EPCOR Water Services Inc.

EPCOR Water Services and Wastewater Treatment Bylaw

Rates Notice
& Rates Report

June 6, 2011

EPCOR Water Services Inc.
Water and Wastewater Bylaw No. 15816

Rates Notice and Rates Report

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EPCOR Water Services and Wastewater Treatment Bylaw Rates Notice

RATES NOTICE for Water Rates

The EPCOR Rates Procedures Bylaw 12294, as amended, (Rates Procedures Bylaw), Section 6(a), provides that at such time as EPCOR Water Services Inc. (EWSI) seeks to set or amend Rates, it must provide the City Manager with a Rates Notice containing a brief description of the nature of the Rates approval being sought, the proposed effective dates of the new Rates, and the preferred date for a public hearing.

Accordingly, EWSI provides the following Rates Notice:

1. RATES APPROVAL BEING SOUGHT

EWSI requests that Edmonton City Council repeal the Waterworks Bylaw 12585, as amended by Bylaw 13636, and replace it with the proposed EPCOR Water Services and Wastewater Treatment Bylaw 15816 as described in this Rates Notice and the accompanying Rates Report filed concurrently by EWSI with the City Manager.

The requested EPCOR Water Services and Wastewater Treatment Bylaw includes:

- An extension of the applicability of the Performance Based Regulation (PBR) Plan to cover the period from April 1, 2012 to March 31, 2017 (2012-2016).

- With respect to Schedule 1 of the EPCOR Water Services and Wastewater Treatment Bylaw:

    - In Part I, the introduction of a new rate structure for residential water rates and commercial water rates.

    - In Part III, adjustments to the rates and descriptions of various Service Charges to provide clarification of services provided and to reflect the updated costs of providing services.

    - Addition of Part IV to include rates for Wastewater Treatment Services.

    - Addition of Part V to clearly identify the Late Payment Charges policy that is currently in place.

- With respect to Schedule 2 of the EPCOR Water Services and Wastewater Treatment Bylaw:

- Updates to Terms and Conditions of Water Service to add clarity, improve consistency and readability, and eliminate duplication of provisions. The proposed updates are not considered to be substantive in nature.

- With respect to Schedule 3 of the EPCOR Water Services and Wastewater Treatment Bylaw:

  - Adjustments to the Fixed Monthly Service Charges, Consumption Charges and Wastewater Overstrength Charges to recover the costs associated with significant regulatory related capital projects and rebasing adjustments;

  - Adjustments to the water services Consumption Charges to recover the costs associated with the Accelerated Water Main Renewal Program;

  - Revision to the measure of the Inflation Factor applied annually to the Fixed Monthly Service Charges, Consumption Charges and Wastewater Overstrength Charges.

  - Updates to certain Water System Service Quality performance standards and the addition of Wastewater Treatment Service Quality performance standards to ensure that the standards continue to be appropriate and achievable in order to maintain a high level of customer service.

  - Revisions to existing Non-Routine Adjustments clauses to reflect inclusion of wastewater treatment, to include criteria for approval of non-routine adjustments and to reflect impacts on water rates that may arise from legislative or regulatory decisions or judgments from parties external to EWSI that impact costs or how costs are allocated to city of Edmonton water customers relative to regional or other water customers.

- With respect to Schedule 4 of the EPCOR Water Services and Wastewater Treatment Bylaw:

  - Addition of Wastewater Treatment Rates and Wastewater Treatment Service Quality performance standards.

A more detailed explanation of the requested amendments and, where applicable, their impact on EWSI's Rates, is provided in the Rates Report filed in conjunction with this Rates Notice.

2. PROPOSED EFFECTIVE DATES OF THE NEW RATES

EWSI proposes that extension of the applicability of the PBR plan be effective April 1, 2012 to March 31, 2017.

EWSI proposes that Rates reflecting the EPCOR Water Services and Wastewater Treatment Bylaw take effect on April 1, 2012.

3. PREFERRED DATE FOR A PUBLIC HEARING

The preferred date for a public hearing is September 1, 2011.

EPCOR Water Services and Wastewater Treatment Bylaw

Rates Report

RATES REPORT for the EPCOR Water Services and Wastewater Treatment Bylaw

EPCOR Water Services Inc. (EWSI) has filed a Rates Notice with the City Manager which, among other things, describes the new EPCOR Water Services and Wastewater Treatment Bylaw (No. 15816, referred to as the "Water and Wastewater Bylaw"). EWSI is requesting that City Council, on recommendation of the City's Utility Committee, approve the Water and Wastewater Bylaw as a replacement of the current Waterworks Bylaw. The proposed Water and Wastewater Bylaw includes changes to EWSI's current water rates commencing April 1, 2012. It also introduces wastewater treatment rates to the Water and Wastewater Bylaw, reflecting the rates in respect of the Gold Bar wastewater treatment plant (Gold Bar). Wastewater treatment rates are currently charged to customers pursuant to the Sewers Use Bylaw.

Section 6(b) of the EPCOR Rates Procedures Bylaw provides that at such time as EWSI seeks to set or amend Rates, it must provide the City Manager with a Rates Report that includes:

- A sufficient explanation to allow Council to reasonably assess the Rates in relation to the objectives set out in Section 5 of the Rates Procedures Bylaw; and

- Comparisons to rates in surrounding communities and other regions.

Accordingly, EWSI provides the following Rates Report:

Section 1: Explanation of Rates

1) Background

Rates are the rates and charges that apply to all customers within the City of Edmonton for the provision of Water Services and Wastewater Treatment Services.

As defined in the revised Water and Wastewater Bylaw, **Water Services** includes the production, treatment and supply of potable water to a customer, for which EWSI charges water rates. **Wastewater Treatment Services** includes the treatment of wastewater and the storage, pumping and disposal of treated wastewater, for which EWSI charges 'wastewater treatment rates'.

EWSI's water customers are categorized into three rate classes for the purpose of determining which specific water rate applies to each customer. The water rate classes include: Residential, Multi-residential and Commercial.

Wastewater treatment customers are categorized into two rate classes for the purpose of determining which specific wastewater treatment rate applies. The wastewater treatment rate classes include: Residential and Commercial. A wastewater overstrength surcharge is also charged to customers who release wastewater to the sewer system that contains one or more constituents that exceed specified concentration levels.

The Water and Wastewater Bylaw includes the following schedules:

I. Price Schedules for Water and Wastewater Treatment Rates, including:

I.1. Four types of Water Rate charges:

- Consumption Charges by customer class, which are based upon the volume of water used by customers;
- Fixed Monthly Service Charges, which are based upon the size of meters used by customers;
- Rate Riders, which are primarily used to refund those customers who privately own and operate a substantial underground water distribution system and those customers who receive water through more than one water service and, as a result, more than one water meter.; and
- Miscellaneous Service Charges for various types of specific services;

and,

I.2. Three types of Wastewater Treatment Rate charges:

- Fixed Monthly Service Charges;
- Consumption Charges by customer class, which are based upon the volume of water used by customers; and,
- Wastewater Overstrength Surcharges.

and,

I.3. Late Payment Charges.

II. Terms and Conditions of Water Service that govern the relationship between EWSI and its water customers within the city of Edmonton.

III. Performance Based Water Rates and Wastewater Treatment Rates which provides the mechanisms upon which such rates are adjusted annually; and

IV. A Pro-forma Annual Water Rate and Wastewater Treatment Rate Filing which provides an example of the annual rate filing to be submitted to the City Manager and available to the public.

2) Assessment of Guiding Objectives

The following provides an assessment of the Rates in relation to the guiding objectives as identified within Section 5 of the Rates Procedures Bylaw:

(a) The citizens of Edmonton must be provided with safe and reliable utility services.

EWSI holds safety and reliability of water service and wastewater treatment service as two critical aspects of operating both the waterworks system and wastewater treatment facilities. EWSI considers health and safety of the public and its employees to be paramount. The operations of EWSI include programs where safety and reliability are regularly assessed and corrective action is taken where results are not satisfactory.

To ensure and demonstrate that these aspects of utility service are safeguarded, both are included in the performance-based regulation as specific performance indices where each index contains a number of specific activities and performance targets which reflect internal and/or industry benchmarks.

EWSI considers that reliable utility service is also a function of the manner in which customers are charged for utility services. EWSI considers that customer charges for utility services should be transparent and clear; rate increases should be appropriately managed and phased in; and basic water needs should be affordable.

A detailed description of the safety and reliability performance measures is provided in Attachment 4 to this Rates Report.

(b) Utility services are to be provided in a manner that reflects reasonable environmental management in comparison to industry benchmarks.

As an organization, EPCOR has developed a proactive approach towards environmental management that ensures that EPCOR balances fiscal prudence and sound environmental practices.

Alberta Environment's Envirovista program recognizes organizations that have demonstrated environmental leadership. EWSI's waterworks system has had Envirovista "Leader" status since 2005. EWSI has been working with Alberta Environment to achieve Envirovista "Champion" status, the highest level of recognition in the Envirovista program. In 2011, EWSI has submitted a formal application for "Champion" status for the Edmonton Waterworks system. This status will provide further assurance that EWSI's environmental performance remains exceptional, through continuous

improvement and pro-activity. EWSI will be the first utility to achieve this status, ensuring that EWSI remains a leader in environmental management.

EWSI displays its environmental commitment through the many programs and activities in which it is involved. Such activities include: serving as a founding member of the North Saskatchewan Watershed Alliance (NSWA) which encourages protection of the watershed and increases awareness of water quality issues, being an active member of the River Water Quality Task Force and taking part in activities ranging from implementing new technologies for water conservation to sponsoring programs and events that educate the public about environmental issues.

EWSI is also involved in an Alberta Environment Water Management Framework, established to provide stakeholder input and guidance in the management of the water quantity and quality in the North Saskatchewan River from Devon to Pakan. The Framework was established by Alberta Environment to involve new and existing industry, the North Saskatchewan Watershed Alliance, the municipalities and the water/wastewater utilities to ensure the sustainability of the North Saskatchewan River within the next 30 years.

EWSI has included an Environmental Index in its performance measures, which addresses reporting incident management and watershed protection.

A detailed description of the environmental performance measures can be found in Attachment 4 to this Rates Report.

(c) Rates will be sufficient to ensure continued development of utility infrastructure to reasonably ensure the satisfaction of the objectives of this section [of the Rates Procedures Bylaw].

Currently, water customers of EWSI pay a Consumption Charge based upon the volume of water used and a Fixed Monthly Service Charge based upon the size of water meter used. Under the proposed revised Water and Wastewater Bylaw, EWSI will apply a special adjustment to water rates in 2012 and 2013 in part to recover the costs incurred to invest in utility infrastructure that address health, safety and environment objectives. The most significant of these investments is to construct infrastructure which will reduce residuals (solids) returned to the river from the treatment process, the construction of a safer water chlorination system that eliminates the need to transport dangerous chlorine gas through the city and life cycle replacement of facilities at Rossdale.

In addition, EWSI will apply an adjustment to water rates in each year (2012 to 2016) related specifically to the Accelerated Water Main Renewal program, which accelerates EWSI's current program for the replacement of

corroding cast iron water mains and allows for coordination with the City's road and neighbourhood rehabilitation programs.

In the proposed Water and Wastewater Bylaw, EWSI will be including Consumption Charges and Fixed Monthly Service Charges which will ensure continued development of the Gold Bar plant infrastructure. A special rate adjustment above inflation will be applied in each year (2012 to 2016) to recover costs during this period associated with both past investments made to develop the wastewater treatment infrastructure to its current state, as well as planned infrastructure investments during 2012 to 2016. Past wastewater treatment rates have not been sufficient to recover the full cost of operations and services provided by the wastewater treatment plant including a fair return.

(d) EWSI is entitled to a reasonable return from operations in relation to the provision of utility services within the City of Edmonton.

EWSI uses a full cost accounting model to ensure that rates charged to customers will recover the full costs of operating the waterworks system and the wastewater treatment facilities as well as earn a fair and appropriate rate of return on its investment. This ensures financial sustainability of the utility in the long term, as it will provide rates which allow continued investment in the utility infrastructure to maintain reliable utility services and support growth of the City.

Return on equity (ROE) is a financial measure that represents the return to an owner for its capital investment in the utility's facilities. The ROE provides an indication of the relative financial health and sustainability of the utility. As EPCOR is a stand-alone entity which raises its own financing in capital markets, it is important to demonstrate that EWSI has an appropriate ROE commensurate with the risks involved in its water and wastewater treatment utility operations.

EWSI retained an independent rate of return expert to recommend an appropriate ROE on both the water utility and the wastewater treatment utility. The expert reviewed EWSI's specific risks then compared them against industry benchmarks of corporations of similar risk and lines of business. The expert then assessed the appropriate ROE that should be allowed to EWSI.

In accordance with the findings of the independent rate of return expert, the ROE has been proposed at 10.875% for EWSI's water and wastewater operations. While the PBR plan for 2012 – 2016 provides for water services to earn an average ROE of 10.875% over the 5 years, wastewater treatment services is forecast to earn an average ROE of only 6.5% over 2012 -2016,

which reflects a gradual increase in the rate of return to reach the expert-recommended return of 10.875% in 2016.

(e) All customer charges will be based upon cost of service.

Cost of service is the most commonly accepted basis of rate setting for water and wastewater utilities in North America. The cost of service methodology is endorsed by Canadian and American water companies, their regulators and by the American Water Works Association (AWWA). The AWWA, an organization of representatives from water utilities, regulators and other interested parties, is the authority on rate setting for water utilities and defines the accepted practices for North America. The cost of service methodology has long been the basis of EWSI's rate design and continues to be the basis for determining water and wastewater treatment rates in the proposed Water and Wastewater Bylaw. Water rates established under cost of service methodology reflect the cost of providing the service to customers.

Under the cost of service methodology, the regulator determines the revenue requirement (or "cost of service") that reflects the total amount that must be collected in rates for the utility to recover its prudently incurred costs for maintaining, operating and investing in the utility system plus a fair return on investment. As long as a utility makes prudent decisions that are in the public interest, regulators will allow it to recover its costs and earn a return through the customer rates.

Once a utility's revenue requirement is determined, each cost component is assigned or allocated on an appropriate basis to determine the relative costs to serve various customer segments or classes with similar end uses and demand. This allocation process is based on a Cost of Service Study. This allocation process is consistent with AWWA recommended practices and follows traditional practices of regulated water utilities. The proposed water rates in EWSI's 2012-2016 PBR plan reflect updates to these cost allocations based on a Cost of Service Study which is underway. Attachment 2 to this Rates Report explains the status of this Cost of Service Study and describes EWSI's cost of service methodology. Pro-forma financial statements based on the cost of service methodology are also provided in Attachment 2.

Since the inception of performance based water rates in 2002, EWSI's water rates have been adjusted annually by the rate of inflation less an efficiency factor and adjusted for special rate adjustments and non-routine adjustments, as approved. The forecast revenue requirement (or cost of service) for serving EWSI's In-City customers for the period 2012-2016 forms the basis for establishing water rates under EWSI's performance based regulation plan. In applying for an extension of performance based water

rates for a third five year term for the period 2012 to 2016, EWSI has calculated its revenue requirement and determined special rate adjustments to establish the starting point for water rates, accordingly. EWSI has taken the same approach in determining the starting point for wastewater treatment rates. A more detailed description of EWSI's performance based regulation methodology including the annual adjustment mechanism is provided in Attachment 3 of this Rates Report.

(f) Performance will be assessed by reference to industry benchmarks.

Under the Water and Wastewater Bylaw, EWSI must meet a number of performance standards in the areas of water quality and wastewater effluent quality, system reliability, customer service, environmental stewardship and safety. If EWSI does not meet these standards, then it will be financially penalized and customers will see that money returned to them as a rebate on their bill.

Where possible, EWSI has performed benchmarking to compare its performance against internal and external industry benchmarks of water utilities and wastewater treatment facilities. As part of the proposed Water and Wastewater Bylaw, EWSI has updated certain water service performance standards based on historical results and industry standards where available. EWSI has also added wastewater treatment performance standards. Reporting of EWSI's performance relative to its benchmarks will continue to be part of the annual water rate and wastewater treatment rate filing process, in accordance with the Water and Wastewater Bylaw.

A detailed description of EWSI's performance benchmarks is provided in Attachment 4 to this Rates Report.

(g) The timing of a decision and the effective date for Rates approved pursuant to this Bylaw must reflect the financial needs of EWSI.

The timing of these proceedings accommodates a required April 1, 2012 effective date. The financial requirements of EWSI are supported in the accompanying Attachments to the Rates Report.

Section 2: Explanation of new Water and Wastewater Bylaw

EWSI is seeking approval for a five year extension of the Performance Based Regulation (PBR) methodology for the period April 1, 2012 to March 31, 2017. In doing so, EWSI has proposed replacing the current Waterworks Bylaw with a new Water and Wastewater Bylaw to incorporate wastewater treatment rates relative to the Gold Bar wastewater treatment plant operations, to update certain PBR parameters based on its experience since the inception of PBR in 2002 and to incorporate proposed rate adjustments to provide for recovery of costs

associated with the significant wastewater treatment infrastructure investments in recent years, accelerated replacement of water mains and rebasing adjustments.

A more detailed description of EWSI's experience under performance based regulation and a summary of amendments to the Water and Wastewater Bylaw is provided in the Attachments.

Section 3: Comparison of Rates

Part 6(b) of the Rates Procedures Bylaw requires EWSI to provide comparisons between EWSI rates in surrounding communities and other regions. EWSI's rates are comparable to the surrounding communities and other jurisdictions. Further, EWSI cites a number of factors that contribute to the differences in water and wastewater rates when providing comparisons between communities.

A detailed comparison of EWSI's rates is provided in Attachment 5 to this Rates Report.

Attachments:

Attachment 1:	Summary of the EPCOR Water Services and Wastewater Treatment Bylaw and Key Changes
Attachment 2:	Cost of Service Methodology and Financial Statements
Attachment 3:	Performance Based Regulation Background and Methodology
Attachment 4:	Performance Measures
Attachment 5:	Rates Comparison with Surrounding Communities and Other Regions

Attachment 1

Summary of the EPCOR Water Services and Wastewater Treatment Bylaw and Key Changes

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This document provides a summary of the new Water and Wastewater Treatment Bylaw to supplement the Rates Report and Attachments. Included is background on EWSI's Performance Based Regulation (PBR) plan as well as a summary of the Water and Wastewater Bylaw, which will replace the current Waterworks Bylaw, for which EWSI seeks approval from Edmonton City Council.

1.0 INTRODUCTION

EWSI is seeking approval for a five year extension of the PBR plan for the period from April 1, 2012 to March 31, 2017 (2012-2016). EWSI's current PBR plan was approved for the period from April 1, 2007 to March 31, 2012 (2007-2011). In seeking to extend the PBR for a third five year term, EWSI provides some background information on the key features of this proposed renewal in a question and answer (Q&A) format.

Q1: What is Performance Based Regulation?

Performance Based Regulation (PBR) is a type of regulation that provides an incentive to a utility to search out efficiencies and reduce costs while maintaining pre-set performance levels. The utility has an incentive to identify efficiencies and reduce costs while at the same time ensuring that customer service does not decline. As with other forms of regulation, the utility is allowed to earn a return for providing services.

EWSI has utilized performance based regulation in setting water rates in the City of Edmonton since 2002. The advantages of PBR have recently been recognized by the Alberta Utilities Commission (the AUC or the Commission). On February 26, 2010, the AUC began an initiative to reform utility rate regulation in Alberta that will move electric and gas distribution utilities to performance based regulation. The Commission stated the following objectives for PBR in a February 26, 2010 letter:

> "The first is to develop a regulatory framework that creates incentives for the regulated companies to improve their efficiency while ensuring that gains from those improved efficiencies are shared with customers. The second purpose is to improve the efficiency of the regulatory framework and allow the Commission to focus more of its attention on both prices and quality of service important to customers."

Refer to Attachment 3 *PBR Background and Methodology* of the Rates Report for more information on the PBR methodology and how it has been applied by EWSI.

Q2: What are the benefits of the proposed PBR Renewal?

- Customers receive stable and predictable rates over the five year period, allowing customers such as large commercial customers to forecast their rates for a full five year period.
- EWSI, not its customers, bears the risks that cost increases will be higher than expected over the five year period.
- A five year PBR plan eliminates the need for the City of Edmonton to process more frequent and costly regulatory filings.
- Under PBR, customers are assured that various performance criteria are monitored and penalties incurred if they are not maintained (refer to Attachment 4 of the Rates Report for the more detailed description of performance measures). These performance measure penalties, in the form of a refund to customers, ensure that the pursuit of cost savings will not override the needs of customers to receive a safe and reliable supply of water.

Q3: What are the key changes in this proposed PBR Renewal from the prior PBR?

- Wastewater treatment services (provided at the Gold Bar wastewater treatment plant) are being included in this PBR renewal. A separate rate on customers' bills for wastewater treatment services provided by EPCOR is being proposed to provide for transparency of the rate and of EPCOR as the service provider.
- A change in the residential water rate structure to move from a 2-tier rate to a 3-tier rate to encourage conservation. This is described in more detail in section 3.1.1.
- Water rates reflect two special rate adjustments above inflation (less an efficiency factor), one in 2012 and 2013 to address infrastructure investment and declining volumes of water sales due to water conservation, and another adjustment each year (2012-2016) to support the annual Accelerated Water Main Renewal program. This is described in more detail in section 3.2.3.
- Wastewater treatment rates reflect a special rate adjustment above inflation (less an efficiency factor) each year (2012-2016) to support costs related to regulatory driven infrastructure investments, to address declining volumes of water due to water conservation, and to support a gradual increase in the return on equity to the level recommended by an independent cost of capital expert by 2016. This is described in more detail in section 3.2.4.
- A reduction in the return on equity from 11.25% to 10.875% for water services, and a gradual increase in the return on equity for wastewater treatment to reach 10.875% by 2016.

- An updated cost of service allocation between in-City customers, Edmonton's Fire Rescue Services and regional water customers based on an updated cost of service study that is not yet finalized.
- Updates to performance measures for water services, the addition of wastewater treatment performance measures, and updates to performance penalties for both water and wastewater treatment.

Q4: What are the components of a utility's revenue requirement?

- In establishing the water rates and wastewater treatment rates, the first step is to forecast the revenue requirement, which is what a utility needs to collect through the rates it charges its customers.
- The revenue requirement of a utility includes:
    - Operating costs – costs to operate the utility, such as for labour, utilities, materials and contractors.
    - Depreciation and interest – depreciation represents the cost of using the utility infrastructure over its useful life, and interest is the cost of financing capital expenditures and operations.
    - Equity return – the fair return required by a utility on its investment in the utility.
    - Franchise fees – EWSI pays 8% of its utility revenues to the City to operate within the municipal boundaries.
    - Less revenue offsets – revenues other than those charged through utility rates which reduce, or offset, the revenue requirement.

Q5: Why is a return on equity needed, and is 10.875% a reasonable rate of return under a PBR model?

- A fair return on equity (ROE) is required for a utility, in particular EWSI, to maintain its financial sustainability over the long term to ensure continued investment in utility infrastructure and to maintain its operations and services for the benefit of its customers. It also allows for expansion of operations as growth occurs, and to meet more stringent environmental regulations.
- The equity return, or net income, generated by EWSI allows it to pay dividends, which contributes to the dividends paid by EPCOR to its shareholder (the City of Edmonton). The equity return, after dividends, is re-invested in the water utility and wastewater treatment facilities to maintain the utility infrastructure and allow for growth.
- An independent cost of capital expert, with considerable expertise in determining fair rates of return for utilities, recommended a ROE of 10.875% for EWSI for the 2012-2016 PBR term. This reflects a

0.375% reduction from the 11.25% ROE approved for EWSI for the 2007-2011 PBR term. The reduction is primarily related to a recent improvement in EWSI's credit rating. The cost of capital expert determined the fair ROE for EWSI of 10.875% based on an evaluation of EWSI's business and financial risks compared to other utilities with similar risks and lines of business. These other utilities included a sample of US and Canadian gas, electric and water utilities.

- Compared to the generic ROE approved by the AUC for electric and gas utilities in Alberta, a higher return for EWSI under the PBR framework is appropriate because:
    - Under a five year PBR term, there is higher forecast risk compared to shorter (e.g. 1, 2 or 3 year) cost of service applications;
    - EWSI does not use any deferral accounts to pass on actual incurred costs to its customers for highly variable costs, such as chemicals, which can vary significantly with changes in raw water quality. Deferral accounts, common in AUC rate applications, reduce this risk to the utility;
    - Water consumption is declining and there is a forecast risk of underestimating this decline;
    - EWSI collects the majority of its revenue from a consumption-based charge (75%), whereas electric and gas utilities will typically collect a higher proportion of their revenue through a fixed charge. This amplifies consumption risk significantly.
- While the PBR plan provides for EWSI's water services to earn an ROE of 10.875%, for wastewater treatment services EWSI will earn an average ROE of only 6.6% over 2012 -2016 to provide for a gradual increase in its rate of return to reach the recommended return of 10.875% in 2016.

Q6: Why is wastewater treatment included in this PBR renewal?

- The Gold Bar Master Agreement contemplated that EWSI and the City would work together to determine the basis on which future wastewater treatment rates would be determined in accordance with a PBR mechanism, either through a separate bylaw or in conjunction with the EPCOR Waterworks Bylaw 12585, before December 31, 2011. The PBR mechanism was to be generally consistent with the methodology and principles contained in EPCOR Waterworks Bylaw 12585.
- In this application, EWSI is proposing a single bylaw, a new EPCOR Water Services and Wastewater Treatment Bylaw, which incorporates both its water services and wastewater treatment

services. The rationale for doing so is to provide for clarity, transparency and administrative efficiency, both in the initial application, review and approval process as well as the annual rate filings and rate adjustments for the next five years.

Q7: What has EWSI assumed regarding water consumption?

- Like many water utilities across North America, EWSI has witnessed a declining trend of water consumption per customer over the past three decades. This has been a result of tremendous efforts by the citizens of Edmonton towards water conservation and more efficient water use, such as efficient lawn watering practices and installation of water efficient appliances.
- EWSI has assumed a 1% decline in water consumption per customer by residential customers, consistent with the historic trend line and with the City's "The Way We Green" strategy.
- EWSI has consulted with the City of Edmonton's Drainage Services to ensure both our consumption forecasts are consistent.

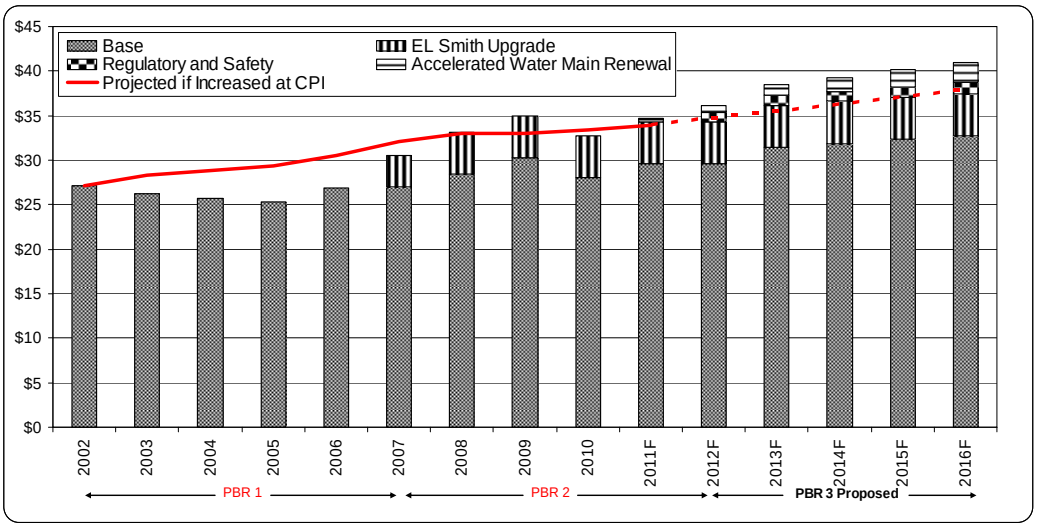
Q8: Why is a three-tier residential water rate design being proposed?

- The current two-tier residential rate charges a higher rate only after >60 m^3 is consumed each month. However, very few customers now consume water above this level and consequently this provides little incentive towards water use awareness.
- The proposed rate design will introduce a lower water rate for water consumption of 10 m^3 or less to the benefit of all customers and charge the highest rate at monthly water consumption >35 m^3. This rate design promotes a greater awareness of water use.

Q9: How have Edmonton's residential water bills trended over time?

- Since the first PBR for water rates was introduced in 2002 and until 2008, customer's monthly water bills increased at rates below inflation (see graph below) due to water conservation and EWSI efforts to find cost savings. After the EL Smith water treatment plant expansion was completed in 2008, increases in water bills have hovered around inflation, reflecting the rate increases required to fund the expansion of EL Smith's treated water production capacity.
- For the upcoming PBR period, water rates are trending above inflation primarily to recover costs associated with an accelerated water main renewal program, and regulatory and safety driven infrastructure investments. EWSI considers these programs and investments to have benefits to Edmonton's citizens and to maintaining EWSI's reputation and commitment to public health and the environment.

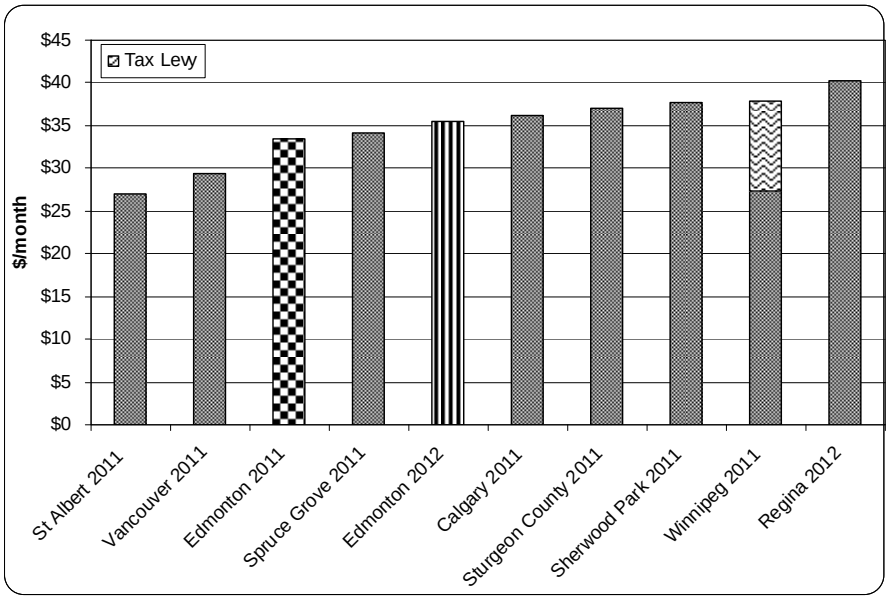
Average Edmonton Monthly Water Residential Bill as Compared to CPI
(Reflects average residential consumption per customer (actual or forecast) in each year)



Q10: How do EWSI's water rates compare to other communities?

- Monthly residential water bills for low water users (10 m^3/month) and average water users (17 m^3/month, see the chart below) are competitive with those of other communities. For higher residential water users (40 m^3/month), EWSI's rates will be higher than these comparator communities, reflecting EWSI's proposed rate design.

Average Edmonton Monthly Residential Water Bill
(17 m^3/month)



- Refer to Attachment 5 for more information regarding comparison of EWSI's residential and commercial rates to other communities.

Q11: What changes are proposed to the performance measures?

- A major change being proposed is the inclusion of performance measures for wastewater treatment services provided at Gold Bar. The same five indices used to measure water system service quality are being adopted, with measures selected for each index which are relevant to wastewater treatment services. For example, the measure for the System Reliability Index is the Enhanced Primary Treatment runtime, which will measure the amount of time that this new infrastructure is in operation to address high wet weather flows through Edmonton's combined sewer and sanitary pipes. The other selected measures and targets for 2012-2016 are described in detail in Attachment 4 to this Rates Report.
- For water services, the five indices of System Reliability, Water Quality, Customer Service, Environmental and Safety are proposed to continue, with many of the measures simply being updated to reflect new benchmarks for the period to ensure service levels are maintained. However, there are also more substantive proposed changes to certain measures, such as:
    - System Reliability – the current Planned Interruption Factor will be replaced by the Planned Construction Impact Factor, which takes a broader view of notifying customers about planned upgrades or rehabilitation to water systems to identify not just water service interruption, but also the associated construction impact on local road and property interruption.
    - System Reliability – the Water Loss Factor is currently measured as water loss in the system as a percentage of total water produced. A new industry standard for measuring water loss, the Infrastructure Leakage Index, is being proposed to replace the current measure.
    - Customer Service – the target for the Response Time Factor is proposed to increase from 22 minutes to 25 minutes to reflect EWSI's cell phone use policy, which requires employees to pull over their vehicles to respond to phone calls from dispatch, and city expansion requiring greater distances to travel to reach customers.
    - Environmental – a Watershed Management Activity measure is proposed to replace the current Vehicle Fuel Efficiency measure, as much of the gains in the latter have been achieved over the last 5 years. The Watershed Management Activity measure will measure EWSI's continuing commitments to watershed management.

2.0 OVERVIEW OF PROPOSED WATER AND WASTEWATER BYLAW

2.1. Overview

Through the Water and Wastewater Bylaw, EWSI seeks approval for the following:

(a) Extension of the PBR from April 1, 2012 to March 31, 2017.

(b) Inclusion of wastewater treatment rates and wastewater overstrength surcharges in respect of the Gold Bar wastewater treatment plant operations (Schedule 1, Part IV). Currently, wastewater treatment rates and overstrength surcharges are included in the Sewers Use Bylaw No. 9675.

(c) A new rate structure for Residential water customers to support water conservation and the City of Edmonton "Way we Green Strategy" (Schedule 1, Part I).

(d) An additional rate block for Commercial water customers that use less than 25 m^3 per month of water. While there will be no difference in the rate for this added first block of consumption from that charged to customers using 25.1 m^3 to 100 m^3 per month, EWSI will be considering in future a higher rate for small commercial water customers that function similarly to residential water customers (Schedule 1, Part I).

(e) Updates to charges for providing various miscellaneous water services to customers, reflecting the cost to provide such services. (Schedule 1 Part III) and to clearly identify the existing the policy for Late Payment Charges (Schedule 1 Part V)

(f) Updated Terms and Conditions of Water Service that govern the relationship between EWSI and its water customers, including a mechanism whereby Water Service Guidelines may be submitted by EWSI to the City Manager and amended or replaced from time to time. Aside from one exception, the changes to the Terms and Conditions are not considered to be substantive. Rather, they are being proposed to add clarity, improve consistency and readability, and eliminate duplication. One substantive proposed change is the addition of subsection 4.1 (b), which will outline customer requirements when deep ground construction is planned adjacent to existing water mains (Schedule 2).

(g) Special Rate Adjustments for Water Services to include (i) the Special Rate Adjustments for Re-Basing to recover costs incurred

to invest in utility infrastructure that address health, safety and environmental objectives and other adjustments; and (ii) the Special Rate Adjustments for the Accelerated Water Main Renewal ("AWMR") Program (Schedule 3).

(h) Special Rate Adjustments for Wastewater Treatment Services to allow EWSI to recover its prudent costs of providing Wastewater Treatment Services including a fair return on capital investments (both pre-2012 investments as well capital investments planned for the 2012-2016 PBR term). These investments have been made in the Gold Bar wastewater treatment operations in order to achieve environmental regulatory requirements (Schedule 3).

(i) A revised measurement of the inflation factor applied each year to prior year's water rates and wastewater treatment rates (Schedule 3).

(j) Updated Water Services performance standards and introduction of Wastewater Treatment performance standards to ensure that the standards continue to be appropriate and achievable in order to maintain a high level of customer service. Performance standards were updated, as appropriate, based on historical and/or industry experience. Penalties calculated for performance below the standards have been updated for Water Services with a separate penalty introduced for Wastewater Treatment (Schedule 3).

(k) Revisions to non-routine adjustment clauses to reflect inclusion of wastewater treatment services, to include criteria for approval of non-routine adjustments, and to provide for potential impacts on rates arising from legislative or regulatory decisions, policy changes or legal judgments of regulators, legislators or other parties external to EWSI which could impact the costs or allocation of costs assigned between city of Edmonton and regional water customers (Schedule 3).

(l) Updates to the Pro-forma Annual Rate Filing to include both Water Services and Wastewater Treatment Services (Schedule 4).

Due to the number of changes proposed from the current Waterworks Bylaw, it was determined that a new Water and Wastewater Bylaw should be introduced to provide for the extension of the PBR and the addition of wastewater treatment services to the PBR framework, among other changes. The remaining sections of this Attachment 1 provide more detail on the substantive changes from the current Waterworks Bylaw.

3.0 CHANGES FROM CURRENT WATERWORKS BYLAW TO PROPOSED WATER AND WASTEWATER BYLAW

3.1. Schedule 1 Price Schedule

3.1.1. Residential Water Rate Structure

Reference:	Part I Residential Water Service
Current:	Inclining water consumption rates with 2 consumption blocks of 0-60 m^3 and >60 m^3.
Proposed:	Inclining water consumption rates with 3 consumption blocks of 0-10 m^3, 10.1 – 35 m^3 and >35 m^3.
Rationale:	Residential water consumption has shifted downwards since the early 1990's when the >60 m^3 block was established. Currently, few residential customers use > 60 m^3 per month and therefore the current rate structure only promotes minimal water conservation and minimal encouragement of efficient water usage practices. The proposed structure reflects information that the majority of Edmonton residential customers do not exceed >35 m^3 per month on average. Introduction of a lower rate block provides a lower rate for the first 10 m^3 of water consumed by all customers.

3.1.2. Commercial Water Rate Structure

Reference:	Part I Commercial Water Service
Current:	Declining water consumption rates with 4 consumption blocks, with the first block being 0-100 m^3 per month.
Proposed:	Declining water consumption rates with 5 consumption blocks created by splitting the current 0-100 m^3 per month into 2 blocks of 0-25 m^3 and 25.1 – 100 m^3. The rate for these 2 blocks will be identical.
Rationale:	In general, commercial water customers tend to have stable consumption patterns, using the same amount of water evenly throughout the day, each day of the year. This type of water use is less costly and is a more efficient use of the water system. Therefore, a declining rate structure is applied. The addition of the smaller rate block appearing on customer bills will signal to small commercial water users that EWSI is considering, prior to the next PBR renewal in 2017, a higher water rate for this lowest block of users because small commercial customers are typically located in residential areas requiring more infrastructure to provide fire protection requirements, which is more costly to maintain due to their location, and exhibit consumption patterns similar to residential customers.

3.1.3. Account Application Charge

Reference:	Part III Account Application Charge
Current:	Service Application Charge of $25.20.
Proposed:	Account Application Charge of $25.00.
Rationale:	Name change proposed to eliminate potential confusion with the physical installation of a service pipe. This charge recovers the administrative costs of EWSI to put a customer into account for new accounts and account transfers (i.e. customer moves).

3.1.4. Meter Installation, Removal, Repair and Testing Charges

Reference:	Part III Meter Installation or Removal Charge, Meter Test Charge and Damage Repair Charge
Current:	Charges for all three services at Actual Cost.
Proposed:	Meter Installation or Removal Charge and Meter Test Charges at fixed fees of $80 or $175, based on meter size, for meters under 75mm. These services for meters >75 mm or Seasonal Meters will continue to be at Actual Cost. Damage Repair Charges remain at Actual Cost. More clear descriptions provided in the price schedule regarding applicability of all three charges.
Rationale:	Use of fixed fees for the most common meter sizes reduces administrative burden of determining actual cost for each service provided, given the cost to provide this service is consistent from customer to customer.

3.1.5. Missed Appointments and No Access Charges

Reference:	Part III Missed Appointment Charge, EWSI Missed Appointment Credit, and No Access Charge
Current:	No Access Charge of $28.60 to customers who do not keep a scheduled appointment with EWSI. Also, $28.60 is charged monthly after 12 consecutive months of a customer not providing access to EWSI for water meter reading after being requested to do so.
Proposed:	Missed Appointment Charge of $35.00 to customers who do not keep a scheduled appointment. EWSI Missed Appointment Credit of $35.00 to customers when EWSI does not keep a scheduled appointment. No Access Charge of $35.00 charged monthly after 6 consecutive months of a customer not providing access to EWSI for water meter reading after being requested to do so.
Rationale:	The $28.60 rate for missed appointments and no access had not been updated since 2004. The proposed price of $35.00 will recover the actual cost. The proposed price schedule also introduces a credit to customers if EWSI misses a scheduled appointment. The No Access Charge is currently levied after 12 months of no access being provided to EWSI, but that was established when meter reading occurred bi-monthly; meter reading now occurs monthly.

3.1.6. Hydrant Permit Charges

Reference:	Part III Hydrant Permit Charge
Current:	Hydrant Service Charge, including application fee of $28.60 per permit and meter service charge of $50.00 per month.
Proposed:	Hydrant Permit Charge (name change), including application fee of $85.00 per permit annually, meter service charge of $50.00, and water consumption charges for each m^3 of water used at the Part 1 Multi Residential Service consumption charge for the 0-100 m^3 block, as updated annually in the Annual Water Rate Filings.
Rationale:	The current application fee of $28.60 only covered the cost of setting up the customer account but did not cover the full administrative cost to issue, dispatch and manage the permit. The water consumption charge is currently charged based on the declining consumption rates for Multi Residential Service. The proposal is to charge a constant rate for all consumption based on the highest Multi Residential rate rather than a declining rate in order to encourage wise hydrant water use.

3.1.7. Water Service Turn-on/Turn-Off Charges

Reference:	Part III Water Service Turn-on Charge after Turn-off for Non Payment, and Water Service Turn-on/Turn-Off Charge
Current:	Customers requesting a Turn-on (reconnection) of their water service are charged the Immediate Connection Charge of $57.20 per visit, plus the applicable account connection fee if required. Service is provided within 48hours during regular working hours. If the customer requires the service outside of regular working hours an additional $57.20 Emergency Call Charge is applied for a total charge of $114.40. These charges apply for both turn-on/turn off due to non-payment and for general service requests.
Proposed:	To provide more flexible service options to the customer a three tiered approach is proposed. A $40 per visit Water Service Turn-On/Turn-Off Charge is proposed for the customer who is able to schedule the Turn-on/Turn off service during regular working hours. This increases to $50 for a Water Service Turn On/Turn-off Charge for Non Payment if the service is required due to non-payment to cover the additional account management costs in this situation. If the customer wishes to schedule an appointment after regular working hours, the Charge is $80 per visit. If the customer requires the service within 48 hours the customer can request an emergency Turn-on/Turn-off at a charge of $120.
Rationale:	The Turn-on/Turn-off requests do not always require completion with 48hours. The new approach allows the customer the flexibility of a lower cost by providing more scheduling flexibility with EWSI. Depending on workloads and other priority activities EWSI anticipates being able to schedule most Turn-on/Turn-offs within 48 hours. Addition of an option for scheduled after hours service will also assist with customer schedules at a lower rate. Currently, the customer would pay a $114.40 combined charge rather than the proposed $80. An increase to $120 from the current $114.40 fee for an emergency service recovers the scheduling and dispatch costs required to respond to a request for emergency service..

3.1.8. Fire Protection Service

Updates to rates are proposed to reflect current cost of providing Fire Protection Service to customers who receive standby water service to their private fire protection installations. These charges were last updated effective April 1, 2007.

3.1.9. Truck Fill Service

Reference:	Part III Truck Fill Service
Current:	Truck Fill Service at $0.72 per m^3 for all consumption.
Proposed:	Truck Fill Service to include an account application fee of $35 and consumption charge equal to the Part 1 Multi Residential Service consumption charge for the 0-100 m^3, as updated annually in the Annual Water Rate Filings.
Rationale:	Currently, the common Account Application Fee of $25 is applied to Truck Fill accounts; however, the cost to administer Truck Fill accounts is greater and consequently a $35 one-time account application fee for Truck Fill accounts is being proposed. The current consumption charge of $0.72 per m^3 has not been updated for several years and is currently the lowest consumption charge compared to regional truck fills sites; it is being raised to ensure regular maintenance and operations costs are being covered and is at a rate identical to hydrant water use.

3.1.10. Wastewater Treatment Rates

Reference:	Part IV Wastewater Treatment Rates
Current:	Not applicable
Proposed:	Addition of wastewater treatment rates for residential, commercial and wastewater overstrength surcharges, including supplementary information.
Rationale:	Wastewater treatment rates are currently included in the City's Sewers Use Bylaw. The proposed Bylaw includes wastewater treatment rates in the Water and Wastewater Treatment Bylaw. This reflects an acknowledged intention for EWSI and the City to consider how the PBR mechanism could be implemented for Gold Bar in a manner consistent with the current Waterworks Bylaw. EWSI is proposing a single bylaw, which incorporates both its water services and wastewater treatment services to provide for clarity, transparency and administrative efficiency in rate review, adjustments and reporting to the City in future.

3.1.11. Late Payment Charges

Reference:	Part V Late Payment Charges
Current:	Not applicable
Proposed:	Addition of Part V to identify late payment charges and dishonoured cheque charges.
Rationale:	This proposed change seeks to clearly identify for customers charges currently being applied on late payments per existing terms and conditions of water and wastewater services.

3.2. Schedule 3 Performance Based Water and Wastewater Rates

3.2.1. Inflation Factor

Reference:	Subsection 2.1 Inflation Factor (on Routine Adjustments)
Current:	Rate of inflation measured by a weighted average of two components: (i) 79% based on the change in the Consumer Price Index for Alberta and (ii) 21% based on the change in labour cost as measured by average labour rates negotiated and accepted by bargaining units representing EWSI's unionized employees within City of Edmonton.
Proposed:	Rate of inflation measured by a weighted average of two components: (i) 65% based on the change in the Consumer Price Index for Alberta and (ii) 35% based on the change in the Average Hourly Earnings (AHE) for Alberta, Industrial Aggregate.
Rationale:	The revised weighting of the CPI and Labour components reflects a determination that approximately 70% of corporate service cost allocations relate to salaries and benefits. Based on this, approximately 65% of operating costs are driven by general inflation and 35% are driven by wage and salary inflation. The AHE index is being proposed as the value to apply for the labour component of inflation as it provides an "arms-length" data series rather than actual experience. Both components have the advantage of being commonly understood, readily available and verifiable.

3.2.2. Efficiency Factor

Reference:	Subsection 2.2 Efficiency Factor (on Routine Adjustments)
Current:	EWSI utilized an efficiency factor to 0.25% for Water Services.
Proposed:	EWSI proposes to maintain the efficiency factor of 0.25% for Water Services and apply it as well to Wastewater Treatment Services.
Rationale:	The efficiency factor is a reduction to the rate of inflation to provide customers with the benefits of operational efficiencies and increased productivity. EWSI retained an independent consultant to review and provide productivity estimates for the Alberta utility industry and the consultant recommended a productivity factor of zero. However, to demonstrate a continuing commitment to its customers to increase operational efficiency, EWSI proposes to continue to utilize the efficiency factor of 0.25% for both Water Services and Wastewater Treatment Services.

3.2.3. Special Rate Adjustments for Water Services

Reference:	Subsection 2.3 Special Rate Adjustments for Water Services
Current:	Not applicable
Proposed:	Two separate special rate adjustments are proposed to be applied to water rates: (i) the Special Rate Adjustments for Re-Basing to be added to the Consumption Charge and Fixed Monthly Service Charge in each of the years 2012 and 2013 and (ii) the Special Rate Adjustments for the Accelerated Water Main Renewal ("AWMR") Program to be added to the Consumption Charge in each year of the 2012-2016 term.
Rationale:	The Special Rate Adjustments for Re-Basing is required to recover costs associated with higher than forecast capital expenditures during the 2007-2011 PBR term, related to City plans, requests and growth requirements and additional water main replacement work. The re-basing is also required due to capital expenditures planned for the 2012-2016 PBR term related to regulatory, safety and other "one time" capital projects. The need for re-basing also results from the progress by City residents to conserve water. Conservation initiatives have been successful in reducing water sales per customer, the costs of water treatment and distribution have been subject to inflationary and other cost pressures. The Special Rate Adjustments for the AWMR Program are required to recover the $20 million per year capital expenditures planned under the AWMR Program for all five years of the 2012-2016 PBR. The AWMR Program supports the City's Transportation and Public Works Committee's request for EWSI to accelerate the replacement of water mains under roadways that are scheduled to be rehabilitated by the City Transportation Department. Sections 1.1 and 1.2 of Schedule 3 of the Bylaw have been updated to include special rate adjustments to the annual rate adjustment formula applied to the Consumption Charge and Fixed Monthly Service Charge.

3.2.4. Special Rate Adjustments for Wastewater Treatment Services

Reference:	Subsection 2.4 Special Rate Adjustments for Wastewater Treatment Services
Current:	Not applicable
Proposed:	This subsection is proposed for inclusion to reflect the Special Rate Adjustments for Wastewater Treatment Services applied to the wastewater treatment rates for the years 2012 through 2016, applied to the Consumption Charge, Fixed Monthly Service Charge and Wastewater Overstrength Surcharges .
Rationale:	The Special Rate Adjustments for Wastewater Treatment Services applied to wastewater rates for each of the five years during the 2012-2016 PBR term are required due to (i) 2011 wastewater rates being insufficient to recover prudently incurred costs relating to significant investment in improved wastewater effluent quality and enhanced primary treatment (EPT) in order to achieve environmental regulatory compliance; (ii) forecast capital expenditures of $112 million over the 2012-2016 PBR term primarily to improve the robustness of the Gold Bar wastewater treatment plant, including EPT, by addressing reliability issues associated with increased solids handling, and (iii) to provide EWSI's wastewater treatment operations over the next five year PBR term with a recovery of its revenue requirement including a fair rate of return of 10.875% by the year 2016, the end of the PBR term. With the proposed rate increases, EWSI's average rate of return over the 2012-2016 PBR term is expected to be 6.6%. The Special Rate Adjustments for Wastewater Treatment Services were determined based on spreading the required annual wastewater treatment rate increases evenly over the five year term Sections 1.1, 1.2 and 1.3 of Schedule 3 of the Bylaw have been updated to include special rate adjustments applied to Consumption Charge, Fixed Monthly Service Charge and Wastewater Overstrength Surcharges, respectively.

3.2.5. Water System Service Quality

Reference:	Section 3.0 Water System Service Quality
Current:	Refer to table below.
Proposed:	Refer to table below.
Rationale:	Refer to table below.

The following table provides a summary of proposed revisions to the Water System Service Quality performance standards in section 3.0 of Schedule 3, including updates and the rationale for changes, as appropriate. In those cases where no changes are proposed, the current benchmark continues to be appropriate as discussed in Attachment 4 of the Rates Report. In those cases where updates are proposed, the benchmarks were originally established utilizing historical averages. These benchmarks have been

updated to reflect EWSI's experience over the period since 2001 to reflect historical trends and account for annual variability.

		Current	Proposed	Rationale for Change
Section 3.1	**SYSTEM RELIABILITY INDEX**			
Section 3.1.1	Water Main Break Factor	630	574	Proposed benchmark of 574 based on 10-year historical average plus 10% to offset the variability in this measure. Current benchmark of 630 had been determined in the same manner.
Section 3.1.2	Water Main Break Repair Duration Factor	93.6%	93.7%	Proposed benchmark based on an updated 10-year average. Current benchmark had been determined in the same manner.
Section 3.1.3	Planned Interruption Factor (Current) Planned Construction Impact Factor (Proposed)	95.0% -	- 95.0%	Proposed change in factor expands interruption to include not only water service interruption but also associated interruption to customers' local roads and property. Experience indicates that the benchmark is appropriate.
Section 3.1.4	Water Pressure Factor	5 incidents	5 Incidents	No change is proposed. Additional pressure monitoring sites are planned.
Section 3.1.5	Water Loss Factor	4.9% (% of water loss in system)	3.0 (new ILI measure)	Proposed change from current measure of % of water loss to the Infrastructure Leakage Index (ILI), a new industry standard. Benchmark of 3.0 based on lowest end of a range applicable to Edmonton's water system characteristics.
Section 3.2	**WATER QUALITY INDEX**	99.6%	99.6%	Experience indicates that the benchmark is appropriate and no change is proposed.

		Current	Proposed	Rationale for Change
Section 3.3	**CUSTOMER SERVICE INDEX**			
Section 3.3.1	Post Service Audit Factor	72.6%	74.0%	Proposed benchmark based on 10-year average. Current benchmark was based on 8-year average (1998-2005). 1998 was the initial year this measure was tracked.
Section 3.3.2	Response Time Factor	22 min.	25 min.	Proposed benchmark based on actual experience since introduction of EPCOR cell phone use policy in 2008 and reflects City expansion.
Section 3.3.3	Home Sniffing Factor	93.4%	93.8%	Proposed benchmark based on 10-year average. Current benchmark based on prior 10-year average.
Section 3.4	**ENVIRONMENTAL INDEX**	100 pts	15 pts	EWSI proposes to revise the number of points within the index to simplify calculations for each sub-measure. Still results in 15 overall base points for this index. Propose changes to two of the five sub-measures.
Section 3.5	**SAFETY INDEX**	100 pts	15 pts	EWSI proposes to revise the number of points within the index to simplify calculations for each sub-measure. Still results in 15 overall base points for this index. Minor updates proposed to two targets within the seven sub-measures

3.2.6. Wastewater Treatment Service Quality

Reference:	Section 6.0 Wastewater Treatment Performance Measures
Current:	Not applicable.
Proposed:	Refer to Rates Report, Attachment 4
Rationale:	Refer to Rates Report, Attachment 4

With the proposed inclusion of Wastewater Treatment Services into the new Water and Wastewater Bylaw, separate performance standards for Wastewater Treatment Services have been established using the same five categories utilized in the Water System Service Quality performance measures: System Reliability, Water Quality, Customer Service, Environmental, and Safety.

The specific measures for Wastewater Treatment Services falling within the five categories were selected where applicable to reflect the unique operations at Gold Bar, but in some cases are similar to the Water System measures if appropriate, such as for Safety and the Environmental, where common activities and systems are used across both Water Services and Wastewater Treatment Service operations.

3.2.7. Performance Penalties and Bonus Points

Reference:	Subsection 3.0 Water System Service Quality
Current:	For each full point scored below 100 base and bonus points, a penalty of $53,000 will be assessed to a maximum of $800,000.
Proposed:	It is proposed that for each full point scored below 100 base and bonus points, a penalty of $67,000 will be assessed to a maximum of $1,000,000.
Rationale:	The amount of the penalty per full point as well as the maximum penalty is being increased. The amounts had previously not been adjusted since first introduced in 2002.

Reference:	Subsection 4.0 Wastewater Treatment Service Quality
Current:	Not applicable.
Proposed:	For each full point scored below 100 base and bonus points, a penalty of $27,000 will be assessed to a maximum of $400,000. There is no reward for performance above 100 base and bonus points.
Rationale:	A separate penalty is being added for Wastewater Treatment Services. The amount of the penalty is commensurate with the respective size and nature of the wastewater treatment services relative to that of water services.

3.2.8. Non Routine Adjustments

Reference:	Subsection 5.0 Non-Routine Adjustments
Current:	Not applicable
Proposed:	The following additional wording is proposed: "Requests for non-routine adjustments will be considered separately for each of Water Services and Wastwater Treatment Services."; and, "Costs resulting in an annual adjustment to EWSI's revenue requirement up to $500,000 are not eligible for approval as a non-routine adjustment. Costs resulting in either an annual adjustment to EWSI's revenue requirement greater than $500,000 or a cumulative adjustment to EWSI's revenue requirement of greater than $1 million but less than $3 million are eligible for consideration and approval by the City Manager as a non-routine adjustment. Costs resulting in an annual adjustment to EWSI's revenue requirement equal to or greater than $3 million are eligible for consideration and approval by City Council. Review of the non-routine adjustment application will consider the projected return on equity of EWSI. "
Rationale:	The proposed additions to section 5.0 propose that non-routine adjustments will be considered separately for water services and wastewater treatment services. In addition, the proposed wording reflects criteria previously established in 2007 and approved by City Council regarding the criteria for approval of non-routine adjustments.

Reference:	Subsection 5.1 Changes to Legislation, Regulation or Taxes
Current:	System Deterioration: "In the event there is a change to: legislation or regulation affecting EWSI's operations; rates of tax or other mandatory amounts payable by EWSI to any level of government; the status of EWSI under existing legislation or the application of existing legislation to EWSI; then costs arising from any such event will be considered as non-routine."
Proposed:	The following replacement section is being proposed: "In the event there is a change to: legislation, regulation, bylaws, policy order or directive affecting EWSI's operations, including allocation of costs between City and Regional customers and including the common law and the law of equity; rates of tax or other mandatory amounts payable by EWSI to any level of government; the status of EWSI under existing legislation or the application of existing legislation to EWSI; then costs arising from any such event will be considered as non-routine."
Rationale:	The proposed revisions provide for potential non-routine adjustments arising from decisions, policy changes or legal judgments of regulators, legislators or other parties external to EWSI impacting costs or allocation of costs to provide service to customers in the city of Edmonton.

Reference:	Subsection 5.4 Deterioration of Waterworks or Wastewater Treatment Systems
Current:	System Deterioration: "If there is significant deterioration to the Waterworks System, beyond reasonable projections, remediation costs will be considered as non-routine."
Proposed:	The following replacement section is being proposed: Deterioration of Waterworks or Wastewater Treatment Systems: "If there is significant deterioration to the Waterworks System or Wastewater Treatment facilities, beyond reasonable projections, remediation costs will be considered as non-routine."
Rationale:	The proposed change incorporates costs related to deterioration of the wastewater treatment system.

Reference:	Subsection 5.5 Customer-initiated or City-initiated System Expansion
Current:	Customer-initiated System Expansion: "Costs incurred to create significant Waterworks System expansion as a result of increase to the size of EWSI's Customer base and/or increased demand by Customers for Water Services, beyond reasonable projections, will be considered as non-routine."
Proposed:	The following replacement section is being proposed: Customer-initiated or City-initiated System Expansion: "Costs incurred to create significant Waterworks System expansion or wastewater treatment facility expansion as a result of increases to the size of EWSI's Customer base and/or increased demand by Customers or the City of Edmonton for Water Services or Wastewater Treatment Services, beyond reasonable projections, will be considered as non-routine.
Rationale:	The proposed change incorporates costs related to expansion of the wastewater treatment system, and also clarifies that such expansion may be driven either by Customers or the City of Edmonton.

Reference:	Subsection 5.7 Franchise Fees (as Non-Routine Adjustments)
Current:	If there is an amendment to the Franchise Agreement affecting water rates, the resultant impacts on the water rates will be deemed to be non-routine adjustments.
Proposed:	The following replacement section is being proposed: "If there is an amendment to the Water Services Franchise Agreement or the Wastewater Treatment Franchise Agreement affecting water rates or wastewater treatment rates, the resultant impacts on the water rates and wastewater treatment rates will be deemed to be non-routine adjustments."
Rationale:	The proposed change incorporates the Wastewater Treatment Franchise Agreement into the current clause.

3.2.9. Reporting and Filing Requirements

Reference:	Section 7.0 Reporting and Filing Requirements
Current:	Not applicable.
Proposed:	Change all references to "*Annual Water Rate Filing*" to "*Annual Water Rate and Wastewater Treatment Rate Filing*". In the first paragraph, last sentence, indicate the filing will contain "four" parts, rather than "three" parts, and add a fourth bullet under the first paragraph as follows: "Wastewater Treatment Service Quality Results - The results of each of the components of the wastewater treatment service quality indices."
Rationale:	To incorporate Wastewater Treatment Rates into the Annual Rate Filings.

3.3. Schedule 4 Pro-forma Water Rate and Wastewater Treatment Rate Filing

The Pro-forma Water Rate Filing under the current Waterworks Bylaw has been expanded to include the proposed changes to the Schedule 1 Price Schedule described in section 3.1 of this Attachment 1, including the ability to provide annual adjustments to water rates and to incorporate the annual adjustments to wastewater treatment rates and annual reporting of Wastewater Treatment Service Quality measures over the term of April 1, 2012 to March 31, 2017.

Attachment 2

Cost of Service Methodology and Financial Statements

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1.0 Overview of the EPCOR Water Cost of Service Methodology

The purpose of this document is to clearly identify the basis of customer charges under the cost of service methodology. Further, this document will summarize the conventions followed in setting the cost of service including the key underlying assumptions. The cost of service methodology identified here forms the basis of the starting point revenue requirement of EPCOR Water Services Inc. (EWSI).

Cost of service is the most commonly accepted basis of rate setting for water and wastewater utilities in North America. The cost of service methodology is endorsed by Canadian and American water utilities, their regulators and by the American Water Works Association (AWWA). The AWWA, an organization of representatives from water utilities, regulators and other interested parties, is the authority on rate setting for water utilities and defines the accepted practices for North America.

The cost of service methodology has long been the basis of EWSI's rate design and continues to be the basis for determining water and wastewater treatment rates in the proposed Water and Wastewater Bylaw. While the methodology followed by EWSI in determining its water rates meets AWWA guidelines, it must also meet the scrutiny of the Alberta Utilities Commission (AUC) in its capacity of regulator for EWSI's Regional customers (complaint basis), and Edmonton City Council in its capacity of regulator for EWSI's customers within the City of Edmonton.

Under the cost of service methodology, the regulator determines the revenue requirement (cost of service) that reflects the total amount that must be collected in rates for the utility to recover its prudently incurred costs for maintaining, operating and investing in the utility system plus a fair return on investment. As long as a utility makes prudent decisions that are in the public interest, regulators will allow it to recover its costs and earn a return through the customer rates. Water rates established under cost of service methodology reflect the cost of providing service to its customers.

Once EWSI's revenue requirement is determined, each cost component is assigned or allocated on an appropriate basis to determine the relative costs to serve various customer classes with similar end uses and demand. The allocation process is based on a Cost of Service Study (COSS). The allocation process used to determine EWSI's proposed water rates is consistent with AWWA recommended practices and follows traditional practices of regulated water utilities.

Through the COSS:

- costs are categorized by major business function (water treatment, reservoirs, water network maintenance, customer billing and general and administration),
- appropriate functional allocations are developed, based on engineering and operational assessments, and
- rates are designed to recover the forecast cost of service for each customer segment or class.

EWSI, along with a consultant retained to provide third party expertise in the field, is in the process of completing a COSS to determine the cost of providing water services to each of its three regulated customer segments: the City of Edmonton (In-City) customers, regional customers and public fire protection.

The COSS process was initiated by EWSI in 2007 in anticipation of the completion of the EL Smith upgrade project. Allocations of costs are based on the base-extra capacity method endorsed by the AWWA. The COSS process includes key stakeholders representing each of EWSI's regulated customer segments. The COSS process has not yet been completed and stakeholders have not yet signed off on the COSS results. The delay in this process is, in part, due to an ongoing proceeding before the AUC to review the wholesale rates charged by EWSI to its regional customers for the years 2004-2007. EWSI expects to resume the COSS process once a decision has been issued by the AUC on this proceeding. For purposes of the 2012-2016 PBR, EWSI is proposing water rates which reflect its best estimates of the outcome of the COSS process. If the final outcomes of the COSS vary from EWSI's estimates, EWSI will consider whether a non-routine adjustment may be required to reflect the impact on In-City customers' water rates during 2012-2016.

The forecast revenue requirement (or cost of service) required to provide water service to EWSI's In-City customer segment for the period 2012-2016 forms the basis of starting point revenue requirement. The starting point revenue requirement forms the basis for establishing EWSI's water rates under its performance based regulation plan. In applying for an extension of performance based water rates for a third five year term for the period 2012 to 2016, EWSI has calculated its starting point revenue requirement for service to In-City customers and adjusted the water rates, accordingly. EWSI has taken the same approach in determining the starting point for its proposed wastewater treatment rates.

For the 2012-2016 PBR, the rate design underlying EWSI's proposed wastewater treatment rates is consistent with the current rate design used by City of Edmonton Drainage.

2.0 Description of Water and Wastewater Treatment Operations

2.1 Description of Regulated Water Operations

The primary function of EWSI's water operations are the treatment and distribution of water within the City of Edmonton. Its primary source of revenue is from the water rates charged to customers.

EWSI also distributes water to communities surrounding the City of Edmonton. The water rate at which EWSI sells to these communities is set under the terms of contracts with Regional customers. These water sales are beyond the scope of this Bylaw.

EWSI collects the cost of providing water service for the use of public fire protection from the City of Edmonton.

2.2 Description of Regulated Wastewater Treatment Operations

Through the Gold Bar Wastewater Treatment Plant (Gold Bar) EWSI provides sanitary and combined sewer wastewater treatment services to the residents of the City of Edmonton.

2.3 Description of Commercial Water Operations

A final source of revenues for EWSI is Commercial Water Services. This is operated as a self-sustaining independent operation from the regulated water utility and is not included under the cost of service calculation. Separate financial records and transfer pricing conventions are followed to ensure the independence of this operation.

3.0 The Starting Point Revenue Requirement

For purposes of the 2012-2016 PBR, EWSI has calculated a cost of service to determine whether the current and future rates, as calculated under the provisions of this proposal, will meet the objectives set out in this Rates Report. Under a cost of service model, all of the costs to operate, maintain, manage and expand the waterworks system are recovered from customers through the rates they pay for water services. These costs form the basis of the starting point revenue requirement for the PBR.

The starting point revenue requirement is the amount of revenue that EWSI requires to provide water service to its In-City customers. For purposes of the 2012-2016 PBR plan, EWSI determined its starting point revenue requirement based upon the forecast costs for the period 2012-2016. EWSI's 2012 forecast was based on its 2011 forecast, adjusted for projected changes in costs. EWSI's 2013-2016 forecast was based on the 2012 forecast adjusted for changes in costs related to growth and variation in activity levels only (input prices based on the level of inflation). The components of the starting point revenue requirement are:

- Operating Costs
- Revenue Offsets
- Taxes and Franchise Fees
- Depreciation
- Interest
- Return on Equity

Senior management has extensively reviewed all forecast assumptions for reasonableness and consistency. Independent experts were also consulted where required. Expenses were analyzed both by cost type (i.e. operating costs, depreciation, taxes, interest and return on equity) and by system functions (water treatment plant; reservoirs and pumphouses; transmission system; distribution system; hydrants; services and meters; customer billing; and general administration).

3.1 Key Assumptions

3.1.1 Inflation and Efficiency Factors

EWSI prepared its forecast of costs for the 2012-2016 period based on its best estimates of known changes in activity levels with all input prices increasing from 2012 levels based on the proposed inflation factor. An efficiency factor of 0.25% is applied to all costs.

For the 2012-2016 PBR, EWSI is proposing a rate of inflation measured by a weighted average of two components: (i) 65% based on the change in the Consumer Price Index for Alberta and (ii) 35% based on the change in the Average Hourly Earnings (AHE) for Alberta, Industrial Aggregate. These indices were recommended by an independent expert and forecasts are provided by the Conference Board of Canada.

3.1.2 Accounting Policies

EWSI has prepared its financial information for 2012 to 2016 in accordance with Regulatory Accounting which is the collective accounting guidelines, procedures, policies and practices used by utilities when providing financial information to the AUC for rate-making purposes. The accounting policies employed by EWSI in preparing its cost forecast are unchanged from prior practice.

While EWSI has implemented International Financial Reporting Standards (IFRS) effective January 1, 2011 to support the external financial reporting requirements of its parent company, EPCOR Utilities Inc., there are certain IFRS requirements which are not consistent with the methodologies historically and commonly applied for rate-making and regulatory reporting requirements. In 2009, the AUC issued Rule 026 to assist regulated utilities which are transitioning to IFRS in determining which IFRS requirements may be applied for rate-making and regulatory reporting purposes. In review and application of Rule 026, EWSI has chosen to retain the same principles and practices it previously employed prior to the introduction of IFRS for the purposes of rate-making and regulatory reporting.

3.2 Operating Costs (Operating, Maintenance and Administration)

In determining its operating cost forecast, the 2011 Forecast forms the basis upon which the 2012 – 2016 forecast operating costs are determined. In developing the 2011 Forecast, a bottom-up approach to forecast expenditures was based upon the best available information in respect of expected work activity and cost levels during the forecast period. Operating costs for 2012-2016 are prepared based on known changes in activity levels from the 2011 Forecast. Input prices are assumed to increase at the level of inflation for 2013-2016.

For example, Table 1 contains EWSI's operating, maintenance and administration cost categories and examples of charges found in each category.

Table 1
Costs Categorized by System Function

Cost Component	*Examples of the Types of Charges in the Category*
Water Treatment Plant	• This includes all costs associated with treating raw river water to a quality that is fit for consumption and then storing that water in the on-site reservoirs. • Types of costs in this category include employee costs to operate and maintain the facility, electricity, natural gas, water treatment agents, pumping and quality assurance testing.
Reservoirs and Pumphouses	• Once treated, water is pumped to reservoirs throughout the City. Sufficient water pressure and quantity of water is maintained to meet the demands of customers throughout the year.
Water Distribution and Transmission	• There is a large and complex infrastructure of 3,500 kilometers of buried transmission and distribution mains, 17,000 fire hydrants, 54,000 valves as well as 240,000 water meters and customer services. • This infrastructure must be maintained to ensure water is delivered to customers with the minimum of interruption and in the same excellent quality as when it left the treatment plant. • Approximately 200 staff work on keeping this infrastructure in good operating order.
Customer Services	• This cost category includes the costs to read meters, generate customer invoices and answer customer inquiries and service calls.
General & Administration	• The category captures the business costs of operating a utility. This includes governance, environmental and safety management, security, information services, finance, and human resource functions.

3.3 Taxes and Franchise Fees

3.3.1 Taxes

This category includes the taxes payable by EWSI. Taxes include property taxes, linear taxes and business taxes.

3.3.2 Franchise Fees

This includes the franchise fees payable to the City of Edmonton.

3.4 Depreciation

The values of assets are depreciated over the shortest of the assets' physical, technological, commercial or legal life. The depreciation rates used by EWSI reflect our best estimate of the service lives of the assets.

3.5 Interest

This cost category represents the cost for EWSI to service its existing debt and to finance new debt requirements. A waterworks system is very capital intensive with an ongoing need to invest in assets with service lives of 40 or more years. As a result, debt financing is a necessary part of operating a utility. The cost of new debt for EWSI for the 2012-2016 PBR is estimated at 5.89%, based on EWSI's credit rating of A(low) as assessed by the DBRS credit rating agency in March 2011.

3.6 Return on Equity

New capital projects can also be financed with company equity. Just as debt attracts an interest cost for borrowing, equity investment attracts a cost as well. EWSI's return on equity is determined based on its equity investment in plant assets (net of depreciation). The key elements that determine the return on equity that EWSI has applied for in this application are:

- Capital Expenditures
- Depreciation
- Working Capital
- Capital Structure
- Rate of Return on Equity

3.6.1 Capital Expenditures

In conjunction with its operating expense forecast, EWSI forecasts its capital expenditure requirements based upon a "bottom up" or zero based budgeting approach. The forecast reflects the best knowledge available regarding the projects that will be undertaken in 2012 to 2016.

3.6.2 Working Capital

EWSI's forecast working capital requirements are based on the expected timing of cash flows.

3.6.3 Capital Structure

EWSI is a separate legal entity from EPCOR Utilities Inc., having its own assets, liabilities and capital structure. EWSI retained a rate of return expert, Foster Associates, Inc. to analyze EWSI and establish a fair return for EWSI's water and wastewater operations. Foster Associates, Inc. is a well-recognized organization in this field and has previously provided expert evidence regarding public water utility finance and regulation. Foster Associates, Inc. conducted a review and assessed EWSI business risks, capital structure and a fair rate of return on equity.

EWSI is applying for a capital structure for the PBR term of 60% debt and 40% equity. Foster Associates, Inc. indicated that the applied-for capital structure ratio is consistent with the business risks to which EWSI is exposed. The use of this capital structure will ensure consistency and allow EWSI to be appropriately compensated for the risks that it faces.

3.6.4 Rate of Return on Equity

Foster Associates recommends that the fair rate of return on equity for EWSI is 10.875%. Based on this expert opinion, EWSI is applying for a return on common equity of 10.875%.

4.0 Rate Determination Principles

Water rate standards set by the AWWA are based upon a number of common principles. The purpose of these principles is to balance the interests of the customers with the utility. EWSI has set its rates in accordance with these principles.

- Rates are based upon the Cost of Service.
- No cross-subsidization of water rates between customer classes.
- No cross-subsidization of water rates between generations of customers (past, current and future customers).
- Equity of water rates to customers who are within a single customer class.
- Rate stability over time.

4.1 Rates are based upon the Cost of Service

EWSI sets water rates at a level sufficient to recover the annual cost of operating the waterworks system, including capital investment.

4.2 No Cross-subsidization of Rates and Equity for Customers

Water rates are set so that each customer segment, class and group pays for its fair share of the cost of producing and distributing the water it consumes. Rates are specifically set so that there is no subsidization of one segment, class or group by another. Once a customer is assigned to a customer class, there is no further distinction of individual customer characteristics such as the distance water travels after it is treated. All customers share in the costs assigned to their customer class based upon their individual water consumption.

EWSI allocates Starting Point costs to each customer segment. The costs assigned to In-City customer classes are in proportion to the water use characteristics of each class. Residential, commercial and multi-residential customers are assigned a share of operating and maintenance, depreciation, taxes and financing expenses in proportion to the demand each customer class places on the waterworks system.

5.0 Water Customer Segments

EWSI provides water service to three distinct customer segments. The water service requirements of each segment are significantly different from one another. These segments identified and used by EWSI are common to many utilities across North America, regardless of their size.

5.1 Wholesale Segment

The first customer segment is the Wholesale segment. This is made up of the group of communities surrounding Edmonton known as the Regional Water Customers' Group. The current members of the group are City of St. Albert, Strathcona County, Capital Region Parkland Water Services Commission, Town of Morinville, Capital Region Northeast Water Services Commission, Capital Region Southwest Water Services Commission, Canadian Forces Base Edmonton, Sturgeon County and the Enoch Community Developments Corp. This group pays the full cost for the water that they receive from EWSI.

EWSI supplies bulk water to these customers through a handful of delivery points. From these points, these customers take the water to their own systems or send it to other systems where it is ultimately delivered to the end use customers. The Wholesale customers, in turn, charge their end use customers water rates that they determine entirely independent of EWSI.

5.2 Public Fire Protection Segment

The second customer segment is the City of Edmonton Fire Rescue Services (FRS). EWSI supplies public fire protection services throughout the City of Edmonton through a network of water mains, water reservoirs and fire hydrants. The water service that EWSI provides to the FRS is to ensure that water is of sufficient pressure and quantity for fire fighting purposes. EWSI has received one of the highest fire protection ratings available by the *Insurers' Advisory Organization*, the regulatory body for that field. The fire protection service is charged directly to the FRS and is not paid for by any other customer.

5.3 In-City Segment

The final and largest customer segment is the In-City customer group. This segment represents all metered customers within the Municipal boundaries of the City of Edmonton. Within this segment are three primary customer classes: Residential, Multi-residential, and Commercial. EWSI also supplies service truck fill stations, private fire protection and other minor water services**.**

Within the In-City segment, individual customers are grouped with others that share similar demand patterns and service characteristics. This may be a combination of customers who use similar amounts of water, use water at the same time or for similar purposes. For example, the residential group includes all residential customers where the residential structure contains less than four separate domiciles. Once a customer falls within the definition of the customer class, then the rates of that class are applied to the customer.

6.0 General Water Rate Structure

6.1 Fixed Monthly Service Charge

Customers of EWSI pay a Consumption Charge and a Fixed Monthly Service Charge. The fixed charge recovers costs that are directly

attributable to a customer including the cost of the water meter, customer service and billing.

6.2 Consumption Charge

The Consumption Charge captures all the costs of operations, maintenance, administration and capital investment associated with operating the waterworks utility. While the cost categories remain the same, the level of cost within each category can change from year to year. For example, if raw water quality is particularly bad in a given year, then the cost to treat water will be higher than average. When comparing the results of the Cost of Service rate for a forecast year against the actual rate charged, it is reasonable to expect that the two rates will not be exactly the same.

An important principle of water rate setting is that of rate stability. Small variances in the Cost of Service are absorbed by the utility to provide rate stability to customers. A well-designed water rate will, over a longer period, recover only the Cost of Service although on a year-by-year basis may slightly over or under collect the Cost of Service requirement.

6.3 Service Charges

Service charges include the miscellaneous costs that are incurred by specific customer requests and do not form part of the Consumption Charge or the Fixed Monthly Service Charge. The rates for individual service charges are set on a cost of service basis.

7.0 Water Rate Structure by Customer Class

7.1 Residential Inclining Block Rate Structure

Residential pricing has an inclining block rate to promote water conservation. EWSI only charges a higher rate to those residential customers who use larger amounts of water. EWSI actively works with residential customers to promote water efficiency in and around the home. For example, we promote even-odd lawn watering, make educational classroom presentations in schools and offer advice on water conservation on our web page, bill stuffers and residential newsletters.

Adjustments to the water and wastewater rates for the 2012-2016 PBR term which are applied for under the proposed Water and

Wastewater Bylaw includes revisions to the rate structures for residential and commercial customer classes.

7.2 Commercial Declining Block Rate Structure

Many commercial customers use large volumes of water as a primary input to their business operations. These large businesses tend to have stable consumption patterns by using the same amount of water evenly throughout the day, each day of the year. This type of water use causes less cost and is a more efficient use of the water system. Therefore, EWSI charges these customers a lower rate. The lower rate best reflects the cost of servicing this customer group.

The commercial rate class has a declining block rate structure. A declining block rate structure is designed so that as a customer uses more water they are charged a lower rate per cubic meter. EWSI has set the size of the blocks within the rate structure based upon the results of a statistical study of water usage by the type of customer within the commercial class. This allows EWSI to ensure that similar customers within the class pay a similar water rate. This promotes equity within the rate class.

7.3 Multi-residential Declining Block Rate Structure

Through research, EWSI has found that the cost to provide water to multi-residential customers is not the same as for the residential or commercial customers. For example, multi-residential customers do not change their consumption patterns seasonally as is the case with residential customers. At the same time, multi-residential customers do not use the same volume of water or have the same infrastructure requirements as commercial customers. As a result, they also have a unique pricing structure.

EWSI continuously researches water usage by customer class to ensure our rates reflect the actual cost of servicing each of the customer groups.

EPCOR Water Services Inc.
Regulated Water Operations
Financial Statements

Unaudited

Note: Regulated Water Operations includes
- Regulated Water Services for City of Edmonton
- Regulated Water Services for Regional Water Customers Group
- Fire Protection Services

EPCOR Water Services Inc.
Regulated Water Operations
Statement of Income

Unaudited
(in thousands of dollars)
For the Years Ended December 31,

	2011 Forecast	2012 Forecast
Revenues		
Water Sales	$ 167,051	$ 175,985
Other Income	12,053	14,936
	179,104	190,921
Operating Expenses		
Operations and Maintenance	62,600	67,587
Customer Services	8,407	8,773
Administration	18,699	20,703
Franchise Fees	11,530	12,128
Property Taxes	192	196
Depreciation	21,059	22,266
	122,487	131,653
Operating Income	56,617	59,268
Financing Expenses	26,590	27,095
Net Income	**$ 30,027**	**$ 32,173**

These projected financial statements have been prepared solely for the purpose of regulatory reporting to the City of Edmonton in support of the proposed EPCOR Water Services and Wastewater Treatment Bylaw 15816. They have been prepared by applying regulatory accounting principles applied on a consistent manner as prior years, and are prepared without the inclusion of accompanying notes to the financial statements, and therefore are not in accordance with GAAP.

EPCOR Water Services Inc.
Regulated Water Operations
Balance Sheet

Unaudited
(in thousands of dollars)
as at December 31,

	2011 Forecast	2012 Forecast
Assets		
Current assets		
Cash and cash equivalents	$ 1,500	$ -
Accounts receivable	20,946	21,476
Inventories and prepaid expenses	2,089	2,089
	24,535	23,565
Property, plant and equipment	794,310	861,138
	$ 818,845	**$ 884,703**
Liabilities and Equity		
Current liabilities		
Short-term debt	$ -	$ 45,692
Accounts payable and accrued liabilities	17,726	17,726
Other current liabilities	3,029	3,029
Current portion of long-term debt	71,903	12,723
	92,658	79,170
Long-term debt	373,652	450,825
Other non-current liabilities	6,524	6,524
Shareholder's equity	346,011	348,184
	$ 818,845	**$ 884,703**

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EPCOR Water Services Inc.
Regulated Water Operations
Statement of Changes in Shareholder's Equity
Unaudited
(in thousands of dollars)
For the Years Ended December 31,

	2011 Forecast	2012 Forecast
Balance, at beginning of year	$ 315,984	$ 346,011
Net income	30,027	32,173
Dividends Paid	-	(30,000)
Balance, at end of year	**$ 346,011**	**$ 348,184**

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EPCOR Water Services Inc.
Regulated Water Operations
Statement of Cash Flows
(in thousands of dollars)
For the Years Ended December 31,

	2011 Forecast	2012 Forecast
Operating Activities		
Net Income	$ 30,027	$ 32,173
Add items not affecting cash:		
Depreciation, amortization and decomissioning	21,059	22,266
	51,086	54,439
Net change in non-cash operating working capital balances	(2,217)	(530)
	48,869	53,909
Investing activities		
Property, plant and equipment	(62,713)	(89,094)
Change in non-cash working capital	1,136	-
	(61,577)	(89,094)
Financing activities		
Net increase in (payment of) short term term debt	(4,189)	45,692
Repayment of long-term debt	(11,603)	(72,007)
Proceeds from issue of long-term debt	30,000	90,000
Dividends paid	-	(30,000)
	14,208	33,685
Increase (decrease) in cash and cash equivalents	1,500	(1,500)
Cash and cash equivalents, beginning of year	-	1,500
Cash and cash equivalents, end of year	**$ 1,500**	**$ -**

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EPCOR Water Services Inc.
Wastewater Treatment Operations
Financial Statements

Unaudited

EPCOR Water Services Inc.
Wastewater Treatment Operations
Statement of Income

Unaudited
(in thousands of dollars)
For the Years Ended December 31,

	2011 Forecast	2012 Forecast
Revenues		
Wastewater Treatment Revenue	$ 54,208	$ 58,575
Other Income	5,187	4,460
	59,395	63,035
Operating Expenses		
Operations and Maintenance	25,353	27,350
Customer Services	4,185	4,279
Administration	6,188	7,173
Franchise Fees	4,337	4,686
Property Taxes	280	286
Depreciation	8,645	9,093
	48,988	52,867
Operating Income	10,407	10,168
Financing Expenses	6,331	7,914
Net Income	**$ 4,076**	**$ 2,254**

These projected financial statements have been prepared solely for the purpose of regulatory reporting to the City of Edmonton in support of the proposed EPCOR Water Services and Wastewater Treatment Bylaw 15816. They have been prepared by applying regulatory accounting principles applied on a consistent manner as prior years, and are prepared without the inclusion of accompanying notes to the financial statements, and therefore are not in accordance with GAAP.

EPCOR Water Services Inc.
Wastewater Treatment Operations
Balance Sheet

Unaudited
(in thousands of dollars)
as at December 31,

	2011 Forecast	2012 Forecast
Assets		
Current assets		
Accounts receivable	$ 7,518	$ 7,036
Inventories and prepaid expenses	824	824
	8,342	7,860
Property, plant and equipment	263,879	273,416
	$ 272,221	**$ 281,276**
Liabilities and equity		
Current liabilities		
Short-term debt	45,691	46,080
Accounts payable and accrued liabilities	6,619	6,619
Other current liabilities	12,983	10,733
Current portion of long-term debt	6,337	6,662
	71,630	70,094
Long-term debt	106,917	125,254
Other non-current liabilities	17,044	7,044
Shareholder's equity	76,630	78,884
	$ 272,221	**$ 281,276**

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EPCOR Water Services Inc.
Wastewater Treatment Operations
Statement of Changes in Equity
Unaudited
(in thousands of dollars)
For the Years Ended December 31,

	2011 Forecast	2012 Forecast
Balance, beginning of year	$ 72,554	$ 76,630
Net income	4,076	2,254
Balance, end of year	**$ 76,630**	**$ 78,884**

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EPCOR Water Services Inc.
Wastewater Treatment Operations
Statement of Cash Flows

Unaudited
(in thousands of dollars)
For the Years Ended December 31,

	2011 Forecast	2012 Forecast
Operating Activities		
Net Income	$ 4,076	$ 2,254
Adjustments to reconcile net income to cash flows from operating activities		
Depreciation and amortization	8,645	9,093
	12,721	11,347
Change in non-cash operating working capital	(2,103)	482
	10,618	11,829
Investing activities		
Property, plant and equipment	(16,925)	(18,630)
Payment of Gold Bar Transfer Fee	(14,500)	(12,250)
	(31,425)	(30,880)
Financing activities		
Net increase in short-term debt	6,961	389
Repayment of long-term debt	(6,154)	(6,338)
Proceeds from issue of long-term debt	20,000	25,000
	20,807	19,051
Increase (decrease) in cash and cash equivalents	-	-
Cash and cash equivalents, beginning of year	-	-
Cash and cash equivalents, end of year	**$ -**	**$ -**

These projected financial statements have been prepared solely for the purpose of regulatory reporting to the City of Edmonton in support of the proposed EPCOR Water Services and Wastewater Treatment Bylaw 15816. They have been prepared by applying regulatory accounting principles applied on a consistent manner as prior years, and are prepared without the inclusion of accompanying notes to the financial statements, and therefore are not in accordance with GAAP.

Attachment 3

Performance Based Regulation Background and Methodology

Table of Contents

1.0 Introduction

This document is a companion document to the Water and Wastewater Bylaw Schedule 3 – *Performance Based Water Rates and Wastewater Treatment Rates*. This document provides an in-depth explanation of the various components of the performance based regulation to enhance the understanding of City Council, the City's Utility Committee and the public.

EWSI has submitted an application to its regulator, Edmonton City Council, to extend the Performance Based Regulation methodology for a third five year period (2012-2016). The application will affect the rates charged and conditions of service provided to customers of EWSI who are within the municipal boundaries of the City of Edmonton.

For the 2012 – 2016 PBR renewal, EWSI is proposing a new bylaw - the EPCOR Water Services and Wastewater Treatment Bylaw (Water and Wastewater Bylaw) - to replace the current Waterworks Bylaw 12585. This is due to the significant changes required to the current Waterworks Bylaw to incorporate the Gold Bar wastewater treatment plant operations. The current Waterworks Bylaw only covers the City's regulation of the waterworks system performance and water rates. However, the same performance based regulation methodology and principles which underpinned the Waterworks Bylaw are being applied in the new

The remainder of this document will outline the history of EWSI's performance-based regulation model and the key concepts and principles which underlie it.

2.0 History of EWSI's Performance-Based Regulation Model

The Performance Based Regulation (PBR) model was approved by Edmonton City Council in 2001 and has been utilized to determine water rates charged to City of Edmonton customers since January 2002. EWSI followed common industry practices in developing the performance-based regulation. Research was performed as to practices worldwide, looking at cross-utility experience including gas, electricity, telecommunications and water. Each aspect of the performance-based regulation was carefully reviewed and selected so that it would best suit the circumstances of EWSI, its regulator and its customers.

For each year since the inception of PBR, EWSI has filed a report outlining its performance results in meeting its service quality standards, providing the rates to be charged to the various classes of customers in the subsequent year, and attaching an audit opinion to provide assurance that the rates have been calculated in accordance with the provisions of the

Waterworks Bylaw. EWSI propose to continue with the provision of this information for the term of the requested extension.

Since 2008, EWSI has also provided annual PBR Progress Reports to City Council, which outlines in more detail EWSI's performance in the prior year with regards to its operational performance against its service quality standards, its financial results for the year compared to the plan outlined in the 2007-2011 PBR application, and opportunities and challenges expected in the upcoming year. EWSI propose to continue providing these annual PBR progress reports to the Utility Committee and City Council over the term of the 2012-2016 PBR periods.

In EWSI's application to extend the performance based regulation for another term, EWSI propose to incorporate EWSI's wastewater treatment operations provided at the Gold Bar wastewater treatment plant into the PBR model that EWSI has utilized for its water services since 2002. EWSI propose that Annual PBR progress reports be provided with respect to the wastewater treatment operations, in addition to the previously reported waterworks system operations.

3.0 Performance-Based Regulation Methodology

EWSI's PBR methodology reflects several key components described below.

3.1 Cost of Service methodology as the Starting Point

EWSI's PBR methodology uses cost of service as the starting point for the PBR. Refer to Attachment 2 for a more detailed discussion.

3.2 Rate Calculation by Customer Class

The annual rate adjustment is applied to each class of customer contained in the Water and Wastewater Bylaw Schedule 1 Part I and Part IV. These customer classes represent the In-City core customers for EWSI and are the primary beneficiaries of the waterworks infrastructure and the wastewater treatment infrastructure. This does not impact the wholesale water or public fire protection water customer segments.

An underlying philosophy of the cost of service methodology that carries over to the performance-based regulation is that of equity. It is the intention of EWSI that under this bylaw that no customer class will receive a benefit or be charged a cost disproportionate to that of other customer classes. As a result, all adjustments to the rates will be made to each customer class on an equivalent proportionate basis. Where the adjustment is an absolute

amount, then EWSI will allocate that charge or credit on an equivalent basis. Similarly, all adjustments to the fixed rate will be made on equivalent basis preserving equity among customers.

Where there are multiple rate blocks within a customer class, all adjustments will be allocated on a proportionate basis using the best available consumption data by rate block.

3.3 Routine Adjustments

Each year, certain components appear as an adjustment to the fixed monthly service charge and/or consumption charge. The categories falling under this heading are inflation, the efficiency factor, special rate adjustments and, when applicable, a penalty for water system service quality.

3.3.1 Inflation

The fixed monthly service charge and consumption charge of all customer categories found in the Water and Wastewater Treatment Bylaw Schedule 1 – *Price Schedule* Part I – *Water Rates and* Part IV – *Wastewater Treatment Rates* will be subject to an annual adjustment based upon a forecast of the rate of inflation. EWSI will make every effort to ensure that the forecast is as accurate as possible. Once the year is complete and the actual rate of inflation is known, the forecast rate of inflation will be adjusted to the actual rate of inflation. This will appear as an adjustment to the rates for the subsequent year.

From 2002 - 2006, the actual rate of inflation was measured by the change in the Consumer Price Index for Alberta (CPI). Although this measure had the advantage of being commonly understood, readily available and verifiable, it is more representative of the impact of price changes to consumers. Although producers would benefit from a different measure more representative of the nature of their production, a suitable measure is not readily available. Accordingly, during 2007 – 2011, a revised measure of inflation representing both a component of CPI and a component for labour was introduced by EWSI. This revised inflation measure was weighted 79% on CPI and 21% on labour rate increases. The labour component was the percentage cost increase for that year that was negotiated and accepted by the bargaining units representing EWSI's unionized employees within the City of Edmonton. The

weighting between labour and other costs was representative of the proportion of these costs for EWSI.

For the proposed renewal for 2012 – 2016, EWSI is proposing to implement two changes to the measure of inflation, as outlined in Attachment 1 to the Rates Report. Firstly, EWSI is proposing a revised weighting of the CPI component and labour component from a 79%:21% ratio to a 65%:35% ratio. Secondly, EWSI is proposing the labour component of inflation be measured by an external index, the annual growth in the Average Hourly Earnings (AHE) for Alberta.

EWSI is proposing the modified measures for the following reasons:

- The revised 65%: 35% weighting recognizes that corporate service costs charged to EWSI are more influenced by labour rate inflation than by CPI, as a significant proportion of corporate service costs are employee-related costs. As such, the revised 65%:35% weighting for CPI and labour components of inflation is considered more representative of the proportion of these costs for EWSI.

- The revised measure for the labour component of inflation provides an 'arms-length' data series that is readily available and verifiable. This will allow for ease of forecasting and true-up of the labour component of the inflation factor, particularly in years where EWSI's collective bargaining units has not been concluded for a particular year. An independent consultant was retained to identify an appropriate wage and salaries series and has recommended the Annual Growth in Annual Hourly Earnings, Alberta, Industrial Aggregate (excluding unclassified businesses), CANSIM Series V1808689.

The relationship between the modified inflation measure and water rates is expected to be valid and comparative to normal inflation that is commonly experienced year to year. In the unlikely event that inflation should move outside of this range, operating costs may not follow inflation. Should this event occur, then EWSI will review at that time whether an additional adjustment to water rates and wastewater treatment rates should be made for that year. If an adjustment is warranted, then EPCOR will return to its regulator to apply for an

adjustment to the inflation factor used to determine the rates charged to customers.

3.3.2 Efficiency Factor

The efficiency factor is a reduction to the inflation factor applied to the rates on an annual basis. The efficiency factor reduces the increase in rates to customers. It represents the minimum amount by which EWSI must improve operational efficiency to maintain its net income. The purpose of the efficiency factor is to guarantee customers that they are receiving the benefit of operational efficiency through their rates. This is a measurable benefit because the efficiency factor is written into the Bylaw as an annual reduction to the water rates.

The challenge to EWSI is to find ways to implement cost cutting measures without compromising service levels. EWSI takes on the risk of meeting this goal while customers are assured a fixed rate for the year.

During 2002 - 2006, EWSI utilized an efficiency factor of 0.5%, regardless of the rate of inflation. This factor was selected on the basis of historic growth in the water industry from 1961 to 1996 and was expected to continue for the initial period of the Bylaw. For the 2007 – 2011 PBR term, EPCOR reduced the efficiency factor to 0.25%.

As had occurred in 2006 for the prior PBR term renewal, an independent consultant was retained to review and provide productivity estimates for the Alberta utility industry for the 2012 -2016 renewal period.

The independent consultant's report indicates that, since 1997, the Alberta labour productivity measure has generally been negative. Based on Conference Board of Canada Forecasts, labour productivity is expected to grow over the next five year period but at low rates. While the independent consultant has recommended a productivity factor of 0, EWSI is proposing to maintain the 0.25% efficiency factor. This demonstrates a continuing commitment to its customers to increase operational efficiency without compromising service levels. However, should inflation be less than 1.75%, EWSI proposes that the efficiency factor be reduced to zero.

3.3.3 Special Rate Adjustments

Special Rate Adjustments are rate adjustments which are rate adjustments applied in addition to the application of inflation. The Special Rate Adjustments being applied for on the water and wastewater treatment rates are as outlined in Schedule 3 of the Water and Wastewater Bylaw and is described further in Attachment 1 of the Rates Report.

The Special Rate Adjustments are added to the Consumption Charge and Fixed Monthly Service Charge for both water rates and wastewater treatment rates. The Special Rate Adjustments will be applied in respect of each year's Water Rates and Wastewater Treatment Rates only after the Inflation and Efficiency factors have been calculated and applied for those years, and are in addition to any Non-Routine Adjustments applicable to those years. After the Special Rate Adjustments have been factored into each year's rates, these adjustments will continue to form part of the basic Consumption Charges and Fixed Monthly Service Charges for Water Services in all subsequent years.

3.4 Water System Service Quality and Wastewater Treatment Service Quality Measures

The water system service quality measures and the wastewater treatment service quality measures reflect the results of EWSI's operational performance. Since 2002, these measures have been an integral part of performance-based regulation. These measures ensure that EWSI does not compromise customer service levels. In the event that service or quality drops below a benchmarked standard, then EWSI is financially penalized and the penalty amount is a reduction to the customer's water and wastewater treatment bill through a rebate. Although EWSI has been able to meet the service standards since 2002, the variation in scores achieved in each year indicate that they are appropriate and achievable. Some changes are being proposed to reflect EWSI's experience over the initial term, to ensure that the measures remain appropriate over the period of renewal and to provide separate measures for EWSI's wastewater treatment operations.

Any penalty arising will be applied to the fixed monthly service charge as set out in Waterworks Bylaw Schedule 1 Part I – *Water Rates* and Part IV – *Wastewater Treatment Rates* on a proportionate meter basis.

There is a maximum penalty of up to $1,400,000 ($1,000,000 for water services and $400,000 for wastewater treatment services) that could be assessed if EWSI does not fully meet the performance criteria. This is a significant amount to EWSI. The total penalty for the year will be applied as a rebate to customers on their water and wastewater treatment bill. There is no reward component to this measure. As a result, EWSI cannot raise rates when it exceeds these service quality measures.

The service quality measures are based on a 100 point system , where points are attributed to each index. By design, EWSI can obtain a maximum score of 110 points, although there is no reward for exceeding 100 points. Bonus points are allotted for performance above the standard.

A detailed description of the Water Service Water Quality Measures and Wastewater Treatment Service Quality Measures can be found in Attachment 4 of the Rates Report.

3.5 Non-Routine Adjustments

EWSI assumes the risk on all operating related costs. However, there are cost factors that are beyond the control of EWSI. In the rare or unlikely cases that these factors result in a significant impact to EWSI, then these costs will pass through to customers.

By example, under a competitive environment if all participants in a marketplace were subject to an increase in federal income tax, then the average price of the products sold in the market would rise. Under the performance-based regulation structure, the non-routine adjustment is the mechanism by which prices are adjusted for significant uncontrollable external factors, such as an increase in the federal income tax rate.

Non-routine adjustments are, by their nature unusual, significant in size or nature and beyond the scope of control of EWSI. These costs are not subject to any type of incentive adjustment. Examples of the types of items that may be requested as a non-routine adjustment of rates include:

Injuries and Damages	Government Taxes Fees & Levies
Government Regulation	River Water Quality
System Deterioration	Customer Driven System Expansion
Franchise Fee Changes	City Requested Relocations

If EWSI anticipates making a request for one or more non-routine adjustments, EWSI will submit its request for non-routine adjustments to the City Manager, and will include with such request sufficient information to enable the City Manager / City Council to evaluate and approve the request, if appropriate.

Where a non-routine adjustment is very significant in size, it may be charged to Adjustment Deferral Account. The purpose of this is to minimize the financial impact that this could have on customers or EWSI and promote rate stability over time. The Adjustment Deferral Account balance will be treated as a working capital item.

EWSI will recover/credit that cost over a reasonable time frame through an adjustment to the fixed monthly meter charge in the Water and Wastewater Treatment Bylaw Schedule 1 Part I – *Water Rates* and the fixed charge in Part IV – *Wastewater Treatment Rates*.

4.0 Off-ramps

In the event that this performance-based regulation does not work in the way EWSI and its regulator intended, then the performance-based regulation can be terminated with the mutual consent and agreement of both parties prior to the expiration of its term.

In the event of termination of the performance-based regulation, it is necessary to wind-down the plan. Any balance of the Adjustment Deferral Account must be cleared within a one-year period from the date of termination.

5.0 Annual Reporting and Filing Requirements

On March 1st of the year following the reporting year, EWSI will file with its regulator, the City of Edmonton, an *Annual Water Rate and Wastewater Treatment Rate Filing*. The filing will contain four parts:

- An audit report as outlined in Schedule 4;
- Rates Sheets - The water rate and wastewater treatment rate forecast for each customer class of service for the period following the reporting period; and,
- Water System Service Quality Results - The results of each of the components of the water system service quality indices.

- Wastewater Treatment Service Quality Results - The results of each of the components of the wastewater treatment service quality indices.

An accountant will review the *Annual Water Rate and Wastewater Treatment Rate Filing*, conduct an audit and prepare an audit report in accordance with the recommendations contained within Section 5805 of the Canadian Institute of Chartered Accountants Handbook, as amended from time to time. The audit report will address whether the water rates and wastewater treatment rates are calculated and presented in accordance with the Bylaw.

The filing will be submitted to the City Manager. The City Manager will review the filing and, if appropriate, accept it prior to April 1st of the year when the rates are due to come into effect. The filing and City Manager approval will be posted on the EPCOR web site and copies will be available at the business office of EWSI.

Attachment 4

Performance Measures

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Performance Measures

1.0 Document Purpose

EWSI has submitted an application to its regulator, the City of Edmonton Council, for approval of the EPCOR Water Services and Wastewater Treatment Bylaw ("Water and Wastewater Bylaw). The Water and Wastewater Bylaw will extend the applicability of the water Performance Based Regulation (PBR) plan for a third five-year term from April 1, 2012 to March 31, 2017. A key change in this third PBR plan is the inclusion of wastewater treatment services provided at the Gold Bar wastewater treatment plant ("Gold Bar"). This application affects customers of EWSI who are within the municipal boundaries of the City of Edmonton.

EWSI has prepared the Water and Wastewater Bylaw in accordance with the EPCOR Rates Procedure Bylaw No. 12294, as amended, (Rates Procedure Bylaw) Subsections 5(e) and 5(f), which state that "utility services are to be provided in a manner that reflects reasonable environmental management in comparison to industry benchmarks" and that "performance will be assessed by reference to industry benchmarks."

The purpose of this document is to clearly identify the performance measures and, where possible, provide industry comparisons. As well it describes EWSI's performance and experience since inception of performance based regulation in 2002.

2.0 Framework for Water System and Wastewater Treatment Service Quality Measures

Consistent with the framework established since the inception of PBR in 2002, the operational performance of EWSI will be assessed under five categories:

- System Reliability
- Water Quality
- Customer Service
- Environment
- Safety

Each of these performance categories contains individual performance measures that represent activities and results within each of the areas. In any given year of the performance-based regulation, if EWSI does not meet the standard that is set in relation to an industry benchmark, then EWSI will be financially penalized. The financial penalty is assessed up to a maximum of $1,400,000 per annum ($1,000,000 for Water and $400,000 for Wastewater). In any year which EWSI does not achieve the standard on the

performance measures, the penalty amount is assessed and returned to the customers in the form of a rebate.

There is no financial reward to EWSI for meeting or exceeding these standards for two reasons. Firstly, EWSI is already performing at a high level, and wants to send a clear message that rates will be stable and predictable and adding a financial reward for performance is inconsistent with this. Secondly, EWSI is currently meeting high standards, and continues to be an industry leader on many fronts. A financial penalty will assure customers and the regulator that EWSI will continue to maintain its existing levels of performance.

These performance measures were developed through a process of customer consultations by way of a survey of residential, commercial and industrial customers, as well as ongoing review by the EWSI Community Advisory Panel. This voluntary panel, which includes public, customer and other stakeholder representatives, provides feedback on policies and programs that impact customers and the community in general.

The feedback received from these efforts has indicated that EWSI continues to be evaluated using accepted performance measures and weightings since performance based regulation began in 2002, as provided in Table 1.

Table 1

Water Performance Measure Indices and Penalties

Service Quality Measures	Weighting	Maximum Penalty Available
System Reliability Index	25%	$250,000
Water Quality System	25%	$250,000
Customer Service Index	20%	$200,000
Environmental Index	15%	$150,000
Safety Index	15%	$150,000
Total	100%	$1,000,000

For 2012 to 2016, the maximum penalty associated with Water Service Quality Measures has been increased from $800,000 to $1,000,000.

As EWSI is proposing its wastewater treatment operations be included in the PBR structure for the first time, it has chosen to apply similar Service Quality Measures as it applies to water operations given the past history and acceptance of these indices. However, the weightings of the indices are different for wastewater treatment operations to reflect the different nature and impacts of those operations. These proposed performance measures have been reviewed with representatives of the City's Drainage Services.

The indices and weightings are shown in Table 2, along with the proposed performance penalty, to a maximum of $400,000.

Table 2		
Wastewater Treatment Performance Measure Indices and Penalties		
Service Quality Measures	**Weighting**	**Maximum Penalty Available**
System Reliability Index	15%	$60,000
Water Quality System	40%	$160,000
Customer Service Index	5%	$20,000
Environmental Index	20%	$80,000
Safety Index	20%	$80,000
Total	100%	$400,000

3.0 EWSI's Performance Experience

Performance measures are an integral component of performance based regulation to guarantee City of Edmonton customers that water system service quality will not be sacrificed to keep water rates low. Under provisions of the Water and Wastewater Bylaw, EWSI reports on its actual performance results on each of the Water System Service Quality measures as part of its annual water rate filing. As provided in Table 3, EWSI System Service Quality audited results have met or exceeded performance standards since 2003. Although 2002 indicates a score less than 100 base points, no financial penalty was assessed as points earned were less than one full point below 100.

Table 3			
Actual Water Performance Measures Results			
Year	**Points**	**Year**	**Points**
2002	99.4	2007	102.6
2003	100.1	2008	103.3
2004	102.4	2009	100.3
2005	101.6	2010	102.8
2006	102.1		

4.0 Performance Benchmarks

EWSI could not find utilities that use a similar balanced score card approach to performance measurement. Although some utilities tend to use some of the individual measures similar to EWSI, benchmark comparisons with other utilities may not be directly comparable due to factors such as plant and distribution system configuration, operating conditions, regulatory requirements, environmental factors, raw water and wastewater conditions

and weather. To develop the previous measures EWSI selected and surveyed water utilities from across Canada: Calgary, Regina, Saskatoon, Vancouver, and Winnipeg for benchmark purposes.

Where available, information was gathered from the American Water Works Association (AWWA), the leading North American drinking water industry association, the Water Environment Federation, the leading wastewater industry association and the Office of Water Services (Ofwat), the primary water regulators in the United Kingdom. More recently EWSI joined the National Water & Wastewater Benchmarking Initiative (NWWBI) which represents 43 of Canada's municipalities from coast to coast and represents over 60% of the Canadian population. These agencies offer the best source of comparable information for the water industry in Canada.

5.0 Water System Performance Benchmarks

Table 4 contains the 2012 - 2016 of Water performance measures.

Table 4

Water Performance Measures

	Units	2012-2016	Avail	Bonus
System Reliability Index		**Benchmark**	**25**	**3.5**
Water Main Break Factor	# breaks	574	5.0	
Water Main Break Repair Duration Factor	% fixed within 24 hours from time water shut off	93.7%	5.0	
Planned Construction Impact Factor	% compliance	95.0%	5.0	
Water Pressure Factor	# times below 140 kPa	5	5.0	
Water Loss Factor	Industrial Leakage Index (ILI)	3.0	5.0	
Water Quality Index		**Benchmark**	**25**	**0.5**
Treated Water Quality Index	% target achieved	99.6%	25	
Customer Service Index		**Benchmark**	**20**	**3**
Post Service Audit Factor	% satisfied	74.0%	6.66	
Response Time Factor	minutes to confirm breaks	25	6.67	
Home Sniffing Factor	% satisfaction	93.8%	6.67	
Environmental Index			**15**	**1.5**
Safety Index			**15**	**1.5**
Aggregate Points Earned			**100.0**	**10.0**

5.1 System Reliability Index

The system reliability index is a measure of the confidence that customers can place in the reliability of the waterworks system. This index is comprised of five equally weighed factors:

- Number of main breaks
- Main break repair duration
- Compliance with planned interruption procedures
- Water pressure
- Water loss

5.1.1 Water Main Break Factor

The water main break factor looks at the number of water main breaks that have occurred in the waterworks system and is a measure of the frequency of unplanned interruptions that customers may experience over the course of a year.

This factor also serves as a long-term measure of the water system integrity. Over the long term, EWSI can reduce the number of water main breaks by performing preventative maintenance, increasing investment in water main replacement, and focusing the investments on those water mains that are most prone to break. However, an inherent difficulty with this measure is that the number of water main breaks experienced in any given year is also highly dependent upon changes in temperature and soil conditions based on moisture content each year.

When comparing to other jurisdictions, temperature, age of infrastructure, type of infrastructure, and soil conditions all play a role in the number of water main breaks experienced. As these factors are different in each of the jurisdictions reviewed, it is not possible to provide a comparison that is based upon the same criteria. This can be seen through the comparison to Canadian communities in Table 5. Therefore, the historical data of EWSI's performance in this area is likely the most comparable benchmark for this measure.

Table 5

Water Main Breaks Experienced in 2010

City	#
EWSI	334
Winnipeg	328
Calgary (2009)	343
Regina	36

Performance better than the benchmark will result in improved levels of service to customers through reduced service interruptions. The number of water main breaks each year is inherently variable as shown in Table 6. To offset the variability of this measure, EWSI proposes to compare the annual performance during each year of the performance-based regulation term against the ten-year historical weighted average number of water main breaks, adjusted by a factor of 10 percent. The current benchmark set in the 2007-2011 PBR was 630 and the proposed benchmark will be reduced to 574 as illustrated in Table 6.

Table 6
Water Main Break Factor

Year	#	Year	#
2001	677	2006	430
2002	711	2007	475
2003	597	2008	583
2004	436	2009	669
2005	305	2010	334
1986 – 1990 Average		947	
1991 – 1995 Average		793	
1996 – 2000 Average		600	
10 Year Average		522	
Benchmark - 10 Year Average + 10%		574	

5.1.2 Water Main Break Repair Duration Factor

The repair duration measures the speed at which EWSI repairs water main breaks when they do occur. This is determined by measuring the percentage of time that water main breaks are repaired within 24 hours from the time the flow of water is shut off (i.e. the time of customer interruption).

A 2009 national survey of Canadian utilities conducted by AECOM received 16 responses and showed that only two respondents had an official policy regarding time to restore water service due to unplanned water main breaks. The remainder used only unofficial or general guidelines for water main repair durations. Calgary has a repair duration criteria which depends on the criticality and impact on customers, with the target duration ranging from 24 to 72 hours accordingly.

With limited industry benchmarks available, EWSI proposes to assess future performance based on the 10-year historical average of performance. The benchmark of 93.6% set in 2007 was also based on this 10-year historical average. EWSI

proposes to increase this benchmark only slightly to 93.7% considering constraining factors outlined below. The historical performance of EWSI is provided in Table 7.

Table 7

Water Main Break Repair Duration Factor (Breaks Repaired Within 24 Hours)

Year	%	Year	%
1996-2000 Avg	92.8	2006	95.3
2001	93.6	2007	92.9
2002	94.2	2008	89.1
2003	93.8	2009	90.7
2004	93.0	2010	96.8
2005	98.0		
10 Year Average		93.4	
Benchmark		93.7	

The City of Edmonton Transportation Department has indicated that water main break repair work on arterial and collector roadways may be suspended during rush hours to remove impediments to traffic. As a result, it is proposed that this performance measure exclude water main repairs on arterial and collector roadways in cases where a work suspension has been requested by the City, since the time required to complete these repairs may increase. However, EWSI will still strive to complete the water main break repairs as quickly and safely as possible.

5.1.3 Planned Construction Impact Factor

When EWSI performs planned upgrades or rehabilitation on the water system, certain inconveniences, such as temporary water interruptions and local traffic disruptions, may be experienced by customers. EWSI performs advance planning and notification to help minimize these impacts on customers.

The 2007-2011 Planned Interruption Factor performance measure included providing at least 48 hours advance notice of large scale planned construction projects requiring temporary water hoses and ensuring these service interruptions (underground construction only) did not exceeding the length of time indicated.

As illustrated in Table 8, EWSI achieved 100% compliance with the Planned Interruption performance measure in 2010. Given EWSI's ability to achieve the previous criteria and feedback from its customers, EWSI is proposing a revised and more stringent performance criteria designed to reflect customer concerns on how construction projects are managed.

The current Planned Interruption Factor measure focuses only on the interruption to customers' water service and does not address the interruption to customers' local roads and property. Therefore, for the 2012-2016 PBR, EWSI is proposing a Planned Construction Impact Factor to better address customer concerns. To measure EWSI's effectiveness at minimizing inconvenience to customers during planned construction projects, EWSI will measure its performance based on the following criteria:

Table 8
Planned Service Interruptions

Year	%	Year	%
2001	95	2006	94
2002	89	2007	98
2003	94	2008	96
2004	99	2009	98
2005	96	2010	100

1. Providing a minimum of 5 days advanced notice of large-scale planned construction projects to customers who are directly impacted by the construction and require temporary water hose hook-ups. Large scale projects are defined as those where entire lengths of water main and associated appurtenances are being renewed, resulting in the shut down of water service to multiple properties. These projects may also include disruptions to parking, traffic patterns, and limited access to service lanes. Typically, these projects are engineered and planned well before the work proceeds. Duration of these projects is generally measured in weeks.
2. Providing a minimum of 1 day advanced notice of small-scale planned construction projects to customers who will experience a temporary (~ 8 hours) interruption to their water service but will not require temporary water hook-ups. Small scale projects are generally defined as those where work is being done to repair or modify a component of the water system such as a valve or hydrant, and not the replacement of an entire length of water main. The duration of these projects typically ranges from one to three days, and

requires a short shut down of water service, and localized traffic disruption only.

3. Ensuring the full scope of construction under EWSI control is completed within the timeframe noted on the construction letter.

Calgary and Regina have notification procedures in place but they do not measure their actual performance against procedures. There are also similar measures used in the United Kingdom, where customers can apply for rebates from the water utility if it does not provide advance notification or fails to restore the water supply within a specified time. Unfortunately, the U.K. only measures the absolute number of rebates so the results are not directly comparable.

Since there is limited industry benchmark information and this is a revised measure developed for the upcoming PBR period, EWSI proposes that a compliance level of 95% of planned construction be used as the benchmark for the 2012-2016 PBR period.

5.1.4 Water Pressure Factor

The Water Pressure Factor is a measure of water pressure in the five water pressure zones within Edmonton. Pressure is the force that pushes water through the pipes to the customer and will vary depending upon the geography of the community. Edmonton has five pressure zones because of the different geography and waterworks system design. Provision of adequate water pressure can be achieved through proper planning, design and maintenance of the water distribution system and pumping facilities. In addition, EWSI must constantly monitor and adjust for changing customer water use.

EWSI proposes to continue to use a water pressure standard of 140 kPa (20 psi). This is the Canadian and American standard for minimum pressure required to provide fire protection. This standard is determined by the Insurers' Advisory Organization.

EWSI proposes to maintain the current benchmark set in the 2002 PBR at a target of 5 incidents per year where water pressure is below 140 kPa for two or more consecutive 15 minute periods. This equates to one incident per geographic

pressure zone. Table 9 summarizes the number of incidents per year since 2002 when this measure was initially reported.

In 2010, water pressure site monitoring occurred at 18 Fire Hall sites and four other locations throughout the City where the pressure monitoring equipment is located. Although there have been few incidents of water pressure below 140 kPa during the previous PBR periods, the increased number of water pressure monitoring sites increases the opportunity to discover incidents of lower water pressure. In addition, it is expected that additional pressure monitoring sites commissioned from 2011 onwards will be added to the site count for performance tracking purposes.

Table 9

Incidents with Pressure below 140 kPa for more than 30 minutes

Year	#	Year	#
2002	2	2007	0
2003	0	2008	0
2004	0	2009	0
2005	0	2010	2
2006	0		

Calgary has a minimum municipal target for residential pressure but the standard is at a lower level of 69 kPa (10 psi), which was not tracked prior to 2008. Calgary also tracks the number of low water pressure complaints received, which has ranged from 209 in 2003 to 930 in 2007. In the U.K., there is a similar measure for minimum municipal pressure, also set at 69 kPA (10 psi).

5.1.5 Water Loss Factor

The historic PBR target of 4.9% for water loss was based on the pre-1998 AWWA method which used the metered ratio of water volumes produced vs. water volumes billed as a performance measure. This format is simply a measure of water losses (lost revenue) based on actual meter readings, rather than a measure of the system's performance.

In its 2003 Committee Report, the AWWA's Water Loss Control Committee advocated the use of the IWA/AWWA format for conducting water audits. One indicator used in the International Water Association (IWA) format is the Infrastructure Leakage Index (ILI) which, when compared to the pre-1998 AWWA method, is deemed to be a much better

indicator of how well a system is being operated and maintained. The ILI is a highly effective performance indicator for benchmarking the performance of utilities in operational management of real losses.

The ILI is a performance indicator quantifying how well a distribution system is managed (maintained, repaired, and rehabilitated) for the control of real (leakage) losses at the current operating pressure. Mathematically, it is the ratio of current annual real losses (CARL) to unavoidable annual real losses (UARL), or ILI = CARL/UARL. A low ILI value indicates that a water utility has managed its leakage down toward the level of UARL, or the theoretical technical low limit of leakage achievable in a water system.

CARL is the volume of water lost from reported leaks, unreported leaks, background losses and operator error (storage tank overflows) during the water audit reporting period.

UARL in water utilities cannot be totally eliminated. UARL represents the lowest loss technically achievable in a water utility based on its key characteristics. UARL calculation is based on leakage data gathered from well maintained and well managed systems. Equations for calculating UARL for individual systems were developed and tested by the IWA Water Loss Task Force and published in 2000. The equations take into account measured frequencies, flow rates and durations of background losses, reported and unreported leaks, as well as the pressure-leakage relationship (assumed to be linear for most large systems).

The Alberta Provincial Government recently recommended, as part of their *Water for Life* strategy, that Utilities in Alberta use the ILI method of reporting water losses. The Alberta Urban Municipalities Association (AUMA) is leading the development and implementation of the Conservation Efficiency and Productivity (CEP) plan for the urban municipal sector. AUMA's CEP Plan, approved by its membership on November 5th 2009, includes a requirement for members to report ILI by December 31, 2011. No performance target has been set yet by the Province.

Work continues to develop an international benchmark for system leakage below which it is not cost effective to allocate

further investment or resources to reduce leakage. A set of general guidelines for setting a target level have been derived through the AWWA Water Research Foundation, which recommends that an ILI target should be based on the financial, operational and water resource considerations within a community. These considerations for choosing an ILI target are presented in Table 10. Based on Edmonton's characteristics a target range of >3.0 to 5.0 would match the recommended ILI guidelines.

Table 10

ILI Target Financial, Operational and Water Resource Considerations

Target ILI Range	Financial Considerations	Operational Considerations	Water Resource Considerations
1.0 – 3.0	Water resources are costly to develop or purchase; ability to increase revenues via water rates is greatly limited because of regulation or low ratepayer affordability.	Operating with system leakage above this level would require expansion of existing infrastructure and/or additional water resources to meet the demand.	Available resources are greatly limited and are very difficult and /or environmentally unsound to develop.
> 3.0 – 5.0	Water resources can be developed or purchased at reasonable expense; periodic water rate increases can be feasibility imposed and are tolerated by the customer population.	Existing water supply infrastructure capability is sufficient to meet long-term demand as long as reasonable leakage management controls are in place.	Water resources are believed to be sufficient to meet long-term needs, but demand management interventions (leak management, water conservation) are included in the long term planning.
> 5.0 – 8.0	Cost to purchase or obtain / treat water is low, as are rates charged to the customers.	Superior reliability, capacity and integrity of the water supply infrastructure make it relatively immune to supply shortages.	Water resources are plentiful, reliable, and easily extracted.
> 8.0	Although operational and financial considerations may allow a long term ILI greater than 8.0, such a level of leakage is not an effective utilization of water as a resource. Setting a target level greater than 8.0 other than as an incremental goal to a smaller long term target is discouraged.		

EWSI proposes to set an ILI benchmark of 3.0 for the 2012-2016 PBR period. This is the only factor that will be calculated

from the prior year's information due to the time required after a year's end to obtain final values for all the parameters used to calculate the ILI. A benchmark of 3.0 provides a reasonable goal for EWSI to remain a leader in water loss control based on our utility characteristics. Table 11 compares the results of EWSI against some Canadian communities that have reported their ILI results.

Table 11	
2009 Infrastructure Leakage Index	
City	**ILI**
EWSI	1.7
Calgary	2.3*
Regina	3.6
Halifax	3.0

* not 100% metered

5.2 Water Quality Index

A water utility is markedly different than other utilities because, unlike electricity and gas, customers physically consume water. As a result, the health related aspect to water and its quality are of paramount importance.

Health Canada sets health-based, aesthetic and operational guideline limits for microbiological contaminants, trace metals, pesticides, organic solvents, inorganic salts, radioactive parameters, disinfection byproducts and physical parameters in drinking water. Alberta Environment adopts these guidelines as regulation and sets stricter limits for certain parameters in the Approval to Operate. In addition, EWSI sets even stricter limits for critical parameters that are identified in the EWSI Quality Standards. The EWSI internal limits provide an early warning of any water quality problems that might be developing and can be acted on before violation limits are exceeded.

EWSI has an excellent water quality laboratory that is approved by Alberta Environment and is accredited to ISO 17025 by the Canadian Association for Laboratory Accreditation (CALA). EWSI maintains close contact with Alberta Environment and Health Canada on developing Canadian Drinking Water Guidelines and with local regional Health Authorities on health issues related to drinking water. EWSI's Quality Assurance Laboratory conducts over 100,000 tests a year on more than 330 physical, chemical, and microbiological parameters. The Water Quality Index was started as a way to

measure and track the quality of treated and distributed drinking water in reference our more stringent internal standards.

Table 13 contains the historical results of EWSI Quality Index performance. The results show excellent performance in meeting regulated standards and the stricter EWSI internal limits.

Table 13

EWSI's Historical Annual Results on the Water Quality Index

Year	%	Year	%
2001	99.7	2006	99.7
2002	99.6	2007	99.8
2003	99.6	2008	99.8
2004	99.7	2009	99.7
2005	99.8	2010	99.7
10 Year Average		99.73	
Benchmark		99.60	

The ISO 24512:2007 Guidelines for the Management of Drinking Water Utilities and for the Assessment of Drinking Water Services recommends "meeting or exceed regulator requirements" as possible service assessment performance indicator and for protection of public health. The EWSI quality index is consistent with this performance indicator. The ISO 24512:2007 standard is still relatively new and utilities have not yet adopted these measures. Calgary, Vancouver, and Winnipeg do not have a similar program in place. As a result, there is no comparable industry benchmark.

EWSI has had this program in place since 1996 and over that time, its goal has been to achieve the higher internal standards 99.60% of the time. The most recent 10-year average is 99.73%, however, the index has varied between 99.66% and 99.83% in recent years.

Therefore, EWSI is proposing to maintain the existing benchmark of 99.6% set in the 2007-2011 PBR.

5.3 Customer Service Index

The customer service index is a composite measure of the customers' perception and satisfaction with EWSI service, the aesthetic quality of water and speed of response. These measures are important

because they represent the direct contact that customers have with EWSI.

EWSI has previously surveyed Calgary, Vancouver, and Winnipeg and found that they do not use a comprehensive customer service measure. However, benchmark information was available on some of the individual measures.

5.3.1 Post Service Audit Factor

EWSI will assess the level of customer satisfaction of those customers who have called the EWSI Emergency Response group. An independent research firm will audit the performance of EWSI Emergency Response phone staff and field repair crews through regular surveys to determine the level of customer satisfaction on points of:

- Speed of response
- Quality of work performed
- Employee courtesy
- Work site clean-up
- Provision of alternative water supply

The research firm will accumulate the results of these surveys to form an overall assessment of customers' perception of the performance of EWSI Emergency Response. The post service audit result is the percentage of surveyed customers who give the EWSI Emergency group a "very satisfied" or "completely satisfied" rating, using a 1 to 7 rating scale. These top two ratings are equivalent to receiving a 6 or 7 score out of a total of 7. EWSI will not include "somewhat satisfied" or "satisfied" customers (4 or 5 score) in this performance measure because EWSI strives to maintain or achieve a higher standard of customer satisfaction. This has proven to be a successful strategy as post service audit results have steadily increased from 67.3% in 1998 to 78.1% in 2010.

In reviewing customer satisfaction surveys in other communities, EWSI found that survey content and the definitions of excellent customer service varied significantly. As the surveys among cities are not consistent, it is difficult to draw conclusions on the comparative results. Since EWSI's performance under this measure has increased over the past 13 years, a proposed benchmark equal to the average for the last 10 years is proposed. EWSI proposes a benchmark

increase to 74.0% of customers responding as "completely" or "very satisfied" in the level of service received from the EWSI Emergency group. Table 14 contains the historical results of EWSI's performance under this measure.

Table 14			
EWSI's Historical Annual Results on the Post Service Audit			
Year	**%**	**Year**	**%**
1998	67.3	2005	76.7
1999	77.5	2006	75.7
2000	70.1	2007	71.3
2001	69.6	2008	74.5
2002	70.6	2009	74.7
2003	71	2010	78.1
2004	77.6		
10 Year Average		73.4	
Benchmark		74.0	

5.3.2 Response Time Factor

As of January 1, 2008 all EPCOR employees are prohibited from using any telecommunications devices while driving on EPCOR business. As a result of this commitment to safety, Emergency Response personnel are required to pull off the roadway to a safe location before responding to a phone call. This safety requirement represents a significant change in policy since the last PBR period and adds an average of 2 to 3 minutes to the response time target. The expectation from a safety standpoint is that Emergency Response personnel will not be expected to break posted speed limits to make up for lost time.

Edmonton also experienced significant expansion and population growth during the 2007 PBR period. Consequently, Emergency Response personnel are required to respond to a variety of service calls (in addition to main breaks), over a greater geographic distance, while navigating increased traffic volumes.

EWSI participated in a 2008 National Water and Wastewater Benchmarking initiative to compare response times of water utilities across Canada. EWSI's proposed 25 minute response

time is better than the target response times for the majority of surveyed municipalities.

Given the factors outlined above, and our commitment to employee safety, EWSI proposes to increase the performance standard from 22 minutes (which has been maintained since 2002) to 25 minutes for the 2012-2016 PBR period. As outlined in Table 15, the response time of 25 minutes is equal to our performance in 2008 and 2009.

Table 15

EWSI's Historical Annual Results on Response Time

Year	Minutes	Year	Minutes
2001	18	2006	20
2002	20	2007	21
2003	19	2008	25
2004	19	2009	25
2005	22	2010	20
10 Year Average		21	
Benchmark		25	

The 20 minute response time achieved in 2010 is due to the significantly low number of main breaks experienced in 2010 (339 versus 669).

5.3.3 Home Sniffing Factor

Each year in the spring, EWSI faces a difficult task of minimizing taste and odour in finished drinking water. As snow melts and flows into the river, it brings with it large quantities of organic matter. A residual effect of the organic matter is taste and odour. Neither the taste nor odour associated with this phenomenon is harmful to health however they do influence and affect the aesthetic quality of the finished drinking water.

Raw water quality in the spring and fall months is historically quite poor and can change significantly very quickly. Depending upon the temperature, precipitation, and water consumption at the time, EWSI is challenged to provide aesthetically pleasing water. EWSI uses a laboratory test called flavour profile analysis (FPA) to determine the odour of the treated water and uses this to make adjustments to the treatment process during the spring run-off.

To verify the effectiveness of treatment and monitoring for removal of odour during spring run-off, EWSI will conduct a customer home sniffing study each year. This study aims to have a random panel of 100 to 150 customers from across the City and from different age groups. The customers will be asked to smell both the hot and cold water at their tap each day during the study and to rate the intensity of odour on the following scale. The odour intensity scale is shown in Table 16.

Table 16

Odour Intensity Scale

Intensity	Description
0	No odour detected
0.25	Trace odour (difficult to identify)
0.5	Very slight odour (identifiable, not objectionable)
1.0	Slight, but definite odour (slightly objectionable)
1.5	Slight to moderate odour (somewhat objectionable)
2.0	Moderate, very noticeable odour (objectionable)
2.5	Very strong odour (strongly objectionable)
3.0	Severe odour (so objectionable that water is undrinkable)

A customer is considered satisfied with a sample of water on given day when the odour intensity they record is 0.5 or less. The study will begin in late winter, prior to spring run-off, and will run through spring run-off until the odours in the raw water have dissipated – this will typically be 2 to 3 months, but will depend on weather conditions in that year.

Until 2009, EWSI asked for volunteers through advertising. After reviewing lower scores in 2007 to 2009 it was discovered there were two contributing factors to these scores. The first was it was difficult to recruit at least 100 customers who were willing to participate daily during the study period. The second was a small number of customers rated the odour intensity above 0.5 before, during and after spring run-off. The intent is to measure whether customers notice a change in odour and these few customers combined with a lower overall number of customers contributed to the lower overall results.

Starting in 2010 and going forward EWSI plans to use an independent marketing firm to select the random panel of customers. At the end of the study, the marketing firm will

provide the results to EWSI for analysis and for determination of an overall % satisfaction score for the entire period.

The ISO 24512:2007 Guidelines for the Management of Drinking Water Utilities and for the Assessment of Drinking Water Services recommends that utilities "maintain acceptable aesthetics (taste, odour and colour)" as performance service assessment criteria for the goal of protecting public health. The EWSI home sniffing factor is consistent with this performance assessment criterion. The ISO 24512:2007 standard is still relatively new and utilities have not yet adopted these measures. Calgary, Vancouver, and Winnipeg do not have similar programs in place. As a result, there is no comparable industry benchmark.

However, based on feedback from EWSI's Public Advisory Committee and results from customer surveys, it is apparent that customers are concerned with this aspect of drinking water so the inclusion of this performance measure is appropriate.

Since there are no available industry benchmarks, the performance standard proposed is the ten-year historical performance by EWSI in this area as reflected in Table 17 which shows that EWSI has very good acceptance by the customer for taste and odour. Therefore, the standard will be 93.8% of survey tests will have a favorable taste and odour assessment which is an increase from the previous standard of 93.8% set in the 2002 PBR.

Table 17

EWSI's Historical Annual Results on the Home Sniffing Survey

Year	%	Year	%
2001	87.0	2006	94.8
2002	96.3	2007	91.5
2003	96.3	2008	92.6
2004	96.3	2009	90.5
2005	96.5	2010	96.5
10 Year Average		93.8	
Benchmark		93.8	

5.4 Environment Index

EPCOR Environmental Policy

EPCOR recognizes that the environment is common to all stakeholders and requires thoughtful stewardship and accountability by all users to sustain its quality and preserve it for future generations. EPCOR conducts its electricity and water business in a responsible and open manner that is environmentally, socially, and economically sustainable. EPCOR engages and dialogues with our stakeholders and report on our emissions.

Commitments

1. EPCOR will require that each of the plants and facilities EWSI owns or operates under contract implement a compliance plan that meets the requirements of our environmental management system.
2. EPCOR will maintain our ISO 14001 certifications and be subject to the discipline of a formal compliance process.
3. EPCOR will operate our business in compliance with applicable environmental laws.
4. EPCOR will annually set objectives and targets with a focus on continually improving our environmental performance and reducing the environmental footprint of our existing and future operations.
5. EPCOR will implement programs to achieve our objectives and targets that include, where practical, pollution prevention measures to optimize existing systems and promote environmentally improved operations through the application of new technology.
6. EPCOR will audit our operations and monitor our environmental performance to ensure that our objectives, targets and commitments are being achieved.

Environmental Initiatives

EWSI demonstrates its environmental commitment through many programs and activities in which it has been involved. EWSI is a founding member of the North Saskatchewan Watershed Alliance (NSWA) Society. The purpose of the NSWA is to increase knowledge of the watershed, spread awareness of water quality issues, encourage sustainable practices, and share information.

EWSI takes part in activities ranging from implementing new technologies and programs for water conservation to sponsoring programs and events that educate the public about environmental issues.

EWSI has had an Alberta EnviroVista Leader status since 2005 for its Edmonton waterworks system. The Alberta Environment Envirovista program recognizes organizations that have demonstrated environmental leadership. EWSI has recently applied to achieve Envirovista Champion status, the highest level of recognition in the Envirovista program, for the Edmonton waterworks system.

Performance Measures

EWSI has an environmental program that ensures that it operates in an environmentally responsive manner. This program ensures that EWSI identifies and mitigates its environmental risks. Included in the program are specific quantifiable targets which are tracked. The Environment Index measures currently track emergency response training, complete and timely environmental reporting and incident management, water conservation and vehicle fuel efficiency. EWI plans to maintain similar measures, with the exception of vehicle fuel efficiency. EWSI plans to replace this with a Watershed Management Activity measure, as most of the gains from vehicle fuel efficieny initiatives have now been achieved. EWSI has a target total of 100 points.

Calgary, Vancouver, and Winnipeg do not use a comparable environmental performance measure. Therefore, industry benchmarking is not possible. Since there are no industry benchmarks to compare against, EWSI proposes a standard based upon meeting established targets. EWSI proposes to continue with the existing standard based upon meeting established targets. Table 18 summarizes the historical results based on the 15 base points available. In the past the environmental index was measured against 114 points (2002-2006 PBR) and 100 points (2007-2012 PBR).

Table 18

EWSI's Historical Annual Results on the Environmental Performance Index

Year	#	Year	#
2002	14.6	2007	15.2
2003	14.2	2008	15.6
2004	12.7	2009	15.4
2005	14.7	2010	14.8
2006	15.0		

5.5 Safety Index

Safety Policy

EPCOR is committed to a safe, healthy life style and demonstrates this through care and concern for people. EPCOR believes that safety, quality, and productivity are mutually dependent and when diligently managed will provide challenging and satisfying work experiences in a safe and healthy environment. In order to fulfill this commitment, EPCOR's Directors, Executive, Managers, Supervisors, Employees, and Contractors are responsible for the application of the following Health and Safety System.

Commitments

Leadership and Administration
Our commitment to health and safety is communicated and implemented throughout EPCOR using the business planning and performance management processes.

Hazard Management
Hazards are identified, risks evaluated and appropriate control measures established. Elements of this process are risk/hazard management, emergency planning, health & hygiene, personal protective equipment and work standards.

Competency and Training
Through task analysis EPCOR identifies the competencies our employees require and ensure they have the appropriate qualifications, training and experience to safely perform assigned tasks.

Promotion and Monitoring
EPCOR monitors the effectiveness of our health and safety management system and implement changes to continually improve our performance. Elements of this process are inspections & audits, incident investigation, claims management and promotion of a healthy and safe life style.

Safety Initiatives

EPCOR's Safety initiatives include the following (to list a few):

- Formal Safety meetings,
- A Safe Work Plan(SWP) process;

- A Behavior Based Safety (BBS) observation process; and
- Work site inspections

In addition to the above initiatives, EWSI continues to participate in WorkSafe *Alberta's Partnership Program* and has successfully maintained its *Certificate Of Recognition* (COR) for maintaining its Health and Safety program in good standing for the last 2 third party audit cycles (2005 and 2008).

Performance Measures

In order to recognize safety performance, a results based safety performance index that measures results based on activities and outcomes against an annual target is used. The activities based, or leading indicators, component measures performance targets established around the four main components of the safety management program as listed above.

The outcomes based, or lagging indicators, component measures incident statistics such as: all injury frequency, lost time frequency, and the injury severity rate.

EWSI's safety program ensures that hazards are identified and actions with respect to safety risks are addressed. Included in the program are specific quantifiable targets.

EWSI has received Safety Awards from the AWWA for its superior safety record within the industry. Based on previous failed attempts of finding comparative data EWSI proposes to continue with the existing standard based upon meeting established targets. Table 19 summarizes the historical results based on the 15 base points available. In the past the safety index was measured against 115 points (2002-2006 PBR) and 100 points (2007-2012 PBR).

Table 19

EWSI's Historical Annual Results on the Safety Performance Index

Year	#	Year	#
2002	14.8	2007	14.8
2003	14.3	2008	15.9
2004	15.5	2009	14.0
2005	13.5	2010	14.2
2006	13.3		

6.0 Wastewater Treatment Performance Benchmarks

Table 20 contains the 2012 – 2016 of Wastewater Treatment performance measures.

Table 20				
Wastewater Treatment Performance Measures				
	Units	**2012-2016**	**Avail**	**Bonus**
System Reliability Index		**Benchmark**	**15**	**1**
Enhanced Primary Treatment	% in use	75.0%		
Water Quality Index		**Benchmark**	**40**	**4**
Wastewater Effluent Limit Performance Index	% below limits	46.0%		
Customer Service Index		**Benchmark**	**5**	**0**
Public Engagement Index	# meetings	2	5	
Environmental Index			**20**	**2**
Safety Index			**20**	**3**
Aggregate Points Earned			**100.0**	**10.0**

6.1 System Reliability Index

EWSI is proposing an Enhanced Primary Treatment (EPT) Runtime Index as its system reliability measure.

Background

The Enhanced Primary Treatment (EPT) facility at the Gold Bar wastewater treatment plant (Gold Bar) operates during wet weather and snowmelt runoff events when flows exceed the maximum secondary treatment capacity of Gold Bar. The EPT Facility is activated and is intended to operate continuously during these events.

Index Scope and Calculation

The value of the EPT Runtime Index measures the ratio of the amount of time that the EPT facility runs during an EPT Event to the EPT Event duration. An EPT Event is defined as a continuous period of time when total influent flows exceed the EPT Event Flow Threshold. The EPT Event Flow Threshold is defined as 420 ML/day.

The EPT-CED is the Cumulative Event Duration of all EPT Events within a specified reporting period. The duration of each EPT Event is calculated as the total time, measured in hours, that the influent flow rate was in excess of the EPT Event Threshold.

The EPT-CRT is the cumulative Run Time of the EPT facility during EPT Events within a specified reporting period. The Run Time is defined as the total time, measured in hours that the EPT Facility was actually operating during each EPT Event. The EPT Facility is defined to be operating when influent flow is being directed through the EPT Facility during an EPT Event.

History and Benchmark

As the EPT facility at Gold Bar is new, no historical data is available to determine a benchmark for this index based on historical experience, and no external industry benchmark data is available. As a result, EWSI is proposing a target EPT Runtime of 75.0% for the 2012-2016 PBR period.

For the purposes of establishing possible performance measures for future PBR periods, EWSI will track the following parameters during 2012-2016:

- Percentage of Total Suspended Solids Removal
- Time/duration of dosing EPT Chemicals
- Total EPT Capacity available for service during wet weather events
- Total Flow Treated through EPT processes

6.2 Water Quality Index

EWSI is proposing a Wastewater Effluent Limit Performance Index as its water quality index measure.

Background

Table 21

Gold Bar Discharge Parameters

Parameter	Unit	Average Monthly Discharge Limit
Total Suspended Solids (TSS)	mg/L	20
Biochemical Oxygen Demand (BOD)	mg/L	20
E. coli	Cfu/100 mL	200 *
Total Phosphorus	mg/L	1.0
Ammonia – Summer (June 1 – November 30)	mg/L	5
Ammonia – Summer (December 1 – May 31)	mg/L	10

* Measured as geometric mean

There are five different discharge parameters monitored in the final effluent from Gold Bar as shown in Table 21.

The Wastewater Effluent Limit Performance Index (WELPI) is intended to demonstrate the overall effectiveness of the Gold Bar wastewater treatment processes. The index calculates a percentage value representing the percentage of the discharge limit for each parameter measured in the final effluent. Each value is given equal weighting in the calculation of the index. Target values for the index are based on statistical analyses of 2005-2010 operating data which demonstrates that, on average, the Gold Bar plant discharges effluent at 27% of the Alberta Environment discharge limits as outlined in Approval 639-02-07. The target index is set at 46%, which means that for 95% of the time during the 2005-2010 period, Gold Bar effluent concentrations were equal to or less than the index target value.

EWSI has an excellent wastewater quality laboratory that is approved by Alberta Environment and is accredited to ISO 17025 by the Canadian Association for Laboratory Accreditation (CALA). EWSI maintains close contact with Alberta Environment on developing Environmental discharge limits related to wastewater treatment effluents. The WELPI has been established as a method to measure and track the quality of final effluent being returned to the North Saskatchewan River in reference to our more stringent internal standards.

The water quality tests included in this index are done on composite final effluent samples discharged by Gold Bar to the North Saskatchewan River, with the exception of E. coli which is a daily grab sample. This index is intended to describe the performance of the biological process during dry weather days. All days during the PBR period with a secondary bypass will be excluded from the calculation of this index. The exclusion of wet weather impacts is intended to maintain the validity of data from the historic record period (2005 to 2010). The transition to EPT in 2011 and carrying on into the 2012-2016 PBR period will require the blending of Enhanced Primary Effluent with Final Effluent and will affect these results. The effectiveness of the EPT process will be assessed in other indices developed outside of this index.

Historically, Gold Bar has experienced only one final effluent violation for one parameter in the period from April 1994 to present. Effluent quality normally operates between 10% and 80% of each parameter.

The WELPI calculation methodology adjusts these results to allow for more accurate comparison between parameters and to provide equal weighting of parameters in the index.

The Historic Values for the individual parameters over the period of record (2005 to 2010) is shown on Table 2 – Appendix A. The overall WELPI factor for the period of record 2005 to 2010 is shown in Table 22.

Table 22	
EWSI's Historic WELPI Factor	
Year	**%**
2005	29
2006	30
2007	31
2008	25
2009	25
2010	22
Average	27
Benchmark	46.0

The results show excellent performance in meeting regulated standards and the stricter EWSI internal limits.

In some years, performance has been better than average and in other years less than average. EWSI is proposing to use the upper 95% confidence limit of each parameter as the limit of this performance measure for 2012 – 2016. That is 46% of the discharge limit. In other words, if EWSI maintains the same level of plant performance, this index should be less than 46% of the discharge limit 95% of the time.

6.3 Customer Service Index

EWSI is proposing the Public Engagement Index as its customer service index measure.

Background

Historically, Gold Bar management and staff have conducted Community Liaison Committee meetings to engage local neighbourhood representatives in the operation of the plant. Initially, these meetings provided management with insights as to the

effectiveness of the odour control measures instituted in the 1990s. Over time, these meetings evolved to provide community stakeholders with valuable information about Gold Bar capital programs and ongoing operations. This relationship helped maintain a positive relationship between the plant and the surrounding neighbourhoods. EWSI intends to continue the work of the Gold Bar Community Liaison Committee as a measure of its commitment to outreach to both stakeholders and customers at large and to provide transparency of operation.

The Community Liaison Committee meetings are arranged either twice per year or as required by ongoing plant activities.

The Community Liaison Committee meetings have been held since 1998, with varying frequency year over year. In the first few years, meetings were held quarterly with the focus on the operation of the odour control system. In time, the meeting frequency evolved to once or twice per year, depending on the level of activity at Gold Bar. The intended benchmark of two meetings per year represents the meeting frequency in recent years. This target is intended to preserve the current level of engagement with the local community stakeholders.

The relevant documentation required for tracking of the measure is the minutes of the meetings held with the Community Liaison Committee.

6.4 Environment Index

The Wastewater Treatment plant has the same Environmental Policy and has similar commitments and wastewater specific environmental initiatives as compared to Water. The Wastewater Treatment environmental index is using three of the same performance measures that are used in the Water environmental index. The specific benchmarks are adjusted for the Wastewater Treatment plant.

6.5 Safety Index

The Wastewater Treatment plant has the same Safety Policy, commitments and safety initiatives as compared to Water. The Wastewater Treatment environmental index is using the same seven performance measures that are used in the Water environmental index. The specific benchmarks are adjusted for the Wastewater Treatment plant.

Attachment 5

Rates Comparison with Surrounding Communities and Other Regions

Table of Contents

1.0 Document Purpose

This document is provided to comply with the EPCOR Rates Procedures Bylaw No. 12294 Subsection 6(b), as amended, that states "EPCOR must provide the City Manager with a Rates Report that includes: comparisons to rates in surrounding communities and other regions."

This document will discuss the components of EPCOR Water Services Inc. (EWSI) water rates and wastewater treatment rates and provide a comparison of Edmonton's water rates and wastewater rates (which include EWSI's wastewater treatment rates) to those of surrounding communities and other regions based on monthly water and wastewater bills.

2.0 Overview

2.1 Water Rate Comparison

For purposes of preparing this document, EWSI compared its rates with the water utilities of Calgary, Regina, Vancouver and Winnipeg as well as a representative selection of communities surrounding Edmonton. These communities are collectively referred to in this document as the Alberta Capital Region communities and are comprised of St. Albert, Sherwood Park, Sturgeon County and Spruce Grove.

Based on its review of water rates in the Alberta Capital Region and the other major cities noted above, EWSI concludes the following with respect to its proposed water rates for 2012:

- When comparing EWSI's water rates with those of other communities, there are a few notable factors related to the level of services provided and the costs incurred by the utility which cause variation in the level of rates. These factors include:
    - **quality of raw water** – the raw water quality treated by EWSI is relatively poor compared to some other communities, requiring additional treatment processes;
    - **franchise fees** – EWSI and water utilities in certain other communities pay franchise fees, whereas some others do not;
    - **age of the system –** EWSI's distribution system is relatively old compared to other communities (particularly Alberta Capital Region) which requires higher costs to maintain and replace aging infrastructure;

- Even with these upward pressures on rates, the results show that EWSI's water rates are competitive with the other sample utilities surrounding Edmonton and in other jurisdictions.
- The sections below provide a comparison of the monthly water bills of EWSI with the other communities sampled for various customer classes and consumption levels. The results show that water bills of EWSI's customers generally rank in the middle or low range within the communities sampled.
- The one exception is for high use residential customers, where EWSI customers have the third highest monthly water bill compared to the other communities. This is the direct result of EWSI's proposal to revise its residential water rate structure from two-tier rates to three-tier rates in order to encourage water conservation.

2.2 Wastewater Rate Comparison

It was not possible to conduct a direct comparison of EWSI's wastewater treatment rates with those of other communities because all other communities' wastewater rates include both the wastewater treatment and the operation of the wastewater collection system. In Edmonton, the City's Drainage department is responsible for the collection system. In order to provide a more meaningful comparison of EWSI's wastewater treatment rates with other communities, EWSI has combined its wastewater treatment rates with the City's drainage rates for the collection system.

Based on this comparison of the combined wastewater treatment and drainage rates (the total wastewater rate/bill) in other communities, EWSI concludes the following with respect to its proposed wastewater treatment rates for 2012:

- Similar to the water rate comparison, when comparing wastewater rates with those of other communities, there are a few key factors which lead to differences in rates including:
    - **different levels of wastewater treatment** – compared to the other sampled communities, EWSI provides a higher level of wastewater treatment;
    - **franchise fees** – EWSI and certain wastewater utilities in other communities pay franchise fees, whereas some others do not;
    - **full cost recovery approach –** while EWSI's wastewater treatment rates are based on full cost recovery, it is not clear if other communities take this same approach in determining their rates;

- Even with these upward pressures on rates, the results show that the wastewater rates are competitive with the other sampled utilities surrounding Edmonton and in other jurisdictions.

3.0 Comparison of EWSI's Residential Water Rates Over Time

Figure 1 below provides the monthly water bill for an average residential customer (based on the average level of consumption in each year) compared to the water bill based on rate increases at the Alberta Consumer Price Index (CPI). The average water bill is compared for the period 2002-2016, reflecting EWSI's three successive Performance Based Regulation (PBR) terms. Figure 1 also shows the breakdown of the customer's bill in terms of the base costs required to maintain water service levels to its customers as well as certain major capital projects including the EL Smith water treatment plant upgrade ($139 million, completed in 2008), the Accelerated Water Main Renewal program (forecast at $20 million per year for each of 2011-2016) and certain regulatory and safety related projects planned for the 2012-2016 period ($29 million).

Figure 1
Average Edmonton Monthly Water Residential Bill
as Compared to Inflation (CPI)
2002 - 2016
(Reflects average residential consumption per customer (actual or forecast) in each year)

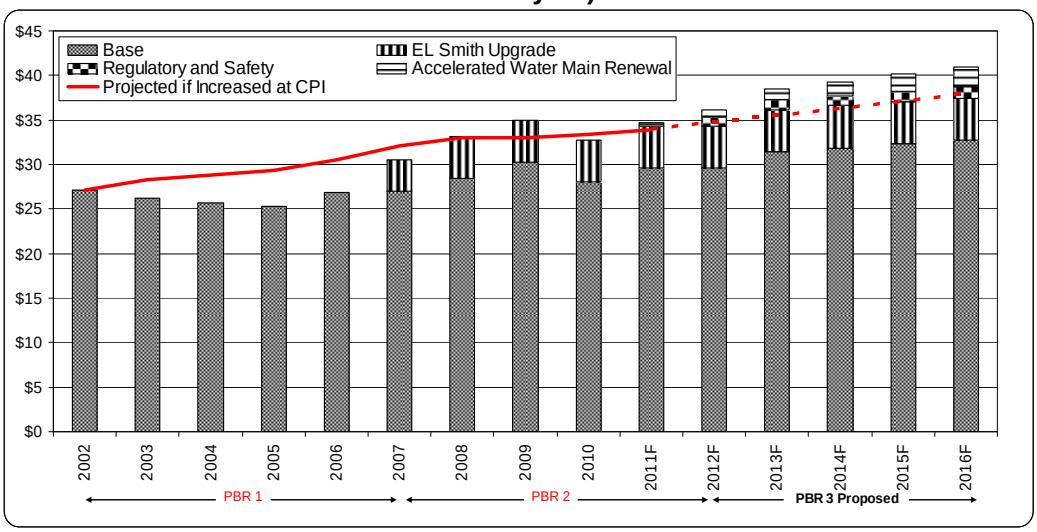


Figure 1 illustrates that EWSI's efforts to promote water conservation coupled with its ongoing efforts to seek cost savings and prudently manage capital programs has resulted in increases to base costs at a rate near or below inflation (CPI) since 2002. This trend is expected to continue through the 2012-2016 PBR term. Even with the major capital upgrades to expand

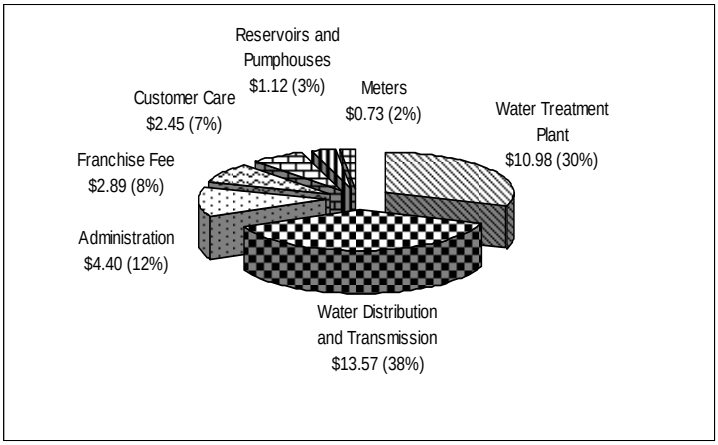
the EL Smith water treatment plant due to growth, the average monthly residential bill has been increasing at levels comparable to inflation. The EL Smith upgrade was required to provide additional plant capacity over the long term. Due to efforts to promote water conservation in Edmonton, EWSI was able to delay the upgrade for several years from its originally planned start date in 1992.

For the 2012-2016 PBR term, the average bill in Figure 1 reflects EWSI's plans to complete one-time capital projects required for regulatory and safety purposes and to continue the Accelerated Water Main Renewal program, which is a $20 million per year program requested by the City's Transportation and Public Works Committee for EWSI to accelerate the replacement of water mains under roadways that are scheduled to be rehabilitated by the City's Transportation Department. During this 2012-2016 period, Figure 1 reflects forecast decrease in residential water consumption of 1% per year.

4.0 Key Components of Monthly Residential Water Bill

Water rates are designed to recover all of the costs incurred to provide customers with safe drinking water and reliable service. Figure 2 shows the components of an average monthly residential water bill in Edmonton. The largest components of the water bill reflect the treatment of raw water to produce potable water and the maintenance and operation of the waterworks infrastructure. In combination, these two components account for 68% of the total monthly bill. Throughout this section, the cost drivers for these cost components and others will be discussed.

Figure 2
Components of an Average Edmonton
Monthly Residential Water Treatment Bill



4.1 Raw Water Quality

The cost of water treatment represents 30% of the average monthly residential water bill for EWSI customers. This cost is comprised of the depreciation of the treatment plants, operation and maintenance of the treatment plants and the direct costs to process the raw river water into safe drinking water. The most significant cost driver of any water treatment facility is the quality of the raw river water as it enters the water treatment plant.

The raw water quality will determine the nature and extent of water treatment required to bring the raw water to an acceptable level for human consumption. The poorer the raw water quality, the more treatment processes required. There is a direct cost impact for each additional treatment process required. There are four fundamental water treatment processes.

Clarification – This involves the removal of particles from the raw water through the use of a coagulant that attracts dirt and silt particles.

Disinfection – EWSI uses two types of disinfection: chlorine and ultra-violet. The first disinfection process involves the addition of chlorine to kill bacteria and viruses before filtration. After filtration, ultra-violet disinfection is used to sterilize any remaining organisms in the water.

Filtration – This process is to remove any remaining small particles in the water before it flows through the water distribution system.

Aesthetic - Carbon is used to help remove taste and odour from the water.

Table 1 reflects the treatment processes used in each of the benchmark regions.

Table 1
Water Treatment Processes by Region

	Clarification	UV Disinfection	Filtration	Aesthetic
EWSI	✓	✓	✓	✓
Calgary	Partial	X	✓	✓
Regina	✓	X	✓	✓
Vancouver	X	X	Partial	X
Winnipeg	✓	✓	✓	✓
Alberta Capital Region	EWSI provides potable water to these communities.			

The reason for poor water quality in the North Saskatchewan River is largely due to the upstream watershed. The North Saskatchewan River Basin comprises 28,000 km² of land upstream of Edmonton. It includes mountains, foothills, forest muskeg and farmland.

On its way to Edmonton, the river can pick up soil particles, oil, road salt, organic materials, pesticides, excess fertilizers and other nutrients. In addition, the river can pick up microorganisms, run-off from oil and gas sites and agricultural run-off including livestock manure. This creates poorer quality and higher variability raw water in terms of color, taste, odour and turbidity compared to other communities. These factors create the need for a comprehensive treatment process that involves higher costs than those communities that are not subject to the same river quality variables.

4.2 Treatment Chemicals

Poor raw water quality requires additional water treatment chemicals, For EWSI, treatment chemicals are one of the largest expenses in the water treatment process.

For example, two treatment chemicals alum and chlorine are commonly used chemicals by EWSI in the treatment of water. The greater the amount of turbidity in the raw water the more alum is required. Similarly, the greater the amount of organic material, the higher the chlorine dosage needed. EWSI must use significantly more alum and chlorine than the other sampled utilities due to comparatively poorer raw water quality. Until recently, Winnipeg used only chlorine and no alum in the treatment of their water. Therefore, their historical costs for water treatment were lower.

4.3 Water Distribution and Transmission Costs

The age of the waterworks system infrastructure can also have a large impact on the cost to operate and maintain a utility. In Edmonton, 38% of the cost for water is for the maintenance and operation of the distribution system. Where the distribution systems are newer the cost to maintain these systems are lower.

The Alberta Capital Region communities are comprised of mostly newer developments than can be found in the City of Edmonton. Further, smaller systems are eligible for Federal and Provincial government grants to assist in the replacement of the aging infrastructure.

4.4 Water Franchise Fees

Municipal taxation policy can create differences between water rates among jurisdictions. EWSI, and the Calgary water utility are charged a franchise fee by their local municipality for the exclusive right to provide water. The Regina and Winnipeg water utilities pay a fee to those cities based on a percentage of water sales. Included in EWSI's rates is the recovery of a franchise fee charged by the City of Edmonton. This fee is 8.0% of Edmonton's water revenue.

Vancouver and the Alberta Capital Region communities do not have franchise fees thereby putting them at a cost advantage to EWSI.

5.0 Water Bill Comparisons

Surrounding communities and other regions' water rates will be compared to EWSI's based on monthly water bills.

Looking forward, other communities will likely continue to increase water rates in order to reflect the effects of inflation, changes in consumption volumes due to conservation, and mandated environmental regulations.

In 2005, the City of Calgary began significant water treatment plant (WTP) upgrades to both their water treatment plants. The total was estimated to cost more than $350 million. Most of the upgrades were completed or expected to be completed in 2011 with the exception of implementing ultra-violet disinfection and sodium hypochlorite (Bearspaw WTP), expected to commence in 2012 with completion by 2014. Water rates for Calgary have risen 4.8% from 2005 to 2008 and 5.8% from 2009 to 2011.

Winnipeg also constructed a new water treatment plant that came into service in 2009 at a cost of $300 million. Water rates for Winnipeg have risen on average approximately 3.5% from 2009 to 2011. In addition, Winnipeg charges a tax levy for all properties fronting on water and wastewater mains based on a rate per foot of frontage. The funds raised from the tax levy are used for water and wastewater mains maintenance.

5.1 Approach to Water Bill Comparisons

The comparative water bill information is based on the other utilities' water rates as of the Spring of 2011. The bill comparisons generally reflect the 2011 water rates for comparable communities (2012 proposed rates are shown for Regina) and are based on the total cost to the customer including fixed charges, consumption charges plus any surcharges. Both

the 2011 and 2012 proposed water rates for EWSI are provided for comparison.

Comparisons of a residential water bill are provided for three levels of water consumption:

- Low use residential consumer (10 m^3/month);
- Average use residential consumer (17 m^3/month) based on the average consumption for an Edmonton household;
- High use residential consumer (40 m^3/month).

Comparisons are not made for the multi-residential customer class because many jurisdictions do not have a similar rate class.

Comparisons are made for three sizes of commercial customers:

- A small commercial business representative of a typical car wash (325 m^3/month).
- A medium commercial business representative of a large hotel or large shopping center (6,000 m^3/month).
- A large commercial business representative of a large-scale commercial enterprise, like a brewery or food processing plant (20,000 m^3/month).

5.2 Residential Water Bill Comparison

Figure 3
Low Use Monthly Residential Water Bill
(10 m^3/month)

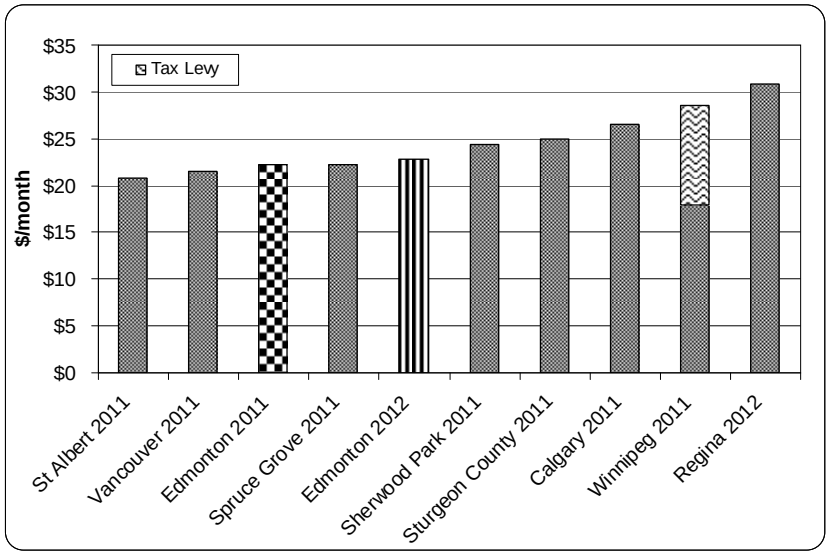


Figure 3 provides the comparison for the monthly water bill for residential customers consuming 10 m^3 per month, which is representative of a low use household. In this category, the Edmonton 2012 water bill is comparable with surrounding communities and other regions 2011 water bills[1],[2]. As noted in Table 1 above, Vancouver reflects a lower water bill as the treatment process does not include an aesthetic component (taste and odour control) nor require clarification (removal of dirt and silt particles) which significantly reduces its treatment costs. In addition, Vancouver, St. Albert and Spruce Grove do not charge its customers a franchise fee putting these communities at a cost advantage when compared to EWSI.

[1] Comparison uses Regina proposed 2012 Rates
[2] Winnipeg water bill includes a $128 a year ($10.67 per month) tax levy

Figure 4
Average Edmonton Monthly Residential Water Bill
(17 m^3/month)

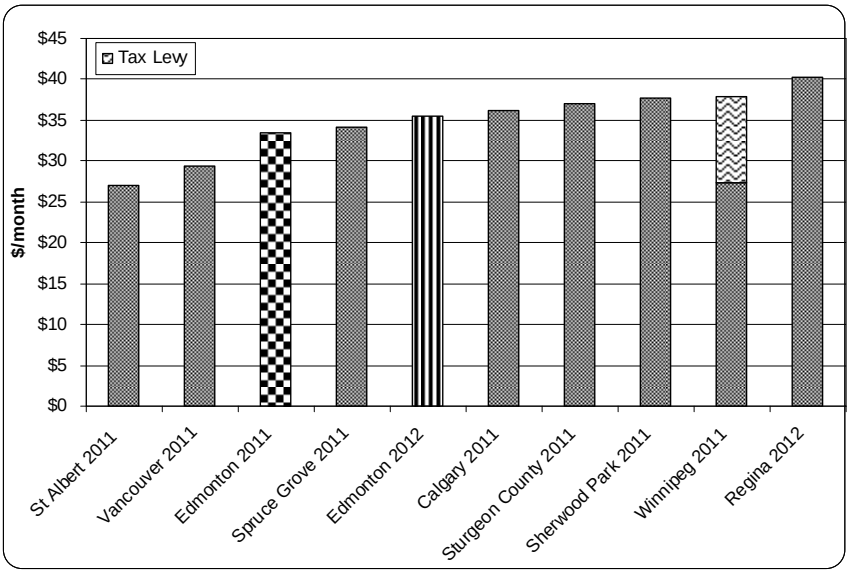


Figure 4 provides the comparison for the monthly water bill for residential customers consuming 17 m^3 per month which is representative of an average Edmonton household. The Edmonton 2012 water bill is comparable with surrounding communities and other regions 2011 water bills[3][4]. As noted above, Vancouver has a lower bill due to the water treatment process and the absence of franchise fees. St. Albert and Spruce Grove also have lower bills due to the absence of franchise fees.

[3] Comparison uses Regina proposed 2012 Rates
[4] Winnipeg water bill includes a $128 a year ($10.67 per month) tax levy

Figure 5
High Use Monthly Residential Water Bill
(40 m^3/month)

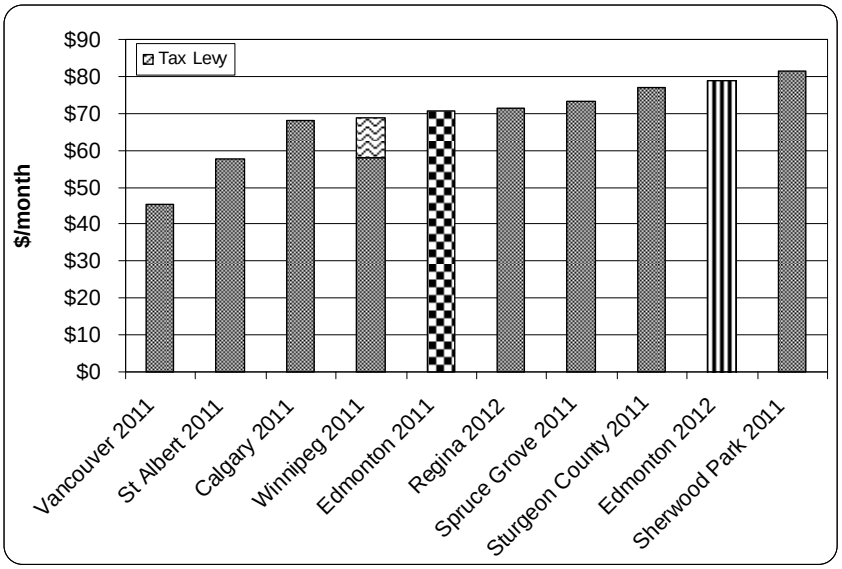


Figure 5 provides a comparison for the monthly water bill for residential customers consuming 40 m^3 per month which is representative of a high use household. In this category, the Edmonton 2012 water bill is higher than most of the comparative communities 2011 water bill with the exception of Sherwood Park[5],[6]. This is the direct result of EWSI's proposal to revise its residential water rate structure from two-tier rates to three-tier rates in order to encourage water conservation.

In general, the relative rankings of the water utilities reflect the differences in costs associated with the levels of water treatment, source water quality, franchise fees and tax levies.

Overall in the residential segment, EWSI's charges are competitive compared to the other utilities taking into consideration that all rate comparisons to EWSI are based on communities 2011 rates which are subject to rate increases for 2012.

[5] Comparison uses Regina proposed 2012 Rates
[6] Winnipeg water bill includes a $128 a year ($10.67 per month) tax levy

5.3 Commercial Water Bill Comparison

Figure 6
Small Commercial Monthly Water Bill
(325 m^3/month)

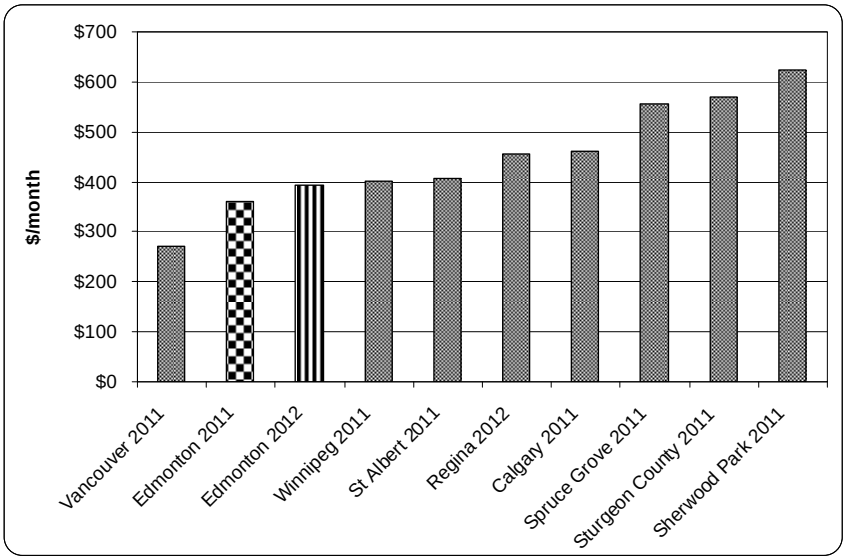


Figure 6 provides a comparison of the monthly water bill for small commercial customers consuming 325 m³ per month, which is representative of a typical car wash. In this category, the Edmonton 2012 water bill is one of the lowest when comparing with surrounding communities and other regions 2011 water bills[7]. As noted in Table 1 above, Vancouver reflects a lower water bill as the treatment process does not include an aesthetic component (taste and odour control), an ultra-violet disinfection component nor requires clarification (removal of dirt and silt particles) and does not charge its customers a franchise fee to treat water which significantly reduces its total treatment costs.

Figure 7
Medium Commercial Monthly Water Bill
(6,000 m^3/month)

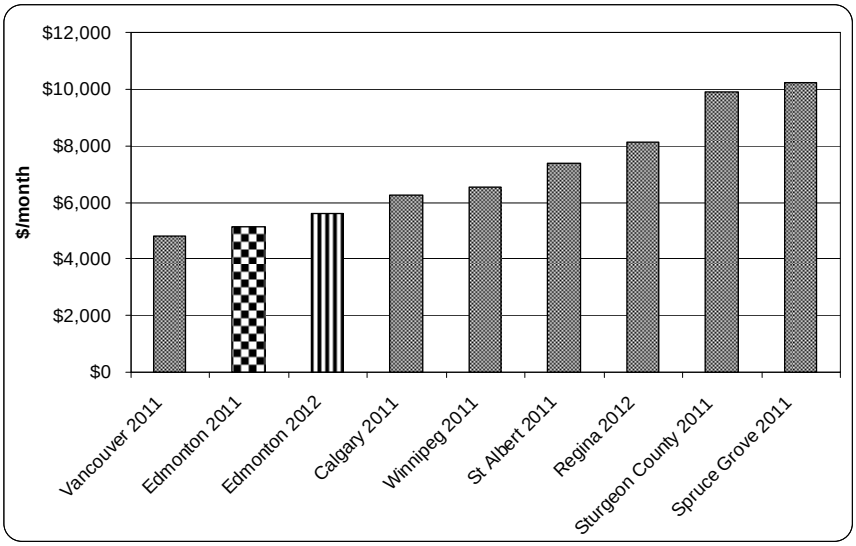


Figure 7 provides a comparison of the monthly water bill for medium commercial customers consuming 6,000 m³ per month, which is intended to represent a large hotel or large shopping center. In this category, the Edmonton 2012 water bill is one of the lowest when comparing with surrounding communities and other regions 2011 water bills[8]. As noted above, Vancouver has a lower water bill due to the water treatment process and absence of franchise fees

[8] Comparison uses Regina proposed 2012 Rates

Figure 8
Large Commercial Monthly Water Bill
(20,000 m^3/month)

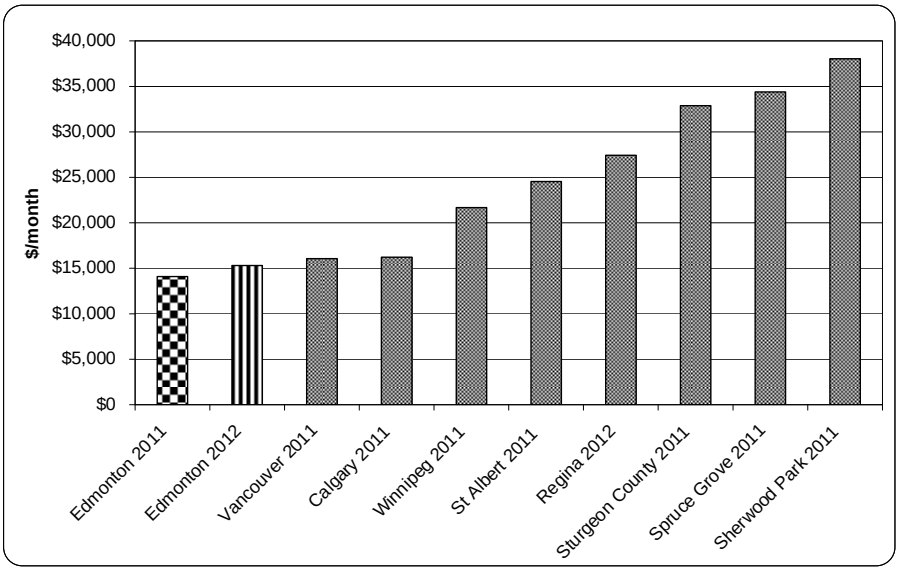


Figure 8 provides the comparison of the monthly water bill for large commercial customers consuming 20,000 m^3 per month, which is representative of a large scale commercial or industrial enterprise, like a brewery or food processing plant. In this category, the Edmonton 2012 water bill is lowest cost when compared to all other communities.

Overall in the commercial segment EWSI's charges are one of the lowest when compared to the other utilities taking into consideration that all rate comparisons to EWSI are based on 2011 rates which are subject to rate increases for 2012[9].

6.0 Comparison of Wastewater Rates

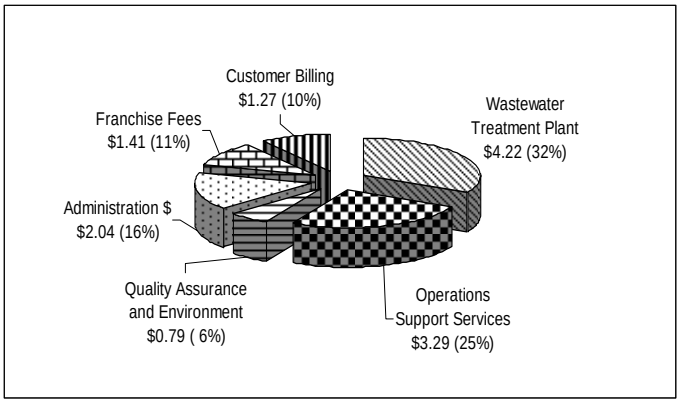
It was not possible to conduct a direct comparison of EWSI's wastewater treatment rates with those of other communities because all other communities' wastewater rates include both the wastewater treatment and the operation of the wastewater collection system. In Edmonton, the City's Drainage department is responsible for the collection system. In order to provide a more meaningful comparison of EWSI's wastewater treatment rates with other communities, EWSI has combined its wastewater treatment rates with the drainage rates.

[9] Comparison uses Regina proposed 2012 Rates

7.0 Key Components of EWSI Wastewater Treatment Rate

Wastewater treatment rates are designed to recover the costs to provide sanitary and combined sewer wastewater treatment services from the Gold Bar Wastewater Treatment Plant to residents of the City of Edmonton. Figure 9 shows the components of an average monthly residential wastewater treatment bill in Edmonton. The largest components of the wastewater treatment bill are related to the operations and maintenance, including quality assurance and environmental support services at the Gold Bar plant. In combination, these components account for 63% of the total monthly bill. Throughout this section, the cost drivers for these cost components and others will be discussed.

Figure 9
Components of an Average Edmonton
Monthly Residential Wastewater Treatment Bill



Raw wastewater coming into Gold Bar for treatment has variable quality due to Edmonton's combined sewers. This results in higher wastewater treatment costs. In addition, unlike certain other communities, EWSI pays a franchise fee for Gold Bar to the City of Edmonton. Despite these factors, the combined EWSI and City Drainage rates are competitive with the other sampled utilities surrounding Edmonton and in other jurisdictions.

7.1 Wastewater Quality

The cost of wastewater treatment operations and maintenance represents 32% of the average monthly residential wastewater treatment charge to customers as shown in Figure 9 below. This cost is made up of the depreciation of the treatment plant, operation and maintenance of the treatment plant and the direct costs to process the raw wastewater influent to the plant into high quality effluent for return to the North Saskatchewan

River. The most significant cost driver of any wastewater treatment facility is the quality of the raw wastewater influent it receives for treatment. The quality of the raw wastewater at Gold Bar can be quite variable in flow and solids loading due to the connection of Edmonton's combined sewer system to the Gold Bar plant.

There are seven fundamental wastewater treatment processes for EWSI are:

Pre-treatment – Large solid matter and grit is screened and removed from the raw wastewater. This is necessary to prevent damage to equipment and allow for the following treatment procedures to focus on removing the organic matter and pollutants.

Primary Treatment (clarification) – Both sludge and scum are then scraped and skimmed off and piped away for separate treatment, while the primary effluent travels on to the next treatment phase. By the end of this process, approximately 50% of pollutants are already removed

Enhanced Primary Treatment (EPT) – During wet weather periods, the combined sewers often capture more runoff than they can handle, resulting in wastewater overflows to the river. Without such overflows, there would be no way of preventing untreated wastewater from backing up into household basements. These overflows are directed to Enhanced Primary Treatment Clarifiers, which allow the plant to take in and treat more peak seasonal flows and solids loading.

Biological Nutrient Removal (BNR) - Uses microorganisms to create biological reactions to further clean the effluent. Secondary bioreactors remove additional impurities, namely phosphorus and ammonia.

Secondary Clarification - Gravity and mechanical rakes separate matter from the effluent. In this case, the microorganisms bind together as 'floc', settle to the bottom, are separated by mechanical rakes and pumped to solids handling and anaerobic digestion.

UV Disinfection - wastewater effluent is disinfected by high intensity ultra-violet light.

Solids Handling and Anaerobic Digestion – all solids removed during the wastewater treatment processes (sludges and scums from primary and secondary clarification and fermented sludges needed to assist in biological phosphorus removal) are directed to the Anaerobic Digestion process. Anaerobic Digestion uses anaerobic microorganisms to break down the solids in heated, sealed vessels, maintained at 37 degrees Celsius. This process reduces the volume of the solids, produces biogas

for plant and process heating and stabilizes the solids by reducing pathogens in the resultant sludges. Stable operation of the digesters requires pre-conditioning of the inlet solids by thickening and storage to avoid peaks in solids feedrates.

Table 2 reflects the treatment processes used in each of the benchmark communities.

Table 2

Wastewater Treatment Processes by Region

	Combined Sewers	EPT	Full BNR	UV Disinfection
EWSI	✓	✓	✓	✓
Calgary	X	X	✓	✓
Regina	X	X	X	✓
Vancouver	✓	X	X	X
Winnipeg	✓	X	X	✓
Alberta Capital Region	X	X	✓	✓

7.2 Treatment Components

Given the biological nature of the treatment processes and the variability in the influent wastewater, there are two important treatment components to be managed in the operation of EWSI's wastewater treatment process. The two components are power and chemicals.

Power is the single largest cost, after personnel in the operations and maintenance of a wastewater plant. Power is used to run pumps, blowers and the Ultra-Violet disinfection system. While power consumption is generally quite stable, it can be impacted by variable influent wastewater characteristics and the weather. Consequently, operating strategies are developed to automate certain equipment's power use to optimize the power consumption.

The next largest cost is for chemicals. In a biological wastewater treatment plant, chemicals are used for three purposes: for settling in primary and secondary clarifiers; thickening of sludges and treatment of malodourous air. Gold Bar uses more chemicals for enhanced primary treatment as it is the only plant in Alberta that treats combined sewer flows.

7.3 Wastewater Franchise Fees

Municipal taxation policy can create differences between wastewater rates among jurisdictions. Edmonton and the Calgary wastewater utility are charged a franchise fee by their local municipality for the exclusive right to treat wastewater. The Regina and Winnipeg utilities pay a fee to those cities based on a percentage of wastewater revenues. Included in Gold Bar's wastewater treatment rates is the recovery of a franchise fee paid to the City of Edmonton. This fee is 8.0% of Edmonton's wastewater treatment revenues.

Vancouver and the Alberta Capital Region Wastewater Treatment utility does not pay franchise fees thereby putting them at a cost advantage to Edmonton.

8.0 Wastewater Bill Comparisons

EWSI wastewater treatment rates only account for the Gold Bar wastewater treatment plant operations. The City of Edmonton Drainage department is responsible for the operations and maintenance of the collection system. EWSI has combined these two components to provide a forecasted Edmonton wastewater rate for 2012. This will allow a more meaningful comparison to wastewater rates of surrounding communities and other regions wastewater rates based on monthly wastewater bills.

Looking forward, other communities will likely continue to increase wastewater rates in order to reflect the effects of inflation, changes in consumption volumes due to conservation, and mandated environmental regulations.

The City of Calgary has three wastewater treatment facilities to meet the wastewater and sewage needs of over 1 million people. Wastewater rates for Calgary have risen 5.9% from 2003 to 2008 and 5.5% from 2009 to 2011.

Winnipeg is currently undertaking a $751 million wastewater treatment facilities upgrade to meet new provincial environmental license requirements. There are three major construction projects: South and North End sewage treatment plants and new biosolids handling plant). Wastewater rates for Winnipeg have risen on average approximately 2.9% from 2009 to 2011.

8.1 Approach to Wastewater Bill Comparisons

The comparative wastewater rate information is based on the sampled utilities' wastewater rates as of the spring of 2011. The rate comparisons are based on the total cost to the customer and include fixed charges, consumption charges plus any surcharges. As described above, the 2012 Edmonton wastewater rate combines the EWSI wastewater treatment and Drainage collection system components. For rate comparison purposes, EWSI has assumed the rate increase for the drainage collection component to be similar to EWSI's wastewater treatment component.

The residential wastewater bill comparisons are based on a residential customer consuming 16.6 m^3 per month, reflecting an average Edmonton wastewater residential consumer.

Comparisons for commercial customers are provided for two sizes:

- A small commercial business representative of a typical car wash.
- A large commercial business representative of a large-scale commercial enterprise, like a brewery or food processing plant.

8.2 Residential Wastewater Bill Comparison

Figure 10
Average Edmonton Residential Monthly Wastewater Bill
(16.6 m^3/month)

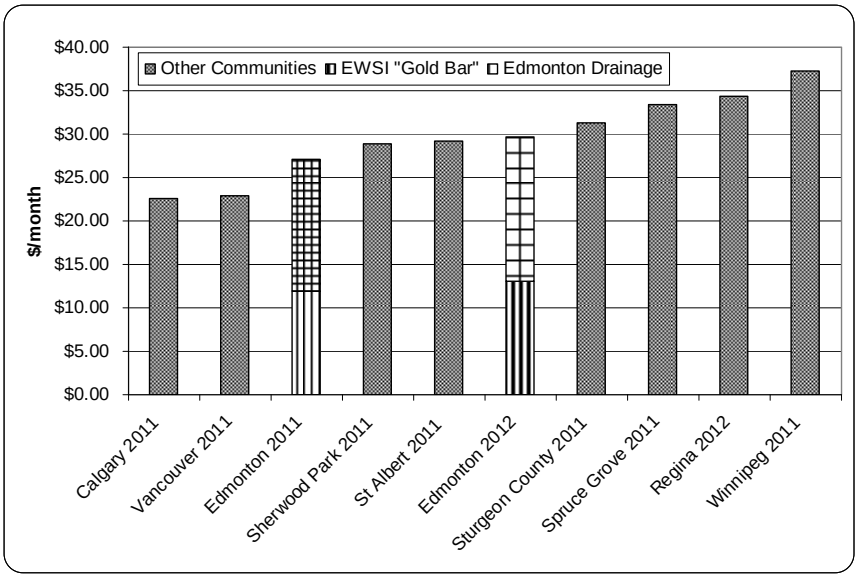


Figure 10 provides a comparison of the monthly wastewater bill for residential customers consuming 16.6 m^3 per month, which is representative of an average Edmonton household. In this category, the Edmonton 2012 wastewater bill is comparable with surrounding communities and other regions 2011 wastewater bills[10]. As noted in Table 2 above, Calgary and the communities of Sherwood Park and St. Albert (Alberta Capital Region) reflects a lower wastewater bill as the wastewater system is not a combined sewer system and does not require Enhanced Primary Treatment (EPT), putting them at a significant cost advantage. Vancouver's treatment process does not involve EPT, full BNR nor UV disinfection, putting Vancouver at a cost advantage as well.

8.3 Commercial Wastewater Bill Comparison

Figure 11
Small Commercial Monthly Wastewater Bill
(325 m^3/month)

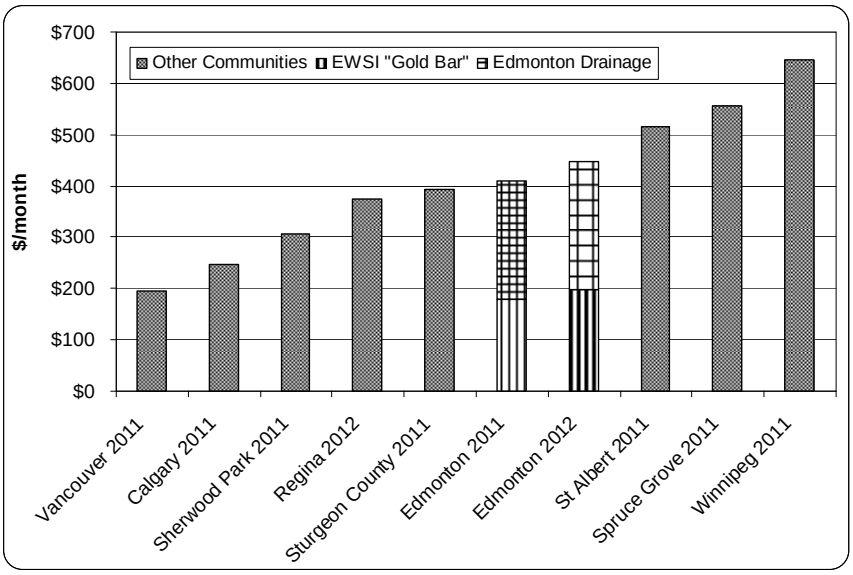


Figure 11 provides a comparison of the monthly wastewater bill for small commercial customers consuming 325 m^3 per month, which is representative of a typical car wash. In this category, the Edmonton 2012 wastewater bill is comparable with surrounding communities and other regions 2011 wastewater bills[11]. As noted in Table 2 above, Calgary and the surrounding communities of Sherwood Park and Sturgeon County reflects a lower wastewater bill as the wastewater system is not a combined sewer system and does not require EPT putting them at a significant cost advantage. Vancouver's treatment process does not

[10] Comparison uses Regina proposed 2012 Rates
[11] Comparison uses Regina proposed 2012 Rates

involve EPT, full BNR and UV disinfection while Regina's treatment process does not involve EPT and full BNR putting them both at a cost advantage as well.

Figure 12
Large Commercial Monthly Wastewater Bill
(20,000 m^3/month)

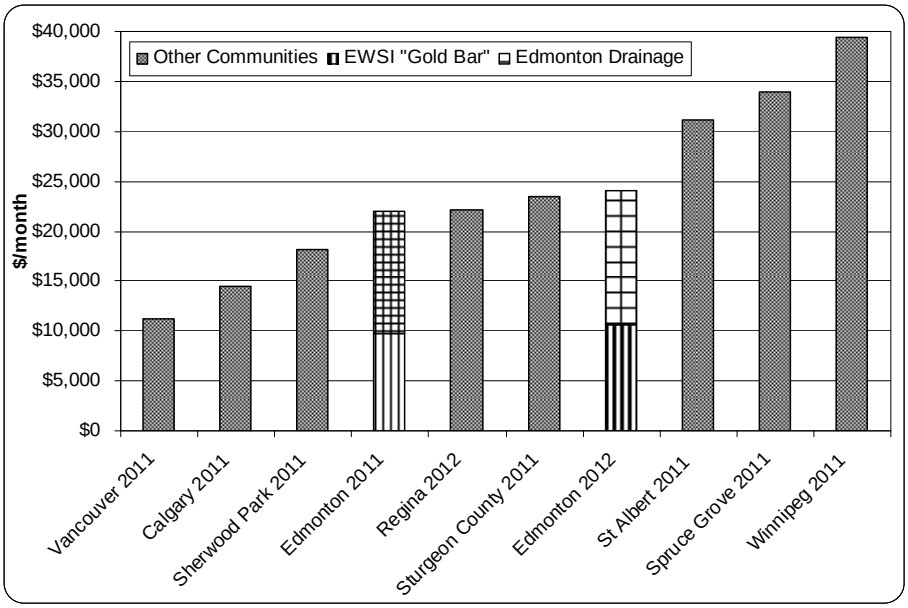


Figure 12 provides a comparison of the monthly wastewater bill for large commercial customers consuming 20,000 m³ per month, which is representative of a large scale commercial or industrial enterprise, like a brewery or food processing plant. As noted in Table 2 above, Calgary and the communities of Sherwood Park and Sturgeon County (Alberta Capital Region) do not have a combined sewer system and does not require EPT, putting them at a significant cost advantage. Vancouver's treatment process does not involve EPT, full BNR and UV disinfection while Regina's treatment process does not involve EPT and full BNR putting them both at a cost advantage as well.

The relative rankings of the wastewater utilities reflect the differences in costs associated with the levels of wastewater treatment and the type of collection system.

Overall in the commercial segment, Edmonton wastewater rates are competitive compared to the other sampled utilities.

CITY OF EDMONTON

BYLAW 15816

EPCOR WATER SERVICES AND WASTEWATER TREATMENT BYLAW

THE CITY OF EDMONTON
BYLAW 15816

EPCOR WATER SERVICES AND WASTEWATER TREATMENT BYLAW

Whereas, pursuant to section 3 of the *Municipal Government Act*, R.S.A. 2000, c. M-26, the purposes of a municipality are to provide services, facilities and other things that are necessary or desirable for all or a part of the municipality;

And whereas, pursuant to section 7(g) of the *Municipal Government Act*, Edmonton City Council may pass bylaws respecting public utilities;

Edmonton City Council enacts:

PURPOSE 1 The purpose of this Bylaw is to approve:

(a) Rates, fees and charges for Water Services, Wastewater Treatment Services and other services provided by EPCOR Water Services Inc. to Customers in the city of Edmonton and others, and a mechanism whereby such Rates, fees and charges will be adjusted on an annual basis, for the period of April 1, 2012 to March 31, 2017;

(b) Terms and Conditions for Water Services, and a mechanism whereby Water Services Guidelines not inconsistent with the Terms and Conditions may be implemented by EPCOR Water Services Inc. and amended or replaced from time to time;

(c) The Performance Based Regulation Plan for the period of April 1, 2012 to March 31, 2017;

DEFINITIONS 2 In this Bylaw, unless otherwise specified or the context otherwise requires:

(a) **"City"** means the municipal corporation of the City of Edmonton;

(b) **"City Manager"** means the chief Administrative Officer of the City or his delegate;

(c) **"Customer"** means any person more particularly described as a "Customer" in Schedule 2 or is otherwise responsible for paying EWSI;

(d) **"EWSI"** means EPCOR Water Services Inc. or its successor;

(e) **"Performance Based Regulation Plan"** means the Performance Based Regulation Plan for the period of April 1, 2012 to March 31, 2017, as more particularly described in Schedule 3 to this Bylaw;

(f) **"Price Schedule"** means the Rates in respect of either Water Services or Wastewater Treatment Services more particularly described in Schedule 1 of this Bylaw, as approved by the City and in effect at the time;

(g) **"Rate"** means the rates, fees and charges applicable to any utility service provided by EWSI within the City of Edmonton which the City has authority to approve;

(h) **"Rate Sheets"** means the documents styled as Rate Sheets in Schedule 4, intended for use as templates for the format in which EWSI's annual requests for Rates are to be filed with the City Manager;

(i) **"Water Services"** includes but is not limited to the production, treatment and supply of potable water delivered through a service connection in accordance with the provisions of the Water Services Franchise Agreement to a Customer, any and all incidental services more particularly described in Schedule 2, and the use of physical plant, equipment, apparatus, appliances, property and facilities owned or employed by EWSI or used in connection with EWSI in providing the supply of potable water to the property of any Customer;

(j) **"Water Services Franchise Agreement"** means a Franchise Amending Agreement between EWSI and the City in respect of Water Services, dated January 1, 2004, including all amendments or replacements thereto;

(k) **"Wastewater Treatment Franchise Agreement"** means a Franchise Agreement in respect of Wastewater Treatment Services between EWSI and the City, dated March 31, 2009, including all amendments or replacements thereto;

(l) **"Water Services Guidelines"** means those requirements, standards, specifications, procedures, protocols or guidelines adopted by EWSI pursuant to Schedule 2 or any other Schedule under this Bylaw; and

(m) **"Wastewater Treatment Services"** means the treatment of wastewater and the storage, pumping and disposal of treated wastewater by any means and the right to charge and recover a fee for such services in accordance with the

provisions of the Wastewater Treatment Franchise Agreement.

RULES FOR INTERPRETATION

3 The marginal notes and headings in this Bylaw are for reference purposes only.

RATES AFTER MARCH 31, 2012

4 For each 12 month period from April 1, 2012 to March 31, 2017, Rates for the provision of Water Services and Wastewater Treatment Services by EWSI will be established in accordance with Section 6.

TERMS AND CONDITIONS

5 (a) All Water Services provided within the boundaries of the city of Edmonton shall be provided by EWSI in accordance with the Terms and Conditions of Water Service attached hereto in Schedule 2.

(b) All Wastewater Treatment Services provided within the boundaries of the city of Edmonton shall be provided by EWSI except for:

(i) Wastewater Treatment Services which are provided by a person on property of which that person is the owner or tenant for use solely by that person and solely on that property; or

(ii) Wastewater Treatment Services for which EWSI has provided written consent.

PRICE SCHEDULE ADJUSTMENTS

6 Any adjustments to a Price Schedule made under Section 4 shall be made as follows:

(a) On or Before March 1st in each year commencing 2012, EWSI shall file for information with the City Clerk and the City Manager Rates Sheets effective for the upcoming 12 month period from April 1 to March 31, reflecting the performance-based water and wastewater Rates in accordance with this Bylaw.

(b) The filing referred to in subsection (a) above must include sufficient information for the City Manager to determine if the performance-based water and wastewater treatment Rates for the upcoming year has been calculated in accordance with the provisions of Schedule 3 to this Bylaw.

(c) If, after reviewing the filing referred to in subsection (a) above, the City Manager is satisfied that the performance-based water and wastewater treatment Rates included in the Rate Sheets have been calculated in accordance with this Bylaw, the City Manager shall issue a compliance letter on or before March 15th of each year confirming that the performance-based water and wastewater treatment Rates in the Rate Sheet for the upcoming year has been calculated in accordance with this Bylaw.

(d) Once the compliance letter has been issued in accordance with the provisions of subsection (c), EWSI is authorized to provide Water Services and Wastewater Treatment Services pursuant to the Rate Sheets filed in accordance with the provisions of this section.

(e) The City Clerk shall keep a record of all filings made in accordance with this Bylaw.

EFFECTIVE DATE 7 This Bylaw comes into effect April 1, 2012.

REPEAL 8 Upon this Bylaw becoming effective, Bylaw No. 12585, as amended, is hereby repealed.

SCHEDULES 9 The following schedules are included in, and form part of this Bylaw:

Schedule 1 – Price Schedule

Part I – Water Rates
Part II – Water Rate Riders
Part III – Service Charges
Part IV – Wastewater Treatment Rates
Part V – Late Payment Charges

Schedule 2 – Terms and Conditions of Water Service

Schedule 3 – Performance Based Water Rates and Wastewater Treatment Rates

Schedule 4 – Pro-forma Annual Water Rate and Wastewater Treatment Rate Filing

Bylaw 15816, passed by City Council ●, 2011,

Schedule 1

Price Schedule

Part I – Water Rates

Residential Water Service

Applicable

To all domestic service customers within the city of Edmonton.

A domestic service is defined as a service supplied to premises used primarily for domestic purposes, where no more than four separate dwelling units are metered by a single water meter and the service line to the premises is not greater than 50 millimeters in diameter.

If a business is conducted from premises that otherwise fall within the above definition of a domestic service, this Residential Water Service rate will apply; provided, however, that if the portion of the premises from which the business is conducted is separately metered, then a Commercial Water Service rate will apply to that portion of the premises.

Effective Dates and Adjustments for Future Years

Consumption Charges for the period April 1, 2012 to March 31, 2017 will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rates set out below, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6 of this Bylaw.

Rates

Fixed Monthly Service Charge
In accordance with the "Fixed Monthly Water Service Charges" provisions of this Schedule

Consumption Charge *

0 m^3 – 10.0 m^3	$ 1.6084 per m^3
10.1 m^3 to 35.0 m^3	$ 1.6084 per m^3
Over 35.0 m^3	$ 1.6266 per m^3

* Consumption Charge reflects a change from a two block consumption rate structure to a three block consumption rate structure. For reference purposes, the Consumption Charge based on the two block consumption rate structure was:

0 m^3 – 60 m^3	$1.6084 per m^3
Over 60 m^3	$1.6625 per m^3

Part I – Water Rates

Multi-Residential Water Service

Applicable

To all multi-residential service customers within the city of Edmonton.

A multi-residential service is defined as a service supplied to premises used primarily for domestic purposes; where more than four separate dwelling units are metered by a single water meter.

If a business is conducted from premises that otherwise fall within the above definition of a multi-residential service, this Multi-Residential Water Service rate will apply; provided, however, that if the portion of the premises from which the business is conducted is separately metered, then a Commercial Water Service rate will apply to that portion of the premises

Effective Dates and Adjustments for Future Years

Consumption Charges for the period April 1, 2012 to March 31, 2017 will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rates set out below, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6 of this Bylaw.

Rate

Fixed Monthly Service Charge

In accordance with the "Fixed Monthly Water Service Charges" provisions of this Schedule

Consumption Charge

0 m^3 – 100.0 m^3	\$1.4680 per m^3
100.1 m^3 – 1000.0 m^3	\$1.2282 per m^3
Over 1000.0 m^3	\$1.0149 per m^3

Commercial Water Service

Applicable

To all commercial, industrial and institutional customers within the city of Edmonton.

To all water customers not otherwise defined as Residential or Multi-Residential water service customers per Part I of this Schedule or as hydrant or truck fill service water customers per Part III of this Schedule.

Effective Dates and Adjustments for Future Years

Consumption Charges for the period April 1, 2012 to March 31, 2017 will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rates set out below, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6 of this Bylaw.

Rate

Fixed Monthly Service Charge
In accordance with the "Fixed Monthly Water Service Charges" provisions of this Schedule

Consumption Charge

0 m^3 – 25.0 m^3	$1.1514 per m^3
25.1 m^3 – 100.0 m^3	$1.1514 per m^3
100.1 m^3 – 1000.0 m^3	$1.0620 per m^3
1000.1 m^3 – 5000.0 m^3	$0.8405 per m^3
Over 5000 m^3	$0.6767 per m^3

Part I – Water Rates

Fixed Monthly Water Service Charges

Applicable To all metered water customers within the city of Edmonton

Effective Dates and Adjustments for Future Years

Fixed Monthly Water Service Charges for the period April 1, 2012 to March 31, 2017 will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rates set out below, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6 of this Bylaw.

Rate **Fixed Monthly Water Service Charge**

Meter Size	Monthly Charge
15 mm	$6.16
20 mm	$8.45
25 mm	$11.97
40 mm	$20.92
50 mm	$27.87
75 mm	$55.33
100 mm	$101.09
150mm	$189.19
200 mm	$300.56
250mm	$702.36
300 mm	$702.36
400 mm	$839.67
500 mm	$904.19

Part II – Water Rate Riders

Distribution System Rider

Applicable

To customers who privately own and operate a substantial underground water distribution system. For further clarification, the distribution system must provide service at multiple delivery points and not be less than 1 kilometer long.

This rider is not applicable for dedicated fire protection service.

The customer must submit a request in writing to EWSI. EWSI reserves the right to accept or deny any request. The amount and duration of this rider will be at the sole discretion of EWSI. Only one rider will be applied to any one customer at one time.

Rate

A discount from the regular water rate category of the customer where the level of discount to the customer will be determined on a case-by-case basis.

Effective Dates

This rate is effective as and when amended or approved by EWSI for the period April 1, 2012 to March 31, 2017.

Part II – Water Rate Riders

Multi-Meter Rider

Applicable

To customers who receive water through more than one water service and, as a result, more than one water meter.

For further clarification, all water services must supply the same or adjoining buildings, and all water services must be in account to the same customer.

This rider is not applicable for water meter bank installations associated with one water service.

The customer must submit a request in writing to EWSI. EWSI reserves the right to accept or deny any request. The amount and duration of this rider will be at the sole discretion of EWSI. Only one rider will be applied to any one customer at one time.

Rate

A discount from the regular water rate category of the customer where the level of discount to the customer will be determined on a case-by-case basis.

Effective Dates

This rate is effective as and when amended or approved by EWSI for the period April 1, 2012 to March 31, 2017.

Part III – Service Charges

Account Application Charge

Applicable To all customers who apply for a new account or change accounts for water service within the city of Edmonton boundaries.

Rate $25.00

Meter Installation or Removal Charge

Applicable To all customers, but most commonly for seasonal customers for whom a meter is removed and installed annually, and for customer-initiated connection and disconnection of water meters and/or associated metering devices.

Rate

Up to 25 mm meter	$80.00
40 mm to 75 mm meter	$175.00
Over 75 mm meter	Actual Cost
Seasonal meters	Actual Cost

Meter Test Charge

Applicable To all customers who request that their EWSI water meter be tested and the results of the test indicate that the meter is operating within prescribed standards.

Rate

Up to 25 mm meter	$80.00
40 mm to 75 mm meter	$175.00
Over 75 mm meter	Actual Cost

Damage Repair Charge

Applicable To all customers for whom EWSI must repair or replace damaged water valves, meters, remote meter reading devices or other EWSI equipment or appurtenances, where the equipment or appurtenance is under the customer's care or has been operated or interfered with by the customer.

Rate Actual Cost

Part III – Service Charges

Missed Appointment Charge

Applicable To all customers who do not keep a scheduled appointment for any EWSI representative.

Rate $35.00 per missed appointment

EWSI Missed Appointment Credit

Applicable For instances in which EWSI does not keep a scheduled appointment for a customer without giving reasonable notice.

Rate $35.00 credit to customer per missed appointment

No Access Charge

Applicable To all customers who do not allow access by EWSI for the purpose of water meter reading for a period of 6 consecutive months.

Rate $35.00 per month

Hydrant Permit Charge

Applicable To all customers who obtain water service through fire hydrants.

Rate

Hydrant Application Fee, annual, per permit $85.00
Hydrant Meter Service Charge $50.00 per month
Consumption Charge

All consumption charged at the current Part I Multi-Residential Service Consumption Charge for 0 m^3 – 100.0 m^3, as updated annually.

Construction Service Charge

Applicable To all customers who obtain water at a site during the construction period, prior to the premises going into account for billing.

Rate $0.44 / $1000 of construction cost

Part III – Service Charges

Water Service Turn-On / Turn-Off Charge

Applicable To all customers requesting a water service be turned on or off (excludes turn-on related to non-payment on account).

Rate

During regular hours	$40.00 per site visit
Required outside regular working hours	$80.00 per site visit
Required within 48 hours of request	$120.00 per site visit

Water Service Turn-On Charge, After Turn-off for Non Payment

Applicable To all customers who require a water service to be turned on after having been turned-off due to non-payment on account.

Rate

During regular hours	$50.00 per site visit
Required outside regular working hours	$80.00 per site visit
Required within 48 hours of request	$120.00 per site visit

Part III – Service Charges

Fire Protection Service

Applicable To all customers within the city of Edmonton who receive standby water service to their private fire protection installations.

Rates **Fixed Monthly Service Charges**

Fire Line Service Size	Monthly Charge
50 mm	$2.15
100 mm	$11.18
150mm	$24.22
200 mm	$44.25
250mm	$69.87
300 mm	$110.55

Truck Fill Service

Applicable To all customers who obtain water from a truck fill site within the city of Edmonton municipal boundaries.

Rate **Account Application Fee** $35.00

Consumption Charge:

All consumption charged at the current Part I Multi-Residential Service Consumption Charge for 0 m^3 – 100.0 m^3, as updated annually.

Effective Dates Part III Service Charges are effective April 1, 2012.

All consumption applicable to Consumption Charges for Hydrant Permit and Truck Fill Service will be charged at the then current and effective rate for Part I Multi-residential Water Service rate for 0 m^3 – 100.0 m^3, as determined and adjusted pursuant to Part I of this Schedule.

Part IV – Wastewater Treatment Rates

Residential Wastewater Treatment Service

Applicable

To all domestic service customers and multi-residential service customers located within the city of Edmonton which are serviced by or connected to the City's sewerage system.

A domestic service and multi-residential service are defined in Part I of this Schedule.

Effective Dates and Adjustments for Future Years

Fixed Monthly Services Charges and Consumption Charges for the period April 1, 2012 to March 31, 2017 will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rates set out below, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6 of this Bylaw.

Rates

Fixed Monthly Service Charge $2.89 per month

Consumption Charge *
All consumption $0.5526 per m^3

* *Consumption is based on water meter readings unless otherwise approved by EWSI and the City.*

Seasonal Charge Reduction
During the period April 1 to September 30, the metered water consumption used in calculating the Consumption Charge for a domestic service only will be the lesser of:

(a) the metered water consumption, or
(b) the average monthly winter consumption plus five (5) m^3.

The average monthly winter consumption means the averaged metered water consumption at a premise during the most recent six month period from October 1 to March 31. Where it is not possible to calculate the average monthly winter consumption due to lack of consumption history for the entire period of October 1 to March 31, the consumption charge will be based on the metered water consumption.

Part IV – Wastewater Treatment Rates

Commercial Wastewater Treatment Service

Applicable

To all commercial, industrial and institutional customers within the city of Edmonton which are serviced by or connected to the City's sewerage system.

To all customers not otherwise defined as Residential Wastewater Treatment Service customers.

Effective Dates and Adjustments for Future Years

Fixed Monthly Services Charges and Consumption Charges for the period April 1, 2012 to March 31, 2017 will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rates set out below, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6 of this Bylaw.

Rates

Fixed Monthly Service Charge	$2.89 per month
Consumption Charge *	
0 m^3 – 10,000.0 m^3	$0.5526 per m^3
10,000.1 m^3 – 100,000.0 m^3	$0.4275 per m^3
Over 100,000.0 m^3	$0.2230 per m^3

* *Consumption is based on water meter readings unless otherwise approved by EWSI and the City.*

Part IV – Wastewater Treatment Rates

Wastewater Treatment Rate: Sewer Metering

Applicable

To non-residential wastewater treatment service customers discharging more than 50,000 m^3 per month to the City's sanitary sewer system and who wish to apply for sewer metering in place of water meter readings.

The customer must submit a written application to The City, following the terms and processes outlined in the City of Edmonton Bylaw 9675, Sewers Use Bylaw, as amended.

Wastewater Treatment Rate: Sewer Utility Credit

Applicable

To non-residential wastewater treatment service customers who can clearly demonstrate that there is a water loss experience between their water consumed and their discharges to the sanitary sewer system on a continuous monthly basis.

The customer must submit a written application to The City, following the terms and processes outlined in the City of Edmonton Bylaw 9675, Sewers Use Bylaw, as amended.

Part IV – Wastewater Treatment Rates

Wastewater Overstrength Surcharges

Applicable Applies to a customer who releases wastewater to the sewer system that contains one or more constituents that exceed the concentration indicated in this Schedule.

Effective Dates and Adjustments for Future Years

The Wastewater Overstrength Surcharges for the period April 1, 2012 to March 31, 2017 will be determined and adjusted as outlined in Schedule 3 of this Bylaw, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6 of this Bylaw.

Rates:

Wastewater Overstrength Surcharge:

The Overstrength Surcharge, applied to each m^3 of water consumed, for each kilogram of surchargeable matter per m^3 of wastewater that exceeds the concentration indicated for that matter shall be:

	Concentrations Above:
a) $0.3461 for Biochemical Oxygen Demand (BOD)	300 mg/L
b) $0.3461 for Chemical Oxygen Demand (COD)	600 mg/L*
c) $0.3027 for oil and grease	100 mg/L
d) $2.88 for phosphorous	10 mg/L
e) $0.3142 for suspended solids, and	300 mg/L
f) $0.7351 for total kjeldahl nitrogen (TKN)	50 mg/L

* Or twice the BOD concentration in the wastewater, whichever is greater.

Wastewater Additional Overstrength Surcharge:

The Additional Overstrength Surcharge, applied to each m^3 of water consumed, for each kilogram of surchargeable matter per m^3 of wastewater that exceeds the concentration indicated for that matter shall be:

	Concentrations Above:
a) $0.3461 for Biochemical Oxygen Demand (BOD)	3,000 mg/L
b) $0.3461 for Chemical Oxygen Demand (COD)	6,000 mg/L*
c) $0.3027 for oil and grease	400 mg/L
d) $2.88 for phosphorous	75 mg/L
e) $0.3142 for suspended solids, and	3,000 mg/L
f) $0.7351 for total kjeldahl nitrogen (TKN)	200 mg/L

* Or twice the BOD concentration in the wastewater, whichever is greater.

Wastewater Overstrength Surcharges: Supplementary Information

1. **Key Terms**

   a) **Biochemical oxygen demand (BOD)** means the quantity of oxygen required for the biochemical degradation of organic material and the oxygen used to oxidize inorganic material such as sulphides and ferrous iron during a 5-day, 20 degree Celsius incubation period and may measure the oxygen used to oxidize reduced forms of nitrogen, as determined by using a standard procedure.

   b) **Chemical oxygen demand (COD)** means a measure of the oxygen equivalent of the organic content of a sample that is susceptible to oxidation by a strong chemical oxidant, as determined by using a standard procedure.

   c) **Flow monitoring point** means an access point to the building drain, building sewer, private drainage system or sewer service for the purpose of collecting representative samples of the wastewater being released from the premises.

   d) **Oil and grease** means any solvent extractable material of animal, vegetable or mineral origin, as determined by using a standard procedure.

   e) **Phosphorus** means all forms of phosphorus in a sample, as determined by using a standard procedure.

   f) **Suspended solids** means the portion of total solids retained by a filter, as determined by using a standard procedure.

   g) **Total Kjeldahl Nitrogen (TKN)** means organically bound nitrogen plus ammonia nitrogen, as determined by using a standard procedure.

2. Determination of Wastewater Overstrength Surcharges

EWSI or its agent:

   a) will collect a composite sample of the wastewater being released over any 24 hour period or part thereof;

   b) will determine the concentration of the surchargeable constituents in the sample, using a standard procedure;

Wastewater Overstrength Surcharges: Supplementary Information

c) will calculate the average concentration of each constituent from a minimum of four (4) composite samples taken over a period of more than seven (7) days, and not longer than a 12 month period;

d) may, where the concentration(s) of the overstrength constituent(s) are in the same range as those used to establish the existing overstrength surcharge, use the existing mean concentrations to set the overstrength surcharge rate until such time as the concentrations fall outside the existing range;

e) will calculate the average number of kilograms of each surchargeable constituent per cubic metre of wastewater, that exceeds the concentration indicated in Part IV "Wastewater Overstrength Surcharge" and "Wastewater Additional Overstrength Surcharge" of this Schedule; and,

f) will calculate the Wastewater Overstrength Surcharges which will appear on the customer's utility bill using the following formula:

Overstrength surcharge ($) =

$$\frac{m^3\{(Ob\,(Cxb - 300) + Oc(Cxc - Cac) + Oo(Cxo - 100) + Op(Cxp - 10) + Os\,(Cxs - 300) + On(Cxn - 50)\}}{100{,}000}$$

Where:

- m^3 is the total water consumption in cubic meters (or, if approved, sewer metering);
- Ob, Oc, Oo, Op, Os and On are the Overstrength surcharge set out in Part IV for each kilogram of BOD, COD, oil and grease, phosphorus, suspended solids, and TKN, respectively.
- Cxb, Cxc, Cxo, Cxp, Cxs, Csn are the average concentrations in milligrams per liter (mg/L) of BOD, COD, oil and grease, phosphorus, suspended solids and TKN, respectively, in the sampled wastewater.
- Cac is 600 or double the average BOD concentration in mg/L, whichever is greater.
- The additional surcharge is calculated using the above formula but substituting 3000, 400, 75, 3000 and 200 for 300, 100, 10, 300 and 50, respectively, and Cac is 6000 or double the average BOD concentration in mg/L, whichever is greater.
- Where the remainder of a subtraction is a negative number, that component of the formula becomes equal to zero.

Wastewater Overstrength Surcharges: Supplementary Information

3. Application of Wastewater Overstrength Surcharges

a) **Single Business, Multiple Sewers:**
Where the wastewater from a premises is released through two or more building sewers and where there is no accurate measurement of the individual flows being released, the release that would produce the highest surcharge will be used to determine the overstrength surcharge on all releases.

b) **Multiple Businesses, Single Water & Sewer Service:**
Wastewater released through a single sewer service from a premises with two or more separate businesses serviced by a single water service will be considered as being released by the person responsible for the payment of the utility bill for that water meter.

c) **Multiple Businesses, Multiple Water Services & Single Sewer Service**
Wastewater released through a single sewer service from a premises with two or more separate businesses, each serviced by separately metered water services, will be considered as being released from each of the separate businesses, in proportion to the separate business' water consumption, unless it is shown to the satisfaction of EWSI or its agent, by the owner of the premises, that:

i. the portion of the wastewater that is overstrength is being released from only one of the businesses serviced by a separate metered water service on the premises; and,

ii. the release from that business can be monitored separately from the other businesses.

Wastewater Overstrength Surcharges: Supplementary Information

4. Review of Wastewater Overstrength Surcharges

A customer may request a review of the Wastewater Overstrength Surcharge or the Additional Overstrength Surcharge, or both, by applying in writing to EWSI to have the specific charges reviewed.

The customer making the request will supply to EWSI:

(a) analytical data from analyses of composite samples:

(i) collected over the period of time over which the surcharge was calculated;

(ii) collected from the flow monitoring point in accordance with section 2(a) of this Wastewater Overstrength Surcharge: Supplementary Information;

(iii) analyzed in accordance with section 2(b) of this Wastewater Overstrength Surcharge: Supplementary Information; and,

(iv) supported by the analytical data indicating the accuracy and precision of the analyses; and

(b) any other information EWSI deems necessary to carry out the review.

EWSI will determine whether the Wastewater Overstrength Surcharge, the Additional Overstrength Surcharge, or both, should be recalculated for the time period being reviewed.

Part V – Late Payment Charges

Late Payment Charges

A late payment charge of 2.5% per month, not compounded, is applied to all charges on a Customer's Account, if the Customer's payment has not been received by EWSI before one month from the date of issuance of the bill in respect of the charges. If considered to be interest payable for credit advanced, then the late payment charge is equivalent to a maximum yearly rate of 45.6%. A dishonoured cheque charge of $25.00 is applied for each cheque returned for insufficient funds.

Schedule 2

Terms and Conditions of Water Service

Table of Contents

INTRODUCTION TO TERMS AND CONDITIONS

These Terms and Conditions, as approved by the municipal council of the City of Edmonton, form part of Bylaw 15816 (the "EPCOR Water Services and Wastewater Treatment Bylaw") which regulates the provision of Water Services in the city of Edmonton by EPCOR Water Services, Inc. ("EWSI"). The EPCOR Water Services and Wastewater Treatment Bylaw, which also includes the EWSI Price Schedule in effect from time to time, is enacted pursuant to the powers vested in the City under the provisions of the *Municipal Government Act*. R.S.A. 2000 C. M-26.

These Terms and Conditions apply to EWSI and its relationship with all of its Customers. Every Customer, by applying for or using a Service Connection or Water Services or other services of any kind provided by EWSI under the authority of these Terms and Conditions, is deemed to have accepted these Terms and Conditions and is bound by and subject to them.

Unless otherwise agreed in writing by EWSI and a Customer, provision of Water Services or other services by EWSI to Customers will occur only in accordance with these Terms and Conditions.

ARTICLE 1 - DEFINITIONS AND INTERPRETATION

1.1 Definitions

The following words and phrases, whenever used in these Terms and Conditions or in an application, contract or agreement for service under these Terms and Conditions, shall have the meanings set forth below:

"Account" means a written and/or digital record of use of Water Services or other services by a Customer, including the amounts payable from time to time by the Customer to EWSI;

"Business Day" means a day, which is not a Saturday, Sunday or a statutory holiday in the Province of Alberta, and "day" means any calendar day.

"City" means the municipal corporation of the City of Edmonton;

"Cross Connection" means any permanent or temporary piping arrangement that allows or may potentially allow the Waterworks System to be connected to a contaminant source. Examples may include, without limitation: garden hoses, any other hose attached to a threaded faucet, swivel or change over devices, removable sections, jumper connections and bypass arrangements;

"Curb Cock" means a valve connected into a Service Connection enabling the water supply to a Customer to be Turned Off or Turned On, (which will ordinarily but not necessarily be located at or near a Customer's property line);

"Customer" means any person, firm or body corporate that receives Water Services or other services related to or incidental to the Water Services from EWSI pursuant to the EPCOR Water Services and Wastewater Treatment Bylaw and where the context or circumstances so require includes any person who makes or has made an application for Water Services or otherwise seeks to receive Water Services, and also includes any person acting as an agent or representative of a Customer, as well as a registered owner of property where Water Services are being received;

"Customer Usage Information" means information regarding the historical use of Water Services or water consumption of a Customer, and includes the Customer's history of payment for Water Services or other services provided under these Terms and Conditions;

"Disturbed Ground" means terrain (surface or sub-surface) that is disturbed and that may require incremental construction techniques or support systems to provide stability;

"Dwelling" means a private residence with sleeping and cooking facilities used or intended to be used permanently or semi-permanently as a residence ;

"EWSI" means EPCOR Water Services Inc. or its successor;

"Facilities" means any infrastructure forming part of the Waterworks System owned or used by EWSI including, without limitation: water treatment plants, reservoirs, pumping stations, water transmission mains, water distribution mains, water service lines, Curb Cocks, valves, fire hydrants, chambers, utility corridors, tunnels, casings, flow or pressure regulating valves, air/vacuum relief valves, meters and any other measurement devices and other physical plant and piping appurtenances, used to produce and supply potable water;

"Force Majeure" means circumstances not reasonably within the control of EWSI, including acts of God, strikes, lockouts or other industrial disturbances, acts of the public enemy, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, storms, floods, high water, washouts, inclement weather, orders or acts of civil or military authorities, civil disturbances, explosions, breakdown or accident to equipment, mechanical breakdowns, intervention of federal, provincial or local government or any of their agencies or boards, the order or direction of any court, and any other cause, whether of the kind herein described or otherwise;

"Multiple Dwelling" means a wholly or partially residential development containing more than one Dwelling, whether or not the development is within a

single building or structure, which receives Water Services through a total number of Service Connection Points that is less than the total number of Dwellings in the residential development;

"Potable Water" means water that is suitable for human consumption;

"Price Schedule" means the rates, fees and charges for Water Services more particularly described in Schedule 1 of the EPCOR Water Services and Wastewater Treatment Bylaw, as approved by the City and in effect at the time;

"Private Service Line" means the Customer owned water line and all associated equipment and any other assets for providing water to a Customer that are located downstream of the Service Connection Point, including the piping joint on the downstream side of the Service Connection Point and excepting the water meter that is owned by EWSI;

"Service Connection" means all of the Facilities required to achieve a physical connection between an EWSI water main abutting Customer property and a Private Service Line to allow a Customer to receive water delivered through the Waterworks System, including without limitation the water service line from the water main to the Service Connection Point;

"Service Connection Point" means the point where a Service Connection owned by EWSI and forming part of the Waterworks System physically connects to a Private Service Line (which will ordinarily, but not necessarily, be a point at or near a Customer's property line).

"Terms and Conditions" means the terms and conditions in respect of Water Services described herein.

"Turn Off" means the process where the delivery of potable water to the Customer is terminated. Turn Off is normally executed by operating the inlet valve or the master control valve, associated with the meter setting. In EWSI's sole discretion, Turn Off may be executed by operation of the Curb Cock.

"Turn On" means the process where the delivery of potable water to the Customer is activated or re-activated. Turn On is normally executed by operating the inlet valve or the master control valve, associated with the meter setting. In EWSI's sole discretion, Turn On may be executed by operation of the Curb Cock.

"Water Services" includes but is not limited to the production, treatment and supply of potable water delivered through a Service Connection in accordance with the provisions of the Water Services Franchise Agreement to a Customer, any and all incidental services more particularly described in these Terms and Conditions, and the use of physical plant, equipment, apparatus, appliances,

property and facilities owned or employed by EWSI or used in connection with EWSI in providing the supply of potable water to the property of any Customer;

"Water Services Agreement" means any agreement under which EWSI has or may incur an obligation to provide Water Services to one or more Customers, and may at EWSI's sole option include any servicing agreement entered into by the City to which EWSI is not a party to the extent that the servicing agreement addresses the provision of Water Services to a Customer;

"Water Services Guidelines" means any document referred to as Water Services Guidelines in paragraph 2.2 of Article 2 of these Terms and Conditions;

"Waterworks System" means the Facilities and all associated real and personal property used by EWSI to supply potable water to Customers.

1.2 Conflicts

If there is any conflict between a provision in these Terms and Conditions, and a provision in a Water Services Agreement or other agreement between EWSI and a Customer, the provision in these Terms and Conditions shall govern unless an express term of the Water Services Agreement or other agreement states otherwise.

1.3 Extended Meanings

In these Terms and Conditions, words importing the singular number shall include the plural and vice versa, words importing the masculine gender shall include the feminine and neuter genders and vice versa. Words importing a person shall include a person, firm, partnership, corporation, organization or association (including, without limitation, individual members of any unincorporated entity).

1.4 Headings

The division of these Terms and Conditions into sections, subsections and other subdivisions and the insertion of headings are for convenience of reference only and shall not affect the construction or interpretation of these Terms and Conditions.

ARTICLE 2 - GENERAL PROVISIONS

2.1 Fundamental Obligations of EWSI and of Customers

(a) EWSI will provide Water Services, at the fees, rates or other charges specified in the Price Schedule in accordance with these Terms and Conditions and with applicable provisions of the Water Services Guidelines. All additional services provided by EWSI to a Customer will be billed to the Customer in accordance with an agreement between the Customer and EWSI. The general costs of operating and maintaining the Waterworks System are covered by the rates for Water Services set out in the Price Schedule. EWSI will operate and maintain the Waterworks System at no additional charge to any Customer beyond the fees, rates and charges for Water Services set out in the Price Schedule or in a Water Services Agreement, except for costs arising from:

(i) requirements or requests for specific non-routine services not more particularly described in the Price Schedule, or the acts or omissions of any particular Customer or defined group of Customers,

(ii) repairs or remedies of any loss or damage to Facilities or other property that is caused by a Customer or any other party for whom a Customer is responsible in law, including, without limitation, any costs or damages described in any judgment of a court in EWSI's favour.

Such additional costs may at EWSI's sole option (and in addition to any other legally available remedies) be added to a Customer's Account as an additional amount due and payable by the Customer to EWSI.

(b) When EWSI performs a repair on its Facilities affecting a Customer's property, EWSI will make all reasonable efforts to return the property to its original or similar to original condition as soon as practicable after the repair is completed.

(c) Prior to receiving any Water Services from EWSI, a Customer shall open an Account to pay for all services provided by EWSI, whether or not listed in the Price Schedule. Any such services may be added by EWSI to the Customer's Account. A Customer shall comply with the requirements of these Terms and Conditions and the Water Services Guidelines.

(d) Where any Facilities required to supply Water Services to a Customer are located in Disturbed Ground, or where any other unusual condition exists, EWSI's obligation to construct does not include incremental construction costs required to stabilize such Facilities or the disturbed ground, or to address other unusual conditions. The Customer may at EWSI's sole

option be required to pay all additional construction costs in such circumstances, including the costs of any required support system.

2.2 Water Services Guidelines

(a) EWSI may adopt, and amend from time to time, written requirements, standards, specifications, procedures, protocols or guidelines supplementary to these Terms and Conditions (the "Water Services Guidelines") as EWSI deems advisable for the purpose of clarifying or explaining:

(i) any fee, rate or other charge set out in the Price Schedule, including the circumstances and the manner in which such fee, rate or charge will be applied and billed to a Customer;

(ii) the manner in which EWSI's obligations under the EPCOR Water Services and Wastewater Treatment Bylaw and any applicable federal or provincial legislation or regulations will be fulfilled and the impacts on Customers;

(iii) EWSI's operating policies and procedures, and its requirements in relation to provision of Water Services or other services, including without limitation requirements intended to: provide security for costs incurred by EWSI, ensure the health and safety of employees, ensure the safety of the potable water supply delivered through the Waterworks System and maintain the reliability of the Waterworks System.

Any such Water Services Guideline (or amendment thereto) becomes effective and binding upon a Customer or other person affected when delivered to the City Clerk by EWSI. Without limitation to the foregoing and in the interest of greater clarity, the term "amend" in this clause includes the deletion of all or any portion of any Water Services Guideline previously filed with the City Clerk. Any Water Services Guideline or portion thereof so deleted ceases to be binding upon Customers as of the effective date of the amendment as specified in a written notice from EWSI to the City Clerk.

(b) Without limiting the generality of Section 2.2(a) above, Water Services Guidelines may deal with any or all of the following subject matter:

(i) procedures or requirements that a Customer must comply with before a Service Connection is installed or activated, or before Water Services are provided, or as a condition of ongoing provision of Water Services;

(ii) Customer Accounts, including without limitation provisions or requirements concerning: opening an Account, making payments on an Account, consequences for failure to pay Accounts in full, lost bills, dishonoured cheques, collection of delinquent Accounts, adjusting improperly billed Accounts, Water Service application fees, handling of confidential Customer Account information, closing an Account, and any other matter relating to Customer Accounts;

(iii) measurement of water consumption, including without limitation provisions or requirements concerning: meter inspection and testing, meter settings, chambers and installations, meter reading, disputes concerning meter data, estimates of consumption, private or subsidiary meters, remote meter reading devices, relocation of meters, access for meter readers, and adjustments to bills when meters have malfunctioned;

(iv) procedures or requirements concerning investigation of Customer complaints and concerns;

(v) procedures or requirements for provision of temporary Water Services, including without limitation Water Services provided during the construction phase of a development;

(vi) procedures or requirements for upgrading, re-sizing relocating or otherwise changing a Service Connection, whether at the instigation of EWSI or at the request of a Customer;

(vii) the Turn On and Turn Off of Water Services, whether at the instigation of EWSI or at the request of a Customer;

(viii) supply of water for firefighting purposes, including without limitation procedures and requirements concerning the maintenance of public or private fire hydrants and permissible use of water from fire hydrants.

(c) The following are deemed to be Water Services Guidelines and are effective and binding upon every Customer, and may be amended or rescinded from time to time by EWSI:

(i) the EWSI document entitled “EWSI Service Standards”;

(ii) the document entitled “Design and Construction Standards for the City of Edmonton; Volume 4 – Water”;

(iii) the EWSI document entitled “Cross Connection Control Policy”.

(d) While EWSI is committed to, and will endeavour to comply with, its Water Services Guidelines, the operations of EWSI are complex and dynamic and the Water Services Guidelines may not appropriately or exhaustively deal with every situation that arises. EWSI, acting reasonably, may deviate from the provisions of the Water Services Guidelines or take action not specifically authorized by these Terms and Conditions or by the Water Services Guidelines at EWSI's sole discretion.

ARTICLE 3 - METHODS AND PROCEDURES FOR OBTAINING WATER SERVICES

3.1 Requirement for Account and Obligation to Pay

(a) Prior to receiving any Water Services from EWSI, a Customer is obligated to open an Account. Customers shall pay in full for all services provided by EWSI upon receipt of a bill. A late payment charge of 2.5% per month, not compounded, is applied to all charges on a Customer's Account, if the Customer's payment has not been received by EWSI before one month from the date of issuance of the bill in respect of the charges. If considered to be interest payable for credit advanced, then the late payment charge is equivalent to a maximum yearly rate of 45.6%. A dishonoured cheque charge is applied for each cheque returned for insufficient funds.

(b) If at any time there is not a Customer with an Account open for premises to which Water Services are supplied, the owner of such premises will be deemed to be the Customer at the premises and will be required to pay for all Water Services provided to the Premises until an Account is opened by another Customer.

(c) At the sole option of EWSI, an owner of premises to which Water Services are supplied who rents or leases all or part of the premises to a tenant or lessee, may be required to open an Account for the supply of Water Services to the portion of the premises that are rented or leased from time to time.

(d) EWSI may, without approval or consent of an owner, upon not less than 90 days written notice to the owner, open a new Account in the name of the owner in respect of leased premises if:

(i) the tenant or lessee is more than 60 days in arrears of payment for Water Services; and

(ii) it is physically impossible or impracticable to Turn Off Water Services to the tenant or lessee without adversely affecting Water Services to one or more other Customers that occupy the same

premises and/or that receive Water Services through a common Service Connection.

In such a case, the owner shall be required to pay for Water Services from the date on which the new account is opened by EWSI in the Owner's name. The owner shall not be required to pay EWSI for the tenant or lessee's arrears for Water Services at that location, unless a provision in an agreement otherwise specifies.

3.2 Customer Application for Water Services

(a) At the request of a Customer and upon fulfillment of all conditions set out in these Terms and Conditions and in the Water Services Guidelines, EWSI will install and maintain a Service Connection to a Customer's premises abutting a street or right-of-way where there is a water main. Unless an agreement between EWSI and a Customer specifically provides otherwise:

(i) EWSI shall be and remain the owner of the Service Connection;

(ii) the Customer shall be and remain the owner of the Private Service Line downstream of the Service Connection Point;

(iii) EWSI shall be and remain the owner of all water meters and other measuring and monitoring devices associated with the Service Connection, regardless of whether they are located upstream or downstream of the Service Connection Point.

(b) A Customer applying for Water Services involving a new Service Connection shall supply information regarding the location of the premises to be served, the manner in which the Service Connection will be utilized, and any other information that may be reasonably required by EWSI.

(c) Before making a decision on a Customer application involving a new Service Connection, EWSI is allowed a reasonable time to verify the identity of the Customer and/or the accuracy of the information provided, and may require the Customer to sign a formal application for Water Services, in writing, which may be on a standard form approved by EWSI.

(d) For all commercial and industrial Customers, and for any other Customer for whom provision of Water Services will involve installation of a new Service Connection or construction of new Facilities or an extension to or modification of the Waterworks System, an express written acknowledgement that the Customer has agreed to these Terms and Conditions is required before EWSI will take any steps toward providing the requested Water Services.

(e) At EWSI's sole option, a Customer needing a new Service Connection or construction of new Facilities or an extension to or modification of the Waterworks System may be required to execute a Water Services Agreement, before EWSI commences any design or construction work.

(f) Upon receipt of all required information, verification of the Customer's identity and the accuracy of the information, and execution of any applicable acknowledgement form or agreement, EWSI will:

(i) advise the Customer whether and on what terms EWSI is prepared to supply Water Services to the Customer;

(ii) in the case of a Customer requiring a new Service Connection, advise the Customer of the type and character of the Service Connection it is prepared to supply to the Customer, and any conditions (including without limitation, payments by the Customer) that must be satisfied as a condition of installation of a Service Connection and supply of Water Services.

3.3 Rejection of Application for Water Services or Service Connection

EWSI may, without limitation, reject any Customer's request for a Service Connection or for Water Services when:

(a) the Customer does not have currently in effect all approvals that may be required for the installation of the Service Connection;

(b) the Customer refuses to enter into a Water Services Agreement or other form of agreement acceptable to EWSI;

(c) any representation made by the Customer to EWSI for the purpose of obtaining a Service Connection is, in EWSI's reasonably held opinion, fraudulent, untruthful or misleading;

(d) the Customer has not, when requested by EWSI to do so, provided a signed written application for Water Services;

(e) the type of Water Services or Service Connection applied for is not available or not normally provided by EWSI in the locality where the Water Services or Service Connection is requested;

(f) the requirements of the Water Services Guidelines have not been met; or

(g) the proposed Water Services or Service Connection, in EWSI's reasonably held opinion, has unusual characteristics that might adversely affect the quality of Water Services supplied to other Customers, public

health or safety, the health or safety of EWSI's personnel, or the safety or reliability of any other Facilities or the Waterworks System.

3.4 Security Deposits

(a) EWSI may at the time of a Customer's application for Water Services or at any time thereafter request a Customer to supply information reasonably required by EWSI to determine the Customer's credit history and/or credit risk. If a Customer fails to supply such information EWSI may refuse to supply, or discontinue supply of, Water Services to the Customer.

(b) EWSI, in its sole discretion, may at the time of a Customer's application for Water Services or at any time thereafter require the Customer to post a security deposit or an increase to an existing security deposit in circumstances that may include, without limitation, the following:

(i) late payment by the Customer for Water Services or other services provided by EWSI;

(ii) the Customer has issued more than one cheque or pre-authorized debit that has been returned for non-sufficient funds in any six month period;

(iii) there has been a significant increase in the Customer's rate of consumption of water;

(iv) the Customer is applying for Turn On or for a new Water Services after having previously been Turned Off from Water Services for non-payment;

(v) the Customer making the application for service has a credit rating that is not satisfactory to EWSI; or

(vi) the Customer is applying for a permit to take water from a fire hydrant.

(c) EWSI, in its sole discretion, may determine that a Customer is not required to post a security deposit or is no longer required to maintain an existing security deposit, in circumstances that may include, without limitation, the following:

(i) the Customer has a good payment history with EWSI;

(ii) where a result satisfactory to EWSI is obtained from an external credit check;

(iii) where the Customer provides a co-signor who agrees to be personally responsible for payment for Water Services supplied and services rendered to the Customer and who has a credit rating acceptable to EWSI; or

(iv) where the Customer provides to EWSI an indemnity bond or irrevocable letter of credit from a financial institution satisfactory to EWSI.

(d) Unless extraordinary circumstances apply, the maximum security deposit EWSI will require from a Customer for Water Services not involving a new Service Connection is an amount equal to three times the amount EWSI estimates will be the average monthly billing to the Customer for Water Services.

(e) A deposit made by a Customer may be returned to the Customer after a satisfactory payment history over a period of 12 consecutive months or when the Customer's Water Services are terminated and the Customer's account is closed. Where a Customer's Water Services are terminated and the Customer's Account is closed for non-payment, prior to any refund, the deposit will be applied to the balance owing by the Customer to EWSI.

(f) EWSI will pay to a Customer as soon as practicable after the end of each calendar year, or after the Customer's Account is closed, simple interest on the daily balance of any cash deposit held by EWSI in respect of the Customer. The interest rate applicable to such payments is the "Bank Rate" announced by the Bank of Canada and in effect from time to time.

3.5 Customer Contracts

(a) Water Services Agreement

EWSI may, in its sole discretion, require a Customer previously connected or seeking to connect to the Waterworks System to sign a Water Services Agreement in respect of a Service Connection, as a condition of receiving or continuing to receive a Service Connection or Water Services.

(b) Assignment of Contractual Obligations

All services, whether or not they require EWSI's assignment consent, that are properly assigned or otherwise transferred to a corporate Customer's affiliate or successor taking over the operation of a Customer's business and operations at premises subject to a pre-existing Account, shall be subject to the terms of the Customer's Water Services Agreements and billing history. Any change in service requirements as a result of such assignment or transfer shall be made in accordance with these Terms and Conditions. The existing contractual

arrangements will remain in place until any new agreements have been approved and accepted by both parties.

3.6 Authorizations and Approvals for Service Connection

The Customer shall be responsible for obtaining all permits, certificates, licenses, inspections, reports, and other authorizations necessary for the installation and operation of the Service Connection. EWSI shall not be required to commence or continue installation or operation of a Service Connection unless and until the Customer has complied with the requirements of all governmental authorities, permits, certificates, licenses, inspections, reports and other authorizations, all right-of-way agreements, and all of EWSI's requirements applicable to the installation and operation of the Service Connection. EWSI reserves the right to verify that all necessary authorizations have been obtained by Customers.

3.7 Temporary Service and Construction Service

(a) Where EWSI reasonably believes that a requested service will be temporary, it may require the Customer requesting the service to pay to EWSI in advance of construction the estimated cost of the necessary Facilities plus the estimated cost of installation and removal of Facilities, less the value of any salvaged material.

(b) EWSI will provide temporary, unmetered Water Service wherever practicable to a Customer for purposes of facilitating construction of a new development. The Customer will pay a rate, charge or fee for such Water Services based on the total cost of construction of the development, as specified in the Price Schedule. A Customer who is receiving unmetered Water Service for the construction phase of a development ceases to be entitled to take unmetered Water Service at the construction rate and is required to apply for metered Water Services when

(i) a City occupancy permit is issued for the development; or

(ii) the development is being used for its intended purpose;

whichever event occurs first.

3.8 Scheduling for Service Connection

EWSI shall schedule Customers for Service Connection in accordance with the Water Services Guidelines, after:

(a) the Customer has complied with EWSI's application requirements;

(b) the Customer has complied with the requirements of all applicable construction and safety standards or regulations; and

(c) the Customer's application for Water Services has been accepted by EWSI.

3.9 Customer to Notify EWSI of Changes

When a Customer has a change of name or contact information, (including without limitation: mailing address, telephone number(s), e-mail address) the Customer must immediately notify EWSI of such change. EWSI reserves the right to require that such notification be made in writing

3.10 Customer Usage Information

(a) EWSI shall provide standard Customer Usage Information to a Customer, or to an agent acting on behalf of a Customer, upon request and in the case of an agent only after receiving written consent to such disclosure from the Customer in a form satisfactory to EWSI, for the 12-month period preceding the date of the request or for such shorter period for which EWSI has collected that information.

(b) EWSI shall not be obligated to provide Customer Usage Information for a period greater than 24 months prior to the date of request. If a Customer requests Customer Usage Information for any time earlier than 24 months prior to the date of request, EWSI may in its sole discretion charge a fee for retrieving and supplying the information requested.

ARTICLE 4 - SERVICE REQUIREMENTS AND FACILITIES

4.1 Protection of EWSI's Facilities and Property of Other Customers

(a) No Interference with Facilities

The Customer shall not install or allow to be installed on property owned or controlled by the Customer any temporary or permanent structures, fences or landscaping that could interfere with the proper and safe access to, or operation of EWSI's Facilities or result in non-compliance with applicable statutes, regulations, standards or codes.

Only an employee or authorized agent of EWSI shall remove, operate, or maintain EWSI Facilities. A Customer shall not obstruct access to or interfere with or alter any meter, seal or other Facility or permit the same to be done by any person other than an employee or authorized agent of EWSI. A Customer is responsible to pay for the cost of repairing or otherwise remedying any damage to or loss of Facilities located on the Customer's premises or premises controlled

by the Customer, unless caused by circumstances, as determined in EWSI's sole discretion, to have been beyond the Customer's control.

(b) Deep Ground Disturbance in Proximity to Water Facilities

Any party that proposes any construction involving ground disturbance to a depth exceeding two (2) metres within five (5) metres of the boundary of lands containing EWSI Facilities is required to enter into a Facility Proximity Agreement with EWSI, prior to performing the ground disturbance. The conditions of the agreement may at EPCOR's sole discretion include, but not be limited to, the following:

(i) The EWSI Facility must be isolated and drained. Active customers on the isolated main, must be provided with temporary water service. Temporary servicing, and construction activity may be limited to the months of May to October. The constructor will be responsible for all costs associated with de-commissioning, temporary servicing and re-commissioning of the EWSI Facility.

(ii) The water main is to be exposed by hydrovac at a minimum of two locations to confirm the existing location and the proposed clearances prior to any ground disturbance.

(iii) A requirement to contact the Inspections Coordinator at 780-412-3155 a minimum of 72 hours in advance of the hydrovac exposure to arrange for an EPCOR Inspector to be on-site.

(iv) All Service Connections not required for the future building(s) must be formally abandoned at the main prior to excavation.

(v) All appropriate measures must be taken to ensure the existing support around the water main is not disturbed by any of the construction activities. Any sloughing, settlement or undermining of the ground within five (5) metres of a EWSI Facility must be reported to EWSI. Any damage to the existing EWSI Facility resulting from the construction, how so ever caused, will be repaired at the sole cost of the constructor.

(vi) The constructor must notify EWSI when the ground disturbance in proximity to the EWSI Facility is completed so that the Facility can be re-commissioned.

(vii) An indemnification in favour of EPCOR for any and all costs or liabilities arising from the construction, including costs or liabilities arising in respect of any (A) water service interruption, defect or failure, (B) damage to any existing EWSI Facility, (C) damage to the property of third parties, (D) damage to a construction site, (E)

delay of construction, other than as caused by any deliberate or negligent action of EPCOR

(c) Protection of the Private Service Line, Equipment and Assets on Customer's Property

The Customer is solely responsible to take all necessary measures to prevent damage to the Private Service Line and any other equipment or assets connected to the Facilities on the Customer's property, including the EWSI meter, due to any cause, including, without limitation, freezing and settlement or movement of the structure or soil through which the Private Service Line passes. EWSI shall not be liable for any repair, maintenance or replacement of any Private Service Line, except where damage to a Private Service Line is caused by a deliberate or negligent act of EWSI.

The Customer shall provide and maintain, at no cost to EWSI, the necessary space and protective barriers to safeguard Facilities installed or to be installed upon the Customer's premises. If the Customer refuses, EWSI may, at its option, provide and maintain such protective barriers, and charge the Customer for these services. Such space, and protective barriers shall be in conformity with applicable laws and regulations and subject to EWSI's approval.

(d) Compliance with Requirements and Use of Service Connection

The Customer shall ensure that the Private Service Line and any other equipment or assets comply with the requirements of any applicable code or regulation and with the Water Services Guidelines. The Customer shall not use a Service Connection or any Water Services received in a manner so as to cause interference with any other Customer's use of a Service Connection or Water Services. At EWSI's request, a Customer shall take whatever action is required to correct such interference or disturbance at the Customer's expense.

(e) Customer to Pay Relocation Costs

The Customer shall pay all costs of relocating EWSI's Facilities at the Customer's request, if such relocation is for the Customer's convenience, or if necessary to remedy any violation of law or regulation caused by the Customer. If requested by EWSI, the Customer shall pay the estimated cost of the relocation in advance.

(f) Prohibited Extension of the Private Service Line, Piping, Equipment or Assets

A Customer shall not extend or permit the extension of a Private Service Line or any other customer-owned piping, equipment or other assets that are connected directly or indirectly to the Waterworks System, beyond the separately titled lot or

parcel of land in respect of which they are used to supply Water Services through a Service Connection Point.

ARTICLE 5 - EASEMENTS, RIGHTS-OF-WAY, AND USE OF AND ACCESS TO FACILITIES

5.1 Easements and Rights-of-Way

At the request of EWSI a Customer shall grant or cause to be granted to EWSI, without cost to EWSI, such easements or rights-of-way over, upon or under property owned or controlled by the Customer as EWSI reasonably requires for the construction, installation, maintenance, repair, and operation of the Waterworks System.

5.2 Right of Entry

(a) EWSI's employees, agents and other representatives shall have the right to enter a Customer's premises at all reasonable times, or at any time during an event of Force Majeure, for the purpose of installing, maintaining, replacing, testing, monitoring, reading or removing EWSI's Facilities and for any other purpose incidental to the provision of Water Services. A Customer shall not prevent or hinder EWSI's entry to the Customer's premises for any such purpose. Without limiting the generality of the foregoing,

EWSI has the right to enter a Customer's premises at any reasonable hour in order to:

(i) install, inspect, test, repair or remove Facilities;

(ii) perform necessary maintenance to Facilities;

(iii) investigate or respond to a Customer complaint or inquiry;

(iv) conduct an unannounced inspection where EWSI has reasonable grounds to believe that theft of Water Services or interference with Facilities (including but not limited to a water meter) has occurred or is occurring.

(b) EWSI will make reasonable efforts to notify the Customer in advance of entering a Customer's premises or to notify any other person who is at the Customer's premises and appears to have authority to permit entry, except:

(i) in cases of emergency;

(ii) where entry is permitted by order of a court or other authority having jurisdiction;

(iii) where otherwise legally empowered to enter;

(iv) where the purpose of the entry is in accordance with Section 5.2(a)(iv) of these Terms and Conditions.

(c) EWSI may charge a "no access fee" sufficient to cover EWSI's reasonable costs, if EWSI's lawful entry to a Customer's premises is prevented or hindered, whether by a Customer not keeping a scheduled appointment or for any other cause.

5.3 Access to Waterworks System

(a) A Customer shall be responsible for managing vegetation on the property owned or controlled by the Customer and to maintain adequate clearances to avoid interference with EWSI's Facilities.

(b) A Customer shall not obstruct or hinder EWSI's free and direct access to any Facility, including without limitation any Service Connection, water main, valve, Curb Cock, fire hydrant, meter or meter setting.

(c) EWSI, in its sole discretion, may consider the presence of a dog to be an obstruction or a hindrance to access to any Facilities and may notify the Customer of any conditions or actions required to enable access to the Facility by appointment with the Customer.

(d) Where a Customer contravenes any provision of Sections 5.1 or 5.3 and fails to remedy such contravention within ten (10) days after receiving from EWSI a notice in writing to do so, then in addition to any other legal remedy available EWSI may take any steps necessary to remedy the contravention and may charge any costs of so doing to the Customer's Account.

5.4 Customer Responsibility for Use of Facilities

(a) A Customer shall not use the Waterworks System in a manner that interferes with any other Customer's use of the Waterworks System. At EWSI's request, the Customer shall take whatever action is required to correct any interference, disturbance or adverse effect at the Customer's expense.

(b) No Customer shall install or allow any Cross Connection that could cause or allow drinking water, in any part of the Waterworks System to become contaminated or polluted in any way.

(c) Where EWSI determines that a Cross Connection prohibited by this Section exists, EWSI shall give notice to the Customer to correct the prohibited Cross Connection at the expense of the Customer within the time specified in the notice.

(d) Where the Customer fails to correct the Cross Connection in accordance with the notice, in addition to any other penalty, EWSI may Turn Off the prohibited supply of water for such time as the Cross Connection continues.

(e) A Customer will not use water from the Waterworks System, or allow water obtained from the Waterworks System to be used:

(i) in an unauthorized manner;

(ii) in a manner that will impede water use by other Customer;

(iii) unless an Account has been opened by the Customer;

(iv) unless the water has first passed through a water meter, except in the case of unmetered Water Service for the construction phase of a development.

(f) If EWSI finds any unauthorized use of the Service Connection or Water Services or any tampering with a meter, a seal or any other EWSI Facilities or unauthorized connection or reconnection, theft, fraud, or any intentional or unintentional use of water or Water Services whereby EWSI is denied full compensation for the Water Services provided, EWSI may make changes to its meters, or other Facilities or take other corrective action required in order to prohibit the unauthorized use of the Facilities.

(g) Upon finding any unauthorized use of water, EWSI may Turn Off the Service Connection immediately, without notice and shall charge the Customer all costs incurred in correcting the condition, in addition to any charges for unmetered water consumed and any other rights and remedies which may be available to EWSI.

(h) A Customer that uses water in contravention of this Section shall pay the following charges:

(i) The applicable rate for the water used, in accordance with the Price Schedule, and where necessary due to lack of metered data based on an estimate by EWSI of the amount of water used;

(ii) all costs incurred by EWSI in dealing with the contravention;

(iii) any other charge, fee or penalty provided by the Price Schedule, these Terms and Conditions and any applicable law or regulation.

ARTICLE 6 - WATERWORKS SYSTEM EXTENSIONS

6.1 Estimated Cost

Upon a Customer's request for a new or upgraded Service Connection involving construction of new Facilities or an extension to the Waterworks System, EWSI shall prepare a proposal outlining the estimated cost of the Service Connection including all necessary new Facilities or extensions to the Waterworks System.

EWSI may in its sole discretion decline to construct a Service Connection to premises not abutting a street or right-of-way containing a Water Main.

6.2 Agreement in Writing for Waterworks System Extension

A new or upgraded Service Connection involving new Facilities or an extension to the Waterworks System shall not be constructed unless the Customer has executed a Water Services Agreement for the proposal with EWSI.

6.3 Customer Payment for Waterworks System Extension Costs

Unless otherwise specified:

(a) in a Water Services Agreement; or

(b) under the provisions of a water main cost sharing program offered by EWSI;

the full cost of any new Facilities or extensions to the Waterworks System shall be paid by the Customer whose new or upgraded Service Connection gives rise to the need for the new Facilities or extension to the Waterworks System.

6.4 Changes to Amount Payable by Customer

Following construction completion, and placing the new Facilities into pursuant to Article 6 hereof, the amount payable by the Customer will be changed to the actual full cost of the new Facilities. Where the actual full cost exceeds the estimate, EWSI will provide the customer with a written explanation for the change.

ARTICLE 7 - WATER SERVICE CONNECTIONS

7.1 Engineering, Design and Construction Requirements for Service Connections

(a) Unless otherwise specified in a written agreement between EWSI and the Customer, it is the Customer's responsibility to supply at the Customer's cost:

(i) any plans and engineering reports pertaining to the Service Connection that EWSI may reasonably require, signed and sealed by a Professional Engineer;

(ii) an engineering report describing the design, construction and materials proposed, including measures to prevent adverse effects of contaminated soils, groundwater, or adverse soil conditions on the Waterworks System;

(iii) proof to EWSI's satisfaction, that the Service Connection and the Private Service Line meet all requirements of these Terms and Conditions and the Water Services Guidelines, and conform to the requirements of all applicable legislation and regulations;

(iv) in the case of a Service Connection that is 40 mm (1 ½ inches) or larger in diameter, proof of satisfactory bacteriological test results for the service from a laboratory accredited to perform such tests by the Province of Alberta, approved, signed and stamped by a Professional Engineer.

(b) The Customer shall be responsible for the installation and condition of the Private Service Line and all other piping and equipment or any other assets on the Customer's side of the Service Connection Point.

(c) The Customer shall determine whether he requires any devices to protect his premises or property from damage that may result from the use of a Service Connection or Water Services. The Customer shall provide and install any such devices at the Customer's sole expense.

7.2 Multiple Dwellings

(a) EWSI may require that each individual Dwelling within a Multiple Dwelling be metered separately and that a separate Account be opened in respect of each such Dwelling, regardless of the number of Service Connections through which water is delivered to the Multiple Dwelling.

(b) Where EWSI and a Customer enter into a Water Services Agreement or other agreement in writing that provides for Water Service to a Multiple Dwelling to be delivered through a single Service Connection and measured by a single meter at or downstream of that Service Connection Point, the applicable multi-residential rate in the Price Schedule will apply to the Water Service.

(c) If a building has more than one self contained unit, served by multiple Private Service Lines or by a Private Service Line with multiple branches, EWSI may require each self contained unit to be metered separately and an Account to be opened in respect of each such meter.

ARTICLE 8 - METERS

8.1 Installation of Meters

(a) Provision and Ownership

EWSI shall supply, install, and seal one or more meters for the purpose of measuring the volume of water delivered to a Customer by way of a Service Connection. Each meter and related metering equipment shall remain the sole property of EWSI, regardless of whether the Customer has paid or reimbursed all or any part of EWSI's costs of supply and installation.

(b) Responsibility of Customer

Each Customer shall ensure that a location on or in the Customer's premises for meter installation is provided, complete with an EWSI approved meter setting, and that safe and easy access to the meter is provided for the purpose of reading or servicing the meter, in accordance with all applicable requirements of the Water Services Guidelines as amended from time to time. The meter location shall provide protection from freezing and physical damage.

8.2 Access to Meters

EWSI may, at any reasonable time, access, read, inspect, remove or test a meter installed on or in property owned or controlled by the Customer.

8.3 Meter Testing

(a) At the request of a Customer, EWSI shall arrange for on-site meter verification and if necessary, shall arrange for a meter to be tested by a person qualified to perform such work. EWSI shall charge a fee for responding to such Customer requests, as set forth in the Price Schedule. If, upon verification and/or testing, the meter is found to be recording accurately (which for this purpose is defined as recording between 97%

and 103% of actual consumption) then EWSI shall retain the fee. If the meter is found to be recording inaccurately, outside the limits of 97% to 103%, then EWSI will refund the fee to the Customer and make appropriate adjustments to the applicable bills.

(b) EWSI may at any time inspect or test any meter, on its own initiative, without a Customer request. In such case no fee is payable by the Customer.

8.4 Circumvention of Meter

If under any circumstances, a person other than an employee or agent of EWSI, prevents a meter from accurately recording the total volume of water supplied, EWSI may Turn Off the Water Services or take any other appropriate actions to ensure accurate operation of the meter. In the foregoing circumstances EWSI may estimate the quantity of water supplied but not recorded by the meter. The Customer shall pay the cost of the estimated water consumption plus all costs related to the investigation and resolution of the matter.

8.5 Changes to Metering Equipment

(a) Upon receipt of a written request by a Customer, EWSI may provide metering services, other than standard metering service, in its discretion, acting reasonably, and may charge separate fees for such services. Following EWSI's acceptance of such a request, EWSI shall supply, install, test and maintain the requested metering equipment. The Customer shall bear the cost of providing and installing the requested metering equipment, and the costs of operation and maintenance.

(b) The metering equipment shall become the property of EWSI and will be maintained by EWSI. EWSI shall bill the Customer prior to installation and the Customer shall prepay the cost of installation at least fifteen (15) Business Days prior to proposed installation date. If payment is not received by fifteen (15) Business Days prior to the proposed installation date, EWSI shall have no obligation to proceed with the installation.

ARTICLE 9 - CHANGES TO SERVICE CONNECTIONS OR OTHER FACILITIES

9.1 Requirement to Give Notice of Changes to Service Requirements

A Customer shall give to EWSI reasonable prior written notice of any requested change to a Service Connection, to enable EWSI to determine whether or not it can accommodate such revised service without changes to other EWSI Facilities.

9.2 Customer to Bear Cost of Changes to EWSI Facilities

If EWSI determines that any modifications, extensions or additions are required to existing Facilities to accommodate:

(a) a Customer's request for change to a Service Connection; or

(b) any material change to a Customer's consumption of water or use of Water Services, regardless of whether the Customer requests a change to the Service Connection

the Customer is obligated to pay the full cost of such modifications, extensions or additions to Facilities, unless otherwise specified in a Water Services Agreement or under the provisions of a water main cost sharing program offered by EWSI.

9.3 Adjustment of Curb Cock Casing to Grade

Upon the request of the Customer, EWSI shall within a reasonable time adjust a Curb Cock casing to grade at no charge. The Customer shall be responsible for any loss or damages arising from a Curb Cock casing protruding above grade, where no request for adjustment has been received by EWSI, or where a reasonable time for EWSI to complete the adjustment has not elapsed.

ARTICLE 10 - SERVICE TURN OFF AND TURN ON

(a) A Turn Off does not remove the water present in a Customer's Private Service Line, equipment or other assets downstream of the Service Connection Point. It is the Customer's responsibility to drain or to otherwise protect the private assets in a manner suitable for the Customer's purposes following the Turn Off.

(b) It shall be the Customer's responsibility to monitor the Turned Off supply for residual flow of water and to take any measures necessary to accommodate with any residual flow.

10.1 Turn Off at Customer Request

(a) Temporary Turn Off

Upon the request of the Customer, EWSI may temporarily Turn Off any Service Connection, provided that:

(i) the Customer is obligated to pay any costs incurred by EWSI as a direct result of a Customer's idle Service Connection that will not otherwise be recovered;

(ii) upon a request to restore service, the Customer is obligated to pay any applicable charges outlined under section 10.3; and

(iii) if the Service Connection remains Turned Off for more than twelve (12) months, it will be considered permanently Turned Off and all costs related to providing a new Service Connection will apply to any request from the same or any other Customer to restore the Service Connection.

(b) Permanent Turn Off

If a Customer requests that a Service Connection be permanently Turned Off, or if a permanent Turn Off is deemed to have occurred pursuant to Section 10.1(a)(iii), the Customer billing for that service will be finalized. At the discretion of EWSI, the Facilities provided by EWSI will be removed.

If the Customer subsequently requests that the Service Connection be restored, the Customer must pay all costs associated with the original Turn Off, removal of the Facilities and restoration of the Service Connection.

10.2 Turn Off by EWSI

(a) Turn Off without Notice

If EWSI believes there is any actual or potential danger to life or property, or in any other circumstances which in EWSI's sole judgement require such action, EWSI has the right to withhold Turn On or to Turn Off a Customer's Service Connection without prior notice to the Customer. More specifically, and without limitation of the foregoing, EWSI may exercise this right in the event that:

(i) in the opinion of EWSI, the Customer has permitted the Private Service Line or any other Customer owned equipment or assets to become hazardous or to fail to comply with applicable law, standards and codes and/or EWSI requirements, or if the use of the Service Connection may cause damage to any other Facilities;

(ii) in the opinion of EWSI, the Private Service Line, or any other Customer owned equipment or assets have or will become unsafe or defective. In this event, the Service Connection may not be restored until the Customer owned assets are approved by the appropriate authority;

(iii) EWSI discovers or suspects theft by the Customer of any Water Services or EWSI Facilities;

(iv) EWSI discovers or suspects any tampering with a meter, a seal or any other EWSI Facilities; or

(v) the Customer changes requirements for a Service Connection or Water Services without the permission of EWSI.

When the reason for Turn Off is a concern for the health or safety of the Customer, EWSI's employees or agents, or the general public, EWSI will Turn On the service only when the health or safety concern is resolved and when the Customer has provided, or has paid EWSI's costs of providing, services, permits, authorizations, devices or equipment as may be necessary to resolve the health or safety concern. If a Customer's Service Connection is subject to a Turn Off pursuant to this Section 10.2, EWSI shall provide a written explanation to the Customer within a reasonable time after Turn Off, including the reason for Turn Off and the actions required for Turn On.

(b) Turn Off with Notice

EWSI may withhold Turn On or may Turn Off a Customer's Service Connection (without prejudice to any of EWSI's other remedies) after providing forty-eight (48) hours advance notice to the Customer, as applicable, in the following circumstances:

(i) if the Customer fails to pay any amount due under these Terms and Conditions, except when the Customer has formally initiated a dispute of the amount due, in writing;

(ii) as required by law;

(iii) if the Customer is in violation of any of these Terms and Conditions or any of the terms of a Water Services Agreement with EWSI;

(iv) any other circumstances that EWSI determines, in its sole discretion, acting reasonably, require the withholding Turn On or Turn Off of the Service Connection upon forty-eight (48) hours notice.

10.3 Turn On of Service

Before EWSI Turns On or restores service, the Customer shall pay:

(a) any amount owing to EWSI including written off accounts; and

(b) a Turn On charge in an amount set out in the Price Schedule.

10.4 Removal of Facilities

Upon termination of service, EWSI shall be entitled to remove any of its Facilities located upon the property of the Customer and to enter upon the Customer's property for that purpose.

ARTICLE 11 - CLOSING AN ACCOUNT

Upon receipt of a valid notice to close an Account, EWSI shall make reasonable efforts to read the Customer's meter at a time requested by the Customer. EWSI shall conduct a final reading of the Customer's meter within a reasonable time. The Customer shall pay all fees and charges remaining on the account including all services provided up to the time of the final reading.

ARTICLE 12 - GENERAL RESTRICTIONS AND PROHIBITIONS

(a) Except for water obtained from the Waterworks System which has been enhanced or altered in a lawful manner for resale, no Customer or other person shall resell water obtained from the Waterworks System to any other person except in accordance with the terms and conditions of an executed written agreement with EWSI.

(b) No Customer or other person shall construct or allow to be constructed more than one Service Connection to any premises without prior written consent of EWSI.

(c) A Private Service Line must not cross from one separately titled property to another separately titled property even if these properties are owned by the same person.

(d) No Customer or other person shall install or cause to be installed a branch line or tap between a meter and the Service Connection.

(e) No person shall take or use water from the Waterworks System in contravention of an Order issued pursuant to the provisions of Section 14.6 of these Terms and Conditions.

ARTICLE 13 - LIABILITY AND INDEMNIFICATION

13.1 Limitation of EWSI Liability

(a) Notwithstanding any other provision of these Terms and Conditions or any provision of any agreement between EWSI and a Customer relating to the provision of Water Services (an "EWSI Agreement") EWSI, its directors,

officers, agents, employees and representatives ("EWSI Parties") shall not be liable to the Customer, its directors, officers, agents, employees and representatives ("Customer Parties") for any loss, injury, damage, expense, charge, cost or liability of any kind suffered or incurred by the Customer Parties, or any of them, whether of a direct, indirect, special or consequential nature, however or whenever caused, and whether in any way caused by or resulting from the acts or omissions of the EWSI Parties, or any of them, except for direct property damages incurred by the Customer as a direct result of a breach of these Terms and Conditions or applicable EWSI Agreement or other act or omission by an EWSI Party, which breach or other act or omission is caused by the gross negligence or intentional tort of such EWSI Party.

(b) Any liability under this Section will be limited to an amount in proportion to the degree to which the EWSI Party is determined to be at fault. For the purpose of the foregoing and without otherwise restricting the generality thereof, "direct property damage" shall not include loss of revenue, loss of profits, loss of earnings, loss of production, loss of contract, cost of capital, and loss of use of any facilities or property, or any other similar damage or loss whatsoever.

(c) For greater certainty and without limiting the generality of the foregoing, EWSI is not liable for any loss, damage or physical harm to any person (except where caused by the gross negligence or intentional tort of an EWSI Party) and arising from or caused directly or indirectly, in whole or in part, by:

(i) any substandard condition or quality of water caused by any thing occurring downstream of a Service Connection Point;

(ii) any failure, defect, fluctuation, reduction or interruption in the provision of Water Services by EWSI to its Customers, whether resulting from the break or malfunction of any watermain, service, meter, Private Service Line or attachment, or from the interruption in or cessation of water supply in connection with the repair or proper maintenance of the Waterworks System or for purposes of water conservation of for any other cause.

(d) All limitations, protections and exclusions of liability contained in any provincial or federal legislation are in addition to and not in derogation of or substitution for the limitations of EWSI's liability contained in these Terms and Conditions.

13.2 Release

Subject to Section 13.1 above, none of the EWSI Parties (as defined above) will be liable to any of the Customer Parties (as defined above) for any damages, costs, expenses, injuries, losses, or liabilities suffered or incurred by the Customer Parties or any of them, however and whenever caused, and each Customer Party hereby forever releases each of the EWSI Parties from any liability or obligation in respect thereof.

13.3 EWSI Not Liable to Customer

For greater certainty and without limitation to the provisions of Sections 13.1 and 13.2, EWSI Parties shall not be liable to a Customer for any damages of any kind (except to the extent the damages are caused by the gross negligence or intentional tort of an EWSI Party) caused by or arising from any EWSI Party's act in compliance with, or as permitted by, these Terms and Conditions, a Water Services Agreement, or any legal or regulatory requirement related to provision of Water Services.

13.4 Customer Liability

(a) In addition to any other liability provisions set out in these Terms and Conditions or any provision in a Water Services Agreement or any other agreement between a Customer and EWSI, a Customer Party (as defined above) shall be liable for any damages, costs, expenses, injuries, losses, or liabilities suffered or incurred by EWSI Parties (as defined above), whether of a direct or indirect nature, caused by or arising from any acts or omissions of an Customer Party that result in a breach ("Breach") of these Terms and Conditions or the applicable agreement, or any negligent or wilful acts or omissions of harm of a Customer Party whether or not they constitute a Breach.

(b) A Customer shall indemnify and hold EWSI and its employees and agents harmless from and against any claim (including any claim by another Customer of EWSI) for any loss, damage, expense, charge, cost (including legal fees), fine, penalty or other liability of any kind suffered or incurred by EWSI arising out of or in any way connected with

(i) any failure by the Customer to comply with these Terms and Conditions,

(ii) any damages to EWSI's Facilities or the facilities of another Customer caused by equipment installed or actions taken or failed to be taken by the Customer;

(iii) any claim, damages, or loss suffered by the Customer as a result of any act or omission of the Agent acting for such Customer.

(c) Any claim by a Customer for direct losses, damages, expenses, charges, costs or other liabilities not barred or restricted under these Terms and Conditions must be communicated in writing to EWSI within 180 days from the date of occurrence of the incident giving rise to the claim or the date on which the Customer ought reasonably to have become aware of the occurrence or incident, failing which EWSI shall have no liability or responsibility whatsoever to the Customer in respect of the claim.

13.5 Force Majeure

(a) Force Majeure Relief

If an event or circumstance of Force Majeure occurs that affects EWSI's ability to provide a Service Connection or Water Services, EWSI's obligations and responsibilities hereunder and under any agreement relating to Service Connections or provision of Water Services, so far as they are affected by the Force Majeure or the consequences thereof, shall be suspended until such Force Majeure or the consequences thereof are remedied and for such period thereafter as may reasonably be required to restore the Service Connection or Water Services. The Minimum Charge, if applicable, will continue to be payable during the period in which EWSI claims relief by reason of Force Majeure.

(b) Notice

EWSI shall where practicable give notice of an event of Force Majeure to Customers affected and shall where practicable give notice to Customers affected when the Force Majeure event ceases to prevent performance of EWSI's obligations.

(c) Obligation to Remedy

EWSI shall promptly remedy the cause and effect of the Force Majeure insofar as it is reasonably able to do so.

(d) Strikes and Lockouts

Notwithstanding any other provision of these Terms and Conditions, the settlement of any strike, lockout or other industrial disturbance shall be wholly in the discretion of EWSI and EWSI may settle such strike, lockout or industrial disturbance at such time and on such terms and conditions as it may deem appropriate. No failure or delay in settling such strike, lockout or industrial disturbance shall constitute a cause or event within the control of EWSI or deprive EWSI of the benefits of this Section 13.5.

ARTICLE 14 - ADDITIONAL PROVISIONS RELATING TO SERVICES

14.1 Ownership of Facilities

EWSI remains the owner of all Facilities necessary to provide Water Services to Customers, to and including the Service Connection point, unless an agreement between EWSI and a Customer specifically provides otherwise.
Payment made by a Customer for costs incurred by EWSI in installing Facilities does not entitle the Customer to ownership of any such Facilities, unless an agreement between EWSI and the Customer specifically provides otherwise.

14.2 Special Provisions with Respect to City of Edmonton

(a) EWSI may appoint the City's Infrastructure Services as its sub-contractor or agent for provision of some or all Service Connections required to be carried out by EWSI, provided however that EWSI may rescind or modify the scope of such appointment at any time, and provided also that such appointment does not have the effect of making these Terms and Conditions applicable to the City's Infrastructure Services.

(b) The City shall not be obligated to pay EWSI for any water supplied by EWSI to the City for firefighting purposes.

14.3 Proper Use of Services

The Customers assume full responsibility for the proper use of the Service Connection and Water Services provided by EWSI and for the condition, suitability and safety of any and all Facilities on the Customer's premises or on premises owned by the Customer or premises controlled but not owned by the Customer. The Customer shall be liable for any loss, damage, expense, charge, cost or other liability of any kind, whether to EWSI, its agents or employees, EWSI property or otherwise, arising directly or indirectly by reason of

(a) the routine presence of water under pressure in the Waterworks System,

(b) the routine use of water delivered through the Waterworks System,

(c) the Customer's improper or negligent use of water or Water Services or Facilities, or

(d) the negligent acts or omissions or wilful acts or omissions of the Customer or any person permitted on the Customer's property.

14.4 Compliance with Applicable Legal Authorities

EWSI and all Customers are subject to, and shall comply with, all applicable federal, provincial and local laws, and all applicable orders or other actions of governmental authorities having jurisdiction. EWSI's obligation to provide or continue to supply a Service Connection or Water Services or to Turn Off a Service Connection or otherwise terminate Water Services, in respect of any Customer, is subject to the condition that all requisite governmental and regulatory approvals for the supply or continued provision of the Service Connection or Water Services or for their Turn Off or termination are obtained and in force.

14.5 Interference with EWSI's Property

No one other than an employee or authorized agent of EWSI shall be permitted to remove, operate, or maintain meters and other Facilities owned by EWSI. A Customer shall not interfere with or alter meters, seals, or other Facilities or permit the same to be done by any person other than the authorized agents or employees of EWSI.

14.6 Service Interruptions and EWSI Obligation to Respond

(a) While EWSI takes all reasonable efforts to guard against Water Services interruptions, it does not guarantee uninterrupted Water Services or any particular standard of Water Services. EWSI shall at any time, without liability whatsoever to any Customer, have the right to discontinue or otherwise curtail, interrupt or reduce Water Services to Customers whenever EWSI reasonably determines, or when EWSI is directed by an authority having jurisdiction, that such discontinuance curtailment, interruption or reduction is:

(i) necessary to facilitate construction, installation, maintenance, repair, replacement or inspection of any of EWSI's Facilities;

(ii) pursuant to non payment of amounts due and payable on a Customer's Account;

(iii) necessary to maintain safety and reliability of the Waterworks System; or

(iv) due to any other reason including: dangerous or hazardous circumstances, emergencies, forced outages, the need to restrict or regulate water consumption for purposes of conservation of water, shortages or potential shortages of water supply, or Force Majeure.

(b) EWSI shall use reasonable efforts to;

(i) provide notice of any Water Services reduction or interruption;

(ii) minimize such interruption duration and occurrences;

(iii) schedule planned interruptions as much as possible at times convenient to Customers; and

(iv) restore extended service interruptions due to water main breaks, plugged or collapsed water lines or other reasons as soon as practicable.

(c) EWSI is obligated to make reasonable efforts to respond to a Customer requested service call within a reasonable time, and to minimize Water Service interruptions to Customers. The Customer shall pay the cost of a Customer-requested service call and all related work if the cause of the problem is outside the Waterworks System and is not the direct result of an act or omission of an employee, contractor or agent of EWSI that is grossly negligent or an intentional tort.

(d) Either EWSI or the City, or both of them jointly, may at any time issue an Order directing all Customers to cease or restrict use of water from the Waterworks System in the manner and for the period of time specified in the Order, and may cause such Order to be publicly disseminated via print or electronic media or by posting on the websites of EWSI or the City. A Customer is deemed to have received notice of such Order and to be aware of its content 24 hours after it is publicly disseminated, or at such sooner time as a copy of the Order is delivered to the Customer's service address as shown in the Customer's account by an employee, agent or other representative of EWSI or of the City.

14.7 Assignments

(a) A Customer shall not assign any of its rights or obligations under these Terms and Conditions or a Water Services Agreement or any other agreement with EWSI relating to a Service Connection or Water Services without obtaining any necessary regulatory approvals and EWSI's approval where required in such agreement. No assignment shall relieve

the Customer of any of its obligations under these Terms and Conditions until such obligations have been assumed by the assignee and EWSI has agreed to the assignment and novation. Any purported assignment by a Customer in violation of this section shall be void.

(b) EWSI may assign all or any part of its rights or obligations under these Terms and Conditions or a Water Services Agreement, or any entitlement to payment under any Customer Account, to any Person with or without notice to the Customer.

14.8 No Waiver

The failure of EWSI or a Customer to insist upon strict performance of any provision of these Terms and Conditions or a Water Services Agreement or any other agreement between EWSI and the Customer relating to a Service Connection or Water Services, or to take advantage of any of its rights arising therefrom, shall not be construed as a waiver of any such provisions or the relinquishment of any such right or rights. No provision of these Terms and Conditions or a Water Services Agreement or any other agreement between EWSI and a Customer relating to a Service Connection or Water Services shall be deemed to have been waived, and no breach thereof shall be deemed to have been excused, unless such waiver or consent to excuse is in writing and signed by the party claimed to have waived or consented to excuse.

14.9 Law

These Terms and Conditions and any Water Services Agreement or other agreement between EWSI and a Customer relating to a Service Connection or Water Services shall be governed by the laws of the Province of Alberta and the federal laws of Canada applicable in the Province of Alberta, without regard to principles of conflicts of law. Any legal proceedings arising in connection with these Terms and Conditions or any other agreement relating to a Service Connection or Water Services shall be brought in the courts of the Province of Alberta.

Schedule 3

Performance Based Water Rates and Wastewater Treatment Rates

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1.0 5-Year Term with Annual Adjustments Effective Each April 1st

This Schedule 3 sets out the Performance Based Regulation Plan and applies in respect of determinations and adjustments to the rates and charges under this Bylaw for the period from April 1, 2012 to March 31, 2017.

The rates and each component of, or adjustment to, the rates as set out below will be assessed on a calendar year basis. However, to meet the administrative requirements of compiling, verifying and reporting on results, actual rate adjustments will occur on April 1st of the year following the forecast year.

1.1 Consumption Charge

Commencing April 1st, 2012 and for each subsequent year on that date for each customer class of water service identified in Schedule 1 Part I – *Water Rates* and Part IV – *Wastewater Treatment Rates*, the consumption charge shall be adjusted. For each customer class, the rate for the year in which the April 1st adjustment takes effect (hereinafter called the "Current Year") will be determined by the formula:

$$R_P \text{ X } (1 + I_D) \text{ X } (1 + I_F - 0.25\%) + R_S$$

Where,

- R_P means the rate that was in effect for a customer class during the 12 months immediately preceding April 1 of the Current Year;
- I_D means the difference between the forecast rate of inflation and the actual rate of inflation for the calendar year immediately preceding the Current Year;
- I_F means the forecast rate of inflation for the Current Year;
- R_S means the rate for a special rate adjustment as described in Sections 2.3 and 2.4 of this Schedule 3.

1.2 Fixed Monthly Service Charge

Commencing April 1st, 2012 and for each subsequent year on that date, for each customer class of water service identified in Schedule 1 Part I – *Water Rates* and for each customer class of wastewater treatment service identified in Schedule 1 Part IV – *Wastewater Treatment Rates* the fixed

monthly service charge shall be adjusted in respect of the Current Year. The rate for the Current Year will be determined by the formula:

$$R_P \text{ X } (1 + I_D) \text{ X } (1 + I_F - 0.25\%) + R_S + Z$$

Where,

- R_P means the rate that was in effect for a customer class during the 12 months immediately preceding April 1 of the Current Year, before any non-routine adjustments are applied,
- I_D means the difference between the forecast rate of inflation and the actual rate of inflation for the calendar year immediately preceding the Current Year,
- I_F means the forecast rate of inflation for the Current Year,
- R_S means the rate for a special rate adjustment as described in Sections 2.3 and 2.4 of this Schedule 3.
- Z means a non-routine adjustment as described in Section 5.0 of this Schedule 3.

1.3 Wastewater Overstrength Surcharges

Commencing April 1st, 2012 and for each subsequent year on that date, the Wastewater Overstrength Surcharge and Wastewater Additional Overstrength Surcharge identified in Schedule 1 Part IV – *Wastewater Treatment Rates*, shall be adjusted. For each customer class, the rate for the year in which the April 1st adjustment takes effect (hereinafter called the "Current Year") will be determined by the formula:

$$R_P \text{ X } (1 + I_D) \text{ X } (1 + I_F - 0.25\%) + R_S$$

Where,

- R_P means the rate that was in effect during the 12 months immediately preceding April 1 of the Current Year;
- I_D means the difference between the forecast rate of inflation and the actual rate of inflation for the calendar year immediately preceding the Current Year;
- I_F means the forecast rate of inflation for the Current Year;
- R_S means the rate for a special rate adjustment as described in Section 2.4 of this Schedule 3.

2.0 Routine Adjustments

Each year, the following factors or adjustments will be used to determine appropriate adjustments to the fixed monthly service charge, consumption charge and/or wastewater overstrength surcharges payable for Water Services and Wastewater Treatment Services:

a) Inflation Factor;
b) Efficiency Factor;
c) Special Rate Adjustments.

The calculation and application of these factors or adjustments are described in subsections 2.1 to 2.4 below.

2.1 Inflation Factor

The fixed monthly service charge and consumption charge will be subject to an annual adjustment based upon a forecast of the rate of inflation. For the purposes of this adjustment calculation, "inflation" will be determined on the basis of two components:

a) a Consumer Price Index ("CPI") component, weighted at 65%, and
b) a Labour Cost component, weighted at 35%.

Once the annual period is complete and the actual rate of inflation is known, the charges for the subsequent year will include an adjustment to correct for the difference between the forecast and actual rate of inflation for the calendar year.

Both CPI and the Labour Cost components are available and verifiable:

1. The actual CPI component for a given year will be the change in the CPI for Alberta. This measure is identified as the Annual Growth in Consumer Price Index (CPI): Statistics Canada CANSIM Series V41694625 – CPI, 2005 Basket, 2002 = 100, Alberta, All Items. Any publication issued by Statistics Canada which is intended to replace, supersede or otherwise revise this measure will be used in substitution for it, in performing the inflation calculation.

2. The actual labour cost component for a given year will be the Annual Growth in Average Hourly Earnings (AHE), Alberta, Industrial Aggregate (excluding unclassified businesses), Statistics Canada CANSIM Series V1808689. Any publication issued by Statistics Canada which is intended to replace, supersede or otherwise revise

this measure will be used in substitution for it, in performing the inflation calculation.

As an exception to the inflation adjustment factor, if the forecast rate of inflation for a calendar year is 1.75% or lower, EWSI may prepare a financial plan to demonstrate the need for a unit rate increase other than 1.5%. The inflation rate in the financial plan will be a surrogate for the value of I_D.

As a further exception to the inflation adjustment factor, if the forecast rate of inflation is greater than 5.0% for a calendar year, EWSI may prepare a financial plan demonstrating the appropriateness of a unit rate increase less than the forecast rate of inflation minus 0.25%. The inflation rate in the plan will be a surrogate for the value of I_D.

2.2 Efficiency Factor

For purposes of rate adjustments, after the inflation rate has been calculated pursuant to the provisions of Section 2.1 of this Schedule it will be reduced by 0.25% referred to as the "Efficiency Factor". If, however, the actual inflation rate calculated as aforesaid is 1.75% or lower, no Efficiency Factor will be applied.

2.3 Special Rate Adjustments for Water Services

Two separate special rate adjustments are applied to water rates: (i) the Special Rate Adjustments for Re-Basing and (ii) the Special Rate Adjustments for the Accelerated Water Main Renewal Program ("AWMR").

2.3.1 Special Rate Adjustments for Re-Basing

In each of the years 2012 and 2013 (affecting Rates payable by Customers for the time periods April 1, 2012 to March 31, 2013 and April 1, 2013 to March 31, 2014, respectively) Special Rate Adjustments for Re-Basing will be added to the Consumption Charge and Fixed Monthly Service Charge in Schedule 1, Part I – *Water Rates*. These Special Rate Adjustments for Re-Basing are required to re-base the water rates for the 2012-2016 period.

The Special Rate Adjustments for Re-Basing will be applied in respect of 2012 and 2013 Rates after the Inflation and Efficiency factors have been calculated and applied for those years, and are in addition to any Non-Routine Adjustments applicable to those years. After the Special Rate Adjustments for Re-Basing have been factored into the 2012 and 2013 Rates, these adjustments will continue to form part of the basic Consumption Charges and Fixed Monthly Service Charges for Water

Services in all subsequent years, to which the annual Routine Adjustment Factors set out in subsections 2.1 and 2.2 above will be applied.

The Special Rate Adjustments for Re-Basing applied to water rates for the years 2012 and 2013 applied to the Consumption Charges for each customer class and the Fixed Monthly Service Charges applied to each meter size are as follows:

Consumption Charge (per cubic meter (m^3))	**2012 Special Rate Adjustment**	**2013 Special Rate Adjustment**
Residential		
0 – 10 m^3	-	$0.0696
10 – 35 m3	$0.0997	$0.0760
Over 35 m^3	$0.3980	$0.0960
Multi-Residential		
0 – 100 m^3	$0.0621	$0.0675
100.1 – 1000 m^3	$0.0520	$0.0565
Over 1000 m^3	$0.0429	$0.0467
Commercial		
0 – 25 m^3	$0.0487	$0.0530
25 – 100 m^3	$0.0487	$0.0530
100.1 – 1000 m^3	$0.0449	$0.0488
1000.1 - 5000 m^3	$0.0355	$0.0387
Over 5000 m^3	$0.0286	$0.0311
Fixed Monthly Service Charge (based on meter size)		
15 mm	$0.26	$0.28
20 mm	$0.36	$0.38
25 mm	$0.51	$0.54
40 mm	$0.88	$0.94
50 mm	$1.18	$1.25
75 mm	$2.34	$2.49
100 mm	$4.27	$4.55
150 mm	$8.00	$8.52
200 mm	$12.71	$13.54
250 mm	$29.71	$31.64
300 mm	$29.71	$31.64
400 mm	$35.52	$37.83
500 mm	$38.25	$40.73

2.3.2 Special Rate Adjustments for the Accelerated Water Main Renewal ("AWMR") Program

In each of the years 2012, 2013, 2014, 2015 and 2016 (affecting water rates payable by Customers for the time periods April 1, 2012 to March 31, 2013, April 1, 2013 to March 31, 2014, April 1, 2014 to March 31, 2015, April 1, 2015 to March 31, 2016 and April 1, 2016 to March 31, 2017 respectively) Special Rate Adjustments for the AWMR

Program will be added to the Consumption Charge in Schedule 1, Part I – *Water Rates*. These Special Rate Adjustments for the AWMR Program are required to recover the $20 million per year capital expenditures planned under the AWMR Program for all five years of the 2012-2016 PBR.

The Special Rate Adjustments for the AWMR Program will be applied in respect of 2012, 2013, 2014, 2015 and 2016 water rates after the Inflation and Efficiency factors have been calculated and applied for those years, and are in addition to any Non-Routine Adjustments applicable to those years. After the Special Rate Adjustments for the AWMR Program have been factored into the 2012, 2013, 2014, 2016 and 2016 water rates, these adjustments will continue to form part of the basic Consumption Charges for Water Services in all subsequent years, to which the annual Routine Adjustment Factors set out in subsections 2.1 and 2.2 above will be applied.

The Special Rate Adjustments for the AWMR Program applied to water rates for the years 2012, 2013, 2014, 2015 and 2016 applied to the Consumption Charges for each customer class are as follows:

	Accelerated Water Main Renewal Program				
Consumption Charge (per m^3)	**2012 Special Rate Adjustment**	**2013 Special Rate Adjustment**	**2014 Special Rate Adjustment**	**2015 Special Rate Adjustment**	**2016 Special Rate Adjustment**
Residential					
0 – 10 m^3	-	$0.0168	$0.0182	$0.0171	$0.0168
10 – 35 m3	$0.0523	$0.0183	$0.0199	$0.0187	$0.0183
Over 35 m^3	$0.2090	$0.0231	$0.0252	$0.0236	$0.0232
Multi-Residential					
0 – 100 m^3	$0.0326	$0.0163	$0.0177	$0.0166	$0.0163
100.1 – 1000 m^3	$0.0273	$0.0136	$0.0148	$0.0139	$0.0136
Over 1000 m^3	$0.0225	$0.0112	$0.0122	$0.0115	$0.0113
Commercial					
0 – 25 m^3	$0.0256	$0.0128	$0.0139	$0.0130	$0.0128
25 – 100 m^3	$0.0256	$0.0128	$0.0139	$0.0130	$0.0128
100.1 – 1000 m^3	$0.0236	$0.0118	$0.0128	$0.0120	$0.0118
1000.1 - 5000 m^3	$0.0187	$0.0093	$0.0101	$0.0095	$0.0093
Over 5000 m^3	$0.0150	$0.0075	$0.0082	$0.0076	$0.0075

2.4 Special Rate Adjustments for Wastewater Treatment Services

In each of the years 2012, 2013, 2014, 2015 and 2016 (affecting wastewater treatment rates payable by Customers for the time periods April 1, 2012 to March 31, 2013, April 1, 2013 to March 31, 2014, April 1, 2014 to March 31, 2015, April 1, 2015 to March 31, 2016 and April 1, 2016 to March 31, 2017 respectively) the Special Rate Adjustments for Wastewater Treatment Services will be added to the Consumption Charge, Fixed Monthly Service Charge, the Wastewater Overstrength

Surcharge, and the Wastewater Additional Overstrength Surcharge in Schedule 1, Part IV – *Wastewater Treatment Rates*.

The Special Rate Adjustments for Wastewater Treatment Services will be applied in respect of 2012, 2013, 2014, 2015 and 2016 wastewater treatment rates after the Inflation and Efficiency factors have been calculated and applied for those years, and are in addition to any Non-Routine Adjustments applicable to those years. After the Special Rate Adjustments for Wastewater Treatment Services have been factored into the 2012, 2013, 2014, 2016 and 2016 wastewater treatment rates, these adjustments will continue to form part of the basic Consumption Charge, Fixed Monthly Service Charge, and Wastewater Overstrength and Wastewater Additional Overstrength Surcharges for Wastewater Treatment Services in all subsequent years, to which the annual Routine Adjustment Factors set out in subsections 2.1 and 2.2 above will be applied.

The Special Rate Adjustments for Wastewater Treatment Services applied to wastewater treatment rates for the years 2012, 2013, 2014, 2015 and 2016 applied to the Consumption Charge for each customer class, the Fixed Monthly Service Charge and Wastewater Overstrength and Wastewater Additional Overstrength Surcharges are as follows:

Performance-Based Water Rates and Wastewater Treatment Rates

Consumption Charge (per m^3)	**2012 Special Rate Adjustment**	**2013 Special Rate Adjustment**	**2014 Special Rate Adjustment**	**2015 Special Rate Adjustment**	**2016 Special Rate Adjustment**
Residential All consumption	$0.0318	$0.0344	$0.0371	$0.0401	$0.0433
Commercial 0 – 10,000 m^3 10,000.1 – 100,000 m^3 Over 100,000 m^3	 $0.0318 $0.0246 $0.0128	 $0.0344 $0.0266 $0.0139	 $0.0371 $0.0287 $0.0150	 $0.0401 $0.0310 $0.0162	 $0.0433 $0.0335 $0.0175
Fixed Monthly Service Charge	$0.17	$0.18	$0.19	$0.21	$0.23
Wastewater Overstrength Surcharge					
a) BOD	$0.0199	$0.0215	$0.0233	$0.0251	$0.0272
b) COD	$0.0199	$0.0215	$0.0233	$0.0251	$0.0272
c) oil and grease	$0.0174	$0.0188	$0.0203	$0.0220	$0.0237
d) phosphorous	$0.1659	$0.1792	$0.1936	$0.2091	$0.2259
e) suspended solids	$0.0181	$0.0196	$0.0211	$0.0228	$0.0246
f) total kjeldahl nitrogen	$0.0423	$0.0457	$0.0494	$0.0534	$0.0577
Wastewater Additional Overstrength Surcharge					
a) BOD	$0.0199	$0.0215	$0.0233	$0.0251	$0.0272
b) COD	$0.0199	$0.0215	$0.0233	$0.0251	$0.0272
c) oil and grease	$0.0174	$0.0188	$0.0203	$0.0220	$0.0237
d) phosphorous	$0.1659	$0.1792	$0.1936	$0.2091	$0.2259
e) suspended solids	$0.0181	$0.0196	$0.0211	$0.0228	$0.0246
f) total kjeldahl nitrogen	$0.0423	$0.0457	$0.0494	$0.0534	$0.0577

3.0 Water System Service Quality

Water System Service Quality is measured by the results of five indices described in this Section 3.0 and in the document entitled “Water Quality, Environmental and Safety Indices Applicable to Schedule 3 of the EPCOR Water and Wastewater Bylaw”, as that document may be revised from time to time by agreement between the City Manager and EWSI.

Performance under each index is measured independently on a point basis with 100 base points available if the standards in all five areas are achieved. In total, up to 10% additional bonus points for performance above the standard is possible. These bonus points are described below within each index.

For each full point scored below 100 base and bonus points, a penalty of $67,000 will be assessed to a maximum of $1,000,000. There is no reward for performance above 100 base and bonus points. For purposes of these

calculations, point amounts will be rounded to the nearest tenth of a point and calculated on a calendar year basis.

The total penalty for the year will be applied as a rebate to customers in the year immediately following the performance year.

3.1 System Reliability Index

The system reliability index is a measure calculated on the basis of five equally weighed components. The combined results of the five components produce the measure of the system reliability index. The system reliability index is calculated under the following formula with a maximum base value of 25 base points.

$$25 \text{ X } \frac{\text{MBF + MRF + PIF + WPF + WLF}}{5}$$

Where,

MBF means the water main break factor,

MRF means the water main break repair duration factor,

PIF means the planned construction impact factor,

WPF means water pressure factor; and

WLF means the water loss factor.

A maximum of 3.5 bonus points are available for the system reliability index based on the formula. The maximum total system reliability index points is 28.5.

3.1.1 Water Main Break Factor

The water main break factor is measured by the formula:

$$1 - \frac{(MB_C - 574)}{574}$$

Where,

MB_C means the number of water main breaks that occurred in the reporting period.

3.1.2 Water Main Break Repair Duration Factor

The water main break repair duration factor is measured by the formula:

$$\frac{MR_C}{93.7\%}$$

Where,

MR_C means the actual number of times that EWSI repairs water main breaks, excluding those on arterial or collector roads, within 24 hours from the time the flow of water is shut off (i.e. the time of customer interruption) as a percentage of total water main breaks resulting in customer interruption that are confirmed by EWSI annually.

3.1.3 Planned Construction Impact Factor

The planned construction impact factor is measured by the formula:

$$\frac{PIF_C}{95.0\%}$$

Where,

PIF_C means the actual number of times that EWSI complies with required construction notification procedures as a percentage of the total planned construction events.

3.1.4 Water Pressure Factor

The water pressure factor is measured by the formula:

$$1 - \frac{(WP_C - 5) \text{ X } 0.2}{5}$$

Where,

WP_C means the number of occurrences within the reporting period where water pressure fell below 140 kPa for two or more consecutive 15 minute periods.

3.1.5 Water Loss Factor

The water loss factor is measured by the formula:

$$1 - \frac{ILI - 3.0}{3.0}$$

Where,

ILI means the Infrastructure Leakage Index, a performance indicator quantifying how well a water distribution system is managed for the control of real (leakage) water losses.

To calculate the ILI, EWSI will apply the calculation recommended in the American Water Works Association (AWWA) manual M36 "Water Audits and Loss Control Programs", or any publication issued by the AWWA which is intended to replace this manual. This factor will be calculated based on prior year's information due to a time lag from when final values for all the parameters used to calculate the ILI can be obtained and when the Water System Service Quality results for a year are required to be reported under this Bylaw.

3.2 Water Quality Index

The maximum base value of this treated water quality index is 25 base points, as calculated under the formula:

$$25 \text{ X } \frac{WQ_C}{99.6\%}$$

Where,

WQ_C means the number of water quality tests taken in the reporting period that do not yield suspect results as a percentage of total tests taken.

A maximum of 0.5 bonus points are available for the water quality index based on the formula. The maximum total water quality index points is 25.5.

3.3 Customer Service Index

The customer service index is the measure of three weighed components. The combined results of the three components produce the measure of the customer service index. The customer service index is calculated under the following formula with a maximum base value of 20 base points.

$$20 \text{ X } \frac{PAF + RTF + HSF}{3}$$

Where,

PAF means the post service audit factor,

RTF means the response time factor; and,

HSF means the home-sniffing factor.

A maximum of 3 bonus points are available for the customer service index based on the formula. The maximum total system reliability points is therefore 23.

3.3.1 Post Service Audit Factor

The post service audit factor is measured by the formula:

$$\frac{PA_C}{74.0\%}$$

Where,

PA_C means the percentage results of the customer satisfaction.

3.3.2 Response Time Factor

The response time factor is measured by the formula:

$$1 - \frac{RTC - 25}{25}$$

Where,

RTC means the average number of minutes to confirm a water main break once a call is received at the EWSI dispatch office.

3.3.3 Home Sniffing Factor

The home sniffing factor is measured by the formula:

$$\frac{HSC}{93.8\%}$$

Where,

HSC means the percentage result of customer satisfaction for the home sniffing survey.

3.4 Environmental Index

The environmental index measures the success of programs and policies designed to mitigate and report adverse environmental impacts. The index is a measure calculated on the basis of five weighed components. The combined results of the five components produce the measure of the environmental index. The environmental index is calculated under the following formula with a maximum base value of 15 base points.

15 X EC

Where,

EC means the results of environment factors.

A maximum of 1.5 bonus points are available for the environmental index. The maximum total environmental points is 16.5.

3.5 Safety Index

The safety index is a measure of the success of programs and the application of policies that maximizes the safety of employees and the public. It is calculated on the basis of seven weighed components. The combined results of the seven components produce the measure of the safety index. The safety index is calculated under the following formula with a maximum base value of 15 base points.

15 X SAC

Where,

SAC means the results of safety measured.

A maximum of 1.5 bonus points are available for the safety index. The maximum total safety points is 16.5.

4.0 Wastewater Treatment Service Quality

Wastewater Treatment System Service Quality is measured by the results of five indices described in this Section 4.0 and in the document entitled "Water Quality, Environmental and Safety Indices Applicable to Schedule 3 of the EPCOR Water and Wastewater Bylaw", as that document may be revised from time to time by agreement between the City Manager and EWSI.

Performance under each index is measured independently on a point basis with 100 base points available if the standards in all five areas are achieved. In total, up to 10% additional bonus points for performance above the standard is possible. These bonus points are described below within each index.

For each full point scored below 100 base and bonus points, a penalty of $27,000 will be assessed to a maximum of $400,000. There is no reward for performance above 100 base and bonus points. For purposes of these calculations, point amounts will be rounded to the nearest tenth of a point and calculated on a calendar year basis.

The total penalty for the year will be applied as a rebate to customers in the year immediately following the performance year.

4.1 System Reliability Index

The system reliability index is a measure of the performance of the Enhanced Primary Treatment (EPT) at the Gold Bar wastewater treatment plant. The maximum base value of this system reliability index is 15 base points, as calculated under the formula:

$$15 \text{ X } \frac{\text{EPP}}{75.0\%}$$

Where,

EPP means the enhanced primary performance, measured in percent, that the EPT facility ran during wet weather events where the influent flow rate exceeds the EPT event threshold.

A maximum of 1 bonus point is available for the system reliability index based on the formula. The maximum total system reliability points is 16.

4.2 Water Quality Index

The maximum base value of the Wastewater Effluent Limit Performance Index is 40 base points, as calculated under the formula:

$$40 \text{ X } \frac{46.0\%}{\text{WELP}}$$

Where,

WELP means the value of the Wastewater Effluent Limit Performance, which measures the percentage of the discharge limit for five parameters in the Gold Bar wastewater treatment plant's final effluent.

A maximum of 4 bonus points are available for the water quality index based on the formula. The maximum water quality index points is 44.

4.3 Customer Service Index

The customer service index is calculated based on the Public Engagement Index at the Gold Bar wastewater treatment plant. The maximum value of this system index is 5 base points, as calculated under the formula:

$$5 \text{ X } \frac{\text{Mclc}}{2}$$

Where,

Mclc means the number of Community Liaison Committee meetings held each year

There are no bonus points available for the customer service index.

4.4 Environmental Index

The environmental index is a measure calculated on the basis of three equally weighed components. The combined results of the three components produce the measure of the environmental index. The environmental index is calculated under the following formula with a maximum base value of 20 base points.

$$20 \text{ X EC}$$

Where,

EC means the results of environment factors.

A maximum of 2 bonus points are available for the environmental index. The maximum total environmental index points is 22.

4.5 Safety Index

The safety index is a measure of the success of programs and the application of policies that maximizes the safety of employees and the public. It is calculated on the basis of seven weighed components. The combined results of the seven components produce the measure of the safety index. The safety index is calculated under the following formula with a maximum base value of 20 base points.

20 X SAC

Where,

SAC means the results of safety measured.

A maximum of 3 bonus points are available for the safety index. The maximum total safety index points is 23.

5.0 Non-Routine Adjustments

Non-routine adjustments are, by their nature unusual, significant in size or nature and beyond the scope of control of EWSI. Requests for non-routine adjustments will be considered separately for each of Water Services and Wastewater Treatment Services.

Costs resulting in an annual adjustment to EWSI's revenue requirement up to $500,000 are not eligible for approval as a non-routine adjustment. Costs resulting in either an annual adjustment to EWSI's revenue requirement less than $3 million but either greater than $500,000 or greater than $1 million cumulatively are eligible for consideration and approval by the City Manager as a non-routine adjustment. Costs resulting in an annual adjustment to EWSI's revenue requirement equal to or greater than $3 million are eligible for consideration and approval by City Council. Review of the non-routine adjustment application will consider the projected return on equity of EWSI.

If EWSI anticipates making a request for one or more non-routine adjustments to take effect on April 1 of the Current Year, EWSI will on or

before December 1 of the immediately preceding calendar year submit its request for non-routine adjustments to the City Manager, and will include with such request sufficient information to enable the City Manager / City Council to evaluate the request. If after receiving the submission, the City Manager / City Council is satisfied that the non-routine adjustments should be included in the water rates and/or wastewater treatment rates calculated in accordance with this Bylaw, the City Manager will issue a confirmation letter on or before January 31 confirming that the non-routine adjustments will be included in water and/or wastewater treatment rates to take effect on the April 1st next following.

Where a non-routine adjustment is very significant in size, it may be charged to Adjustment Deferral Account. EWSI will determine a reasonable time frame over which to recover/credit the balance of the account. Carrying costs will be calculated on the Adjustment Deferral Account balance.

The rate impact of non-routine adjustments will be calculated and added to the Fixed Monthly Service Charge and allocated on a proportionate basis to customers.

5.1 Changes to Legislation, Regulation or Taxes

In the event there is a change to: legislation, regulation, bylaws, policy order or directive affecting EWSI's operations, including allocation of costs between city of Edmonton and Regional customers and including the common law and the law of equity; rates of tax or other mandatory amounts payable by EWSI to any level of government; the status of EWSI under existing legislation or the application of existing legislation to EWSI; then costs arising from any such event will be considered as non-routine.

5.2 Consequences of Force Majeure

Non-routine adjustments include any costs occasioned by Force Majeure events that are not recovered under a policy of insurance. For purposes of non-routine adjustments under this Schedule 3, events or circumstances of Force Majeure include: acts of God, strikes, lockouts or other industrial disturbances, acts of the Queen's enemies, wars, blockades, insurrections, riots, epidemics, landslides, lightning, floods, earthquakes, explosions, fires, civil disturbances, mechanical breakdowns, regulatory requirements or approval conditions or other acts or interventions of any kind by federal, provincial, state or local governments or any of their agencies or boards, the order or direction of any court, and any other causes whether of the kind herein enumerated or otherwise, not within the reasonable control of EWSI and which by the exercise of reasonable diligence and at a reasonable cost EWSI is unable to prevent or overcome.

5.3 River Water Quality

If there is a significant change in river water quality to the extent that it affects EWSI's operating or capital costs, such costs will be considered as non-routine.

5.4 Deterioration of Waterworks or Wastewater Treatment Systems

If there is significant deterioration to the Waterworks System or Wastewater Treatment facilities, beyond reasonable projections, remediation costs will be considered as non-routine.

5.5 Customer – initiated or City – initiated System Expansion

Costs incurred to create significant Waterworks System expansion or wastewater treatment facility expansion as a result of increases to the size of EWSI's Customer base and/or increased demand by Customers or the City for Water Services or Wastewater Treatment Services, beyond reasonable projections, will be considered as non-routine.

5.6 City - initiated Relocations of Waterworks Assets

Costs incurred to effect significant Waterworks System relocations, permanent or temporary moves or removals as a result of City requests will be considered as non-routine.

5.7 Franchise Fees

If there is an amendment to the Water Services Franchise Agreement or the Wastewater Treatment Franchise Agreement affecting water rates or wastewater treatment rates, the resultant impacts on the water rates and wastewater treatment rates will be deemed to be non-routine adjustments.

6.0 Off-Ramp

This performance-based water and wastewater treatment regulation can be terminated with the mutual consent and agreement of EWSI and the City.

In the event of termination of this Performance-Based Regulation Plan, the balance of the Adjustment Deferral Account must be cleared within a one-year period from the date of termination.

7.0 Reporting and Filing Requirements

On March 1st of the year following the reporting year, EWSI will file with its regulator, the City, an *Annual Water Rate and Wastewater Treatment Rate Filing*. The filing will contain four parts:

- An audit report as outlined in Schedule 4;
- Rate Sheets - The water rate and wastewater treatment rate forecast for each customer class of service for the period following the reporting period; and,
- Water System Service Quality Results - The results of each of the components of the water system service quality indices.
- Wastewater Treatment Service Quality Results - The results of each of the components of the wastewater treatment service quality indices.

An accountant will review the *Annual Water Rate and Wastewater Treatment Rate Filing*, conduct an audit and prepare an audit report in accordance with the recommendations contained within Section 5805 of the Canadian Institute of Chartered Accountants Handbook. The audit report will address whether the water rates and wastewater treatment rates are calculated and presented in accordance with the requirements of this Bylaw.

The filing will be submitted to the City Manager. The City Manager will review the filing and, if appropriate, accept it prior to April 1st when adjusted rates come into effect. The filing, and the City Manager approval, will be posted on the EWSI web site and copies will be available at the business office of EWSI.

7.1 Rate Sheets

The Annual Water Rate and Wastewater Treatment Rate Filing will set out the water rate and wastewater treatment rate forecast for each customer class of service for the period following the reporting period. The rates will be calculated in accordance with this Bylaw.

7.2 Water System Service Quality & Wastewater Treatment Service Quality Results

The *Annual Water Rate and Wastewater Treatment Rate Filing* will contain the results of the water system service quality measures, the results of the wastewater treatment service quality measures and the resulting financial penalty, if any, as set out in this Bylaw.

Schedule 4

Pro-forma Annual Water Rate and Wastewater Treatment Rate Filing

Table of Contents

Residential Water Service

Applicable

To all domestic water service customers within the city of Edmonton

A domestic service is defined as a service supplied to premises used primarily for domestic purposes, where no more than four separate dwelling units are metered by a single water meter and the service line to the premises is not greater than 50 millimeters in diameter.

If a business is conducted from premises that otherwise fall within the above definition of a domestic service, this Residential Water Service rate will apply; provided, however, that if the portion of the premises from which the business is conducted is separately metered, then a Commercial Water Service rate will apply to that portion of the premises.

Rate

Fixed Monthly Service Charge
See Fixed Monthly Water Service Charges

Consumption Charge

0 m^3 – 10.0 m^3	$ λ per m^3
10.1 m^3 to 35.0 m^3	$ λ per m^3
Over 35.0 m^3	$ λ per m^3

Effective Dates

These rates effective April 1, 20λλ to March 31, 20λλ are subject to change in future years under the terms of this bylaw.

Multi-Residential Water Service

Applicable

To all multi-residential service customers within the city of Edmonton

A multi-residential service is defined as a service supplied to premises used primarily for domestic purposes; where more than four separate dwelling units are metered by a single water meter.

If a business is conducted from premises that otherwise fall within the above definition of a multi-residential service, this Multi-Residential Water Service rate will apply; provided, however, that if the portion of the premises from which the business is conducted is separately metered, then a Commercial Water Service rate will apply to that portion of the premises

Rate

Fixed Monthly Service Charge
See Fixed Monthly Water Service Charges

Consumption Charge

0 m^3 – 25 m^3	\$ λ per m^3
25.1 m^3 – 100 m^3	\$ λ per m^3
100.1 m^3 – 1000 m^3	\$ λ per m^3
Over 1000 m^3	\$ λ per m^3

Effective Dates

These rates effective April 1, 20λλ to March 31, 20λλ are subject to change in future years under the terms of this bylaw.

Commercial Water Service

Applicable

To all commercial, industrial and institutional customers within the city of Edmonton

To all water customers not otherwise defined as Residential or Multi-Residential water service customers per Part I of this Schedule or as hydrant or truck fill service water customers per Part III of this Schedule.

Rate

Fixed Monthly Service Charge
See Fixed Monthly Water Service Charges

Consumption Charge

0 m^3 – 25.0 m^3	$ λ per m^3
25.1 m^3 – 100.0 m^3	$ λ per m^3
100.1 m^3 – 1000.0 m^3	$ λ per m^3
1000.1 m^3 – 5000.0 m^3	$ λ per m^3
Over 5000 m^3	$ λ per m^3

Effective Dates

These rates effective April 1, 20λλ to March 31, 20λλ are subject to change in future years under the terms of this bylaw.

Fixed Monthly Water Service Charges

Applicable To all metered water customers within the city of Edmonton municipal boundaries.

Rate **Fixed Monthly Water Service Charge**

Meter Size	Monthly Charge
15 mm	$ λ
20 mm	$ λ
25 mm	$ λ
40 mm	$ λ
50 mm	$ λ
75 mm	$ λ
100 mm	$ λ
150mm	$ λ
200 mm	$ λ
250mm	$ λ
300 mm	$ λ
400 mm	$ λ
500 mm	$ λ

Effective Dates These rates effective April 1, 20λλ to March 31, 20λλ are subject to change in future years under the terms of this bylaw.

Customer Rebate for Water Services

Applicable

To all metered water customers within the city of Edmonton in the event that the Water System Service Quality does not meet the standard performance level.

Rebate

Customer Rebate

Meter Size	Rebate
15 mm	$ λ
20 mm	$ λ
25 mm	$ λ
40 mm	$ λ
50 mm	$ λ
75 mm	$ λ
100 mm	$ λ
150mm	$ λ
200 mm	$ λ
250mm	$ λ
300 mm	$ λ
400 mm	$ λ
500 mm	$ λ

Effective Dates

The total penalty for the year will be applied as a rebate to customer water bills in the year immediately following the performance year.

Residential Wastewater Treatment Service

Applicable

To all domestic service customers and multi-residential service customers located within the city of Edmonton which are serviced by or connected to the City's sewerage system.

A domestic service and multi-residential service are defined on Rate Sheet 1 and 2, respectively.

Rates

Fixed Monthly Service Charge $ λ per month

Consumption Charge *

All consumption $ λ per m^3

* *Consumption is based on water meter readings unless otherwise approved by EWSI and the City.*

Effective Dates

These rates effective April 1, 20λλ to March 31, 20λλ are subject to change in future years under the terms of this bylaw.

Commercial Wastewater Treatment Service

Applicable

To all commercial, industrial and institutional customers within the city of Edmonton which are serviced by or connected to the City's sewerage system.

To all customers not otherwise defined as Residential Wastewater Treatment Service customers.

Rates

Fixed Monthly Service Charge	$ λ per month
Consumption Charge *	
0 m^3 – 10,000.0 m^3	$ λ per m^3
10,000.1 m^3 – 100,000.0 m^3	$ λ per m^3
>100,000 m^3	$ λ per m^3

* *Consumption is based on water meter readings unless otherwise approved by EWSI and the City.*

Effective Dates

These rates effective April 1, 20λλ to March 31, 20λλ are subject to change in future years under the terms of this bylaw.

Wastewater Overstrength Surcharges

Applicable Applies to a customer who releases wastewater to the sewer system that contains one or more constituents that exceed the concentration indicated herein.

Rates:

Wastewater Overstrength Surcharge:

The Overstrength surcharge, applied to each m^3 of water consumed, for each kilogram of surchargeable matter per m^3 of wastewater that exceeds the concentration indicated for that matter shall be:

	Concentrations Above:
a) $ λ for Biochemical Oxygen Demand (BOD)	300 mg/L
b) $ λ for Chemical Oxygen Demand (COD)	600 mg/L*
c) $ λ for oil and grease	100 mg/L
d) $ λ for phosphorous	10 mg/L
e) $ λ for suspended solids, and	300 mg/L
f) $ λ for total kjeldahl nitrogen (TKN)	50 mg/L

* Or twice the BOD concentration in the wastewater, whichever is greater.

Wastewater Additional Overstrength Surcharge:

The Additional Overstrength Surcharge, applied to each m^3 of water consumed, for each kilogram of surchargeable matter per $m^3$of wastewater that exceeds the concentration indicated for that matter shall be:

	Concentrations Above:
a) $ λ for Biochemical Oxygen Demand (BOD)	3,000 mg/L
b) $ λ for Chemical Oxygen Demand (COD)	6,000 mg/L*
c) $ λ for oil and grease	400 mg/L
d) $ λ for phosphorous	75 mg/L
e) $ λ for suspended solids, and	3,000 mg/L
f) $ λ for total kjeldahl nitrogen (TKN)	200 mg/L

* Or twice the BOD concentration in the wastewater, whichever is greater.

Effective Dates These rates effective April 1, 20λλ to March 31, 20λλ are subject to change in future years under the terms of this bylaw.

Customer Rebate for Wastewater Treatment Services

Applicable

To all metered customers within the city of Edmonton in the event that the Wastewater Treatment Service Quality does not meet the standard performance level.

Rebate

Customer Rebate
applied to the Fixed Monthly Service Charge

Residential Wastewater Treatment Service	$ λ
Commercial Wastewater Treatment Service	$ λ

Effective Dates

The total penalty for the year will be applied as a rebate to customer wastewater treatment bills in the year immediately following the performance year.

20λλ Water System Service Quality Measures

Description	Performance Standard	Actual Performance	Points Earned
System Reliability Index			
Water Main Break Factor	574	λ	λ
Water Main Break Repair Duration Factor	93.7 %	λ	λ
Planned Construction Impact Factor	95.0 %	λ	λ
Water Pressure Factor	5	λ	λ
Water Loss Factor	3.0	λ	λ
Total System Reliability Index			**λ**
Water Quality Index	99.6 %	λ	λ
Customer Service Index			
Post Service Audit Factor	74.0 %	λ	λ
Response Time Factor	25	λ	λ
Home Sniffing Factor	93.8 %	λ	λ
Total Customer Service Index			**λ**
Environmental Index	15.0	λ	**λ**
Safety Index	15.0	λ	**λ**

Aggregate Points Earned (sum of all the above indices)	**λ**

Points Required at Performance Standard	**100.0**
Points Above / (Below) Performance Standard	**λ**
Water System Service Quality Penalty, If Any	**λ**

This page sets out Water System Service Quality Measures for the period April 1, 2012 to March 31, 2017.

20λλ Wastewater Treatment Service Quality Measures

Description	Performance Standard	Actual Performance	Points Earned
System Reliability Index			
Enhanced Primary Treatment	75.0%	λ	λ
Total System Reliability Index			**λ**
Wastewater Effluent Limit Performance Index	46.0%	λ	λ
Customer Service Index			
Public Engagement Index	2	λ	λ
Total Customer Service Index			**λ**
Environmental Index	20.0	λ	**λ**
Safety Index	20.0	λ	**λ**

Aggregate Points Earned (sum of all the above indices)	**λ**

Points Required at Performance Standard	**100.0**
Points Above / (Below) Performance Standard	**λ**
Wastewater System Service Quality Penalty, If Any	**λ**

This page sets out Wastewater Treatment Service Quality Measures for the period April 1, 2012 to March 31 2017.

PRO-FORMA AUDITOR'S REPORT

AUDITOR'S REPORT ON RATE SHEETS 1,2,3,4,5,6,7,8 and 9

To the Senior Vice President, EPCOR Water Services Inc.

We have audited the rates for fixed monthly service charges, consumption charges, wastewater overstrength surcharges and the customer rebates included in Rate Sheets 1, 2, 3, 4, 5, 6, 7, 8 and 9 (hereinafter referred to as the "Rate Sheets") of EPCOR Water Services Inc. ("EWSI") for the 20xx Annual Water Rate and Wastewater Treatment Rate Filing calculated in accordance with City of Edmonton Bylaw 15816 EPCOR Water Services and Wastewater Treatment Bylaw. This financial information is the responsibility the management of EWSI. Our responsibility is to express an opinion on this financial information based on our audit.

We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial information contained in the Rate Sheets is free of material misstatement. Such an audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the Rate Sheets.

In our opinion, the Rate Sheets for the 20xx Annual Water Rate and Wastewater Treatment Rate Filing present fairly, in all material respects, the rates for fixed monthly service charges, consumption charges, and wastewater overstrength surcharges and the customer rebates effective April 1, 20xx to March 31 20xx, calculated in accordance with City of Edmonton Bylaw 15816 EPCOR Water Services.and Wastewater Treatment Bylaw.

It is understood that this report has been prepared to facilitate EWSI's reporting as required by Bylaw 15816 and it is not to be referred to or relied upon for any other purpose.

(signed).....
CHARTERED ACCOUNTANTS

City
Date