$3,799	$577	$309	$1,725	$6,411
Alberta	Ponoka	$4,450	$1,716	$311	$1,284	$7,761
	Crows Nest	$3,536	$116	$86	$1,272	$5,010
	Fort McMurray	$4,054	$865	$378	$833	$6,130
	Cardston	$3,320	$510	$851	$1,379	$6,060
	Edmonton	$6,950	$800	$415	$1,750	$9,916
	Calgary	$5,460	$883	$629	$1,443	$8,414
	Fort MacLeod	$4,261	$322	$132	$1,344	$6,059
	Lethbridge	$5,024	$668	$270	$2,119	$8,081
	Medicine Hat	$3,090	$590	$751	$1,767	$6,198
	Strathmore	$4,131	$1,136	$984	$1,149	$7,400
	Red Deer	$5,473	$955	$861	$1,589	$8,878
Saskatchewan	Regina	$4,708	$1,097	$974	$1,523	$8,302
	Swift Current	$5,046	$1,678	N/A	$1,738	$8,462
Manitoba	Brandon	$2,877	$802	$491	$2,385	$6,556
Ontario	Thunder Bay	$6,651	$764	$471	$4,200	$12,086
	Kingston	$6,739	$601	$698	$3,901	$11,938
	St. Thomas	$6,122	$850	$483	$3,671	$11,125

Notes:

1. Assumes consumption at 50,000 kWh, 100 kVa, based on Penticton average monthly consumption for all general service customers consuming more than 10,000 kWh per month; applies Rate Code 35 for Penticton and the appropriate industrial rate schedules for other comparator municipalities.

2. Assumes water usage at 600 cubic meters, based on the average monthly consumption for customers with meter size of 50mm (2 inches).

3. For Penticton, the 2015 sewer bill is the average monthly fixture charges from customers with number of fixtures not exceeding six and in excess of six. For other communities, sewer usages base on the amount of water used with specific assumption from each community.

4.Property assessed at $987,745, based on the average Penticton property assessment for 2014.

Municipality Summary: City of Penticton (BC)

Population[1]: 31,720

Electric Utility[2,3]		
Number of Customers		17,257
Annual Revenues	$	36,917,571
Net Income	$	6,670,779
Book Value of Assets	$	38,476,318
Debt Ratio		0.0%
Dividends	$	3,039,629
Average Residential Bill	$	113
Average Commercial Bill	$	639
Average Industrial Bill	$	5,550

Water Utility[2,4]		
Number of Customers		9,112
Annual Revenues	$	10,072,226
Net Income	$	5,236,703
Book Value of Assets	$	33,659,994
Debt Ratio		29.5%
Dividends		N/A
Average Residential Bill	$	34
Average Commercial Bill	$	219
Average Industrial Bill	$	566

Sanitary Sewer Utility[2,4]		
Number of Customers		9,476
Annual Revenues	$	5,832,508
Net Income	$	1,285,688
Book Value of Assets	$	41,632,109
Debt Ratio		31.0%
Dividends		N/A
Average Residential Bill	$	43
Average Commercial Bill	$	111
Average Industrial Bill	$	141

Property Taxes[5]		
Average Residential Bill	$	194
Average Commercial Bill	$	1,199
Average Industrial Bill	$	1,181

Notes:

1. Statistics Canada, 2013.

2. Electric, Water and Sewer Utilities financial data as per City of Penticon, 2014 Financial Statements.

http://www.penticton.ca/assets/Departments/Finance/2012~Financial~Statements/2014%20COP%20Financial%20Statements-FINAL.pdf

3. Average bills calculated by InterGroup Consultants. Rates per the City of Penticton Bylaw No. 2014-07. Appendix 7. Effective February 1 2015. Includes 1.83% increase effective July 1, 2015.

http://www.penticton.ca/assets/City~Hall/Bylaws/Finance/Fees%20and%20Charges%20Bylaw%20No.%202014-07.pdf

4. Average bills calculated by InterGroup Consultants. Rates per the City of Penticton Bylaw No. 2014-07. Appendix 25 and Appendix 29. Effective February 1 2015.

http://www.penticton.ca/assets/City~Hall/Bylaws/Finance/Fees%20and%20Charges%20Bylaw%20No.%202014-07.pdf

5. Property Taxes Rates as per Government of British Columbia, Local Government Tax Rates and Assessment, 2014.

http://www.cscd.gov.bc.ca/lgd/infra/tax_rates/tax_rates2014.htm

Municipality Summary: District of Summerland (BC)

Population[1]: 10,880

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues	$	9,905,538
Net Income	$	1,060,158
Book Value of Assets	$	6,920,786
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	100
Average Commercial Bill	$	483
Average Industrial Bill	$	5,074

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	4,374,112
Net Income	$	533,187
Book Value of Assets	$	38,185,384
Debt Ratio		36%
Dividends		N/A
Average Residential Bill	$	38
Average Commercial Bill	$	81
Average Industrial Bill	$	193

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	2,238,124
Net Income	-$	48,938
Book Value of Assets	$	23,580,476
Debt Ratio		33%
Dividends		N/A
Average Residential Bill	$	31
Average Commercial Bill	$	78
Average Industrial Bill	$	190

Property Taxes[5]		
Average Residential Bill	$	197
Average Commercial Bill	$	1,420
Average Industrial Bill	$	1,242

Notes:

1. Statistics Canada, 2013.

2. Electric, Water and Sewer Utilities financial data as per District of Summerland, 2013 revised final Financial Statements.

http://www.dist.summerland.bc.ca/docs/docs_forms/annual_reports/Financial%20Reports/2013%20revised%20final%20Financial%20Statements.pdf

3. Average bills calculated by InterGroup Consultants. Rates per the District of Summerland, Bylaw No. 98-001 Schedule A. Effective April 1 2015.

http://www.summerland.ca/docs/default-source/administration/bylaws/fees-and-charges-98-001.pdf?sfvrsn=2

4. Average bills calculated by InterGroup Consultants. Rates per the District of Summerland, Bylaw No. 98-001. Schedule O. Effective April 1 2015.

http://www.summerland.ca/docs/default-source/administration/bylaws/fees-and-charges-98-001.pdf?sfvrsn=2

5. Property Taxes Rates as per Government of British Columbia, Local Government Tax Rates and Assessment, 2014.

http://www.cscd.gov.bc.ca/lgd/infra/tax_rates/tax_rates2014.htm

Municipality Summary: City of Grand Forks (BC)

Population[1]: 3,830

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues	$	4,284,851
Net Income	$	136,329
Book Value of Assets	$	937,193
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	111
Average Commercial Bill	$	571
Average Industrial Bill	$	5,552

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	789,131
Net Income	-$	152,558
Book Value of Assets	$	3,338,771
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	21
Average Commercial Bill	$	39
Average Industrial Bill	$	107

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	791,266
Net Income	-$	25,679
Book Value of Assets	$	4,374,569
Debt Ratio		42%
Dividends		N/A
Average Residential Bill	$	59
Average Commercial Bill	$	264
Average Industrial Bill	$	755

Property Taxes[5]		
Average Residential Bill	$	256
Average Commercial Bill	$	1,878
Average Industrial Bill	$	2,254

Notes:

1. Statistics Canada, 2013.

2. Electric, Water and Sewer Utilities financial data as per City of Grand Forks, 2013 Annual Report.

http://www.grandforks.ca/reports/#toggle-id-1

3. Average bills calculated by InterGroup Consultants. Rates per the City of Grand Forks, Bylaw No. 1543-A1. Effective July 1 2014.

http://www.grandforks.ca/wp-content/uploads/bylaws/Bylaw-1543-A1-to-amend-Bylaw-1543-Electrial-Utility.pdf

4. Average bills calculated by InterGroup Consultants. Rates per the City of Grand Forks, Bylaw No. 1501-A1 and 1500-A1. Effective July 1 2014.

http://www.grandforks.ca/wp-content/uploads/bylaws/Bylaw-1501-A1-to-amend-Bylaw-1501-Water-Regulations.pdf

http://www.grandforks.ca/wp-content/uploads/bylaws/Bylaw-1500-A1-to-amend-Bylaw-1500-Sewer-Regulations.pdf

5. Property Taxes Rates as per Government of British Columbia, Local Government Tax Rates and Assessment, 2014.
http://www.cscd.gov.bc.ca/lgd/infra/tax_rates/tax_rates2014.htm

Municipality Summary: City of Nelson (BC)

Population[1]: 9,985

Electric Utility[2,3]		
Number of Customers		10,108
Annual Revenues	$	16,577,210
Net Income	$	4,959,241
Book Value of Assets	$	29,215,980
Debt Ratio		24%
Dividends		N/A
Average Residential Bill	$	93
Average Commercial Bill	$	550
Average Industrial Bill	$	5,189

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	6,477,951
Net Income	$	2,054,253
Book Value of Assets	$	34,144,552
Debt Ratio		3%
Dividends		N/A
Average Residential Bill	$	47
Average Commercial Bill	$	242
Average Industrial Bill	$	676

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets	$	17,767,704
Debt Ratio		4%
Dividends		N/A
Average Residential Bill	$	41
Average Commercial Bill	$	206
Average Industrial Bill	$	570

Property Taxes[5]		
Average Residential Bill	$	241
Average Commercial Bill	$	1,715
Average Industrial Bill	$	1,763

Notes:

1. Statistics Canada, 2013.

2. Electric, Water and Sewer Utilities financial data as per City of Nelson, 2013 Financial Statements. Water utility revenues and net income includes water and sewer utilities.

http://www.nelson.ca/EN/main/services/publications-reports/financial-statements.html

3. Average bills calculated by InterGroup Consultants. Rates per the City of Nelson, Bylaw No. 3196. Effective April 1 2015.

https://nelson.civicweb.net/document/25430/Hydro%20Services%20Bylaw%203196%20(2015-3-2).pdf?handle=C0D130A3D8304E118603A8DBA9BA5DB6

4. Average bills calculated by InterGroup Consultants. Rates per the City of Nelson, Bylaw No. 3092. Effective May 1 2015.

https://nelson.civicweb.net/Documents/DocumentList.aspx?ID=6404

5. Property Taxes Rates as per Government of British Columbia, Local Government Tax Rates and Assessment, 2014.

http://www.cscd.gov.bc.ca/lgd/infra/tax_rates/tax_rates2014.htm

Municipality Summary: City of New Westminster (BC)

Population[1]: 65,090

Electric Utility[2,3]		
Number of Customers		29,000
Annual Revenues	$	37,961,393
Net Income	$	9,367,946
Book Value of Assets	$	51,784,635
Debt Ratio		37%
Dividends		N/A
Average Residential Bill	$	98
Average Commercial Bill	$	571
Average Industrial Bill	$	3,687

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	9,265,920
Net Income	$	2,287,924
Book Value of Assets	$	34,422,712
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	38
Average Commercial Bill	$	320
Average Industrial Bill	$	893

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	14,294,243
Net Income	$	5,078,268
Book Value of Assets	$	53,967,820
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	50
Average Commercial Bill	$	393
Average Industrial Bill	$	1,078

Property Taxes[5]		
Average Residential Bill	$	160
Average Commercial Bill	$	1,750
Average Industrial Bill	$	2,255

Notes:

1. Statistics Canada, 2013.

2. Electric, Water and Sewer Utilities financial data as per City of New Westminster, 2013 Financial Statements.

http://www.newwestcity.ca/database/files/library/2013_Statement_of_Financial_Information.pdf

3. Average bills calculated by InterGroup Consultants. Rates per the City of New Westminster, Bylaw No. 7738. Effective April 1 2015.

http://www.newwestcity.ca/database/files/library/6502_Electric_Utility(1).pdf

4. Average bills calculated by InterGroup Consultants. Rates per 2015 Compendium of Water and Sewer Rate Structures, prepared by AECOM. April 7, 2015.

5. Property Taxes Rates as per Government of British Columbia, Local Government Tax Rates and Assessment, 2014.

http://www.cscd.gov.bc.ca/lgd/infra/tax_rates/tax_rates2014.htm

Municipality Summary: City of Kelowna (BC)

Population[1]: 114,570

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	98
Average Commercial Bill	$	476
Average Industrial Bill	$	3,816

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	15,974,000
Net Income	$	5,823,000
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	24
Average Commercial Bill	$	123
Average Industrial Bill	$	331

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	25,600,000
Net Income	$	2,539,000
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	20
Average Commercial Bill	$	187
Average Industrial Bill	$	539

Property Taxes[5]		
Average Residential Bill	$	184
Average Commercial Bill	$	1,370
Average Industrial Bill	$	1,411

Notes:

1. Statistics Canada, 2013.

2. Electric, Water and Sewer Utilities financial data as per City of Kelowna, 2014 Annual Report.

http://viewer.zmags.com/publication/097c3927#/097c3927/48

3. Average bills calculated by InterGroup Consultants. As of January, 2014, City of Kelowna residents began receiving their electrical customer service and bill statements directly from FortisBC. Effective January 1 2015.

http://www.fortisbc.com/About/RegulatoryAffairs/ElecUtility/Documents/FortisBCElectricTariff.pdf

4. Average bills calculated by InterGroup Consultants. Rates per 2015 Compendium of Water and Sewer Rate Structures, prepared by AECOM. April 7, 2015.

5. Property Taxes Rates as per Government of British Columbia, Local Government Tax Rates and Assessment, 2014.

http://www.cscd.gov.bc.ca/lgd/infra/tax_rates/tax_rates2014.htm

Municipality Summary: City of Vernon (BC)

Population[1]: 36,490

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	92
Average Commercial Bill	$	570
Average Industrial Bill	$	3,799

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	61
Average Commercial Bill	$	69
Average Industrial Bill	$	80

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	11,464,000
Net Income	$	3,614,000
Book Value of Assets	$	66,813,000
Debt Ratio		23%
Dividends		N/A
Average Residential Bill	$	17
Average Commercial Bill	$	423
Average Industrial Bill	$	1,236

Property Taxes[5]		
Average Residential Bill	$	206
Average Commercial Bill	$	1,668
Average Industrial Bill	$	2,078

Notes:

1. Statistics Canada, 2013.

2. Electric, Water and Sewer Utilities financial data as per City of Vernon, 2013 Annual Report.

http://www.vernon.ca/services/finance/documents/2013AnnualReport.pdf

3. Average bills calculated by InterGroup Consultants. Electric power in City of Vernon is supplied by BC Hydro. Effective April 1 2015.

https://www.bchydro.com/accounts-billing/rates-energy-use/electricity-rates.html

4. Average bills calculated by InterGroup Consultants. Rates per 2015 Compendium of Water and Sewer Rate Structures, prepared by AECOM. April 7, 2015.

5. Property Taxes Rates as per Government of British Columbia, Local Government Tax Rates and Assessment, 2014.

http://www.cscd.gov.bc.ca/lgd/infra/tax_rates/tax_rates2014.htm

Municipality Summary: City of Kamloops (BC)

Population[1]: 83,725

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	92
Average Commercial Bill	$	570
Average Industrial Bill	$	3,799

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	13,441,698
Net Income	-$	2,869,453
Book Value of Assets	$	125,241,603
Debt Ratio		17%
Dividends		N/A
Average Residential Bill	$	32
Average Commercial Bill	$	202
Average Industrial Bill	$	546

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	7,551,225
Net Income	$	42,343
Book Value of Assets	$	91,179,215
Debt Ratio		23%
Dividends		N/A
Average Residential Bill	$	23
Average Commercial Bill	$	164
Average Industrial Bill	$	437

Property Taxes[5]		
Average Residential Bill	$	226
Average Commercial Bill	$	1,914
Average Industrial Bill	$	2,835

Notes:

1. Statistics Canada, 2013.

2. Electric, Water and Sewer Utilities financial data as per City of Kamloops, 2014 Annual Report.

http://www.kamloops.ca/publications/pdfs/14-AnnualReport.pdf

3. Average bills calculated by InterGroup Consultants. Electric power in City of Kamloops is supplied by BC Hydro. Effective April 1 2015.

https://www.bchydro.com/accounts-billing/rates-energy-use/electricity-rates.html

4. Average bills calculated by InterGroup Consultants. Rates per 2015 Compendium of Water and Sewer Rate Structures, prepared by AECOM. April 7, 2015.

5. Property Taxes Rates as per Government of British Columbia, Local Government Tax Rates and Assessment, 2014.

http://www.cscd.gov.bc.ca/lgd/infra/tax_rates/tax_rates2014.htm

Municipality Summary: Town of Osoyoos (BC)

Population[1]: 4,575

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	98
Average Commercial Bill	$	476
Average Industrial Bill	$	3,816

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	2,162,114
Net Income	$	623,861
Book Value of Assets	$	6,240,474
Debt Ratio		3%
Dividends		N/A
Average Residential Bill	$	25
Average Commercial Bill	$	148
Average Industrial Bill	$	371

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	1,685,253
Net Income	$	193,723
Book Value of Assets	$	17,470,705
Debt Ratio		2%
Dividends		N/A
Average Residential Bill	$	36
Average Commercial Bill	$	131
Average Industrial Bill	$	373

Property Taxes[5]		
Average Residential Bill	$	164
Average Commercial Bill	$	974
Average Industrial Bill	$	1,007

Notes:

1. Statistics Canada, 2013.

2. Electric, Water and Sewer Utilities financial data as per Town of Osoyoos, 2014 Financial Statements.

3. Average bills calculated by InterGroup Consultants. Electric power in Town of Osoyoos is supplied by FortisBC. Effective January 1 2015.

http://www.fortisbc.com/About/RegulatoryAffairs/ElecUtility/Documents/FortisBCElectricTariff.pdf

4. Average bills calculated by InterGroup Consultants. Rates per Town of Osoyoos Bylaw No. 1242.07, 2015 and Bylaw No. 1065.16, 2015. Effective January 1 2015.

https://osoyoos.civicweb.net/Documents/DocumentList.aspx?ID=50790

https://osoyoos.civicweb.net/Documents/DocumentList.aspx?ID=50787

5. Property Taxes Rates as per Government of British Columbia, Local Government Tax Rates and Assessment, 2014.

http://www.cscd.gov.bc.ca/lgd/infra/tax_rates/tax_rates2014.htm

Municipality Summary: City of Nanaimo (BC)

Population[1]: 81,560

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	92
Average Commercial Bill	$	570
Average Industrial Bill	$	3,799

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	29,959,082
Net Income	$	20,832,374
Book Value of Assets	$	104,278,620
Debt Ratio		13%
Dividends		N/A
Average Residential Bill	$	17
Average Commercial Bill	$	192
Average Industrial Bill	$	192

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	6,016,090
Net Income	$	1,790,465
Book Value of Assets	$	18,801,349
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	9
Average Commercial Bill	$	9
Average Industrial Bill	$	9

Property Taxes[5]		
Average Residential Bill	$	249
Average Commercial Bill	$	1,989
Average Industrial Bill	$	2,026

Notes:

1. Statistics Canada, 2013.

2. Electric, Water and Sewer Utilities financial data as per City of Nanaimo, 2013 Annual Report.

http://www.nanaimo.ca/assets/Departments/Finance/Budget~and~Financial~Reports/Financial~Reports/2013MunicipalAnnualReport.pdf

3. Average bills calculated by InterGroup Consultants. Electric power in City of Nanaimo is supplied by BC Hydro. Effective April 1 2015.

https://www.bchydro.com/accounts-billing/rates-energy-use/electricity-rates.html

4. Average bills calculated by InterGroup Consultants. Rates per 2015 Compendium of Water and Sewer Rate Structures, prepared by AECOM. April 7, 2015.

5. Property Taxes Rates as per Government of British Columbia, Local Government Tax Rates and Assessment, 2014.

http://www.cscd.gov.bc.ca/lgd/infra/tax_rates/tax_rates2014.htm

Municipality Summary: Township of Langley (BC)

Population[1]: 24,485

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	92
Average Commercial Bill	$	570
Average Industrial Bill	$	3,799

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	15,130,000
Net Income	$	3,209,000
Book Value of Assets	$	112,151,000
Debt Ratio		1.1%
Dividends		N/A
Average Residential Bill	$	19
Average Commercial Bill	$	79
Average Industrial Bill	$	344

Sanitary Sewer Utility[2,4]		
Number of Customers		
Annual Revenues	$	11,280,000
Net Income	$	1,565,000
Book Value of Assets	$	89,341,000
Debt Ratio		10%
Dividends		N/A
Average Residential Bill	$	31
Average Commercial Bill	$	212
Average Industrial Bill	$	635

Property Taxes[5]		
Average Residential Bill	$	165
Average Commercial Bill	$	1,387
Average Industrial Bill	$	1,473

Notes:

1. Statistics Canada, 2013.

2. Electric, Water and Sewer Utilities financial data as per Township of Langley, 2011 Annual Report.

http://www.tol.ca/Services-Contact/Document-Library#dltop

3. Average bills calculated by InterGroup Consultants. Electric power in Township of Langley is supplied by BC Hydro. Effective April 1 2015.

https://www.bchydro.com/accounts-billing/rates-energy-use/electricity-rates.html

4. Average bills calculated by InterGroup Consultants. Rates per 2015 Compendium of Water and Sewer Rate Structures, prepared by AECOM. April 7, 2015.

5. Property Taxes Rates as per Government of British Columbia, Local Government Tax Rates and Assessment, 2014.

http://www.cscd.gov.bc.ca/lgd/infra/tax_rates/tax_rates2014.htm

Municipality Summary: City of Maple Ridge (BC)

Population[1]: 75,140

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	92
Average Commercial Bill	$	570
Average Industrial Bill	$	3,799

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	17,542,971
Net Income	$	2,167,696
Book Value of Assets	$	105,205,443
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	44
Average Commercial Bill	$	201
Average Industrial Bill	$	577

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	10,298,335
Net Income	$	956,468
Book Value of Assets	$	119,326,063
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	25
Average Commercial Bill	$	103
Average Industrial Bill	$	309

Property Taxes[5]		
Average Residential Bill	$	196
Average Commercial Bill	$	1,720
Average Industrial Bill	$	1,725

Notes:

1. Statistics Canada, 2013.

2. Electric, Water and Sewer Utilities financial data as per City of Maple Ridge, 2014 Annual Report.

http://www.mapleridge.ca/DocumentCenter/Home/View/5329

3. Average bills calculated by InterGroup Consultants. Electric power in City of Maple Ridge is supplied by BC Hydro. Effective April 1 2015.

http://www.fortisbc.com/About/RegulatoryAffairs/ElecUtility/Documents/FortisBCElectricTariff.pdf

4. Average bills calculated by InterGroup Consultants. Rates per 2015 Compendium of Water and Sewer Rate Structures, prepared by AECOM. April 7, 2015.

5. Property Taxes Rates as per Government of British Columbia, Local Government Tax Rates and Assessment, 2014.

http://www.cscd.gov.bc.ca/lgd/infra/tax_rates/tax_rates2014.htm

Municipality Summary: Town of Ponoka (AB)

Population[1]: 6,435

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues	$	3,323,209
Net Income	$	1,186,243
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	124
Average Commercial Bill	$	546
Average Industrial Bill	$	4,450

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	98
Average Commercial Bill	$	626
Average Industrial Bill	$	1,716

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	33
Average Commercial Bill	$	123
Average Industrial Bill	$	311

Property Taxes		
Average Residential Tax Bill[b]	$	307
Average Commercial Tax Bill	$	1,299
Average Industrial Tax Bill	$	1,284

Notes:

1. Statistics Canada, 2013.

2. As per Town of Ponoka, Financial Statements, December 31, 2014. Data for Electric Utility include Electrical Services & Other.

http://www.ponoka.ca/images/2014_Financial_Statements.pdf

3. Average bills calculated by InterGroup Consultants. Rates per Town of Ponoka, Bylaw No. 326-13. Effective January 1 2014.

http://www.ponoka.ca/images/bylaw_326-13.pdf

4. Average bills calculated by InterGroup Consultants. Rates per Town of Ponoka, Bylaw No. 327-13. Effective January 1 2014.

http://www.ponoka.ca/images/water_rates_bylaw.pdf

5. Property Taxes Rates as per Alberta Municipal Affairs, Municipal Financial and Statistical Data, 2014.

http://www.municipalaffairs.alberta.ca/municipal_financial_statistical_data

Municipality Summary: Municipality of Crowsnest (AB)

Population[1]: 5,425

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues[2]	$	1,708,762
Net Income[2]	$	696,171
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	113
Average Commercial Bill	$	345
Average Industrial Bill	$	3,536

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues[2]	$	2,710,483
Net Income[2]	-$	361,860
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	29
Average Commercial Bill	$	58
Average Industrial Bill	$	116

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	23
Average Commercial Bill	$	44
Average Industrial Bill	$	86

Property Taxes		
Average Residential Tax Bill[b]	$	249
Average Commercial Tax Bill	$	1,287
Average Industrial Tax Bill	$	1,272

Notes:

1. Statistics Canada, 2013.

2. As per Municipality of Crowsnest Pass, Financial Statements, December 31, 2014. Revenue and net income data for water utility include three utilities of water, wastewater and solid waste.

http://www.crowsnestpass.com/public/download/documents/11018

3. Average bills calculated by InterGroup Consultants. Rates per Municipality of Crowsnest Pass, Bylaw No. 881, 2014. Effective June 1 2014.

http://www.crowsnestpass.com/public/download/documents/7425

4. Average bills calculated by InterGroup Consultants.Rates per Municipality of Crowsnest Pass, Bylaw No. 917 - 2015. Effective July 1 2015.

http://www.crowsnestpass.com/public/download/documents/10730

5. Property Taxes Rates as per Alberta Municipal Affairs, Municipal Financial and Statistical Data, 2014.

http://www.municipalaffairs.alberta.ca/municipal_financial_statistical_data

Municipality Summary: Fort McMurray (Regional Municipality of Wood Buffalo) (AB)

Population[1]: 61,374

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	176
Average Commercial Bill	$	758
Average Industrial Bill	$	4,054

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	43
Average Commercial Bill	$	310
Average Industrial Bill	$	865

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	23
Average Commercial Bill	$	91
Average Industrial Bill	$	378

Property Taxes[5]		
Average Residential Tax Bill	$	178
Average Commercial Tax Bill	$	843
Average Industrial Tax Bill	$	833

Notes:

1. Statistics Canada, 2013.

2. As per Regional Municipality of Wood Buffalo, Financial Statements, December 31, 2014.

http://www.rmwb.ca/Municipal-Government/municipal_departments/Financial-Services-Department/2014-Financial-Statements.htm

3. Average bills calculated by InterGroup Consultants. Direct Energy Regulated Services provides electricity service to Fort McMurray. Effective June 1 2015.

http://www2.directenergy.com/direct-energy-regulations-educational/about-your-rates/your-electricity-rates.aspx

4. Average bills calculated by InterGroup Consultants. Rates per Regional Municipality of Wood Buffalo, Bylaw No.10/001. Effective 2015.

http://www.rmwb.ca/Assets/Departments/Legislative+and+Legal+Services/Bylaws/UtilityRates.pdf

5. Property Taxes Rates as per Alberta Municipal Affairs, Municipal Financial and Statistical Data, 2014.

http://www.municipalaffairs.alberta.ca/municipal_financial_statistical_data

Municipality Summary: Town of Cardston (AB)

Population[1]: 3,580

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues	$	1,946,704
Net Income	$	464,576
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	97
Average Commercial Bill	$	321
Average Industrial Bill	$	3,320

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	43
Average Commercial Bill	$	182
Average Industrial Bill	$	510

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	41
Average Commercial Bill	$	311
Average Industrial Bill	$	851

Property Taxes[5]		
Average Residential Tax Bill	$	266
Average Commercial Tax Bill	$	1,395
Average Industrial Tax Bill	$	1,379

Notes:

1. Statistics Canada, 2013.

2. As per Town of Cardson, Financial Statements, December 31, 2014.

http://static1.squarespace.com/static/54b9818ae4b0023bcfc8e707/t/55102d9ee4b03f089fbb33fe/1427123614669/2013+Audited+Financial+Statement.pdf

3. Average bills calculated by InterGroup Consultants. Rates per Town of Cardston, Effective February 4, 2015

http://static1.squarespace.com/static/54b9818ae4b0023bcfc8e707/t/54f73197e4b04ea4130e14fc/1425486231680/Bylaw+1606+and+1606D+with+Schedules.pdf

4. Average bills calculated by InterGroup Consultants. Rates per Town of Cardston, Effective February 4, 2015

http://www.cardston.ca/utilities-taxes-rates-and-fees/2015/2/4/water

5. Property Taxes Rates as per Alberta Municipal Affairs, Municipal Financial and Statistical Data, 2014.

http://www.municipalaffairs.alberta.ca/municipal_financial_statistical_data

Municipality Summary: City of Edmonton (AB)

Population[1]: 812,201

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	109
Average Commercial Bill	$	623
Average Industrial Bill	$	6,950

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	156,173,000
Net Income	$	142,731,000
Book Value of Assets	$	2,326,104,000
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	64
Average Commercial Bill	$	287
Average Industrial Bill	$	800

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	24
Average Commercial Bill	$	141
Average Industrial Bill	$	415

Property Taxes[5]		
Average Residential Tax Bill	$	274
Average Commercial Tax Bill	$	1,771
Average Industrial Tax Bill	$	1,750

Notes:

1. Statistics Canada, 2013.

2. As per City of Edmonton, Financial Statements, December 31, 2014. Use Drainage System data (Sanitary and Stormwater) for Water Utility.

http://www.edmonton.ca/city_government/documents/2015%20COE%20-%202014%20Annual%20Report_WEB_May14_FINAL.pdf

3. Average bills calculated by InterGroup Consultants. Rates per Hydro Quebec Comparison of Electricity Prices 2014.

http://issuu.com/hydroquebec/docs/comp_2014_en?e=1151578/4165830

4. Average bills calculated by InterGroup Consultants. Rates per City of Edmonton,Rates per 2015 Compendium of Water and Sewer Rate Structures, prepared by AECOM. Effective April 1, 2014

5. Property Taxes Rates as per Alberta Municipal Affairs, Municipal Financial and Statistical Data, 2014.

http://www.municipalaffairs.alberta.ca/municipal_financial_statistical_data

Municipality Summary: City of Calgary (AB)

Population[1]: 1,096,833

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	123
Average Commercial Bill	$	732
Average Industrial Bill	$	5,460

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	528,913,000
Net Income	$	93,001,000
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	69
Average Commercial Bill	$	316
Average Industrial Bill	$	883

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	48
Average Commercial Bill	$	223
Average Industrial Bill	$	629

Property Taxes[5]		
Average Residential Tax Bill	$	222
Average Commercial Tax Bill	$	1,460
Average Industrial Tax Bill	$	1,443

Notes:

1. Statistics Canada, 2013.

2. As per City of Calgary, Financial Statements, December 31, 2014. Water Utility data include water and sewer utilities.

http://www.calgary.ca/_layouts/cocis/DirectDownload.aspx?target=http%3a%2f%2fwww.calgary.ca%2fCA%2ffs%2fDocuments%2fPlans-Budgets-and-Financial-Reports%2fAnnual-Reports%2fAnnual-Report-2014.pdf&noredirect=1

3. Average bills calculated by InterGroup Consultants. Rates per Hydro Quebec Comparison of Electricity Prices 2014.

http://issuu.com/hydroquebec/docs/comp_2014_en?e=1151578/4165830

4. Average bills calculated by InterGroup Consultants. Rates per 2015 Compendium of Water and Sewer Rate Structures, prepared by AECOM. Effective 2015

5. Property Taxes Rates as per Alberta Municipal Affairs, Municipal Financial and Statistical Data, 2014.

http://www.municipalaffairs.alberta.ca/municipal_financial_statistical_data

Municipality Summary: Town of Fort MacLeod (AB)

Population[1]: 3,117

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues	$	2,396,273
Net Income	$	323,392
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	129
Average Commercial Bill	$	311
Average Industrial Bill	$	4,261

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	59
Average Commercial Bill	$	142
Average Industrial Bill	$	322

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	33
Average Commercial Bill	$	78
Average Industrial Bill	$	132

Property Taxes[5]		
Average Residential Tax Bill	$	218
Average Commercial Tax Bill	$	1,360
Average Industrial Tax Bill	$	1,344

Notes:

1. Statistics Canada, 2013.

2. As per Fort MacLeod, Financial Statements, December 31, 2013.

http://www.fortmacleod.com/DocumentCenter/Home/View/346

3. Average bills calculated by InterGroup Consultants. Rates per Town of Fort MacLeod.Effective March 1 2014

http://www.fortmacleod.com/DocumentCenter/Home/View/324

4. Average bills calculated by InterGroup Consultants. Rates per Town of Fort MacLeod. Effective August 1, 2014

http://www.fortmacleod.com/DocumentCenter/Home/View/448

5. Property Taxes Rates as per Alberta Municipal Affairs, Municipal Financial and Statistical Data, 2014.

http://www.municipalaffairs.alberta.ca/municipal_financial_statistical_data

Municipality Summary: City of Lethbridge (AB)

Population[1]: 83,517

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues	$	139,122,000
Net Income	$	1,305,000
Book Value of Assets	$	103,182,000
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	129
Average Commercial Bill	$	455
Average Industrial Bill	$	5,024

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets	$	162,136,000
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	69
Average Commercial Bill	$	241
Average Industrial Bill	$	668

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets	$	133,135,000
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	36
Average Commercial Bill	$	204
Average Industrial Bill	$	270

Property Taxes[5]		
Average Residential Tax Bill	$	330
Average Commercial Tax Bill	$	2,144
Average Industrial Tax Bill	$	2,119

Notes:

1. Statistics Canada, 2013.

2. As per City of Lethbridge, Financial Statements, December 31, 2014. Electric utility revenues and net income includes all utilities.

http://www.lethbridge.ca/City-Government/Financial-Documents/Documents/2014%20Annual%20Report.pdf

3. Average bills calculated by InterGroup Consultants. Rates per City of Lethbridge.Effective January 1 2015.

http://www.lethbridge.ca/living-here/electric/Documents/Bylaw%205889%202015%20Distribution%20Tariff%20Rate%20Bylaw.pdf

4. Average bills calculated by InterGroup Consultants. Rates per City of Lethbridge. Effective 2015.

http://www.lethbridge.ca/living-here/water-wastewater/Documents/2015%20Water%20Rates.pdf

5. Property Taxes Rates as per Alberta Municipal Affairs, Municipal Financial and Statistical Data, 2014.

http://www.municipalaffairs.alberta.ca/municipal_financial_statistical_data

Municipality Summary: City of Medicine Hat (AB)

Population[1]: 60,005

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues	$	112,478,000
Net Income	-$	22,671
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	83
Average Commercial Bill	$	412
Average Industrial Bill	$	3,090

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	19,884,000
Net Income	$	4,234,000
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	52
Average Commercial Bill	$	212
Average Industrial Bill	$	590

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	14,937,000
Net Income	$	1,181,000
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	35
Average Commercial Bill	$	274
Average Industrial Bill	$	751

Property Taxes[5]		
Average Residential Tax Bill	$	293
Average Commercial Tax Bill	$	1,788
Average Industrial Tax Bill	$	1,767

Notes:

1. Statistics Canada, 2013.

2. As per City of Medicine Hat, Financial Statements, December 31, 2014.

http://www.city.medicine-hat.ab.ca/modules/showdocument.aspx?documentid=9162

3. Average bills calculated by InterGroup Consultants. Rates per City of Medicine Hat. Effective May 1 2015.

http://www.city.medicine-hat.ab.ca/modules/showdocument.aspx?documentid=9224

4. Average bills calculated by InterGroup Consultants. Rates per City of Medicine Hat. Effective May 1, 2015

http://www.city.medicine-hat.ab.ca/modules/showdocument.aspx?documentid=9224

5. Property Taxes Rates as per Alberta Municipal Affairs, Municipal Financial and Statistical Data, 2014.

http://www.municipalaffairs.alberta.ca/municipal_financial_statistical_data

Municipality Summary: Town of Strathmore (AB)

Population[1]: 12,305

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	117
Average Commercial Bill	$	455
Average Industrial Bill	$	4,131

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	64
Average Commercial Bill	$	384
Average Industrial Bill	$	1,136

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	72
Average Commercial Bill	$	344
Average Industrial Bill	$	984

Property Taxes[5]		
Average Residential Tax Bill	$	288
Average Commercial Tax Bill	$	1,162
Average Industrial Tax Bill	$	1,149

Notes:

1. Statistics Canada, 2013.

2. As per Town of Strathmore, Financial Statements, December 31, 2014.

http://www.strathmore.ca/include/get.php?nodeid=522

3. Average bills calculated by InterGroup Consultants. Rates per Town of Strathmore. Effective January 1 2015.

http://www.fortisalberta.com/about/Documents/2015-Mar-Rates-Options-Riders.pdf

4. Average bills calculated by InterGroup Consultants. Rates per Town of Strathmore.Effective January 1 2015.

http://www.strathmore.ca/utilities#Utility%20Rates

5. Property Taxes Rates as per Alberta Municipal Affairs, Municipal Financial and Statistical Data, 2014.

http://www.municipalaffairs.alberta.ca/municipal_financial_statistical_data

Municipality Summary: The City of Red Deer (AB)

Population[1]: 98,585

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues	$	54,010,000
Net Income	$	21,376,000
Book Value of Assets	$	42,558,000
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	130
Average Commercial Bill	$	557
Average Industrial Bill	$	5,473

Water Utility[2,4]		
Number of Customers		110,000
Annual Revenues	$	17,005,000
Net Income	$	3,671,000
Book Value of Assets	$	173,301,000
Debt Ratio		8%
Dividends		N/A
Average Residential Bill	$	56
Average Commercial Bill	$	336
Average Industrial Bill	$	955

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	56,864,000
Net Income	$	28,918,000
Book Value of Assets	$	156,160,000
Debt Ratio		1.66%
Dividends		N/A
Average Residential Bill	$	54
Average Commercial Bill	$	304
Average Industrial Bill	$	861

Property Taxes		
Average Residential Tax Bill[b]	$	283
Average Commercial Tax Bill	$	1,608
Average Industrial Tax Bill	$	1,589

Notes:

1. City of Red Deer, 2014 Municipal Census Report.

http://www.reddeer.ca/media/reddeerca/city-government/city-departments/2014-Census-Results---Official-Report.pdf

2. Revenues, Net Income, Book Value of Assets and Debt Ratio data from City of Red Deer, 2013 Annual Financial Report, December 31, 2013.

http://www.reddeer.ca/media/reddeerca/city-government/budget-and-annual-financial-reports/AnnualFinancialReportFinal.pdf

3. Average bills calculated by InterGroup Consultants. Rates per City of Red Deer, Bylaw 3273/2000.

http://www.reddeer.ca/media/reddeerca/city-government/bylaws/Electric-Utility-Bylaw-Schedule-D.pdf

4. Average bills calculated by InterGroup Consultants. Rates per 2015 Compendium of Water and Sewer Rate Structure. National Water & Wastewater Benchmarking Initiative.

5. Property Taxes Rates as per Alberta Municipal Affairs, Municipal Financial and Statistical Data, 2014.

http://www.municipalaffairs.alberta.ca/municipal_financial_statistical_data

Municipality Summary: City of Regina (SK)

Population[1]: 193,100

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	133
Average Commercial Bill	$	618
Average Industrial Bill	$	4,708

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	107,239,494
Net Income	$	65,890,000
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	74
Average Commercial Bill	$	384
Average Industrial Bill	$	1,097

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	64
Average Commercial Bill	$	339
Average Industrial Bill	$	974

Property Taxes[5]		
Average Residential Tax Bill	$	400
Average Commercial Tax Bill	$	1,541
Average Industrial Tax Bill	$	1,523

Notes:

1. Statistics Canada, 2013.

2. As per City of Regina, Financial Statements, December 31, 2013. Water utility revenues and net income includes water and sewer utilities.

https://www.regina.ca/opencms/export/sites/regina.ca/residents/city-administration/.media/pdf/annual-report-2013.pdf

3. Average bills calculated by InterGroup Consultants. Rates per City of Regina. Effective January 1 2015.

http://www.saskpower.com/wp-content/uploads/residential_rates_2015.pdf

4. Average bills calculated by InterGroup Consultants. Rates per 2015 Compendium of Water and Sewer Rate Structures, prepared by AECOM. Effective January 1, 2015

5. Property Taxes Rates as per City of Regina, 2015 Mill Rates.

https://www.regina.ca/residents/assessment/property-tax-deadlines/regina-tax-policies/mill-rate/

Municipality Summary: Town of Swift Current (SK)

Population[1]: 15,503

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues	$	18,291,305
Net Income	$	5,517,999
Book Value of Assets	$	6,906,377
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	142
Average Commercial Bill	$	654
Average Industrial Bill	$	5,046

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	7,032,480
Net Income	-$	303,092
Book Value of Assets	$	5,207,743
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	95
Average Commercial Bill	$	582
Average Industrial Bill	$	1,678

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets	$	12,921,662
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill		N/A
Average Commercial Bill		N/A
Average Industrial Bill		N/A

Property Taxes[5]		
Average Residential Tax Bill	$	529
Average Commercial Tax Bill	$	1,028
Average Industrial Tax Bill	$	1,738

Notes:

1. Statistics Canada, 2013.

2. As per Town of Swift Current, Financial Statements, December 31, 2014.

http://www.swiftcurrent.ca/home/showdocument?id=8465

3. Average bills calculated by InterGroup Consultants. Rates per Town of Swift Current. Effective January 1 2014.

http://199.192.184.61/home/showdocument?id=388

4. Average bills calculated by InterGroup Consultants. Rates per Town of Swift Current. Effective January to December 2015. Water bills include water and sewer charges.

http://www.swiftcurrent.ca/home/showdocument?id=150

5. Property Taxes Rates as per City of Swift Current, 2014 Mill Rates.

http://www.swiftcurrent.ca/divisions/corporate-services/financial-services/taxation/how-taxes-are-calculated

Municipality Summary: City of Brandon (MB)

Population[1]: 46,061

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	75
Average Commercial Bill	$	407
Average Industrial Bill	$	2,877

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	32,804,047
Net Income	$	14,085,907
Book Value of Assets	$	138,133,560
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	51
Average Commercial Bill	$	278
Average Industrial Bill	$	802

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		
Average Residential Bill	$	30
Average Commercial Bill	$	167
Average Industrial Bill	$	491

Property Taxes[5]		
Average Residential Tax Bill	$	461
Average Commercial Tax Bill	$	2,413
Average Industrial Tax Bill	$	2,385

Notes:

1. Statistics Canada, 2013.

2. As per City of Brandon, Financial Statements, December 31, 2013.Water utility revenue and net income includes water and sewer utilities.

http://brandon.ca/images/pdf/Finances/2013FinancialStatement.pdf

3. Average bills calculated by InterGroup Consultants. Rates per City of Brandon. Effective May 1 2014

https://www.hydro.mb.ca/regulatory_affairs/energy_rates/electricity/current_rates.shtml

4. Average bills calculated by InterGroup Consultants. Rates per 2015 Compendium of Water and Sewer Rate Structures, prepared by AECOM. Effective 2015.

5. Property Taxes Rates as per City of Brandon, 2014 Property Tax Mill Rate.

http://brandon.ca/images/pdf/Taxes/2014TaxMillRates.pdf

Municipality Summary: City of Thunder Bay (ON)

Population[1]: 108,359

Electric Utility[2,3]		
Number of Customers		49,000
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets	$	140,407,737
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	144
Average Commercial Bill	$	690
Average Industrial Bill	$	6,651

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	63
Average Commercial Bill	$	346
Average Industrial Bill	$	764

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	39
Average Commercial Bill	$	226
Average Industrial Bill	$	471

Property Taxes[5]		
Average Residential Tax Bill	$	457
Average Commercial Tax Bill	$	3,554
Average Industrial Tax Bill	$	4,200

Notes:

1. Statistics Canada, 2013.

2. As per City of Thunder Bay, Financial Statements, December 31, 2013.

http://www.thunderbay.ca/City_Government/Finance_and_Budgets/Financial_Statements.htm

3. Average bills calculated by InterGroup Consultants. Rates per City of Thunder Bay. Effective May 1 2015.

http://www.tbhydro.on.ca/residential/rates/

4. Average bills calculated by InterGroup Consultants. Rates per 2015 Compendium of Water and Sewer Rate Structures, prepared by AECOM. Effective April 1, 2014.

5. Property Taxes Rates as per City of Thunder Bay, 2014 Property Tax.

http://www.thunderbay.ca/Assets/City+Government/Revenue/docs/Guide+to+Your+Final+2014+Property+Tax+Bill.pdf

Municipality Summary: City of Kingston (ON)

Population[1]: 123,363

Electric Utility[2,3]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	157
Average Commercial Bill	$	744
Average Industrial Bill	$	6,739

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	26,788,000
Net Income	$	8,585,000
Book Value of Assets	$	305,636
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	54
Average Commercial Bill	$	241
Average Industrial Bill	$	601

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	31,446,000
Net Income	$	5,982,000
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	58
Average Commercial Bill	$	285
Average Industrial Bill	$	698

Property Taxes[5]		
Average Residential Tax Bill	$	374
Average Commercial Tax Bill	$	3,209
Average Industrial Tax Bill	$	3,901

Notes:

1. Statistics Canada, 2013.

2. As per City of Kingston, Financial Statements, December 31, 2013.

https://www.cityofkingston.ca/documents/10180/57852/2013+Audited+Financial+Statements/fa2de599-ac04-4e79-aad3-90cd7cc72255

3. Average bills calculated by InterGroup Consultants. Rates per City of Kingston. Effective May 1 2015.

http://www.kingstonhydro.com/Media/Residential_Time-of-Use-Rates-May-2015.pdf

4. Average bills calculated by InterGroup Consultants. Rates per 2015 Compendium of Water and Sewer Rate Structures, prepared by AECOM. Effective March 1, 2015

5. Property Taxes Rates as per City of Kingston, 2014 Property Tax.

https://www.cityofkingston.ca/documents/10180/57933/2014+Tax+Rate+Schedule/c08acd02-5a88-4dc6-9e9a-0cba05665870

Municipality Summary: City of St. Thomas (ON)

Population[1]: 37,905

Electric Utility[2,3]		
Number of Customers		18,000
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	150
Average Commercial Bill	$	764
Average Industrial Bill	$	6,122

Water Utility[2,4]		
Number of Customers		N/A
Annual Revenues	$	25,856,312
Net Income	$	8,252,868
Book Value of Assets	$	179,774,245
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	54
Average Commercial Bill	$	305
Average Industrial Bill	$	850

Sanitary Sewer Utility[2,4]		
Number of Customers		N/A
Annual Revenues		N/A
Net Income		N/A
Book Value of Assets		N/A
Debt Ratio		N/A
Dividends		N/A
Average Residential Bill	$	32
Average Commercial Bill	$	70
Average Industrial Bill	$	483

Property Taxes[5]		
Average Residential Tax Bill	$	395
Average Commercial Tax Bill	$	3,327
Average Industrial Tax Bill	$	3,671

Notes:

1. Statistics Canada, 2013.

2. As per City of St. Thomas, Financial Statements, December 31, 2013. Water utility revenues, net income and book value of assets includes water and sewer utilities.

https://stthomas.civicweb.net/document/5278/Final%20City%20of%20St%20Thomas%202013FS.pdf?handle=6650728BCAB5487292E65C99240EFA02

3. Average bills calculated by InterGroup Consultants. Rates per St. Thomas Energy Inc. Effective May 1, 2015.

http://www.sttenergy.com/sites/downloads/2015-05-01_Rates.pdf

4. Average bills calculated by InterGroup Consultants. Rates per City of St. Thomas, Environmental Services Department. Effective 2015.

5. Property Taxes Rates as per City of St. Thomas, 2014 Property Tax.

https://stthomas.civicweb.net/document/6128/Tax%20Rates%202015.pdf?handle=AF8E9A420EF84BC896F4577B78CCEBFE