



# Governance & Services Committee Report

**TO:** Governance & Services Committee

**FROM:** David Komaike  
Director of Engineering

**DATE:** May 1, 2019

**SUBJECT:** Water System Fees and Charges Update

---

**Purpose:** To provide the Governance & Services Committee with an update on the water system fees and charges for each Regional District owned water system and recommend the Regional Board adopt amendment bylaws approving the new rate structure for each of the water systems.

## Executive Summary:

The Regional District owns and operates six water systems which service more than 1,000 users and more than 1,600 properties. The largest has almost 300 users and the smallest only 8. Notwithstanding the size of the system or the number of households served, all are required to meet the same Drinking Water Guidelines and Standards.

The long-term viability of the water systems needs to be balanced with the growing infrastructure deficit. The current replacement cost of the water systems is more than \$62,000,000 and current reserve funding contributions will not be adequate.

The current water fees are composed of User Fees and Asset Renewal Fees. The User Fees apply to all lots where the water service is turned on and are intended to cover all annual operational costs of the water system. The Asset Renewal Fees apply to all lots within the service area and are intended to fund capital reserves that will be utilized on capital projects.

The User Fees are intended to fund the operation of the water systems and these fees have not changed since January 2016. The Asset Management Investment Plan ("AMIP") which forecasts the asset renewal needs to sustain the utilities was last updated in 2012.

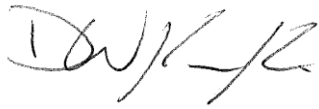
The proposed bylaw amendments will allow the gradual increase in user fees over the next 3 ½ years by the anticipated rate of inflation – 2.0%. A separate bylaw amendment to the Water Systems Regulations Bylaw No. 1370 will adjust the fees recovered for water meters, new service connections, etc.

## RECOMMENDATION:

**THAT** the Governance & Services Committee receive for information the water system fees and charges update for RDCO water systems; and recommends the Regional Board give

consideration and approve Water System Fees & Charges Bylaws No. 1435, 1436, 1437, 1438, 1439 and 1440.

Respectfully Submitted:



David Komaika  
Director of Engineering

Approved for Committee's Consideration



Brian Reardon, CAO

Prepared by: Clarke Kruiswyk, Environmental Services Analyst

---

### Implications of Recommendation:

General: Accountability and sustainability

Financial: Updates to water system rates for water systems located in the electoral areas.

---

### Background:

The Regional District of Central Okanagan (RDCO) owns and operates six distinct water systems in the East and West Electoral areas. All of the water users are residential with the exception of the Sunset Ranch Golf Clubhouse and Westshore Estates Community Park. A summary of each system is provided in the table below.

| Water System   | Location   | Number of Users <sup>1</sup> | Number of Lots <sup>1</sup> | Water Source    | Age of System <sup>1</sup> |
|----------------|--|------------------------------|-----------------------------|-----------------|----------------------------|
| Killiney Beach | West Electoral Area.<br>North of Fintry<br>Provincial Park.    | 288                          | 423                         | Okanagan Lake   | 39                         |
| Falcon Ridge   | East Electoral Area.<br>Joe Rich.                              | 55                           | 55                          | Mission Creek   | 30                         |
| Sunset Ranch   | East Electoral Area.<br>Ellison Area.                          | 274                          | 276                         | Groundwater     | 17                         |
| Dietrich       | West Electoral Area<br>near Peachland.                         | 8                            | 8                           | Trepanier Creek | 29                         |
| Westshore      | West Electoral Area.<br>North of Fintry<br>Provincial Park.    | 268                          | 522                         | Okanagan Lake   | 49                         |
| Upper Fintry   | West Electoral Area.<br>Upslope from Fintry<br>Provincial Park | 110                          | 327                         | Groundwater     | 7                          |

<sup>1</sup> As of March, 2019

The current water fees are composed of User fees and Asset Renewal fees. The User fees apply to all lots where the water service is turned on and are intended to cover all annual

operational costs of the water system. The Asset Renewal fees apply to all lots within the service area and are intended to fund capital reserves that will be utilized on capital projects.

The current User fee structure is composed of a basic fee and a consumption fee. The basic fee is a flat fee that applies to all lots where the water service is turned on. The consumption fee is based on actual individual metered water consumption. The current water fee structure, including the 4-tiered consumption fee, is the same for all RDCO water systems; however, the specific fee values vary. The intention of the basic fee is to fund the fixed costs to operate each system (i.e., administration, wages, permits, insurance, and testing). The consumption fee is to fund the variable operating costs of each system (i.e., electricity to pump water, treatment, equipment wear and tear). In general for an average user, the consumption fee is approximately 20% of the basic fee which is the approximate ratio of variable operating costs to fixed operating costs.

User fee and Asset Renewal fee revenue is not pooled or shared between water system service areas or other RDCO cost centres. Revenue from each water system is only used to cover operational and capital costs within the water system where the revenue originated.

The last review updated the User fees effective January 1, 2016 and did not update the Asset Renewal fees. All fees have not changed since 2016. This review's primary focus is to update the Asset Renewal fees but also proposes updates to the basic fee of the User fees.

### **Asset Management Investment Plan**

The Regional District engaged a third party consultant, Urban Systems, to update our Asset Management Investment Plan ("AMIP") which forecasts the asset renewal needs for the Regional District Environmental Services Department. The previous AMIP was completed in 2012 and the update accounts for changes in infrastructure and in construction costs. The AMIP outlines the following:

- Current replacement value;
- Remaining value;
- Expected life remaining;
- Required improvements;
- Infrastructure deficit;
- 20 year Average Annual Investment ("AAI"); and
- Average Annual Life Cycle Investment ("AALCI").

The AMIP is included in Appendix A and outlines that the Regional District Environmental Service Department owns infrastructure with a replacement value of approximately \$159 million in water systems, sanitary systems, and solid waste assets. The table below summarizes the results by water system:

| Water System   | 100% Replacement Value | Expected Remaining Life | Infrastructure Deficit (Backlog) | 20 Year Average Annual Investment (AAI) | Average Annual Life Cycle Investment (AALCI) |
|----------------|------------------------|-------------------------|----------------------------------|---|--|
| Killiney Beach | \$ 19,273,855          | 39%                     | \$ -                             | \$ 486,783                              | \$ 324,569                                   |
| Falcon Ridge   | \$ 4,206,342           | 59%                     | \$ 165,000                       | \$ 19,819                               | \$ 60,523                                    |
| Sunset Ranch   | \$ 7,964,002           | 78%                     | \$ -                             | \$ 41,115                               | \$ 127,326                                   |
| Dietricht      | \$ 657,710             | 56%                     | \$ -                             | \$ 16,571                               | \$ 13,965                                    |
| Westshore      | \$ 17,513,365          | 22%                     | \$ 1,684,901                     | \$ 793,798                              | \$ 358,992                                   |
| Upper Fintry   | \$ 12,752,730          | 92%                     | \$ -                             | \$ 17,771                               | \$ 172,145                                   |

It is recommended that the AALCI be used to establish investment levels as it accounts for all assets and not just those that require replacing in the 20 year time horizon; however, the AAI should be considered if significant funds are required in the near term for immediate improvements (i.e., additional water treatment).

The Asset Renewal reserve levels for the water systems as of December 31, 2018 and projected to December 31, 2019 are listed in the table below:

| Water System   | Equipment and Capital Facility Reserves |                  |
|----------------|---|------------------|
|                | 2018 (actual)                           | 2019 (projected) |
| Killiney Beach | \$ 681,926                              | \$ 339,916       |
| Falcon Ridge   | \$ 15,769                               | \$ 4,993         |
| Sunset Ranch   | \$ 373,081                              | \$ 416,345       |
| Dietricht      | \$ 1,008                                | \$ 2,395         |
| Westshore      | \$ 1,487,165                            | \$ 1,494,715     |
| Upper Fintry   | \$ 304,710                              | \$ 365,732       |

A portion of these reserve balances should be held for equipment replacements not included in the AMIP review (i.e., vehicle replacement, other minor replacements) but the remainder of the current reserves can be used to partially offset the required annual replacement costs.

The Asset Renewal fees approved in 2012 were based on funding 50% of the annual replacement costs. It was assumed that the remaining 50% would be funded through grants or borrowing. The table below summarizes the 2019 budgeted Asset Renewal revenue against the annual investment contribution at different funding levels and accounts for the current available reserve balance:

| Water System   | Budgeted 2019<br>Asset Renewal<br>Revenue | Annual Replacement Cost at: |            |            |
|----------------|---|-----------------------------|------------|------------|
|                |   | 100%                        | 75%        | 50%        |
| Killiney Beach | \$ 277,254.00                             | \$ 474,783                  | \$ 356,087 | \$ 237,392 |
| Falcon Ridge   | \$ 25,245.00                              | \$ 60,523                   | \$ 45,392  | \$ 30,262  |
| Sunset Ranch   | \$ 65,844.00                              | \$ 109,326                  | \$ 81,995  | \$ 54,663  |
| Dietricht      | \$ 6,056.00                               | \$ 16,571                   | \$ 12,428  | \$ 8,286   |
| Westshore      | \$ 303,222.00                             | \$ 724,048                  | \$ 543,036 | \$ 362,024 |
| Upper Fintry   | \$ 63,800.00                              | \$ 156,395                  | \$ 117,296 | \$ 78,198  |

Based on the updated AMIP and maintaining the 50% funding ratio, the Asset Renewal fees could be adjusted as outlined in the table below:

| Water System                | Current Rate |           | 50% Replacement Cost |             |               |            |
|-----------------------------|--------------|-----------|----------------------|-------------|---------------|------------|
|                             | Quarterly    | Annual    | Quarterly            | Annual      | Annual Change | Adjustment |
| Killiney Beach <sup>1</sup> | \$ 164.25    | \$ 657.00 | \$ 164.25            | \$ 657.00   | \$ -          | 0.0%       |
| Falcon Ridge                | \$ 114.75    | \$ 459.00 | \$ 138.00            | \$ 552.00   | \$ 93.00      | 20.3%      |
| Sunset Ranch <sup>2</sup>   | \$ 54.75     | \$ 219.00 | \$ 54.75             | \$ 219.00   | \$ -          | 0.0%       |
| Dietricht                   | \$ 189.25    | \$ 757.00 | \$ 259.00            | \$ 1,036.00 | \$ 279.00     | 36.9%      |
| Westshore                   | \$ 145.50    | \$ 582.00 | \$ 173.00            | \$ 692.00   | \$ 110.00     | 18.9%      |
| Upper Fintry                | \$ 50.00     | \$ 200.00 | \$ 60.00             | \$ 240.00   | \$ 40.00      | 20.0%      |

<sup>1</sup> - AMIP suggested a rate decrease was possible to maintain the 50% replacement cost; however, the rate has been maintained due to the expected large capital costs in the near future related to water treatment improvements.

<sup>2</sup> - AMIP suggested a rate decrease was possible to maintain the 50% replacement cost; however, the rate has been maintained as it is more sustainable over the long term.

## User Fees

As outlined above, the User fees are intended to fund the operation of the water systems and the fees have not changed since 2016. It is proposed that the User fees are updated in conjunction with the proposed changes to the Asset Renewal fees. The User fees review has focused on updating the basic fee only to bring revenue in line with projected operating costs, rather than a full rate structure review similar to what was completed with the last fee changes in 2016.

The operating costs over the past five years for all water systems combined has shown variability in total annual costs. The projected costs were based on a weighted average of the actual historical costs for the past few years and the 2019 budget. This weighted average helps alleviate the annual variability in operating costs. These weighted costs were projected forward using an inflation factor to determine the required revenue and associated fees. The operating costs have increased for all water systems; however, some of the water systems have benefitted from additional users to share the costs.

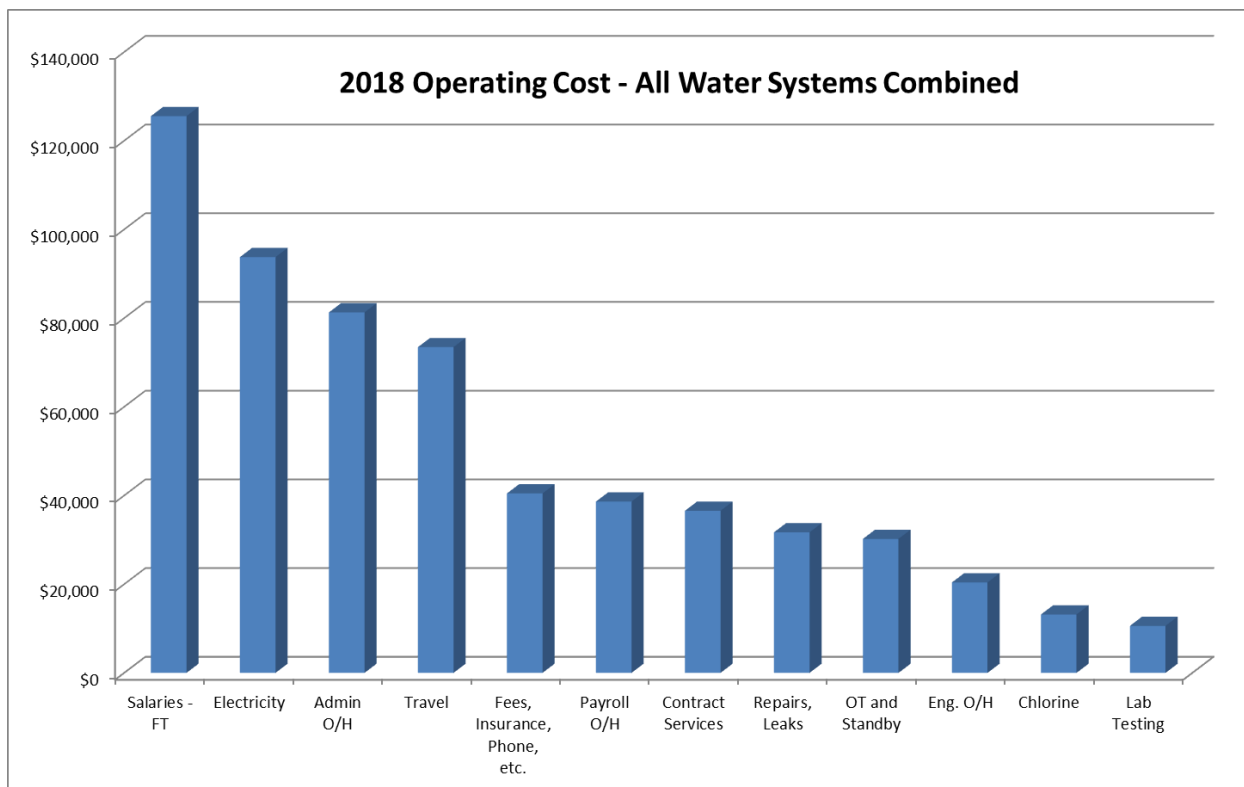
The analysis suggests that the following rate adjustments to the basic User fees are warranted:

| Water System              | Current Rate |             | Calculated Adjustment |             |               |            |
|---------------------------|--------------|-------------|-----------------------|-------------|---------------|------------|
|                           | Quarterly    | Annual      | Quarterly             | Annual      | Annual Change | Adjustment |
| Killiney Beach            | \$ 116.50    | \$ 466.00   | \$ 128.00             | \$ 512.00   | \$ 46.00      | 9.9%       |
| Falcon Ridge <sup>1</sup> | \$ 137.00    | \$ 548.00   | \$ 185.00             | \$ 740.00   | \$ 192.00     | 35.0%      |
| Sunset Ranch              | \$ 90.00     | \$ 360.00   | \$ 95.00              | \$ 380.00   | \$ 20.00      | 5.6%       |
| Dietricht                 | \$ 403.00    | \$ 1,612.00 | \$ 524.00             | \$ 2,096.00 | \$ 484.00     | 30.0%      |
| Westshore                 | \$ 137.50    | \$ 550.00   | \$ 144.00             | \$ 576.00   | \$ 26.00      | 4.7%       |
| Upper Fintry              | \$ 172.50    | \$ 690.00   | \$ 198.00             | \$ 792.00   | \$ 102.00     | 14.8%      |

<sup>1</sup> - A subsequent adjustment is proposed in 2020 to account for additional increase partially attributable to the increased operating costs of the new treatment equipment (UV and filtration).

### Breakdown of Operating Costs

The figure below itemizes the 2018 cost of operating all water systems. Salaries continue to be the highest itemized cost of operation. The 2018 salaries of approximately \$126,000 is a portion of the compensation for four Operators, two Lab Technicians, and one Instrument/Electrician which are positions shared between the water systems, wastewater collection, and wastewater treatment cost centers. Electricity is the second major operating costs used to power the facilities for lighting, heating, monitoring, and pumping.



## How do the fees compare?

Water fees differ between each of the RDCO water systems and amongst water systems throughout the region for numerous reasons including, but not limited to:

- factors that impact economies of scale (e.g., number of users, service area),
- types and cost of water treatment,
- population density,
- age and efficiency of infrastructure,
- elevation of water source and users (i.e., pumping vs. gravity), and
- funding, asset replacement planning, and subsidizations.

Given the range of different water rate structures and funding methods in the region, it is difficult to do an accurate comparison of fees, particularly at different levels of water consumption. It is anticipated that water systems that are older, have or require additional treatment, or have fewer number of connections will have higher fees.

## Resident Communication

The last three Regional District Water Talk newsletters (i.e., Spring 2018, Fall 2018, Spring 2019) have informed residents that a fee review is underway and that new fees are planned to be implemented July 1, 2019. If the fee changes are approved, the residents will be informed of the actual fee changes through:

- Information package mail out;
- Email notification to those subscribed to e-notification services;
- Detail in the next Water Talk newsletter; and
- Update to the “Estimator Tool” which residents can use to calculate their cost of water based on their individual consumption.

Residents would receive their third quarter invoices reflecting the new fees in the Fall of 2019.

## Recommendation

Overall, the fees are recommended to change as outlined in the table below for each RDCO water system. For illustrative purposes, the User consumption fee for an “average” user has been included to show total costs. Some of the increases are significant, particularly for the smaller systems with no growth in the number of users, but the adjustments are necessary to fund the water system’s operation and capital reserve contributions. Please note that as the fees are proposed to be implemented mid-year 2019 the annual impact of the change will be spread over two years as can be seen in the “Annual Change” figures in the table.

With the exception of Killiney Beach and Sunset Ranch, the recommended Asset Renewal fees are based on maintaining the funding ratio of 50%; however, a higher asset replacement funding ratio could be considered in the future.

The table also includes future rate adjustments to the basic User fee and Asset Renewal fee to account for future inflation. These adjustments are based on an inflation factor of 2% which is approximately equivalent to the current Consumer Price Index (CPI). These annual adjustments for inflation should reduce the need for larger increases at future rate reviews. Throughout the annual budget review process the revenue for each system will be projected to determine if

specific fees need to be adjusted in advance of the next rate review. The next major review is planned for 2022. Please note that due to the magnitude of the basic User fee increase for Falcon Ridge, a subsequent increase of 10% is proposed for 2020. This subsequent increase is partially attributable to the increased operating costs of the recently installed UV disinfection and filtration water treatment equipment.

Each water system has their own Fees and Charges Bylaw. It is recommended that each bylaw be updated with the quarterly fees outlined in the table for July, 2019 through to December 31, 2022.

While each water system has their own Fees and Charges Bylaw, they all share the same Water Systems Regulations Bylaw No. 1370. In conjunction with the Fees Bylaw update, it is recommended that Schedule A of the Regulations Bylaw also be updated with the following:

- Update water meter fees to reflect current costs; and
- Update Extensions & Additional Service Connection costs based on current costs.

### **Alternate Consideration**

Should the Committee wish to have additional public information distributed to the ratepayers about the proposed rate increases the following alternate resolution is provided:

**“AND FURTHER THAT** the Governance & Services Committee recommends the Regional Board approve First Reading for Water System Fees & Charges Bylaws No. 1435, 1436, 1437, 1438, and 1439.”



| Water System   | Fee Type                        | Current     | 2019                   | 2020        | 2021        | 2022        |
|----------------|---------------------------------|-------------|------------------------|-------------|-------------|-------------|
|                |                                 | Jan, 2016   | Jul, 2019 <sup>2</sup> | Jan, 2020   | Jan, 2021   | Jan, 2022   |
| Killiney Beach | User - Basic                    | \$ 116.50   | \$ 128.00              | \$ 131.00   | \$ 134.00   | \$ 137.00   |
|                | User - Consumption <sup>1</sup> | \$ 25.00    | \$ 25.00               | \$ 25.00    | \$ 25.00    | \$ 25.00    |
|                | Asset Renewal                   | \$ 164.25   | \$ 164.25              | \$ 168.00   | \$ 171.00   | \$ 174.00   |
|                | Total                           | \$ 305.75   | \$ 317.25              | \$ 324.00   | \$ 330.00   | \$ 336.00   |
|                | Annual Cost                     | \$ 1,223.00 | \$ 1,246.00            | \$ 1,296.00 | \$ 1,320.00 | \$ 1,344.00 |
|                | Annual Change                   | N/A         | \$ 23.00               | \$ 50.00    | \$ 24.00    | \$ 24.00    |
| Falcon Ridge   | User - Basic                    | \$ 137.00   | \$ 185.00              | \$ 204.00   | \$ 208.00   | \$ 212.00   |
|                | User - Consumption <sup>1</sup> | \$ 32.46    | \$ 32.46               | \$ 32.46    | \$ 32.46    | \$ 32.46    |
|                | Asset Renewal                   | \$ 114.75   | \$ 138.00              | \$ 141.00   | \$ 144.00   | \$ 147.00   |
|                | Total                           | \$ 284.21   | \$ 355.46              | \$ 377.46   | \$ 384.46   | \$ 391.46   |
|                | Annual Cost                     | \$ 1,136.85 | \$ 1,279.35            | \$ 1,509.85 | \$ 1,537.85 | \$ 1,565.85 |
|                | Annual Change                   | N/A         | \$ 142.50              | \$ 230.50   | \$ 28.00    | \$ 28.00    |
| Sunset Ranch   | User - Basic                    | \$ 90.00    | \$ 95.00               | \$ 97.00    | \$ 99.00    | \$ 101.00   |
|                | User - Consumption <sup>1</sup> | \$ 23.94    | \$ 23.94               | \$ 23.94    | \$ 23.94    | \$ 23.94    |
|                | Asset Renewal                   | \$ 54.75    | \$ 54.75               | \$ 56.00    | \$ 57.00    | \$ 58.00    |
|                | Total                           | \$ 168.69   | \$ 173.69              | \$ 176.94   | \$ 179.94   | \$ 182.94   |
|                | Annual Cost                     | \$ 674.75   | \$ 684.75              | \$ 707.75   | \$ 719.75   | \$ 731.75   |
|                | Annual Change                   | N/A         | \$ 10.00               | \$ 23.00    | \$ 12.00    | \$ 12.00    |
| Dietrich       | User - Basic                    | \$ 403.00   | \$ 524.00              | \$ 534.00   | \$ 545.00   | \$ 556.00   |
|                | User - Consumption <sup>1</sup> | \$ 186.50   | \$ 186.50              | \$ 186.50   | \$ 186.50   | \$ 186.50   |
|                | Asset Renewal                   | \$ 189.25   | \$ 259.00              | \$ 264.00   | \$ 269.00   | \$ 274.00   |
|                | Total                           | \$ 778.75   | \$ 969.50              | \$ 984.50   | \$ 1,000.50 | \$ 1,016.50 |
|                | Annual Cost                     | \$ 3,115.00 | \$ 3,496.50            | \$ 3,938.00 | \$ 4,002.00 | \$ 4,066.00 |
|                | Annual Change                   | N/A         | \$ 381.50              | \$ 441.50   | \$ 64.00    | \$ 64.00    |
| Westshore      | User - Basic                    | \$ 137.50   | \$ 144.00              | \$ 147.00   | \$ 150.00   | \$ 153.00   |
|                | User - Consumption <sup>1</sup> | \$ 33.73    | \$ 33.73               | \$ 33.73    | \$ 33.73    | \$ 33.73    |
|                | Asset Renewal                   | \$ 145.50   | \$ 173.00              | \$ 176.00   | \$ 180.00   | \$ 184.00   |
|                | Total                           | \$ 316.73   | \$ 350.73              | \$ 356.73   | \$ 363.73   | \$ 370.73   |
|                | Annual Cost                     | \$ 1,266.90 | \$ 1,334.90            | \$ 1,426.90 | \$ 1,454.90 | \$ 1,482.90 |
|                | Annual Change                   | N/A         | \$ 68.00               | \$ 92.00    | \$ 28.00    | \$ 28.00    |
| Upper Fintry   | User - Basic                    | \$ 172.50   | \$ 198.00              | \$ 202.00   | \$ 206.00   | \$ 210.00   |
|                | User - Consumption <sup>1</sup> | \$ 22.31    | \$ 22.31               | \$ 22.31    | \$ 22.31    | \$ 22.31    |
|                | Asset Renewal                   | \$ 50.00    | \$ 60.00               | \$ 61.00    | \$ 62.00    | \$ 63.00    |
|                | Total                           | \$ 244.81   | \$ 280.31              | \$ 285.31   | \$ 290.31   | \$ 295.31   |
|                | Annual Cost                     | \$ 979.25   | \$ 1,050.25            | \$ 1,141.25 | \$ 1,161.25 | \$ 1,181.25 |
|                | Annual Change                   | N/A         | \$ 71.00               | \$ 91.00    | \$ 20.00    | \$ 20.00    |

<sup>1</sup> - Based on 2018 annual average consumption per connection by water system

<sup>2</sup> - Annual cost for 2019 based on July, 2019 effective date

**Attachment(s):**

Asset Management Investment Plan, Urban Systems 2018