



**REGIONAL DISTRICT OF CENTRAL OKANAGAN
REGULAR BOARD MEETING
AGENDA
8:30 am**

Thursday, June 13, 2019
Woodhaven Board Room
1450 K.L.O. Road, Kelowna, BC

Pages

1. CALL TO ORDER

2. ADDITION OF LATE ITEMS

3. ADOPTION OF THE AGENDA

(All Directors - Unweighted Corporate Vote - Simple Majority - LGA 208.1)

Recommended Motion:

THAT the agenda be adopted.

4. ADOPTION OF MINUTES

4.1 Regional Board Meeting Minutes - May 27, 2019

1 - 10

(All Directors - Unweighted Corporate Vote - Simple Majority - LGA 208.1)

Recommended Motion:

THAT the Regional Board meeting minutes of May 27, 2019 be adopted.

5. CORRESPONDENCE

5.1 Sterile Insect Release Board Meeting Highlights - May 24, 2019

11

(All Directors - Unweighted Corporate Vote - Simple Majority - LGA 208.1)

Recommended Motion:

THAT the Sterile Insect Release Board meeting highlights of May 24, 2019 be received for information.

5.2 Okanagan Regional Library Regarding Access to Digital Publications

12 - 15

(All Directors - Unweighted Corporate Vote - Simple Majority - LGA 208.1)

Recommended Motion:

WHEREAS, the Regional District of Central Okanagan recognizes the important role that libraries play in our community. Libraries and the early literacy programs they run are integral to developing proficient readers and ensuring that children succeed in school. More and more, digital literacy programs run by libraries also help ensure that citizens can contribute to our digital world. Additionally vulnerable demographic groups, including seniors, low income families, youth and new Canadians rely on access to libraries as an important tool for their participation in the community – from education to searching for jobs to consuming Canadian cultural materials, and

WHEREAS, libraries in our community recognize that our users increasingly seek to access digital publications offered by multinational publishers, and that access to those publications is too often curtailed by prohibitively high licensing fees or else entirely denied to Canadian libraries, and

WHEREAS libraries must be in a position to offer digital publications to their users as part of their service offering to our community, particularly given the contemporary rapid pace of digitization of educational and cultural materials,

Now, be it resolved that the Regional District of Central Okanagan do hereby:

1. Indicate our support for the Canadian Urban Libraries Council in its efforts to increase access to digital publications for library users in Regional District of Central Okanagan and across Canada;
2. Call on the Federal government to investigate barriers faced by libraries in acquiring digital publications and the problems that poses for vulnerable demographic groups in Canada; and
3. Further ask the Federal government to develop a solution that increases access to digital publications across Canada and assist libraries in meeting the cost requirements to acquire digital publications

6. COMMUNITY SERVICES

6.1 District of Lake Country Regional Context Statement

16 - 39

Official Community Plan 2018-2030, Bylaw No. 1065, 2018

Recommended Motion:

THAT the Regional Board accept the District of Lake Country's proposed Regional Context Statement within their Official Community Plan Bylaw No. 1065, 2018.

7. ENGINEERING SERVICES

7.1 Water System Fees & Charges Amendment Bylaws 40 - 74

Recommended Motion:

THAT the Regional Board receive the June 6, 2019 Water System Fees and Charges update report for information and give consideration to 2nd and 3rd readings and adoption of the water system fees and charges amendment bylaws.

7.1.1 Regional District of Central Okanagan Killiney Beach Water System Fees & Charges Amendment Bylaw No. 1435, 2019 75 - 76

2nd, 3rd readings & Adoption

(All Directors - Unweighted Vote - 1 Director, 1 Vote - LGA 207.5)

Recommended Motion:

THAT Regional District of Central Okanagan Killiney Beach Water System Fees & Charges Amendment Bylaw No. 1435, 2019 be given second and third readings and adopted.

7.1.2 Regional District of Central Okanagan Falcon Ridge Water System Fees & Charges Amendment Bylaw No. 1436, 2019 77 - 78

2nd, 3rd readings & Adoption

(All Directors - Unweighted Vote - 1 Director, 1 Vote - LGA 207.5)

Recommended Motion:

THAT Regional District of Central Okanagan Falcon Ridge Water System Fees & Charges Amendment Bylaw No. 1436, 2019 be given second and third readings and adopted.

7.1.3 Regional District of Central Okanagan Sunset Ranch Water System Fees & Charges Amendment Bylaw No. 1437, 2019 79 - 80

2nd, 3rd readings & Adoption

(All Directors - Unweighted Vote - 1 Director, 1 Vote - LGA 207.5)

Recommended Motion:

THAT Regional District of Central Okanagan Sunset Ranch Water System Fees & Charges Amendment Bylaw No. 1437, 2019 be given second and third readings and adopted.

7.1.4 Regional District of Central Okanagan Dietrich Water System Fees & Charges Amendment Bylaw No. 1438, 2019 81 - 82

2nd, 3rd readings & Adoption

(All Directors - Unweighted Vote - 1 Director, 1 Vote - LGA 207.5)

Recommended Motion:

THAT Regional District of Central Okanagan Dietrich Water System Fees & Charges Amendment Bylaw No. 1438, 2019 be given second and third readings and adopted.

- 7.1.5 Regional District of Central Okanagan Westshore Estates Water System Fees & Charges Amendment Bylaw No. 1439, 2019 83 - 84

2nd, 3rd readings & Adoption

(All Directors - Unweighted Vote - 1 Director, 1 Vote - LGA 207.5)

Recommended Motion:

THAT Regional District of Central Okanagan Westshore Estates Water System Fees & Charges Amendment Bylaw No. 1439, 2019 be given second and third readings and adopted.

- 7.1.6 Regional District of Central Okanagan Upper Fintry, Shalal Road and Valley of the Sun Water System Fees & Charges Amendment Bylaw No. 1440, 2019 85 - 86

2nd, 3rd readings & Adoption

(All Directors - Unweighted Vote - 1 Director, 1 Vote - LGA 207.5)

Recommended Motion:

THAT Regional District of Central Okanagan Upper Fintry, Shalal Road, and Valley of the Sun Water System Fees & Charges Amendment Bylaw No. 1440, 2019 be given second and third readings and adopted.

- 7.2 **Regional District of Central Okanagan Water System Fees and Regulation Amendment Bylaw No. 1442, 2019** 87 - 88

2nd, 3rd readings & Adoption

(All Directors - Unweighted Vote - 1 Director, 1 Vote - LGA 207.5)

Recommended Motion:

THAT Regional District of Central Okanagan Water Systems Fees and Regulations Amendment Bylaw No.1442, 2019 be given second and third readings and adopted.

8. **NEW BUSINESS**

9. **DIRECTOR ITEMS**

10. **ADJOURN**

Minutes of the *REGIONAL BOARD MEETING* of the Regional District of Central Okanagan held at the Regional District offices, 1450 KLO Road, Kelowna, B.C. on Monday, May 27, 2019

- Directors: J. Baker (District of Lake Country)
M. Bartyik (Central Okanagan East Electoral Area)
C. Basran (City of Kelowna)
W. Carson (Central Okanagan West Electoral Area)
M. DeHart (City of Kelowna)
C. Fortin (District of Peachland)
G. Given (City of Kelowna)
C. Hodge (City of Kelowna)
S. Johnston (City of West Kelowna)
G. Milsom (City of West Kelowna)
B. Sieben (City of Kelowna)
L. Wooldridge (City of Kelowna)
T. Konek (Westbank First Nation)
- Absent: L. Stack (City of Kelowna)
- Staff: B. Reardon, Chief Administrative Officer
T. Cashin, Director of Community Services
D. Dudzik, Environmental Planner
J. Foster, Manager of Communications
B. Lange, Planner
D. Komaïke, Director of Engineering Services
M. Kopp, Director of Parks Services
M. Drouin, Manager - Corporate Services (recording secretary)

1. CALL TO ORDER

Chair Given called the meeting to order at 7:00 p.m.

The meeting is being held on the traditional territory of the Syilx/Okanagan Peoples.

2. ADDITION OF LATE ITEMS

There were no late items for the agenda. 8.3 was withdrawn from the agenda.

3. ADOPTION OF THE AGENDA

(All Directors - Unweighted Corporate Vote - Simple Majority - LGA 208.1)

#100/19 WOOLDRIDGE/HODGE

THAT the agenda be adopted.

CARRIED Unanimously

4. ADOPTION OF MINUTES

- 4.1 Regional Board Meeting Minutes – May 9, 2019 *(All Directors - Unweighted Corporate Vote - Simple Majority - LGA 208.1)*

#101/19 MILSOM/FORTIN

THAT the Regional Board meeting minutes of May 9, 2019 be adopted.

CARRIED Unanimously

5. CORRESPONDENCE

- 5.1 Okanagan Basin Water Board - Reducing Conflict Between Native Mussel Protection and Invasive Milfoil Control in the Okanagan *(All Directors - Unweighted Corporate Vote - Simple Majority - LGA 208.1)*

OBWB correspondence dated April 25, 2019 requested a letter of support to the federal and provincial governments in regards to invasive milfoil control.

#102/19 BAKER/WOOLDRIDGE

THAT the April 25, 2019 correspondence from the Okanagan Basin Water Board regarding reducing conflict between native mussel protection and invasive milfoil control in the Okanagan be received;

AND FURTHER THAT the Regional Board approves forwarding a letter of support to the Government of Canada Minister of Fisheries and Oceans Canada and the Province of BC Minister of Forests, Lands and Natural Resource Operations and Rural Development on this issue.

CARRIED Unanimously

6. CORPORATE SERVICES

- 6.1 Appointment of Bylaw Enforcement Officers *(All Directors - Unweighted Corporate Vote - Simple Majority - LGA 208.1)*

#103/19 DEHART/JOHNSTON

THAT the Regional Board appoint the following Regional District employees as Bylaw Enforcement Officers to enforce the designated service bylaw(s) outlined:

- Tanya Brunelle - Noxious Weed Control Bylaw and Noxious Insect Control Bylaw
- Tara Denomme - Responsible Dog Ownership Bylaw

- Brad Ackerman - Regional Parks Bylaw and Community Parks Bylaw
- Kirk Licht - Regional Parks Bylaw and Community Parks Bylaw
- Charlie Scholl - Regional Parks Bylaw and Community Parks Bylaw
- Glenn Ross - Regional Parks Bylaw and Community Parks Bylaw

CARRIED Unanimously

7. FINANCIAL SERVICES

- 7.1 Purchase Commitments >\$100,000 during 1Q 2019 (*All Directors - Unweighted Corporate Vote - Simple Majority - LGA 208.1*)

#104/19 FORTIN/BASRAN

THAT the Regional Board, as per section 4.6 of the RDCO Purchasing Policy, receive for information, the report on the purchase commitments which exceeded \$100,000 made during the first quarter of 2019.

CARRIED Unanimously

8. COMMUNITY SERVICES

- 8.1 Request for Wireless Telecommunications Facility (Freedom Mobile Inc.) 5819 Chute Lake Road (*All Directors - Unweighted Corporate Vote - Simple Majority - LGA 208.1*)

Staff report outlined the request by Freedom Mobile Inc. to install a telecommunication tower on privately owned land.

#105/19 HODGE/MILSOM

THAT the Regional District of Central Okanagan confirms that the proposed wireless telecommunications facility on the subject property, 5819 Chute Lake Road, conforms with RDCO Zoning Bylaw No. 871 and therefore has no objections provided it is constructed substantially in accordance with the plans submitted to the Regional District of Central Okanagan.

CARRIED Unanimously

#106/19 BARTYIK/BAKER

THAT the Regional Board direct staff to amend Development Applications Procedures Bylaw No. 944, 2002 to include a development application procedure and application fee for future requests for installation of telecommunication towers.

CARRIED Unanimously

- 8.2 Temporary Use Permit (3-Years) Eldorado Ranch (owner) c/o C. MacPherson (applicant) located at 5932 Old Vernon Road (TUP-18-01) To Operate an outdoor petting zoo business [Kangaroo Creek Farm] (*Custom Vote - Electoral Areas and Kelowna Fringe Area - 1 Director, 1 Vote*)

Staff report outlined the temporary use permit to operate an outdoor petting zoo business in Central Okanagan East Electoral Area for a period of three years. Staff outlined the application and addressed questions of the Board.

The applicant C. MacPherson addressed the Board and answered questions of the Board, including:

- How would the wildlife on the facility be contained? Fencing includes an 8 ft perimeter fence, corridor separation and internal fencing.
- Will peacocks be contained? All females are contained. Males won't go anywhere without females. Don't believe noise from the peacocks will be a concern as it hasn't been in Lake Country.
- Will the kangaroos jump over the fence? They have never had a kangaroo go over a 6 ft fence.
- At some point it is anticipated to request rezoning for a permanent facility.
- How will parking be handled if the public park on Old Vernon Road? It is believed people will not park on the roadway as it is not suitable.

Chair invited anyone in the gallery who deems themselves affected by the permit to comment.

- Mike Melnychuk, property immediately to the south. No objection. Concerned regarding water rights and ensuring it is protected. Believes entrance way is dangerous.
- Larry Wood, Spencer Road – concerned regarding the safety of commercial vehicles at the proposed entrance way. Visibility is poor at the entry point. No bike lane on Old Vernon Road—safety concern. Increased traffic of concern. Concerned if animals escape their enclosure—need to know who to contact if that occurs.
- Kevin Craft – Old Vernon Road. In support. Concern regarding parking on Old Vernon Road. What foliage will be planted to protect Country Rhodes Strata. Concern regarding traffic volume, pedestrian safety, water concerns for fire emergency, and a different entrance would be preferred.
- Don Wallace, Old Vernon Road. Concern regarding traffic congestion. Has a traffic study been done? Position of entrance is not the best.
- Dennis Sherman, Old Vernon Road. Concern regarding entrance and traffic.

- Joan Wood, Spencer Road. Concern regarding parking in the neighbourhood and volume of people and traffic.
- B. Melnychuk, Bark & Fly – in support of the application.

The applicant addressed questions raised.

- Access point – agrees to a different access point. The reason for the existing access was that RDCO Agricultural Advisory and Environmental Advisory Commissions didn't support the access point to the North.
- Buffer will be done to protect Country Rhodes.
- No concerned regarding commercial buses. Mostly in low season (school buses), or retirement buses.
- Water access for emergency – will work with fire department for access to water. Once irrigated chance of fire diminished.
- Interior Health concerns – not potable water from hoses. Bottled water will be available for the public.
- Animal escape – a possibility but not something they have experienced in the past.

Staff addressed questions of the Board.

- In regards to the entrance. Concerns were raised from both the Environmental and Agricultural Advisory Commissions. MOTI typically only allows one access from roadway and jurisdiction is within the Province. Further requirement for consultation would be required if the applicant wanted the entrance to be changed.
- Commercial access permit with MOTI and they would address any impact on adjacent properties.
- Water rights—Glenmore Irrigation District authority.
- Traffic impact study would need to be directed to MOTI. To staff's knowledge it has not been done.
- If applicant wanted to propose an amendment to the TUP, various planning processes would be required.
- MOTI has continually said they do not have concerns with this application in the current access point.

#107/19 HODGE/BARTYIK

THAT Temporary Use Permit TUP-18-01 for Eldorado Ranch Ltd. c/o C. MacPherson to operate an outdoor petting zoo business (Kangaroo Creek Farm) to take place on part of Lot 2, Plan 3497, District Lot 120, ODYD – 5932 Old Vernon Road be issued subject to the following conditions:

- There be no changes to the proposed site plan or site footprint prepared by Ecoscape Environmental Consultants Ltd. dated May 6, 2019;
- Operate the business only between the months of March through to October;
- Receipt of approval from the RDCO Manager of Fire Services regarding an evacuation plan;
- Receipt of approval from Interior Health regarding hand washing facilities;

- The applicant to obtain a commercial access permit from the Ministry of Transportation and Infrastructure;
- Obtain an annual RDCO Business License;
- No permanent structures are to be constructed or situated on the site;
- Use of water from Mill Creek is unauthorized;
- Parking area to be converted and restored after non-farm use ceases (e.g. gravel removal);
- Should the temporary use cease on the property, all materials related to the business are to be removed from the property to the satisfaction of the RDCO;
- Existing on-site services (water and sewer) will not be used to support the operation of the business unless authorized by Interior Health and the Ministry of Forests, Lands, Natural Resource Operations and Rural Development;
- No impact to the operation and/or maintenance of Kelowna International Airport (YLW);
- The applicant is to apply for and receive building permits for all temporary buildings or structures over 10 m² to the satisfaction of the RDCO Building Inspection Services;
- All parking to be contained on site in accordance with the parking plan prepared by Jade Bay Constructions Ltd. dated May 8, 2019;
- Installation of appropriate fencing/landscape buffering as determined by the ALC;
- In accordance with the RDCO Noxious Weed Control Bylaw No. 179, the owner or occupier of the land shall prevent the infestation of noxious weeds and cut down or otherwise destroy and mulch or remove all noxious weeds and plant with native grasses or other native vegetation;
- No further buildings, structures, land clearing, vegetation removal, or activity related to the outdoor petting zoo business is permitted within 30 metres of the High Water Mark/Top of Bank of Mill Creek; other than that recognized and approved in this Permit;
- All riparian restoration and mitigation activities must be completed as per the recommendations contained in the April 4, 2019 Memorandum conducted by Ecoscape Environmental Consultants Ltd. to the original April 2018 Environmental Assessment conducted by Ecora Engineering and Resource Group Ltd.;
- The applicant shall post a Letter of Credit or bank draft in the amount of \$13,375.00 in order to ensure completion of riparian restoration works and the removal of the materials used for the parking lot, driveway, and other crushed gravel pads associated business after non-farm use ceases. Ninety per cent (90%) of this amount is refundable upon completion of said works and receipt of a substantial completion report signed by a registered professional. The remainder of the bond shall be held to the satisfaction of Regional District Community Services staff;
- The land owner shall obtain the services of an Environmental Monitor to ensure the recommendations of the Development Permit are implemented;
- Best Management Practices are to be used as a means to protect the riparian area;

- The Environmental Monitor shall submit monitoring reports as needed and shall prepare a substantial completion report upon completion of construction and restoration works indicating substantial completion of the conditions and requirements of the Development Permit have been carried out; and
- In the event that greater disturbance occurs due to unforeseen circumstances, the Environmental Monitor will recommend further measures to protect/restore the natural integrity of the site and report on these measures to the RDCO.

AND FURTHER THAT the Temporary Use Permit shall expire on May 27, 2022, and all uses temporarily authorized by the Permit shall cease upon expiry of the Permit, unless otherwise authorized.

CARRIED Unanimously

#108/19 HODGE/CARSON

THAT the Board direct staff to work with the applicant to consider an alternate access point on the property to the north.

CARRIED Unanimously

The Board recessed at 8:50 p.m.

The Board reconvened at 9:03 p.m.

- 8.3 Development Variance Permit (VP-19-03), For P. & J. Uppal (owners). To vary setbacks to accommodate the location of existing Temporary Agricultural Worker Dwellings and Accommodation, located adjacent to Lakha Road, Central Okanagan East Electoral Area (*Custom Vote - Electoral Areas & Kelowna Fringe Area - 1 Director, 1 Vote*)

WITHDRAWN FROM THE AGENDA

- 8.4 First Reading - Joe Rich Rural Land Use Amendment Bylaw No. 1195-18. for T. Lichtenstein (owner) c/o Urban Options Planning and Permits. To permit a secondary suite located at 7520 Goudie Road, RLUB-18-02, Central Okanagan East Electoral Area (*Custom Vote - Electoral Areas & Kelowna Fringe Area - 1 Director, 1 Vote*)

Staff report outlined the application for a secondary suite within an existing single family dwelling.

Staff outlined the application.

#109/19 BARTYIK/CARSON

THAT Joe Rich Rural Land Use Amendment Bylaw No. 1195-19 be given first reading;

AND FURTHER THAT scheduling of a Public Hearing be withheld pending receipt of the following:

- a copy of the Water License for the private water source; and
- written confirmation from an Authorized Person under the *Public Health Act: Sewerage System Regulation* which includes a Compliance Inspection which indicates that the existing system is capable of processing the daily domestic sewerage flow for both dwelling units and demonstrates the existing system meets today's standards and can be expanded for the new Daily Design Flow and room on the property for a back-up type 1 trench system.

CARRIED Unanimously

8.5 City of Kelowna Boundary Extension, 4130, 4210, 4310 Old Vernon Road & 4444 Bulman Road, Central Okanagan East Electoral Area, *(All Directors - Unweighted Corporate Vote - Simple Majority - LGA 208.1)*

Staff report outlined the referral application from the City of Kelowna for a boundary extension.

#110/19 MILSOM/WOOLDRIDGE

THAT the Board supports the boundary redefinition application made by the City of Kelowna and approve a letter being sent to the City of Kelowna with a copy of the Board resolution advising the Regional District of Central Okanagan has no objections to the boundary extension of the following properties:

- 4130 Old Vernon Road, Lot 1, District Lot 122, ODYD, Plan KAP8953; PID:009-766-791
- 4210 Old Vernon Road, Lot 1, District Lot 122, ODYD, Plan KAP1629; PID:001-482-530
- 4310 Old Vernon Road, Lot 2, District Lot 122, ODYD, Plan KAP1629; PID:011-510-544
- 4444 Bulman Road, Lot 1, District Lot 122, ODYD, Plan KAP1608; PID:007-699-883

CARRIED Unanimously

9. PARK SERVICES

- 9.1 Joe Rich Community Hall Operating and Recreation Programming Agreement (*All Directors - Weighted Vote - Simple Majority - LGA 210.2*)

Staff report outlined the process to renew the operating agreement with the Joe Rich Ratepayers and Tenants Society.

It was noted that 4.2 in the agreement is not grammatically correct – the word ‘not’ in the first sentence will be removed.

#111/19 BARTYIK/BAKER

THAT the Regional Board approve renewing the Joe Rich Community Hall Operating Agreement with the Joe Rich Ratepayers and Tenants Society for a term of three (3) years commencing upon the date of execution of the agreement and terminating on the 31st of December 2021.

CARRIED Unanimously

10. NEW BUSINESS

- 10.1 2018 Climate Action/GHG Emissions Summary Report (*All Directors - Unweighted Corporate Vote - Simple Majority - LGA 208.1*)

Staff report outlined the actions the RDCO has taken to reduce GHG emissions in 2018. A summary is required to be made public as part of the funding commitments the Regional District receives.

#112/19 SIEBEN/HODGE

THAT the Regional Board receive the 2018 Climate Action Revenue Incentive Program Report and the 2018 Greenhouse Gas Emission Summary for information.

CARRIED Unanimously

9. DIRECTOR ITEMS

No Board action required.

10. ADJOURN

There being no further business the meeting was adjourned at 9:40 p.m.

CERTIFIED TO BE TRUE AND CORRECT

G. Given (Chair)

B. Reardon (Chief Administrative Officer)



2019 OKSIR Directors

Voting Directors

Shirley Fowler,
2019 Chair
RDNO

Amarjit Lalli,
2019 Vice Chair
Fruit Grower, Central

James Baker
RDCO

George Bush
RDOS

Dave Dobernigg
Fruit Grower, North

Chad Eliason
CSRD

Walter Makepeace
Fruit Grower, South,
Organic

Brad Sieben
RDCO

Non-voting Directors

**Dr. Susanna
Acheampong**
BC Ministry of
Agriculture

The next regular meeting of the OKSIR Board will be 9:00 a.m. on **Friday, July 12, 2019** at RDCO.

OKSIR Prepares for Upcoming Governance Workshop

The OKSIR Board received a draft version of a new Governance Manual in preparation for the upcoming workshop on June 14. Mr. Allan Neilson, *Neilson Strategies Inc.*, presented the draft document to the Board. The Governance Manual lays out the OKSIR Program as it exists today, with the program having changed significantly since its inception nearly 30 years ago. Throughout the document, special callouts highlight legislative and structural issues that have been previously identified as needing reform.

In this first of two workshops, invited participants will have an opportunity to review these issues, many of which have re-emerged in recent discussions. Participants will also have the opportunity to identify new challenges and will collectively identify the most important elements in need of change. Based on the results of the upcoming workshop, staff will develop formal, detailed proposals for potential legislative reform, consulting with participants, other stakeholders, and Ministry of Municipal Affairs and Housing staff as required. Proposals will be presented for the consideration by the workshop group at a second workshop in October 2019.

New Program Entomologist

The OKSIR Board congratulated Mr. Evan Esch on his new role as Program Entomologist, with Mr. Esch having recently received his designation as a Professional Agrologist. Entering his fifth season with OKSIR, Mr. Esch has represented the program at local, national, and international meetings—building out and strengthening the Program's technical network. Evan brings a Master's degree in entomology to the position and, in addition to his responsibilities as Program Entomologist, he will be working towards a doctoral degree aimed at advancing the predictive and responsive capabilities of the OKSIR Program.

The Board also expressed their deep appreciation for Mr. Hugh Philip, who in addition to many years of direct service to the OKSIR Program, went above and beyond to mentor Mr. Esch over the last 4+ years. Mr. Philip provided training and guidance, serving formally as the mentoring agrologist during Mr. Esch's articling period, ensuring continuity and easing the succession process for what is a very challenging role in our one-of-a-kind program.

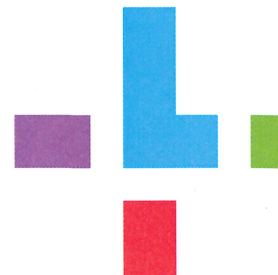
2018 Audited Financial Statements Approved

The Board approved the 2018 Audited Financial Statements as presented by Markus Schrott, CPA, CA, Partner BDO. Both the Auditor and OKSIR Board commended the RDCO Finance Manager and her staff for their impressive work in maintaining and preparing first-rate financial statements.

New Technical Advisory Committee

A new technical advisory committee is in the works for the OKSIR Program. A draft Terms of Reference document for the committee was presented to the Board, who put their support behind the formation of the new advisory body. To be chaired by the Program Entomologist, the staff-level committee will be comprised of local and international specialists in sterile insect technique, area-wide pest management, and codling moth. The committee is proposed to meet twice annually via teleconference, with the goal of the inaugural meeting in fall 2019.





May 24, 2019

Board Chair and Directors
Regional District Members of Okanagan Regional Library

Dear Chair and Directors:

At their meeting on May 22, the Okanagan Regional Library Board heard a report on the challenges facing Canadian public libraries regarding their inability to have affordable access to digital publications such as audiobooks and eBooks, which are currently limited. A summary of key details of that information is included on the attached memo for your information.

To generate additional support and attention for this critical issue, the Okanagan Regional Library Board agreed to ask each of its members councils to request federal government support by sending letters to your local Member of Parliament, local Federal election candidates and the Federal Minister of Canadian Heritage. Members of the Canadian Urban Libraries Council right across Canada will be bringing the same requests to their councils. A draft resolution is attached.

We thank you for considering our request and for your support in recognizing the important role that libraries play in our communities. If you have any questions, please do not hesitate to contact me.

Respectfully,

Don Nettleton
Chief Executive Officer
Okanagan Regional Library

Attachments (2)

Cc: Library Board Trustee



May 22, 2019

To all Municipal Councils, Regional District Boards, and Westbank First Nation Councils which are members of the Okanagan Regional Library

The Okanagan Regional Library is requesting your support and endorsement in helping to solve an issue that is impacting our ability to provide services to library users in our system and right across Canada.

- Members of the Canadian Urban Libraries Council, of which the Okanagan Regional Library is a member, spend approximately \$100 million in public funds annually on library acquisitions. Locally, the ORL is spending just over \$2.5 million on library acquisitions each year for our 31 library branches.
- Even with that significant expenditure, we increasingly struggle to obtain digital publications (things like e-books, e-audio books, etc.) from multinational publishers, due to other cost pressures and because of the often strict licensing limitations applied to digital publications.
- In order to properly service our communities, we need to ensure that we have access to and can afford digital publications.
- Multinational publishers are limiting access to digital publications by Canadian libraries, and, even when a publication is made available, are making it prohibitively expensive to acquire most digital publications.
- By way of example, Canadian author Louise Penny's book "Kingdom of the Blind" is available to libraries for \$13 as a paperback, \$22 in hard cover and \$60 in digital format. The \$60 cost allows the book to be checked out electronically 52 times or for 2 years – whichever happens first. A paper edition would be expected to last 3-4 years at a substantially reduced cost. The book is currently not available to Canadian libraries in any e-audio format.
- Those restrictions and costs make it difficult for libraries to provide important services in our communities that our customers want and need. We are integral to developing proficient readers of all ages, and to ensuring that kids succeed in school through early literacy programs. More and more, our digital literacy programs ensure that ORL citizens can contribute to our digital world.
- Additionally, for many seniors, low income families, youth and new Canadians, libraries are a crucial tool for participation in their communities – from education to searching for jobs to consuming Canadian cultural materials.
- Restrictions on libraries accessing digital publications – including both books and newspapers – hampers our capacity to provide modern, digitized services to those demographic groups and other library users. As a result we are increasingly unable to properly serve our community

What are we asking you to do to assist?

1. We are asking you to recognize the important role that libraries play our communities and, in turn, ask the Federal government to prioritize finding a solution to the barriers that face Canadian libraries accessing digital publications. Attached is a draft resolution that I would ask council to consider and support to signal your support. Approved motions should be

forwarded by you to the local Member of Parliament, local Federal election candidates, and the Federal Minister of Canadian Heritage.

2. In your conversations with senior levels of government and the public, continue to mention the access challenges being faced by Libraries and try to get their commitment to support solutions to these issues going forward

Please let us know your council/Boards decision regarding the above action steps, and copy us on any correspondence that you forward.

Thank you for considering these issues and for your support of your Okanagan Regional Library and all Canadian Libraries!

Regards,

A handwritten signature in blue ink, appearing to read 'Don Nettleton', with a long horizontal flourish extending to the left.

Don Nettleton, CEO

Okanagan Regional Library

Draft Municipal Motion

Whereas, the (name of municipality/Regional District/1st Nation) recognizes the important role that libraries play in our community. Libraries and the early literacy programs they run are integral to developing proficient readers and ensuring that children succeed in school. More and more, digital literacy programs run by libraries also help ensure that citizens can contribute to our digital world. Additionally vulnerable demographic groups, including seniors, low income families, youth and new Canadians rely on access to libraries as an important tool for their participation in the community – from education to searching for jobs to consuming Canadian cultural materials, and

WHEREAS, libraries in our community recognize that our users increasingly seek to access digital publications offered by multinational publishers, and that access to those publications is too often curtailed by prohibitively high licensing fees or else entirely denied to Canadian libraries, and

WHEREAS libraries must be in a position to offer digital publications to their users as part of their service offering to our community, particularly given the contemporary rapid pace of digitization of educational and cultural materials,

Now, be it resolved that the (name of municipality/Regional District/1st Nation) do hereby:

1. Indicate our support for the Canadian Urban Libraries Council in its efforts to increase access to digital publications for library users in (name of municipality/Regional District/1st Nation) and across Canada;
2. Call on the Federal government to investigate barriers faced by libraries in acquiring digital publications and the problems that poses for vulnerable demographic groups in Canada; and
3. Further ask the Federal government to develop a solution that increases access to digital publications across Canada and assist libraries in meeting the cost requirements to acquire digital publications



Regional Board Report

TO: Regional Board

FROM: Todd Cashin
Director of Community Services

DATE: June 13, 2019

SUBJECT: District of Lake Country – Regional Context Statement (RDCO File: 6430-02)
Official Community Plan 2018-2030, Bylaw No. 1065, 2018

Voting Entitlement: All Directors - Unweighted Corporate Vote - Simple Majority - LGA 208.1

Purpose: To incorporate a Regional Context Statement in the District of Lake Country's Official Community Plan Bylaw No. 1065, 2018 to reflect the Regional District of Central Okanagan Regional Growth Strategy Bylaw No. 1336, 2013.

Executive Summary:

The District of Lake Country is currently in the process of updating their Official Community Plan, which includes an updated Regional Context Statement. Regional Context Statements demonstrate how municipal Official Community Plans support and align with the Regional Growth Strategy. When a proposed Regional Context Statement is forwarded to the Regional Board for consideration, the Board must respond by resolution indicating whether or not it accepts the Regional Context Statement.

To date, member municipalities and RDCO departments have indicated either that their interests are unaffected by the proposed Regional Context Statement or that there are no concerns with the proposal.

RECOMMENDATION:

THAT the Regional Board accept the District of Lake Country's proposed Regional Context Statement within their Official Community Plan Bylaw No. 1065, 2018.

Respectfully Submitted:

Todd Cashin
Director of Community Services

Approved for Board's Consideration

Brian Reardon, CAO

Prepared by: Janelle Taylor, Planner

Implications of Recommendation:

Strategic Plan:	Accepting the Regional Context Statement meets the 2015-2018 Strategic Priorities Plan, Strategy Priority #3: Nurture Responsible Growth and Development.
Policy:	Accepting the Regional Context Statement complies with Regional Growth Strategy Bylaw No. 1336.
Legal/Statutory Authority:	Local Government Act, Section 448, requires any amendment to a Regional Context Statement be accepted by the board.

Background:

Regional Growth Strategy

The RDCO adopted Regional Growth Strategy Bylaw No. 1336 (RGS) on June 23, 2014. A regional growth strategy is a long-range planning tool governed by Part 13 of the *Local Government Act* that assists local governments to plan a coordinated future for their communities while dealing with regional issues and decisions that cross local political boundaries. The RGS is also a collective vision from the regional partners for the future in order to create a region that promotes growth that is economically, environmentally and socially healthy over a twenty (20) year time horizon.

Regional Context Statements

Regional Context Statements link municipal Official Community Plans (OCPs) to the RGS by demonstrating how the OCP supports and aligns with the goals and strategies set out in the RGS.

The Local Government Act outlines are three instances in which board acceptance of proposed Regional Context Statements is required:

- After a regional growth strategy is adopted, a council must submit a proposed Regional Context Statement to the board within two years after the adoption.
- Should a Regional Context Statement be amended, the amendment must be submitted for acceptance by the board.
- The Regional Context Statement is to be reviewed by each municipality at least once every five years after its latest acceptance by the board and, if no amendment is proposed, submit the statement to the board for its continued acceptance.

When a municipal council submits a proposed Regional Context Statement for acceptance, the Board must respond by resolution within 120 days after receipt of the Regional Context Statement indicating whether or not it accepts the Regional Context Statement. If the Board refuses to accept the Regional Context Statement, the Board must indicate each provision to which it objects and the reasons for its objection. In the event that the Board fails to pass a resolution within the 120-day period, the Board is deemed to have accepted the Regional Context Statement.

Subsequent to the RGS' adoption in 2014, the Regional Board has accepted a Regional Context Statement for each municipality within the Central Okanagan.

District of Lake Country

The District of Lake Country's Regional Context Statement was accepted by the Regional Board on July 16, 2015.

The District of Lake Country is currently in the process of updating their Official Community Plan, which includes an updated Regional Context Statement. While the majority of the Regional Context Statement is similar to the document accepted by the Regional Board in 2015, Section 448 of the Local Government Act states that any amendments to the Regional Context Statement must be accepted by the Board.

On May 7, 2019, the District of Lake Country Council gave third reading to the Official Community Plan 2018-2030, Bylaw No. 1065, 2018 (attached), and forwarded the draft Regional Context Statement to the Regional District on May 8. To locate the referenced sections, the digital copy of the entire District of Lake Country Draft Official Community Plan can be found at:

[https://lakecountry.civicweb.net/FileStorage/2C1C727F74EB43D5AABA09034B1D7E3A-OCP%20\(2018-2038\)%20Bylaw%201065,%202018.pdf](https://lakecountry.civicweb.net/FileStorage/2C1C727F74EB43D5AABA09034B1D7E3A-OCP%20(2018-2038)%20Bylaw%201065,%202018.pdf)

External Implications & Organizational Issues:

Upon receipt of the proposed Official Community Plan 2018-2030 Bylaw No. 1065, 2018, Regional District staff forwarded a copy of the proposal to all member municipalities' staff and affected Regional District departments for review and comment.

To date, all member municipalities and departments have indicated either that their interests are unaffected by the proposed Regional Context Statement or that there are no concerns with the proposal.

Alternative Recommendation:

Should the Board choose not to support the staff position, the following alternate recommendation is provided:

THAT the Regional Board refuses to accept the District of Lake Country's proposed Regional Context Statement (Bylaw No. 1065, 2018).

Considerations not applicable to this report:

- *General*
- *Organizational*
- *Financial*

Attachment(s):

- Section 4: Growth, Draft Bylaw 1065, 2018

4

GROWTH



4 GROWTH

4.1 Existing Conditions

Historic population and unit growth in Lake Country is reflected in the tables below:

Year	Population †	Population Growth	Residential Units ^^	Unit Growth
1995	9,209	-	3,562	-
1996	9,330	1.3%	3,652	2.5%
1997	9,545	2.3%	3,700	1.3%
1998	9,533	-0.1%	3,733	0.9%
1999	9,532	0.0%	3,828	2.5%
2000	9,369	-1.7%	3,884	1.5%
2001	9,518	1.6%	3,985	2.6%
2002	9,440	-0.8%	4,073	2.2%
2003	9,464	0.3%	4,126	1.3%
2004	9,487	0.2%	4,180	1.3%
2005	9,615	1.3%	4,341	3.9%
2006	9,790	1.8%	4,737	9.1%
2007	10,223	4.4%	4,994	5.4%
2008	11,051	8.1%	5,180	3.7%
2009	11,471	3.8%	5,259	1.5%
2010	11,580	0.95%	5,431	3.3%
2011	11,885	2.63%	5,549	2.2%
2012	12,108	1.88%	5,644	1.7%
2013	12,182	0.61%	5,717	1.3%
2014	12,635	3.72%	5,850	2.3%
2015	13,030	3.13%	6,033	3.1%
2016	12,922	-0.83%	6,277	4.0%
† 2016 Census Data				
^^ BCStats Building Permit Data				

The historic settlement patterns in Lake Country have been largely of a rural nature, with most growth being primarily located in the historic communities of Carr's Landing, Okanagan Centre, Oyama and Winfield. Recently, most new growth has shifted to neighbourhood developments such as The Lakes, Copper Hill and Lakestone.

Since incorporation in 1995, Lake Country's population has grown at an average of 1.6% per year. In contrast, the number of residences grew at a rate of 2.7% per year during the same period. The growth rate spiked between 2005 and 2009, with an average population growth rate of 3.7% and an average unit growth rate of 5.5% during that period. This trend has continued, particularly between 2009 and 2016 when the population growth rate peaked at a high of 3.7% in 2014 alone and experienced a high residential unit growth of 4% in 2016. The average population and residential unit growth for this period was 1.9% and 2.5%, respectively.

Non-Lake Country residents own 29% of properties within the community, while Lake Country residents own the remaining 71%.

There are many areas of Lake Country that remain unserved by municipal sanitary sewer. While the District encourages growth to occur in existing developed areas that have access to municipal services, it is important to acknowledge that this does limit growth in unserved areas, especially those where servicing extensions may be difficult due to environmental constraints, such as Oyama.

A considerable amount of serviced property or property with plans for future servicing still exists within the Urban Containment Boundary that remain designated, but still undeveloped. Currently, there is sufficient land designated to accommodate approximately 6,300 additional dwelling units in the next 20 years, based on vacant land designations and proposed development projects in the District.

Within the 20-year timeframe of this plan, depending on the rate of growth, the population of Lake Country could increase to:

- Low growth estimate of 1.5% - 17,404,
- Medium Growth estimate of 2.4% - 20,765, or
- High Growth estimate of 3.1% - 23,796

While some of these growth rates may seem modest during this current period of high growth, these rates are relatively robust if sustained over an entire 20-year period.

Three population projection scenarios have been prepared using different growth rates:

Year	Low (1.5%)	Medium (2.4%)	High (3.1%)
2016	12,922	12,922	12,922
2017	13,116	13,232	13,323
2018	13,313	13,550	13,736
2019	13,512	13,875	14,161
2020	13,715	14,208	14,600
2021	13,921	14,549	15,053
2022	14,129	14,898	15,520
2023	14,341	15,256	16,001
2024	14,557	15,622	16,497
2025	14,775	15,997	17,008
2026	14,997	16,381	17,535
2027	15,221	16,774	18,079
2028	15,450	17,176	18,639
2029	15,682	17,589	19,217
2030	15,917	18,011	19,813
2031	16,155	18,443	20,427
2032	16,398	18,886	21,060
2033	16,644	19,339	21,713
2034	16,893	19,803	22,386
2035	17,147	20,278	23,080
2036	17,404	20,765	23,796

Three unit growth scenarios have also been prepared using different growth rates:

2% Growth	Projected Units	New Units per Year
2017	6,403	
2018	6,531	128
2019	6,661	131
2020	6,794	133
2021	6,930	136
2022	7,069	139
2023	7,210	141
2024	7,355	144
2025	7,502	147
2026	7,652	150
2027	7,805	153
2028	7,961	156
2029	8,120	159
2030	8,282	162
2031	8,448	166
2032	8,617	169
2033	8,789	172
2034	8,965	176
2035	9,144	179
2036	9,327	183
Total New Units		2,925

3% Growth	Projected Units	New Units per Year
2017	6,430	
2018	6,586	157
2019	6,747	160
2020	6,911	164
2021	7,079	168
2022	7,251	172
2023	7,428	177
2024	7,609	181
2025	7,794	185
2026	7,984	190
2027	8,178	194
2028	8,377	199
2029	8,581	204
2030	8,790	209
2031	9,004	214
2032	9,223	219
2033	9,447	224
2034	9,677	230
2035	9,913	236
2036	10,154	241
Total New Units		3,724

4% Growth	Projected Units	New Units per Year
2017	6,528	
2018	6,789	261
2019	7,061	272
2020	7,343	282
2021	7,637	294
2022	7,942	305
2023	8,260	318
2024	8,591	330
2025	8,934	344
2026	9,291	357
2027	9,663	372
2028	10,050	387
2029	10,452	402
2030	10,870	418
2031	11,305	435
2032	11,757	452
2033	12,227	470
2034	12,716	489
2035	13,225	509
2036	13,754	529
Total New Units		7,226

The District's growth management goals emphasize infill and the intensification of land use in appropriate locations to make the best use of existing infrastructure and reduce environmental and financial costs of growth.

In principle, this approach is usually widely supported by the public, but in practice it is difficult to achieve due to neighbourhood opposition to increased densities in existing neighbourhoods and reluctance to use public transit. The direction of this plan is for Lake Country to continue pursuing the goal of a more compact, efficient and sustainable community, which will in turn help protect and preserve the surrounding rural character that residents value.

This plan identifies locations where future growth should occur, the types of growth that are most appropriate and to maintain the intended growth pattern in assessing and approving new development proposals.

Goals

- 4.1.1 Make use of existing infrastructure to reduce environmental and financial costs of growth.
- 4.1.2 Emphasize infill and the intensification of land use in appropriate locations.
- 4.1.3 Pursue a more compact, efficient and sustainable community.
- 4.1.4 Protect and preserve the rural character of Lake Country which exists outside the Urban Containment Boundary.
- 4.1.5 Establish Lake Country as a complete community.
- 4.1.6 Maintain the core and nodal growth pattern in approving new development proposals.

Objective

- 4.1.7 Require that future development occurs in a manner that will not compromise the ability of future generations to meet their needs and enjoy the quality of life we experience today.

POLICIES

- 4.1.8 The policies of Council are as follows:
 - a. Focus future development and land use changes to the Urban Containment Boundary.
 - b. Discourage development projects that create further urban sprawl in the community.
 - c. Protect sloped and hazardous lands from dangerous and visually impactful development.
 - d. Minimize development in rural areas to maintain the rural character of Lake Country.
 - e. Decrease impact on farmland by focusing growth away from the agricultural boundary.

Objective

- 4.1.9 Minimize the financial burden of new development on the community.

POLICIES

- 4.1.10 The policies of Council are as follows:
 - a. Seek to have new development pay for itself.

- b. Ensure that new developments that require an OCP amendment conduct a lifecycle costing and financing analysis to determine the long-term impact on District finances.
- c. Investigate opportunities for major projects to address District infrastructure requirements.
- d. As an incentive to achieve a community benefit or amenity, Council may consider providing density bonuses, density transfers or gross floor area exclusions.

Objective

- 4.1.11 Encourage the use of existing municipal infrastructure investments.

POLICIES

- 4.1.12 The policies of Council are as follows:
- a. Support infill projects in existing urban neighbourhoods that use land more efficiently.
 - b. Focus development to the Urban Containment Boundary that utilizes and upgrades existing infrastructure.
 - c. Encourage new development near transit connections.
 - d. Prioritize service extensions to new development lands within the Urban Containment Boundary.
 - e. Focus development within existing water service pressure zones and within the sewer service area boundary

Objective

- 4.1.13 Identify suitable areas to accommodate urban growth while protecting the existing rural character.

POLICIES

- 4.1.14 The policies of Council are as follows:
- a. Consider the adoption of new areas into the Urban Containment Boundary when the majority of comparable development lands have been built out or when a clear or specific market need exists for additional land within the boundary.
 - b. Establish an Area Structure Plan process to ensure new growth areas are suitably planned and implemented.
 - c. Recognize that properties within the Agricultural Land Reserve located inside the Urban Containment Boundary are to remain within the ALR.

Objective

- 4.1.15 Establish Lake Country as a complete community with a range of different housing options where residents can live, work, shop and recreate locally.

POLICIES

- 4.1.16 The policies of Council are as follows:
- a. Support the provision of housing forms that are intended for permanent residents.
 - b. Balance housing stock to provide attainable homes for a diverse resident population.
 - c. Monitor and report details on the available housing inventory on a regular basis.
 - d. Support an increase in multiple-unit housing inside the Urban Containment Boundary.
 - e. Support appropriate mixed-use and live-work projects that reduce automobile dependence.
 - f. Promote non-residential development that augments the employment and taxation base.
 - g. Encourage high-quality accommodation and service options to promote the tourist economy.
 - h. Promote the establishment of a vibrant Town Centre and Main Street corridor, as well as a vibrant Woodsdale neighbourhood.
 - i. Consider new zoning provisions to allow for smaller single-unit residential lots.

Objective

- 4.1.17 Ensure sufficient developable land is available to provide housing if high levels of growth occur.

POLICIES

- 4.1.18 The policies of Council are as follows:
- a. Review actual versus projected population growth rates every five years.
 - b. Support appropriate forms of development to ensure sufficient supply of building lots and multiple-unit dwellings.
 - c. Work with the development community to encourage appropriate growth.

Objective

- 4.1.19 Encourage appropriate forms of commercial and industrial development to support local economic growth.

POLICIES

- 4.1.20 The policies of Council are as follows:
- a. Work with local business to ensure sufficient employment opportunities are being generated locally.
 - b. Support appropriate forms of commercial and industrial development to supply developable land to new businesses.
 - c. Consider providing infrastructure to encourage commercial and industrial development.

4.2 Community Growth

The residents of Lake Country have indicated a desire to build Lake Country into a complete community with an independent business sector and community amenities that are separate from both Kelowna and Vernon.

WHY GROW?

Lake Country has set ambitious policy goals. Among these goals are to improve community infrastructure, grow the local business sector and to improve the quality of life for residents by providing community amenities. One amenity that has been discussed over the years is a community swimming pool. The Parks and Recreation Master Plan considers that issue of constructing a pool and states the District should conduct a feasibility study for a swimming pool. The District has committed to studying the feasibility of constructing a swimming pool in the future.

In order to accomplish these goals, the municipality has to increase the amount of tax revenue generated by the community. Without raising taxes, the District must work to expand the community tax base by increasing residential population and business development.

Population growth can lead to a positive feedback loop with business growth. As a population grows, the customer base for local business will grow. As local businesses grow, outside hiring will further increase a local population base. This growth loop will allow the District to provide additional services and amenities to the growing population, which will make the community a more appealing place for residents.

4.3 Core and Nodal Growth Model

Acknowledging the many constraints to growth that exist in Lake Country, the Core and Nodal Growth Model has been implemented to accommodate future growth sustainably. The Core and Nodal Growth Model focuses on higher density development located in the Town Centre or core, the

efficient use of land and coordination with transit, along with a secondary concentration of growth within identified growth nodes.

The Core and Nodal Growth Model is a frequently used model for jurisdictions with comparable topography to Lake Country. Similar to a spoke and wheel, the core provides the highest order function, focusing on the provision of higher density residential use and additional business or service functions, while the nodes will focus on mixed density residential use and the provision of local service commercial functions. To acknowledge existing infrastructure investments and current uses, many existing urban areas are identified within a core or nodal location.

The community objective of protecting the valued rural character and those features identified as restraints to future growth are protected by focusing growth to core or nodal areas. The boundaries of the community core and associated nodes are shown on Map 3.

As a framework for directing future community growth, the Core and Nodal Growth Model:

- Preserves the unique rural character of Lake Country by concentrating urban growth.
- Provides the community with land use direction and fewer conflicts between uses.
- Effectively identifies and utilizes those areas suitable for accommodating future growth.
- Focuses most commercial and multiple unit developments to the Town Centre area.
- Allows for the creation of vibrant neighbourhood centres within each identified node.
- Acknowledges the unique topographical and geographic challenges in the community.
- Avoids local farmland conflicts and promotes the economic success of agriculture.

In order to establish complete neighbourhoods, new urban growth within nodes is encouraged to include a limited extent of neighbourhood commercial opportunities that will complement and not compete with the emerging Town Centre.



4.4 Constraints to Growth

There are several factors to consider when assessing ways in which new urban growth may be appropriately accommodated in Lake Country. The diverse physical landscape and the values held within the community have identified several constraints or valued features. The Core and Nodal Growth Model and the identification of constraints to growth challenges the notion that outward urban growth is able to occur indefinitely. District residents have noted they do not want to grow into areas containing certain features, which has served to inform the Urban Containment Boundary map shown on Map 3.

The following are the principal constraints to growth that have been identified:

ENVIRONMENTALLY SENSITIVE AREAS

Approximately 64% of the District is identified as being environmentally sensitive. Residents have expressed a desire to protect environmentally sensitive areas. Therefore, development should be focused away from environmentally sensitive areas.

AGRICULTURAL LAND RESERVE

Approximately 40% of the community is within the Agricultural Land Reserve. Agricultural land is located throughout the District and protection of this land base is an important component of supporting local agriculture and is a means to protect the rural character of Lake Country.

TOPOGRAPHY

Approximately 50% of the District has a slope over 20%. Steep areas are not well suited to accommodate new development. Growth in these challenging locations poses the potential for access difficulties, unwelcome visual impacts and other hazards.

TERRAIN STABILITY

Approximately 11% of the District is located within an area of hazardous condition or stability concern. These locations may not be suited for uncontrolled development due to subsurface conditions and the risks associated with the development of unsafe lands.

SERVICING POTENTIAL

Mapping sets out the maximum hydraulic grade line for water (the highest elevation where community water services will be provided), and the sewer service area boundary. The distance that a proposed development project is located from required municipal services will sometimes constrain the viability of a project by either physical or financial means. When developers prematurely extend sewer, water and other services to areas outside of the Urban Containment Boundary, it places an unnecessary maintenance burden on municipal resources and disrupts the otherwise orderly advancement of growth away from the Urban Containment Boundary.

4.5 Urban Containment Boundary

By geographically overlaying the valued features constraining growth within Lake Country, it is apparent that about 24km² or 20% of the 122km² land base is currently developed or suitable to accommodate development. Overlaying these identified constraints focuses development to residual nodal areas in the community, which are shown as the Urban Containment Boundary on Map 3.

Focusing most growth to the Urban Containment Boundary is a key principle of the Lake Country growth management strategy, which seeks to balance providing suitable land for well-planned growth while maintaining the integrity of the rural lands. The provision of the Urban Containment Boundary prevents sprawl and encourages orderly urban development. In practice, clearly identifying growth nodes creates increased certainty for developers by directing where new infrastructure investments occur and, coupled with zoning and policy tools, channels growth into pre-existing neighbourhoods and areas where density should be maximized.

Establishing the Urban Containment Boundary honours the Official Community Plan guiding principles by:

- Establishing the Town Centre and creating vibrant mixed-use neighbourhoods.
- Maximizing the use of existing infrastructure and minimizing infrastructure cost.
- Protecting the environment and maintaining a permanent rural land base.
- Improving the viability of public transit by concentrating development.
- Minimizing air pollution and greenhouse gas emissions by supporting a mix of services near homes and employment, decreasing the need for automobile use.

PROPERTIES WITHIN THE URBAN CONTAINMENT BOUNDARY

Properties shown within the Urban Containment Boundary acknowledge that, at some stage, the area could be suitable for future urban development. All proposed land use amendments for properties sited within the Urban Containment Boundary should comply with the policy direction of this plan.

All properties located outside the Urban Containment Boundary retain the development rights associated with their zoning classification and may furthermore apply to rezone to any zoning classification consistent with their Official Community Plan land use designation. Based on an analysis of designated land areas in 2016, the District does not anticipate that expansion of the Urban Containment Boundary is required in the immediate future.

Objective

- 4.5.1 Protect the rural character of Lake Country.

POLICIES

- 4.5.2 The policies of Council are as follows:
- a. Discourage development outside of the Urban Containment Boundary.
 - b. Discourage expansion of the Urban Containment Boundary.

- c. All properties located within the Urban Containment Boundary maintain their Official Community Plan and zoning classification, with identification inside the Urban Containment Boundary conveying no specific land use or development rights.
- d. Requests to develop outside the Urban Containment Boundary must apply to amend Map 3 of this bylaw to designate the subject property as being located in the Urban Containment Boundary. An Urban Containment Boundary map amendment proposal provides proponents with an opportunity to present their application at a conceptual level. Prior to focusing on the detailed design that is required for an Area Structure Plan, all submissions to amend Map 3 should provide the following:
 - i. Overview of the proposed development concept.
 - ii. Inventory of all land uses proposed for the project.
 - iii. List of the total residential and other unit mix proposed.
 - iv. Infrastructure proximity and capacity review.
 - v. Review of any resulting impacts on the Town Centre.
 - vi. Sensitive Ecosystem Inventory assessment for the site.
 - vii. Preliminary stability and erosion assessment for the site.
 - viii. Plan ensuring the protection of growth constraints.
 - ix. Project phasing and anticipated absorption plan.
 - x. Identification of any amenity contributions proposed.
 - xi. Plan showing park sites and trail connections.
 - xii. An analysis of current market demand and a review of existing District land supply.

Once completed, this information is then submitted to District staff and Council for their review in order to determine the suitability of the site as an addition to the Urban Containment Boundary. Should Council decide to amend the Urban Containment Boundary shown on Map 3 after a public hearing, preparation of the required Area Structure Plan will then begin.

4.6 Infill Development Strategy

This plan maintains the rural character of Lake Country while also sensitively accommodating anticipated growth. One of the strategies to achieve this goal is to support appropriate infill development and use the existing land base more intensively. Infill development refers to the development of property in urban areas that may have been passed by when the area was originally developed or the redevelopment of currently built areas.

Objective

- 4.6.1 Support appropriate infill development and use the existing land base more intensively.

POLICIES

- 4.6.2 The policies of Council are as follows:
- a. Implement an infill development strategy that guides the planning, design and construction of spaces that enable additional living or work opportunities on vacant or underutilized lands.
 - b. Continue to permit secondary suites in most single-unit neighbourhoods.
 - c. Acknowledge the preservation of existing community character as an integral component of infill development.
 - d. Support the subdivision or densification of lands located within the Urban Containment Boundary to utilize the land base more efficiently.

4.7 Area Structure Plans

WHAT IS AN AREA STRUCTURE PLAN?

Area Structure Plans (ASP) provide a linkage amongst all District of Lake Country plans and a specific development proposal. The ASP is a proponent-funded document required for requests to amend the land use designations of those areas proposed for development.

HOW DOES THE AREA STRUCTURE PLAN PROCESS WORK?

The process for completing an ASP is twofold. Firstly, Council will consider whether they seek to amend Map 3 of this plan to show the proposed properties as being within the Urban Containment Boundary. Should this request be granted by Council, this initial step provides the applicant with direction to begin the planning process and detailed analysis required for an ASP consideration.

Secondly, once the ASP has been satisfactorily completed, Council will consider the adoption of the proposed plan. If approved, it will amend the future land use designation shown on Map 1 and the zoning of the properties involved.

Council will consider adopting an ASP following a Public Hearing. As a general guideline, lands that are not within the Urban Containment Boundary must not be developed or fragmented beyond their current potential until the majority of comparable development lands have been built out, unless an ASP can clearly demonstrate a lack of current supply.

A property owner or series of property owners making up a majority of the land base under consideration for development may initiate an Urban Containment Boundary map amendment and an ASP application. The actual boundary of the plan area is determined as authorized by resolution of Council.

WHEN IS AN AREA STRUCTURE PLAN REQUIRED?

Objective

- 4.7.1 Require Area Structure Plans for proposed development within specific areas, in order to address definite planning topics.

POLICIES

- 4.7.2 The ASP process is required to be initiated when a proposal:
- a. Has been re-designated as being within the Urban Containment Boundary.
 - b. Lies within the Urban Containment Boundary but is shown as requiring an ASP.
 - c. Does not conform to the purpose and intent of the Official Community Plan.
 - d. May affect adjacent properties, land uses, topography or the environment.
 - e. Raises the need to consider other matters as may be required.

WHAT SHOULD AN AREA STRUCTURE PLAN CONSIDER?

Following District preparation of the terms of reference for the ASP, the applicant must deposit the funds required with the municipality for necessary studies. The District will hire consultants and project manage the ASP process. The ASP should work towards all objectives and policies contained within this Official Community Plan.

- 4.7.3 In preparing an ASP, the following should be provided:
- a. An inventory of existing conditions and a statement of goals, objectives and policies.
 - b. Confirmation that the proposed site design identifies and avoids constraints to growth.
 - c. A vision for the Urban Containment Boundary, not based on ownership but on community need and a coordinated vision for the land use of all development lands in the area.
 - d. Detailed information on the natural environment and other influences from development.
 - e. Identification of future land uses, subdivision requirements and zoning by type and density.
 - f. Specific transportation networks and traffic management impact studies.
 - g. Identification of need for any required major institutional facilities.

- h. An assessment of all available opportunities to connect to adjacent neighbourhoods.
- i. Orderly provision of supporting infrastructure required to service the development.
- j. Identification of required infrastructure upgrades and a resolution of servicing issues.
- k. Assessment of life cycle costing implications as it relates to planning, finance, engineering and infrastructure.
- l. A greenhouse gas emissions assessment for construction and other long-term impacts.
- m. A detailed public consultation plan, outlining timing and opportunities for public input.

4.8 New Development Criteria

Objective

- 4.8.1 Ensure major new development projects make a positive contribution to Lake Country.

POLICIES

- 4.8.2 All major projects occurring in Lake Country should:
- a. Pay for themselves and not place an undue financial burden on the municipality.
 - b. Provide a detailed confirmation that the proposal addresses an unmet land use need.
 - c. Contribute towards the availability of usable park space for the community.
 - d. Meet all design guidelines and integrate with the character of the neighbourhood.
 - e. Not contribute to sprawl in the community and be sited in accordance with plan direction.
 - f. Be adequately serviced, sized accordingly and connect with required District services.
 - g. Consider life cycle costing implications as it relates to planning, finance, engineering and infrastructure.
 - h. Promote, and not compete with, the emergence of a vibrant Town Centre core.

- i. Protect and enhance the natural environment, agricultural areas and hillside settings.
- j. Contribute toward the retention of the valued rural character in Lake Country.
- k. Create a compact urban form by utilizing the existing land base more intensively.
- l. Promote diverse commercial and residential opportunities in the Urban Containment Boundary.
- m. Be designed to sensitively integrate into the natural topography.

4.9 Rural Character

Surveys conducted in 2007, 2015 and 2017 clearly indicate a community desire to maintain the rural atmosphere within the municipality. Residents have indicated they appreciate living amongst areas of natural open space, scenic agricultural lands and natural areas. While any attempt to define what rural character means in Lake Country will certainly be unique to the experiences of each resident, the following elements were identified as being important in understanding the valued rural character of Lake Country:

- Tree-lined streets.
- A mix of farmlands and woodlands.
- Areas of large rural parcels outside the Urban Containment Boundary.
- Agricultural community and economy.
- Clean air and water.
- Undeveloped open space.
- Abundance of wildlife and natural areas.
- Friendliness of fellow residents.
- Easy to get around/little congestion.
- Availability of services, mostly within a town centre.
- Clustered residential development.



Recognizing the objective of retaining and protecting local rural character, the Core and Nodal Growth Model was implemented to limit further major parcelization and development of valued rural areas in Lake Country.

4.10 Cluster Development

Cluster development refers to the rezoning and subdivision of parcels so development can be concentrated on a portion of the new properties away from sensitive features, ecosystems or greenways. Cluster development is an important way to protect the remaining area of a site in its natural state or protecting adjacent habitat and may consider alternatives such as comprehensive development zones, density averaging or transfer or other such methods to achieve this purpose.

4.11 Density Bonusing

Density bonusing is a tool that can be used to create incentives for developers to provide an amenity the District would like. In exchange, the municipality allows the developer additional density. The District receives a desired amenity that benefits the public and furthers public policy goals, while not spending tax dollars or imposing fees. In addition, an increase in floor area can bring the community increased tax revenues.

A density bonusing system is not intended to provide the only solution to the District's housing needs, or need for community amenities, but to provide a useful tool to assist in addressing these issues.

4.12 Regional Context Statement

Lake Country is located within the boundaries of the Regional District of Central Okanagan (RDCO). In accordance with the *Local Government Act*, a Regional Context Statement is required to be included within the Official Community Plan for jurisdictions where a Regional Growth Strategy (RGS) is applicable.

In 2014, the Regional Growth Strategy, "Our Home, Our Future" Bylaw No. 1336, 2013 was adopted by the Regional District of Central Okanagan.

This document works towards the policies contained within the Regional Growth Strategy. The policy directions contained within this plan that satisfy the intent of the Regional Growth Strategy are as follows:

RGS Issue Area	RGS Goal	Related OCP Section(s)
Our Land	To manage the land base effectively to protect natural resources and limit urban sprawl	Section 4. Growth Section 5. Neighbourhood Planning
Our Economy	To develop and enhance a positive business environment in the region to achieve a dynamic, resilient and sustainable economy	Section 6. Economic Development
Our Water Resources	To manage and protect water resources	Section 3. Environment and Sustainability Section 9. Infrastructure, Services and Utilities Section 15.4 Waterfront Access Section 15.5 Boating and Marine Amenities
Our Health	To contribute to the improvement of community health, safety and social well-being	Section 10.5 Healthy Communities
Our Food	To support a regional food system that is healthy, resilient and sustainable	Section 14. Agriculture
Our Housing	To improve the range of housing types and tenures to meet the social and economic needs of the region	Section 7. Housing
Our Climate	To minimize regional greenhouse gas emissions and respond to the impacts of climate change	Section 3. Environment and Sustainability Section 21.13 Greenhouse Gas Reduction and Resource Conservation DP Area Guidelines
Our Ecosystems	Be responsive stewards of natural ecosystems to protect, enhance and restore biodiversity in the region	Section 3. Environment and Sustainability Section 15. Parkland-Conservation
Our Transportation	To enhance the regional transportation system to ensure that it is accessible, affordable, and efficient	Section 8. Transportation
Our Governance	To respond to the needs of the region with an effective and efficient governance service model	Section 1.3 Relationship to Other Plans Section 2.3 Ward System Section 2.5 Regional Connections Section 4.12 Regional Context Statement Section 23. Financing and Implementation

4.13 Population Projections

Section 4.1 entitled *Existing Conditions*, presents an estimated moderate annual population growth rate of 2.4% on average over the period 2016-2036. Given this growth rate, the OCP projects Lake Country's population to reach 22,791 by 2036.

As stated in the RDCO RGS, the Central Okanagan has consistently outpaced the average provincial growth rate. Lake Country, in fact, continues to outpace average growth rates throughout the Province and the Central Okanagan. In 2015, Lake Country's population grew at a rate of 7.5% to 14,058, adding an extra 1,000 residents. The District's growth rate in 2014 and 2015 has deemed it

the fastest-growing municipality within British Columbia. As of 2016, Lake Country's population is 12,922. While growth has been rapid for the last few years, long-term growth projections need to consider variations in growth over time, and a rate of 2.4% sustained over a 20-year period is quite robust, even though that figure is lower than the growth in recent years.

Provided that the RGS suggests an annual growth rate of approximately 2% on average for the entire region over its 25-year timeline, and Lake Country is consistently growing at a pace beyond that of the region overall, the average growth rate of 2.4% for Lake Country is within reason considering RGS projections and current data.

4.14 Employment Projections

Section 6 of the OCP, *Economic Development*, states Lake Country's economy has been driven primarily by residential development and acknowledges the need to diversify the local economy with greater commercial, tourism and industrial businesses.

In recent years, Lake Country has experienced growth in commercial business along Main Street and the Town Centre, in addition to expanded residential development in master planned communities such as The Lakes and Lakestone. In line with the RGS, Lake Country's OCP acknowledges diversification of the economy is essential to long-term success and community resiliency. At the same time, Lake Country's OCP and the RDCO's RGS both recognize a need to support and retain traditional employment generators.

4.15 Greenhouse Gas Emissions

Section 3, *Environment and Sustainability*, and Section 21.13, *Greenhouse Gas Reduction and Resource Conservation Area Development Permit Guidelines*, include policies and actions to achieve targets for greenhouse gas (GHG) emissions reductions. Section 3.17, *Greenhouse Gas Reduction*, specifically states that, in line with the Province of BC and the RDCO Regional Growth Strategy, Lake Country will reduce emissions by 33% below 2007 levels by the year 2020, and 80% by the year 2050. The Greenhouse Gas and Resource Conservation Area Development Permit Guidelines are to assist the District in achieving this objective. The aforementioned sections of the OCP are closely aligned with the RDCO Regional Growth Strategy.

Regional Board Report

TO: Regional Board

FROM: David Komaïke
Director of Engineering Services

DATE: June 6, 2019

SUBJECT: Water Systems Fees and Charges Amendment Bylaws

Voting Entitlement: *All Directors – Unweighted Corporate Vote – 1 Director, 1 Vote – LGA 207.5*

Purpose: To provide an update regarding the consultation process requested by the Board for the proposed amendments to the Water Systems Fees and Charges Bylaws.

Executive Summary:

On May 9th, 2019 the Regional Board gave first reading to the six bylaws that govern the fees and charges for our 6 water systems in the Electoral Areas (report attached). At that time, the Board requested staff undertake public information meetings to provide information on the proposed water system fee increases.

We are pleased to report the following actions have now been completed:

- Direct mail outs sent to registered landowners within the service areas (1589 letters),
- Online - Water Estimator Tool posted on RDCO WEB Site,
- Issued Water Talk Newsletters on 2 separate occasions,
- Advertised in Westside Post,
- Held an Open House Public Meeting for Falcon Ridge – May 29th , AND
- Held an Open House Public Meeting at the Killiney Beach Community Hall – June 4th

The Open House Meetings had approximately 10 and 25 attendees respectfully and staff did a good job answering questions from the public.

RECOMMENDATION:

THAT the Regional Board receive the June 6, 2019 Water System Fees and Charges update report for information and give consideration to 2nd and 3rd readings and adoption of the water system fees and charges amendment bylaws.

Respectfully Submitted:



David Komaïke
Director of Engineering Services

Approved for Board's Consideration



Brian Reardon, CAO

Attachment: Water System Fees and Charges Update report (May 1, 2019)



Agenda No:	7.1
Mtg Date:	May 9/19

Governance & Services Committee Report

TO: Governance & Services Committee

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

¹ 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 Asset Renewal 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 ¹	\$ 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 ²	\$ 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%

¹ - 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.

² - 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.

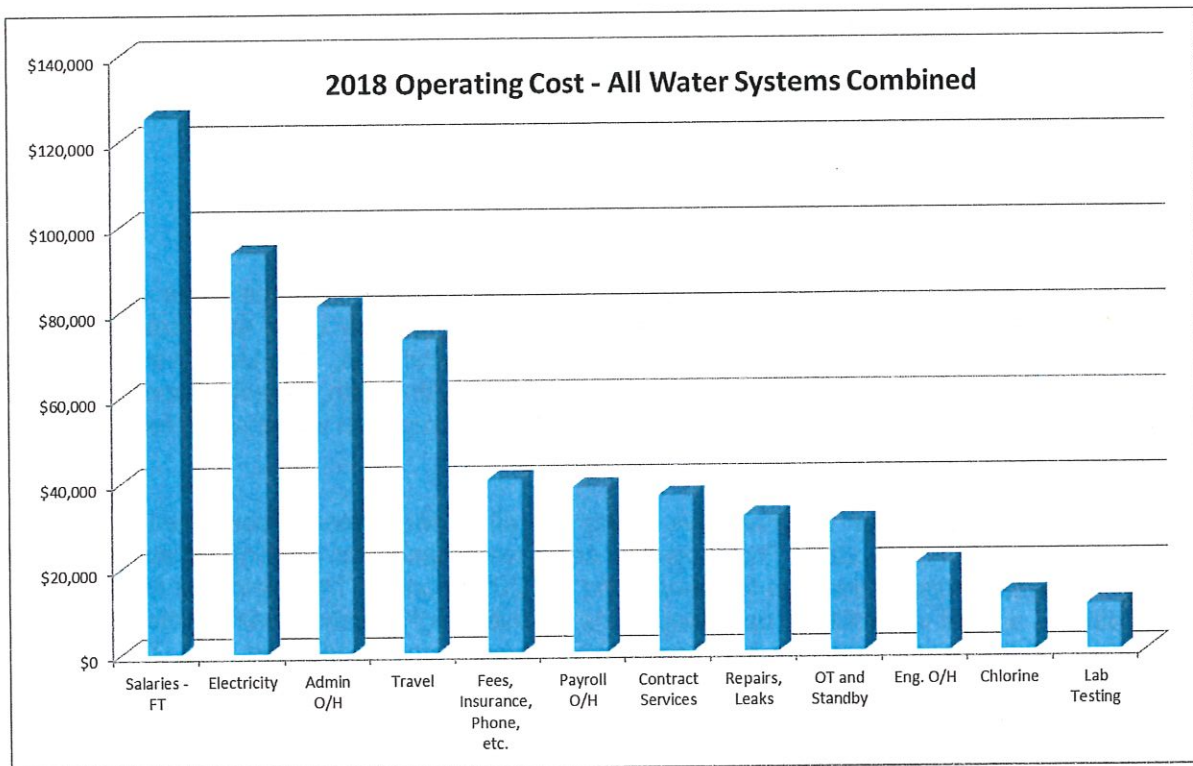
The analysis suggests that the following rate adjustments to the basic User fees are warranted:

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 ¹	\$ 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%
Dietrich	\$ 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%

¹ - 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 Jan, 2016	2019 Jul, 2019 ²	2020 Jan, 2020	2021 Jan, 2021	2022 Jan, 2022
Killiney Beach	User - Basic	\$ 116.50	\$ 128.00	\$ 131.00	\$ 134.00	\$ 137.00
	User - Consumption ¹	\$ 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 ¹	\$ 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 ¹	\$ 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 ¹	\$ 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 ¹	\$ 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 ¹	\$ 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

¹ - Based on 2018 annual average consumption per connection by water system

² - Annual cost for 2019 based on July, 2019 effective date

Attachment(s):

Asset Management Investment Plan, Urban Systems 2018

Asset Management Investment Plan

(An Asset Renewal Forecast)



prepared for:
Regional District
of Central Okanagan

NOVEMBER 2018

URBAN
systems



TERMS AND DEFINITIONS

The following commonly used terms are defined as they relate to the Asset Management Investment Plan (AMIP).

ANNUAL AVERAGE LIFE CYCLE INVESTMENT (AALCI): Annual budget based on annual average of the total replacement value of an asset over its expected service life determined by the asset management plan

ASSET: A physical component of a system that has value, enables services to be provided, and has an economic life of greater than 12 months

ASSET CONDITION: The state of an asset, particularly regarding its appearance, quality, or working order

ASSET MANAGEMENT: The process of making decisions about the use and care of infrastructure to deliver services in a way that considers current and future needs, manages risks and opportunities, and makes the best use of resources

ASSET MANAGEMENT PLAN: A long term plan to identify asset management needs, establish longer term financing means, and regularly schedule maintenance, rehabilitation and replacement works for the long-term sustainability of the asset

ASSET MANAGEMENT POLICY: Principles and mandated requirements derived from, and consistent with, the organizational strategic plan, providing a framework for the development and implementation of the asset management strategy and the setting of the asset management objectives

ASSET MANAGEMENT STRATEGY: Long-term optimized approach to management of the assets, derived from, and consistent with, the organizational strategic plan and the asset management policy

ASSET RENEWAL: Work on an asset (or component) that brings the asset back to new condition or the complete replacement of the asset (in situ) with a new asset providing the original (intended) level of service

COST: In asset management, the financial and human resources required throughout the lifecycle of the asset

INFRASTRUCTURE RENEWAL DEFICIT (BACKLOG): A measure of the amount of infrastructure that has passed its theoretical service life but is still providing service to the community

LEVEL OF SERVICE: A measure of the quality, quantity, and/or reliability of a service from the perspective of residents, businesses, and customers in the community

LIFE CYCLE COSTS: The total costs estimated to be incurred in the design, construction, operation, maintenance, and final disposition of a physical asset or system over its anticipated useful life span

LIFE CYCLE MANAGEMENT: Retaining an asset as near as practicable to its original condition, from the point when a need for it is first established, through its design, construction, acquisition, operation and any maintenance or renewal, to its disposal

REVENUE: The income received by the RDOO from taxes, user fees, government transfers and other sources. Own sources revenues is income received from taxation, user fees, and any interest income.

RISK(S): Events or occurrences that will have an undesired impact on services (Risk = Impact x Likelihood)

Asset Risk – An event where an asset failing to perform as you need it to. Examples of asset risks are a broken sewer pipe or potholed road surface.

Strategic Risk – Events or occurrences that impact your ability to achieve objectives.

REGULATORY REQUIREMENT: Capital works to meet existing or new provincially or federally legislated standards.

SERVICE: A system that fulfills a public need such as transportation and sewage collection

SERVICE LIFE: The estimated lifespan of a depreciable fixed asset, during which it can be expected to contribute to a municipality's operations/service delivery

TANGIBLE CAPITAL ASSET (TCA): An Asset that has a physical form for use in the operations and delivery of services. Tangible assets include fixed assets, such as water, sewer, roadways and buildings (fixed assets are sometimes referred to as 'plant'). Tangible capital assets must be accounted for and reported as assets on the Statement of Financial Position as part of PS 3150.

TRIPLE BOTTOM LINE APPROACH: Utilizing economic, social and environmental metrics (i.e. quantifiable impacts to costs, mobility, and watercourses/habitats) in assessing and/or prioritizing investments.

USEFUL LIFE: The minimum life expectancy commonly used for asset life. This is typically used for TCA reporting (as opposed to for asset management purposes).

INVESTMENT LEVEL INDICATORS

ANNUAL AVERAGE LIFE CYCLE INVESTMENT (AALCI)

The Average Annual Life Cycle Investment (AALCI) is defined as the summation of each asset's annual depreciation. It represents the annual investment needed to sustain existing infrastructure over its service life (over the next 20 years and beyond).

Note: AALCI must be considered in conjunction with unfunded liability as this is a forward-looking parameter that does not consider the past.

20 YEAR AVERAGE ANNUAL INVESTMENT (20 YEAR AAI)

The 20 Year Average Annual Investment (20 Year AAI) is defined as the summation of expenditures over a 20 year planning horizon divided by 20. It represents the annual investment needed to pay for expected infrastructure replacements over the next 20 years (within the 20 year horizon).

INFRASTRUCTURE DEFICIT

Unfunded Liability is a measure of the amount of infrastructure that has passed its theoretical service life but still provides service to the community. This infrastructure should be inspected to determine if replacement is necessary or if replacement timing can be adjusted.

Note: The presented indicators do not take into account level of service, existing reserve balances, risk, all future capital needs (water treatment is included), or willingness to take on risk. Over time, as the community gathers more information and further develops their asset management system, these investment figures should be further refined and adjusted.



EXECUTIVE SUMMARY

The Regional District of Central Okanagan (RDCO) Environmental Services Department owns and maintains a large portfolio of infrastructure assets upon which it greatly relies for the delivery of services to the region. This infrastructure includes the ESD's water systems, sewer systems, solid waste assets as well as a wide variety of vehicles.

Some of the RDCO's assets, such as the Killiney Beach water system, date back to the 1960's while the sewer system is relatively young at 1990's. These assets, and others, have served the community well however many of these assets are now nearing the end of their useful lifespans and will eventually need to be replaced or rehabilitated.

The Asset Management Investment Plan (AMIP) provides a review of RDCO's Water, Sanitary, and Solid Waste assets to answer the following questions:

- 1 What assets does the RDCO own?
- 2 What is the forecasted cost to replace the asset?
- 3 How much money needs to be invested annually (on average) to sustain the RDCO's assets?

By understanding the answer to these questions, the RDCO will be able to budget and plan for the replacement of their infrastructure. Failure to plan would put the community at risk of service disruptions, emergency repairs and the need for sudden and significant tax and user fee increases.

By being proactive today the RDCO can ensure that services are sustainable so that current and future generations can enjoy the same levels of service as well as user fees and charges.

Table 1.1: 20 Year Average Annual Investment and Average Annual Life Cycle Investment

Asset Category	20 Year Average Annual Investment (\$M)	Average Annual Life Cycle Investment (\$M)
Killiney Water System	\$486,783	\$294,509
Falcon Ridge Water System	\$19,819	\$40,523
Star Place Water System	\$16,571	\$13,965
Ranch Water System	\$41,115	\$127,236
Westshore Water System	\$793,796	\$556,993
Flinty Water System	\$17,771	\$172,465
Sanitary Sewer System		
Wastewater Collection	\$57,888	\$354,806
Treatment	\$1,498,799	\$1,828,463
Sewer Sanitary	50	\$18,798
Solid Waste	\$582,278	\$583,828
Total	\$3,215,422	\$3,869,818

WHAT ASSETS DOES THE REGIONAL DISTRICT OWN?

For the purposes of the AMIP the RDCO's assets have been separated into 3 categories: water system, sanitary system, and solid waste.

The sanitary sewer is comprised of approximately 20km of sewer pipes in addition to manholes, lift stations, force mains and treatment facilities.

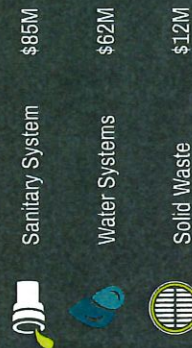
The water system is comprised of six separate water systems which include Killiney Beach, Falcon Ridge, Sunset Ranch, Westshore, Flinty and Star Place, each of which have a series of water pipes, reservoirs, pumps and treatment facilities.

The solid waste category includes the curbside carts and transfer stations.

All of these infrastructure assets are required to deliver the services that are valued by the residents of Central Okanagan.

WHAT IS THE COST TO REPLACE THE ASSETS?

The total replacement value of the RDCO's infrastructure is approximately \$140 million, based on current construction costs. Broken down as follows:



The water and sewer systems make up the majority of the infrastructure value (91%) with solid waste accounting for 9% of the total value. The Wastewater Treatment Plant is valued at \$50M or 36% of the total infrastructure value.

HOW MUCH MONEY NEEDS TO BE INVESTED ANNUALLY?

There is no single "correct" answer to this question. Accurately predicting when infrastructure will need to be replaced is very difficult if not impossible to do. The service life of an asset such as a pipe depends on many factors such as the materials it is constructed from, the properties of the soils that it is buried in, how it was installed and many, many other factors. For this reason lifespan estimates are generally based on "rule of thumb" values. Most rule of thumb lifespans applied by engineers are conservative (on the safe side). In reality many assets could actually last much longer (50% longer or possibly more) than these estimates. For this reason, we have included two indicators for informing the targeted annual investment amount: the annual average life cycle investment (AALCI) and the 20 year average annual investment (AAI). See Table 1.1 for details.

The AALCI is presented at \$3.8M/yr using the conservative rule of thumb lifespan. The AAI is \$3.5M/yr for the twenty year horizon using the same service life estimates. By assuming the assets will last longer (lower annual investment level) the RDCO assumes more risk. It is at the discretion of the RDCO Board to decide what level of risk they are comfortable with and to revisit those assumptions on a regular basis. The focus of this report supports the conservative measure of funding the AALCI; however, the AAI should be considered if more funds are required in the near term for immediate improvements.

INTRODUCTION

Many governments, like RDCO, are turning toward asset management as a process for making informed infrastructure decisions, build financial capacity to renew, operate and maintain existing infrastructure so that the RDCO can continue to provide services, effectively manage risks, and provide tax payers with the best value for money.

A key next step for RDCO in achieving this outcome is to improve its understanding of costs through completing a detailed asset assessment (cost forecast) of the community's future infrastructure renewal investment requirements. This forecast will provide staff with improved information (cost and timing) and key indicators to inform infrastructure investment decision-making and assist in aligning priorities and setting utility rates. To accomplish this, the RDCO engaged Urban Systems to complete a long term (integrated) Asset Management Investment Plan (AMIP).

The AMIP is based on the BC Framework (see Figure 1.1) and was developed to identify and assess the expected replacement costs and needs for each of RDCO's assets. The AMIP (Appendix A) consolidates all of the long term costs and timing for a community's major infrastructure categories into a long-term asset renewal forecast. This enables the RDCO to see a forecast of their infrastructure's life cycle cost pressures in one place, at a glance. The AMIP is also an ideal tool to engage rate payers by showing how infrastructure performance and age is linked to annual investments (into reserves or renewal projects). The AMIP includes details and summaries of:

- current replacement value
- infrastructure deficit
- looming future costs
- AALCI required for on-going investment planning
- forecasted renewal of public infrastructure (AAI)

WHAT IS ASSET MANAGEMENT?

The process of bringing together the skills and activities of people; with information about the community's physical infrastructure assets and financial resources to ensure long term sustainable service delivery.

Sound asset management practices support sustainable service delivery by considering community priorities, informed by an understanding of the trade-offs between the available resources, risk and the desired services.

Sustainable service delivery ensures that current community services are delivered in a social, economic, and environmentally responsible manner that does not compromise the ability of future generations to meet their own needs.



Figure 1.1: Asset Management for Sustainable Service Delivery, A BC Framework

CANADIAN'S INFRASTRUCTURE CHALLENGE

Communities across Canada are currently faced with infrastructural and organizational challenges. Many are realizing that the majority of their infrastructure was installed decades ago and has continually provided service to the community with little to no service disruption. These assets, which have provided significant value to the community, are now nearing the end of their useful life; however, many local governments have not fully planned for their replacement.

FCM recently completed a study that concluded that estimates Canada's infrastructure deficit to be 123 billion and growing. A recent study by BCWWA, titled "Are our water systems at risk?" found that the majority of BC water and sewer systems are not recovering the full cost of service delivery through user fees.

With increasing cost pressures and unsustainable funding approaches, communities are beginning to realize they need to change the way they think about managing their assets, recovering revenues, and delivering services. Communities are now embracing the need to integrate asset management principals and thinking into their organization with the goal to:

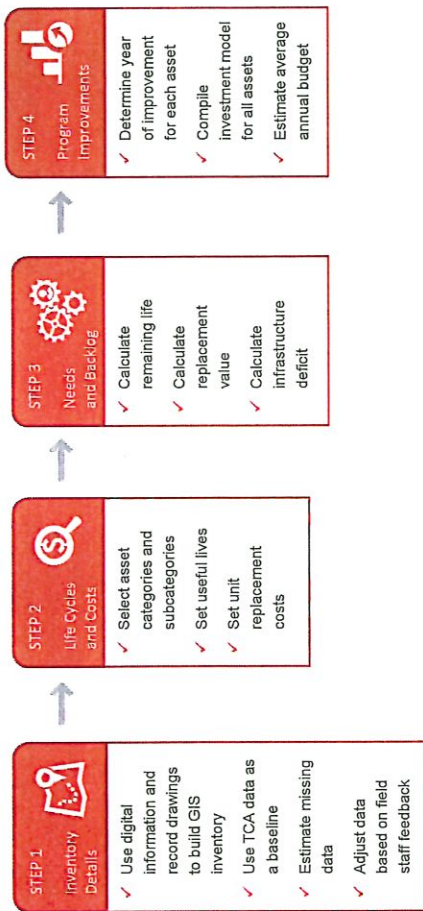
- be financially sustainable over the long term;
- reduce the need to place a large financial burden on future generations;
- increase the likelihood that user fees and rates are stable and consistent and reduce the need to have large 'one-off' increases; and
- increase the likelihood that service levels can be maintained over the long term

With this understanding, the RDCO has invested in developing an Asset Management Investment Plan (AMIP) as the first step in better understanding their own unique infrastructure challenges.

AMIP METHODOLOGY

The AMIP forecast is predominantly based upon infrastructure service lives, but also considers condition assessment information where available. To develop the AMIP, a 4-Step analytical approach was used (see Figure 2.1 below).

Figure 2.1: AMIP Development Steps



The AMIP outlines the following:

- Current replacement value;
- Remaining value;
- Expected life remaining;
- Required improvements;
- Infrastructure deficit (backlog);
- 20 year renewal costs and timing (including future looming costs); and,
- Average Annual Life Cycle Investment (AALCI)

The AMIP is a spreadsheet which is delivered in three (3) inter-connected levels:

- 1** Summary for investment planning and decision-makers;
- 2** Detailed data for ongoing reporting, operations and maintenance; and
- 3** Highly detailed segment by segment information regarding the linear infrastructure such as pipe and roads.

RDCO's AMIP for asset renewal was built using the best linear and non-linear asset data available. The most recent digital infrastructure information for RDCO has been reviewed for use in developing the AMIP. This information is primarily based on compiled infrastructure record drawings and GIS datasets received from the RDCO, coupled with information from the Tangible Capital Assets (TCA) inventory. An estimate was made for missing data where possible. The GIS information was the primary source used for the majority of the asset inventory which was cross checked against the operations department's record information and anecdotal knowledge of the systems.

As a next step in the evolution of the RDCO's asset management process, the AMIP inventory should be built upon to develop a prioritized capital plan based on risk, service and cost. It also is suggested that the RDCO continue to undertake an on-going program for improving data collection in order to refine the complete data set for long term asset management purposes.

¹The expected life remaining is a ratio between remaining life and replacement value. This is based on straight line depreciation of the asset over its service life.

²AALCI is the annual depreciation of the replacement value. The AALCI represents the ideal annual budget allocation. Annual surpluses would go into reserves and be drawn upon for renewal of assets. When the annual budget is less than the AALCI, the sustainability gap grows.

The benefits of the AMIP's Level 1 summary include:

- Presents a complete and concise summary of all infrastructure assets on 1 page;
- Provides a comprehensive focus and format for community infrastructure outreach programs;
- Uses very detailed information from Level 2, which provides invaluable asset details for more credible and defensible decisions on infrastructure re-investment; and
- Encourages exploration of sustainable infrastructure renewal funding levels.

HOW TO USE THE INVESTMENT PLAN MODEL

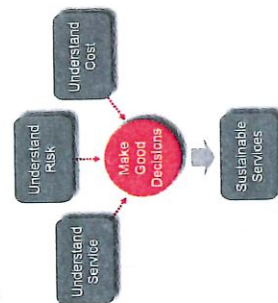
The forecast model is driven by input tables; however, when sufficient data is not available for the input tables, or asset-specific changes are made, then estimates are done in the excel worksheets. In addition to its financial information, the investment plan database also uses the following asset attributes:

- Location
- Material or Make
- Size or Model
- Dimensions
- Quantity
- Year Built
- Service Life
- Condition rating (where available) and
- Installation cost:
- *Recent Tendered Construction costs;*
- *Construction contingency costs;*
- *Planning and design costs;*
- *Project management costs;* and
- *Construction administration costs.*

The AMIP model is designed to keep calculating year after year. The AMIP can be updated each year by adjusting the model to the current year (Input Table), updating unit costs and other replacement values to reflect inflation, and updating the asset inventory to include annual project renewals, decommissioning, and new acquisitions.

The power of the AMIP model is that it uses actual replacement costs, service lives based upon healthy maintenance programs, and summarizes all infrastructure information in Level 1 to assist RDCO in better understanding their cost pressures to help inform their budgeting and infrastructure decisions (Figure 2.2).

Figure 2.2 Informed Decision Making



AMIP RESULTS

The AMIP's Level 1 summary presents a one page overview of asset renewal needs, rolled-up for all asset categories and sub-categories in RDCO. It presents the current renewal investment forecast for RDCO's major asset categories over a 20 year period, using a conservative life span estimate and includes indicators for forecasting a sustainable infrastructure funding level.

This AMIP scenario assumes that an adequate annual operations and maintenance (O&M) budget is in place to optimize asset service lives. Reduced or inadequate O&M budget levels would reduce the service lives. More detailed information regarding each individual asset categories can be seen in the level 2 summaries (section 4). Table 1.2 summarizes the key results of the AMIP.

Table 1.2: AMIP Summary

Asset Category	100% Replacement Value	Expected Remaining Life	Infrastructure Deficit (Backlog)	20 Year Average Annual Investment (AAI)	Average Annual Life Cycle Investment (AALCI)
Killiney Water System	\$19,273,855	39%	\$0	\$486,783	\$324,569
Falcon Ridge Water System	\$4,206,342	69%	\$165,000	\$19,819	\$60,523
Star Place Water System	\$657,710	56%	\$0	\$16,571	\$13,985
Sunset Ranch Water System	\$7,964,002	78%	\$0	\$41,115	\$127,326
Westshore Water System	\$17,513,365	22%	\$1,684,901	\$793,798	\$358,992
Flinty Water System	\$12,752,730	92%	\$0	\$17,771	\$172,145
Sanitary Sewer System					
Westside Collection	\$24,315,287	70%	\$850,000	\$57,888	\$354,808
Treatment	\$56,381,162	65%	\$7,636,441	\$1,498,799	\$1,828,863
Sunset Sanitary	\$3,872,645	87%	\$0	\$0	\$38,798
Solid Waste	\$11,682,562	53%	\$0	\$582,878	\$583,828
Total	\$158,619,663	60%	\$10,336,342	\$9,515,422	\$3,863,818

Average Annual Life Cycle Investment (AALCI): forecasted annual investment needed to sustain existing infrastructure over its service life (over the next 20 years and beyond).

20 Year Average Annual Investment (AAI): total forecasted investment needed to replace infrastructure that has passed its theoretical service within the next 20 years.

Infrastructure Deficit (Unfunded Liability): is a measure of the amount of infrastructure that has already passed its theoretical service life but is still providing service to the community. This infrastructure should be inspected to determine if replacement is necessary or not.

ASSET REPLACEMENT VALUE

The estimated full replacement value of RDCO's major infrastructure assets is approximately \$158 million (2018) based on current tender prices in the BC Interior region and best practices for setting service lives. A copy of the inputs (unit costs and service lives) is located in Appendix B.

Table 1.2 (above) provides a summary of the replacement value of existing infrastructure, with some regulatory requirements for the water system included. The AMIP should be used to inform the development of a comprehensive capital plan so that these items can be integrated together.

Figure 3.2 illustrates the percent breakdown of RDCO's infrastructure value by asset category.

Approximately 90% of RDCO's infrastructure is made of up Water and Sanitary assets which mean majority of the total long term expenditures should be on these assets. On average, RDCO assets are considered to be in fair to good condition with an average expected remaining life of 67% and there are assets (\$10.3M) that have passed their theoretical service life which should be inspected in the field prior to investing in their replacement. In the twenty year horizon there is approximately \$67M forecasted in assets that may need to be renewed. These results are comparable to other communities of similar size and age to RDCO.

INFRASTRUCTURE DEFICIT (UNFUNDED LIABILITY)

Infrastructure deficit (\$10.3M) is a measure of the amount of infrastructure that has passed its theoretical service life but is still providing service to the community.

Current Year > Year of Asset Renewal

Figure 3.2 Infrastructure Value Distribution

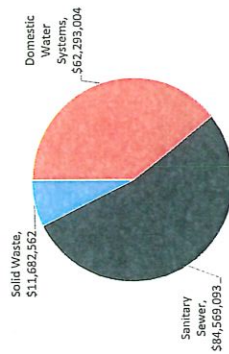
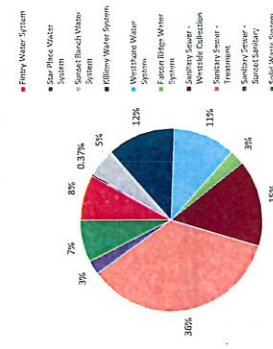


Figure 3.3 AALCI Value Distribution



Although the asset is still providing service, it is typically nearing the end of its life and will require field investigation to determine if the asset needs to be replaced or not. Changes in the asset service life can turn future expenditures to a deficit or vice versa. For example: an asset is scheduled for replacement in 2018 which means the asset has passed its theoretical service life and will be recorded as a deficit. If that assets service life is extended, the asset is now scheduled in a future year as an asset replacement and not a deficit.

AVERAGE ANNUAL LIFE CYCLE INVESTMENT (AALCI)

The Average Annual Life Cycle Investment (AALCI) is defined as the summation of each asset's annual depreciation which is based on the assets replacement cost and service life.

$$\sum \frac{\text{Replacement Cost}}{\text{Service Life}}$$

The AALCI (\$3.8M) is the forecasted ideal (maximum) funding level for sustaining existing infrastructure over the life cycle of the assets and should be a long term target for the community. When planned for appropriately, the AALCI can be used in ensuring long term revenue stability, preventing unnecessary risk, and enabling a community to apply one-time funding to support new asset/capital needs as opposed to addressing emergency situations.

Ideally RDCO should endeavor, depending on risk tolerance and service levels, to budget for this amount each year, and what is not spent goes into infrastructure reserve accounts for future renewal. Figure 3.3 illustrates the value and percent breakdown of RDCO's AALCI distribution based on the conservative estimate of service life scenario.

20 YEAR AVERAGE ANNUAL INVESTMENT (AAI)

Another indicator that can be used to determine the appropriate investment level is the 20 Year Average Annual Investment (AAI).

Total Anticipated 20 Year Capital Expenditure
20 Years

This indicator provides a value of how much should be invested on an annual basis at a minimum to fund asset replacements anticipated over the next 20 years (\$3.5M).

Service life directly affects the timing of the 20 year expenditures as it dictates when an asset is scheduled for replacement. For example: If the asset service life is extended, the replacement year might change from 2035 to 2045 which defers the project outside the 20 year planning horizon and reduces 20 Year AAI. It is important to note that this does not make the expenditure disappear but instead it just postpones it. This is why the AALCI may be better long term financial indicator (target) because it accounts for replacements outside the planning horizon.

RDCO should consider its affordability limits, costs, risk and service in determining the annual investment amount into infrastructure. Later sections of this report provides some considerations and recommendations for RDCO in considering its sustainable infrastructure funding levels.

STATE OF RDCO'S INFRASTRUCTURE

This section details the AMIP findings by each of the RDCO's asset categories (Level 2).

1

What assets do we own?

Taking stock of assets within a community is foundational to the development of an AMIP. The first step in building an inventory is gathering all available data, then collecting important attributes for each asset such as: quantity, diameter, year of installation, material, etc.

The value of this inventory extends well beyond this project as this database can now be used as the central source of asset information moving forward.

The methodology used to compile this inventory is detailed in Appendix A.

2

How much are our assets worth?

Calculating the replacement cost of a community's assets provides the organization with a deeper understanding of the magnitude of infrastructure that it is responsible for managing and replacing. These cost figures directly affect the asset reinvestment level and are a driver for future revenue requirements. Replacement costs presented in this report represents the magnitude of investment required to replace all assets as they exist today. The asset replacement costs typically do not account for new investment required to satisfy: regulatory requirements, growth/ expansion, safety improvements, or economic development. In this report, we have at the request of RDCO, included cost for future regulatory requirements (ie. UV Treatment)

3

How much life is left in our assets?

Remaining life of an asset is one indicator that can be used to understand the theoretical condition of an asset. The condition of the asset can then inform asset reinvestment and inspection programs.

Since the actual physical condition of the asset is not known, the age of the asset is used to estimate its condition (refer to Terms and Definitions)

4

When will our assets pass their estimated service life?

Accurately predicting when infrastructure will need to be replaced is difficult, if not impossible, to do. The service life (how long an asset will last) is a highly uncertain parameter that is affected by many factors such as material, environment, and construction techniques.

Nonetheless, mapping replacement timing is valuable in helping communities begin planning for future expenditures. For example, the investment cost forecast may show a significant expenditure in 2025, representing a large number of water mains that are predicted to need replacing. While it is unlikely that all of these water mains would need to be replaced at the same time, replacement timing estimates provide an indication that a large investment might occur and that further investigation is required to confirm the urgency of these investments.

5

How much do we need to invest in our assets?

Predicting the right investment level needed for infrastructure renewal requires significant thought and discussion amongst stakeholders. To better understand a community's initial long-term investment needs, three indicators have been calculated.

- Investment Level Indicators:

- 1) Average Annual Life Cycle Investment (AALCI)
- 2) 20 Year Average Annual Investment (20 Year AAI)
- 3) Infrastructure Deficit (Unfunded Liability)
(refer to Terms and Definitions)

- Each of these questions (1 to 5) is graphically presented in the body of this report.

- These investment level indicators do not account for existing reserves balances or future grants. These indicators are to be used as a forecast of costs to inform the RDCO's revenue requirements.

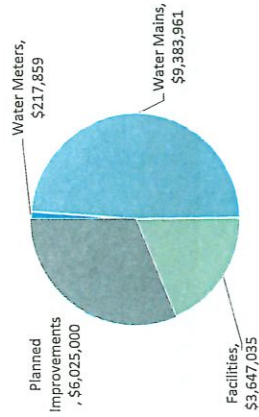
- Each of these indicators are calculated using replacement costs and service life estimates. Accurately predicting when infrastructure will need to be replaced is very difficult to do. For this reason, lifespan estimates are generally based on rule of thumb values. Most rule of the thumb lifespans applied by engineers are conservative (on the safe side). In practice, many assets could last much longer (25% longer or possibly more) than these estimates. For these reasons, we have developed three service life scenarios (refer to terms and definitions) which will help highlight how investments level would change depending on the various lifespan assumptions.

WATER SYSTEMS – KILLINEY

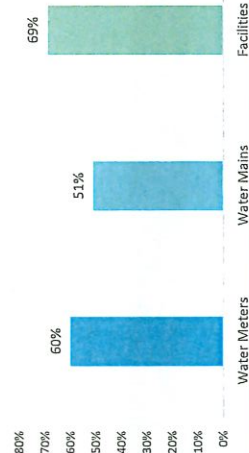
What assets do we own?



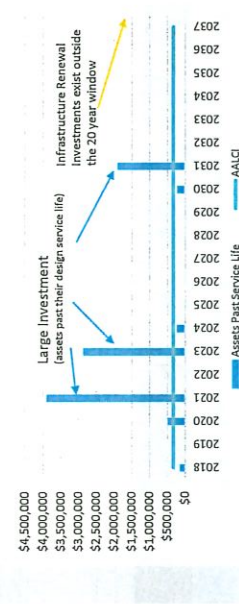
How much are our assets worth?



How much life is left in our assets?



When will our assets pass their estimated service life?



How much do we need to invest in our assets?

Asset Description	Expected Remaining Life	20 Year Average Annual Investment	Average Annual Life Cycle Investment (AALCI)
Water Meters	60%	\$217,859	\$10,893
Water Mains	51%	\$9,383,961	\$137,140
Facilities	69%	\$3,647,035	\$189,533
Planned Improvements	0%	\$6,025,000	\$170,569
Total without Planned Improvements		\$13,248,855	\$1,107,132
Planned Improvements			
Back-up Generator (3)	0%	\$11,250	\$9,000
Treatment	0%	\$290,000	\$145,000
Grand Total	39%	\$13,549,855	\$1,361,632

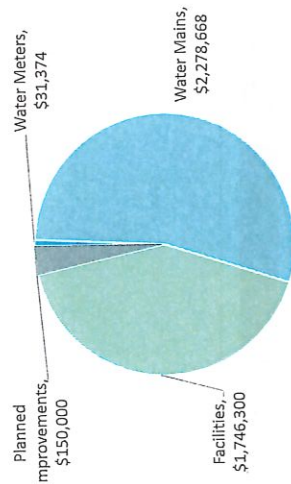


WATER SYSTEMS – FALCON RIDGE

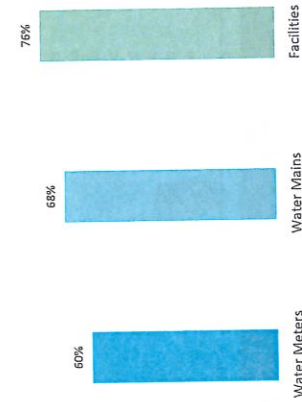
What assets do we own?



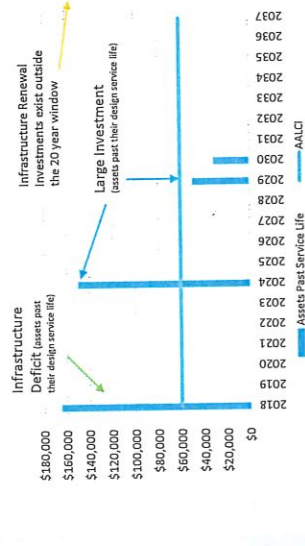
How much are our assets worth?



How much life is left in our assets?



When will our assets pass their estimated service life?



How much do we need to invest in our assets?

Sub-category		Asset Description	100% Replacement Value	Expected Remaining Life	20 Year Average Annual Investment	Average Annual Life Cycle Investment (AALCI)
Water Meters			\$31,374	60%	\$1,569	\$1,569
Water Mains		Diameter (mm)				
	200		\$0	0%	\$0	\$0
	200		\$1,563,690	71%	\$0	\$15,637
	150		\$714,978	63%	\$0	\$9,201
	100		\$2,278,668	68%	\$0	\$24,838
Facilities						
	WELL KIOSK		\$15,000	0%	\$750	\$600
	WELL		\$150,000	0%	\$7,500	\$6,000
	PUMPHOUSE		\$50,000	28%	\$2,500	\$1,250
	PUMPHOUSE		\$150,000	98%	\$0	\$3,000
	INTAKE		\$1,381,300	84%	\$0	\$17,266
	RESERVOIRS + UV		\$1,746,300	76%	\$10,750	\$28,116
Total without Planned Improvements			\$4,056,342	72%	\$12,319	\$54,523
Planned Improvements						
	Back-up Generator (2)		\$150,000	0%	\$7,500	\$6,000
Grand Total			\$4,206,342	69%	\$19,819	\$60,523

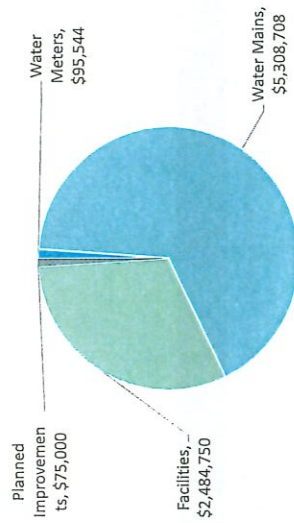


WATER SYSTEMS – SUNSET RANCH

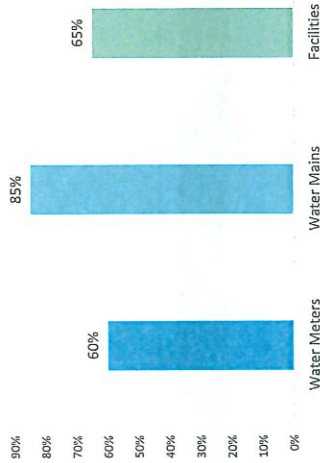
What assets do we own?



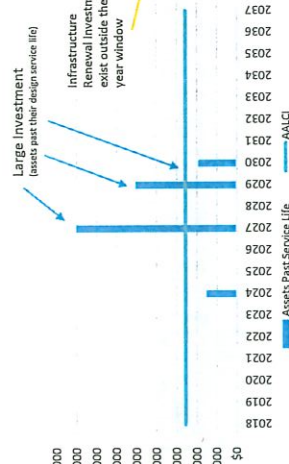
How much are our assets worth?



How much life is left in our assets?



When will our assets pass their estimated service life?



How much do we need to invest in our assets?

Sub-category	Asset Description	100% Replacement Value	Expected Remaining Life	20 Year Average Annual Investment	Average Annual Life Cycle Investment (AALCI)
Water Meters					
Water Mains		\$95,544	60%	\$4,777	\$4,777
250	Diameter (mm)	\$220,919	89%	\$0	\$2,763
200		\$3,178,960	88%	\$0	\$34,309
150		\$1,862,382	80%	\$0	\$24,868
<150		\$26,445	89%	\$0	\$264
Facilities		\$5,308,708	85%	\$0	\$59,204
Manholes, Sampling, Chlorination		\$91,750	41%	\$3,838	\$3,370
PRV		\$75,000	36%	\$3,750	\$3,000
RESERVOIR		\$918,000	80%	\$0	\$11,475
PUMP HOUSE		\$900,000	68%	\$0	\$22,500
WELL		\$500,000	40%	\$25,000	\$20,000
		\$2,484,750	65%	\$12,488	\$60,345
Total without Planned Improvements		\$7,889,002	78%	\$37,965	\$124,326
Planned Improvements					
Planned Back-up Generator (s)		\$75,000	0%	\$3,750	\$3,000
Subtotal		\$7,964,002	78%	\$41,115	\$127,326

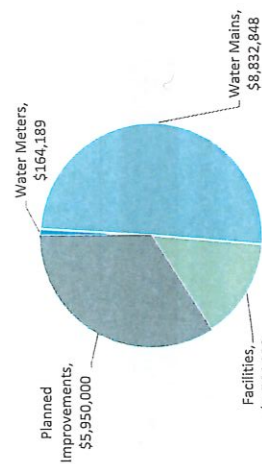


WATER SYSTEMS – WESTSHORE

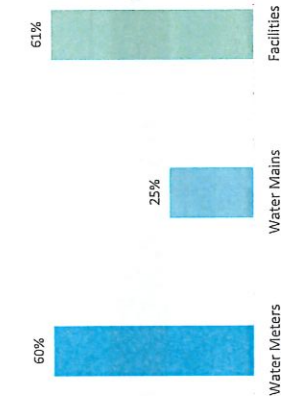
What assets do we own?



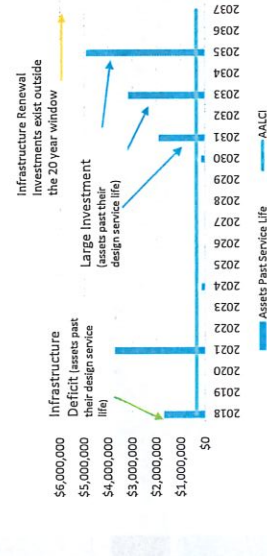
How much are our assets worth?



How much life is left in our assets?



When will our assets pass their estimated service life?



How much do we need to invest in our assets?

Sub-category	Asset Description	100% Replacement Value	Expected Remaining Life	20 Year Average Annual Investment	Average Annual Life Cycle Investment (AALCI)
Water Meters					
Water Mains					
450	Diameter (mm)	\$0	0%	\$0	\$8,209
400		\$0	0%	\$0	\$0
350		\$0	0%	\$0	\$0
300		\$28,507	28%	\$1,425	\$475
250		\$1,206,429	28%	\$60,321	\$20,107
200		\$1,395,696	27%	\$69,671	\$23,262
150		\$5,148,691	27%	\$257,435	\$85,812
<150		\$1,053,525	11%	\$50,486	\$23,183
		\$8,832,848	25%	\$439,338	\$152,838
Facilities					
Reservoirs		\$1,441,328	99%	\$0	\$18,017
Intake		\$300,000	0%	\$15,000	\$7,500
Pumphouse		\$600,000	0%	\$30,000	\$15,000
PRVs		\$225,000	59%	\$3,750	\$6,429
		\$2,566,328	61%	\$48,750	\$16,945
Total without Planned Improvements					
		\$11,553,365	34%	\$498,298	\$207,993
Planned Improvements					
Back-up Generator (2)		\$150,000	0%	\$7,500	\$5,000
Treatment		\$5,800,000	0%	\$290,000	\$145,000
		\$5,950,000	0%	\$297,500	\$151,000
Grand Total					
		\$17,513,365	24%	\$795,798	\$358,993



WATER SYSTEMS – FINTRY

What assets do we own?

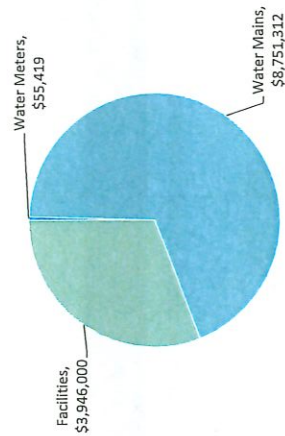
Watermain
11.6 km

Pumps
3

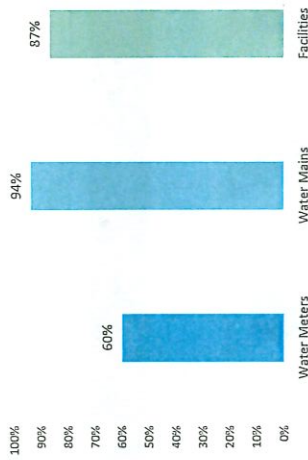
Reservoirs
2

PRVs
2

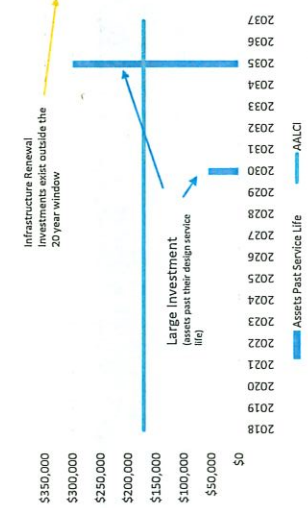
How much are our assets worth?



How much life is left in our assets?



When will our assets pass their estimated service life?



How much do we need to invest in our assets?

Sub-category	Asset Description	100% Replacement Value	Expected Remaining Life	20 Year Average Annual Investment	Average Annual Life Cycle Investment (AALCI)
Water Meters					
Water Mains		\$55,419	60%	\$2,771	\$2,771
>= 600		\$0	0%	\$0	\$0
500		\$0	0%	\$0	\$0
450		\$0	0%	\$0	\$0
400		\$0	0%	\$0	\$0
350		\$3,822,416	94%	\$0	\$38,224
300		\$902,138	94%	\$0	\$9,021
250		\$1,884,976	94%	\$0	\$18,850
200		\$1,709,334	94%	\$0	\$17,093
150		\$432,448	94%	\$0	\$4,324
<150		\$8,751,312	94%	\$0	\$87,513
Facilities					
PRESSURE REDUCING		\$150,000	83%	\$0	\$4,286
PUMP HOUSE		\$1,750,000	85%	\$0	\$43,750
RESERVOIR		\$1,746,000	93%	\$0	\$21,625
WELL		\$300,000	68%	\$15,000	\$12,000
		\$3,946,000	87%	\$15,000	\$81,861
Total		\$12,752,730	93%	\$17,771	\$172,145

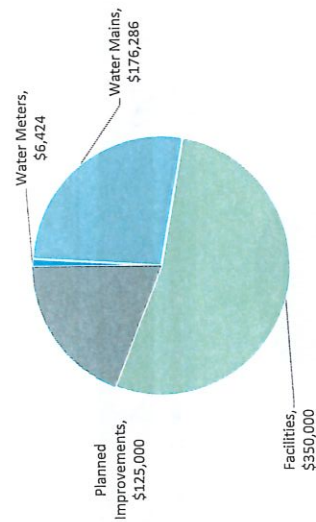


WATER SYSTEMS – STAR PLACE

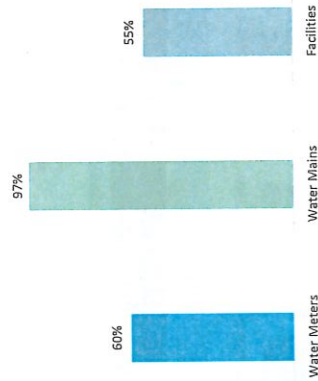
What assets do we own?



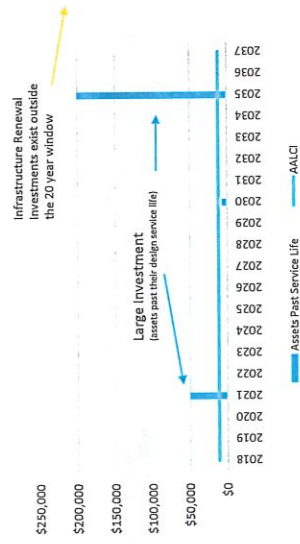
How much are our assets worth?



How much life is left in our assets?



When will our assets pass their estimated service life?



How much do we need to invest in our assets?

Sub-category	Asset Description	100% Replacement Value	Expected Remaining Life	20 Year Average Annual Investment	Average Annual Life Cycle Investment (AALCI)
Water Meters		\$6,424	60%	\$321	\$321
Water Mains	Diameter (mm)				
300	\$0	0%	\$0	\$0	\$0
250	\$0	0%	\$0	\$0	\$0
200	\$0	0%	\$0	\$0	\$0
150	\$176,286	97%	\$0	\$0	\$2,518
<150	\$176,286	97%	\$0	\$0	\$2,518
Facilities		\$350,000	55%	\$10,000	\$6,875
Reservoir and Pumphouse		\$532,740	69%	\$10,321	\$9,715
Total without Planned Improvements					
Planned Improvements					
Back-up Generator (1)	\$75,000	0%	\$3,750	\$3,000	\$3,000
Treatment (UV/Filtration)	\$50,000	0%	\$2,500	\$2,500	\$1,250
	\$125,000	0%	\$6,250	\$6,250	\$4,250
Grand Total	\$657,740	56%	\$16,571	\$16,571	\$13,965

SANITARY SYSTEM – COLLECTION SYSTEM

What assets do we own?



Mains

19.4 km



Force mains

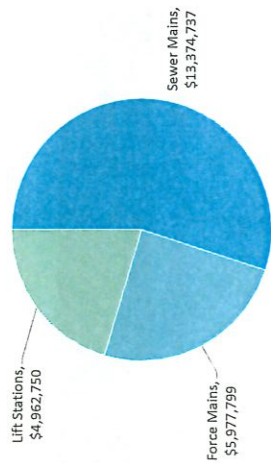
9.9 km



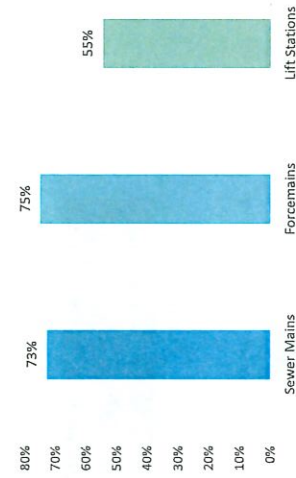
Lift Stations

2

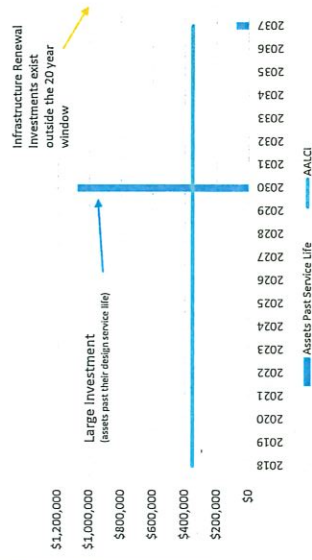
How much are our assets worth?



How much life is left in our assets?



When will our assets pass their estimated service life?



How much do we need to invest in our assets?

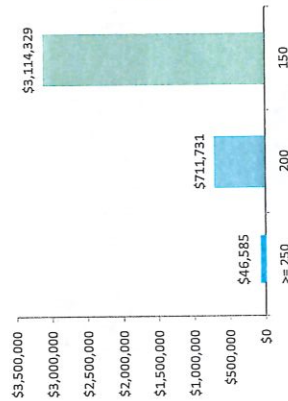
Sub-category	Asset Description	100% Replacement Value	Expected Remaining Life	20 Year Average Annual Investment	Average Annual Life Cycle Investment (AALCI)
Gravity Mains					
Sewer Mains	Diameter >= 600	\$4,737,861	69%	\$0	\$51,888
	525	\$1,099,013	73%	\$0	\$11,699
	450	\$1,682,214	70%	\$0	\$18,459
	375	\$3,978,158	77%	\$0	\$40,546
	300	\$4,005,316	79%	\$0	\$10,772
	250	\$276,116	74%	\$0	\$2,761
	200	\$596,058	76%	\$0	\$5,961
		\$13,374,737	73%	\$0	\$143,785
		\$5,977,799	75%	\$0	\$75,698
Force mains					
Lift Stations	Casa Loma	\$1,944,000	58%	\$43,200	\$56,700
	East Trunk	\$3,018,750	53%	\$14,688	\$80,625
		\$4,962,750	55%	\$57,888	\$137,325

SANITARY SYSTEM – SUNSET SANITARY SYSTEM

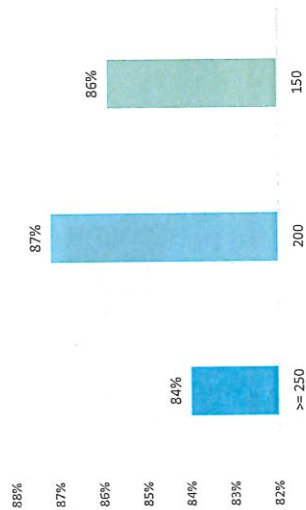
What assets do we own?



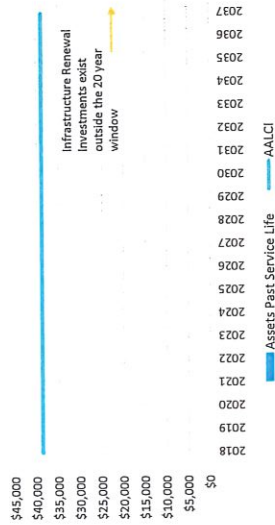
How much are our assets worth?



How much life is left in our assets?



When will our assets pass their estimated service life?



How much do we need to invest in our assets?

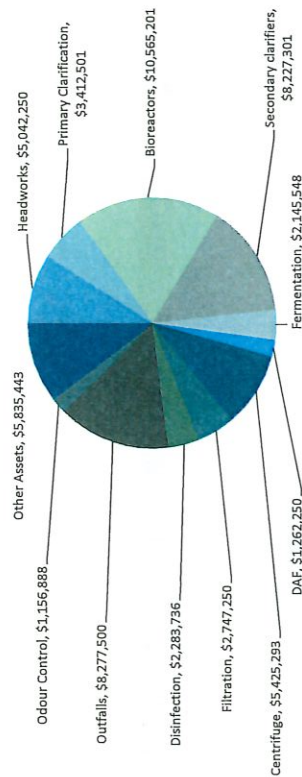
Sub-category	Asset Description	100% Replacement Value	Expected Remaining Life	20 Year Average Annual Investment	Average Annual Life Cycle Investment (AALCI)
Sunset Sanitary System					
>= 250	Diameter				
	>= 250	\$711,731	84%	\$0	\$7,117
	200	\$3,114,329	87%	\$0	\$31,215
150		\$46,585	86%	\$0	\$466
		\$3,872,645	87%	\$0	\$38,798

SANITARY SYSTEM - WWTP

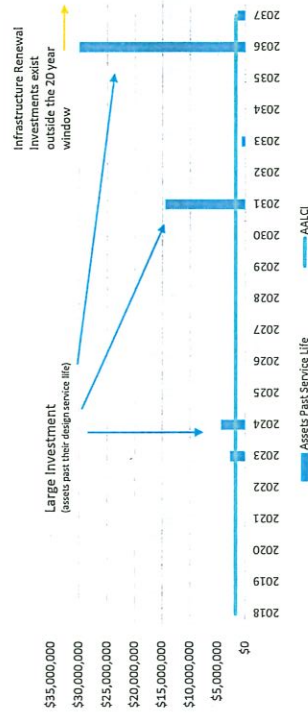
What assets do we own?



How much are our assets worth?



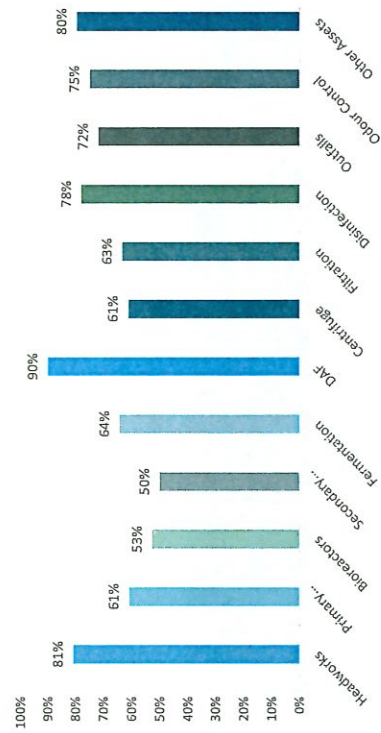
When will our assets pass their estimated service life?



How much do we need to invest in our assets?

Sub-category	Asset Description	100% Replacement Value	Expected Remaining Life	20 Year Average Annual Investment	Average Annual Life Cycle Investment (AALCI)
Treatment					
Headworks		\$5,042,250	8%	\$139,050	\$167,316
Primary Clarification		\$3,412,501	6%	\$38,843	\$71,766
Bioreactors		\$10,565,201	53%	\$364,500	\$405,440
Secondary clarifiers		\$8,227,301	50%	\$292,941	\$322,547
Fermentation		\$2,145,548	6%	\$54,290	\$67,537
DAF		\$1,262,250	90%	\$33,750	\$41,091
Centrifuge		\$5,425,293	6%	\$162,000	\$189,316
Filtration		\$2,747,250	63%	\$108,000	\$115,341
Disinfection		\$2,283,736	78%	\$78,689	\$87,563
Outfalls		\$8,277,500	73%	\$77,625	\$161,688
Odour Control		\$1,156,888	75%	\$57,237	\$71,389
Other Assets		\$5,835,443	80%	\$91,905	\$141,872
		\$56,381,162	65%	\$1,498,799	\$1,828,863

How much life is left in our assets?



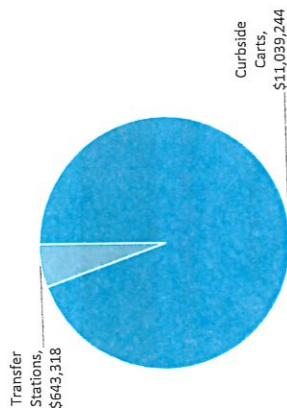
SOLID WASTE SYSTEM

What assets do we own?



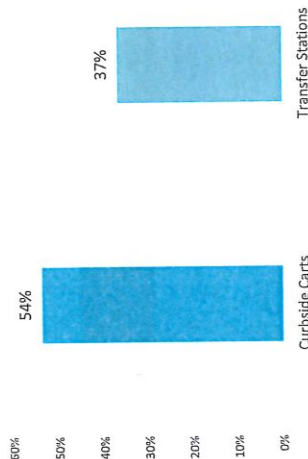
Curbside Carts

178,532



How much are our assets worth?

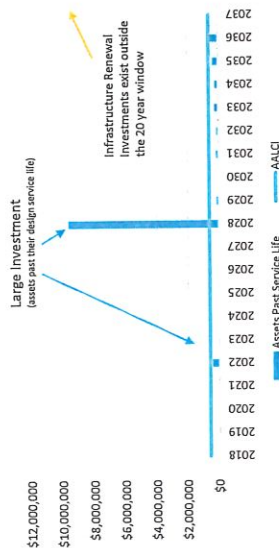
How much life is left in our assets?



Transfer Stations

3

When will our assets pass their estimated service life?



How much do we need to invest in our assets?

Sub-category	Asset Description	100% Replacement Value	Expected Remaining Life	20 Year Average Annual Investment	Average Annual Life Cycle Investment (AALCI)
Curbside Carts					
Kelowna	120L	\$ 2,064,480	54%	\$ 103,224	\$ 103,224
	240L	\$ 4,300,956	51%	\$ 215,048	\$ 215,048
	360L	\$ 897,450	69%	\$ 44,873	\$ 44,873
Sub-Total		\$ 7,262,886	54%	\$ 363,144	\$ 363,144
West Kelowna	120L	\$ 547,740	50%	\$ 27,387	\$ 27,387
	240L	\$ 1,312,344	53%	\$ 65,617	\$ 65,617
	360L	\$ 229,125	68%	\$ 11,456	\$ 11,456
Sub-Total		\$ 2,089,209	53%	\$ 104,460	\$ 104,460
Lake Country	120L	\$ 221,799	50%	\$ 11,090	\$ 11,090
	240L	\$ 552,354	54%	\$ 27,618	\$ 27,618
	360L	\$ 135,400	71%	\$ 6,270	\$ 6,270
Sub-Total		\$ 899,553	55%	\$ 44,978	\$ 44,978
Peachland	120L	\$ 133,518	50%	\$ 6,676	\$ 6,676
	240L	\$ 315,678	50%	\$ 15,784	\$ 15,784
	360L	\$ 25,800	50%	\$ 1,290	\$ 1,290
Sub-Total		\$ 474,996	50%	\$ 23,750	\$ 23,750
RDCC	120L	\$ 89,709	52%	\$ 4,485	\$ 4,485
	240L	\$ 206,316	51%	\$ 10,316	\$ 10,316
	360L	\$ 16,575	50%	\$ 829	\$ 829
Sub-Total		\$ 312,600	51%	\$ 15,630	\$ 15,630
Total		\$ 11,039,244	54%	\$ 551,962	\$ 551,962

Transfer Stations					
092 WESTSIDE TRANSFER STATION		\$568,304	31%	\$28,415	\$29,115
		\$25,000	77%	\$0	\$250
093 WESTSIDE LANDFILL		\$50,014	80%	\$2,501	\$2,501
Sub-Total		\$ 643,318	37%	\$30,916	\$31,866

MOVING FORWARD

Based on the results of the AMIP, the previously completed assessment of current practices, and the process outlined in the Asset Management for Sustainable Service Delivery, A BC Framework, the following section outlines a matrix with a list of steps (tools) and priorities for consideration of an advanced level of practicing asset management.

The steps outlined below are organized deliberately in order to promote successful implementation and improve understanding in the three pillars that inform infrastructure decisions – Cost, Risk and Service.

Number	Priority Name	BC Asset Management Framework Process	Description
1	Cross-Functional Team	People	Create a collaborative cross functional team made up of core departmental representatives to support and mentor on infrastructure decision-making and budgeting within the RDCO and their respective departments.
2	Asset Management/Financial Policy	Plan	Develop an asset management policy that encompasses procedures for data handling/tracking/updating and sharing, project prioritization, risk, and infrastructure investment decisions. The policy could include statements on how infrastructure investment will be funded whether it's through building reserves, debt or taxes, etc.
3	Setting Annual Infrastructure Investment Levels and Update Water and Sewer Rates	Plan	Consider the results of the AMIP, DCC and policy discussions to determine the affordable annual contribution to infrastructure investment (likely somewhere between the AAJ and the AALCI amounts depending on risk tolerance and service levels). Update the water and sewer rate bylaws to increase revenues to achieve the desired investment levels for renewal.
5	Maintenance Management Plans	Implement Asset Management Practices	The importance of maintenance in extending service lives of assets and deferring their inevitable replacement (reducing the annual capital investment) is paramount to provide acceptable levels of service with fewer financial resources. Develop plans (including work orders, standard operating procedures, etc) for the O&M of assets to optimize/extend asset service lives.
6	Communications/Engagement	Core Element	Develop asset management/infrastructure communications with staff and the public (e.g. benefits, requirements, products, progress). Community buy-in will be essential for setting levels of service and achieving financial sustainability/full cost recovery for service delivery.
7	Performance Measures	Measure and Report	Develop performance metrics to measure and report out on the RDCO's service delivery/asset management status to the Board and the community. These would include a set of both "leading" and "lagging" indicators that evaluate the sustainability of services (E.g. number of m of pipe replaced, number of m ² of pavement replaced or avoided etc).
8	Refine Asset Inventory	Information	Continually update and refine your infrastructure data over time with new spatial and attribute data to improve accuracy as it becomes available through field activities. Consider completing an inventory and valuation of your natural Assets.

APPENDIX A

AMIP LEVEL 1

RBCO Asset Management Investment Plan (AMIP) Level 1 - Summary of Water, Sanitary and Solid Waste Infrastructure												
Asset Category	Total Replacement Value	Less in Value	Remaining Value	Expected Remaining Life	Infrastructure (Backup)	2018	2019	2020	2021	2022	2023	2024
Domestic Water System												
Renewal												
Water Meters	\$55,419	\$22,168	\$33,251	60%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Water Mains	\$5,383,861	\$1,588,862	\$3,794,999	94%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Facilities	\$3,484,000	\$515,164	\$2,968,836	87%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$13,752,710	\$1,062,410	\$11,690,300	92%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Star Place Water System												
Renewal												
Water Meters	\$6,434	\$3,569	\$2,865	60%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Water Mains	\$376,286	\$4,961	\$371,325	97%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Facilities	\$350,000	\$158,125	\$191,875	55%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Planned Improvements	\$725,000	\$0	\$725,000	0%	\$0	\$0	\$0	\$0	\$50,000	\$0	\$0	\$75,000
Total	\$1,457,710	\$165,695	\$1,292,015	56%	\$0	\$0	\$0	\$0	\$50,000	\$0	\$0	\$75,000
Sunset Ranch Water System												
Renewal												
Water Meters	\$95,544	\$38,218	\$57,326	60%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Water Mains	\$5,308,708	\$800,116	\$4,508,592	85%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Facilities	\$2,484,750	\$870,380	\$1,614,370	65%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Planned Improvements	\$725,000	\$0	\$725,000	0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$75,000
Total	\$7,984,002	\$1,708,714	\$6,275,288	78%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$75,000
Kilgus Water System												
Renewal - Treatment												
Water Meters	\$217,859	\$87,144	\$130,715	60%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Water Mains	\$3,883,861	\$4,961	\$3,878,900	97%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Facilities	\$1,113,553	\$1,113,553	\$0	0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Planned Improvements	\$5,025,000	\$0	\$5,025,000	0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$225,000
Total	\$10,278,855	\$58,177,651	\$7,431,804	33%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$225,000
Westshore Water System												
Renewal - Treatment												
Water Meters	\$164,189	\$65,676	\$98,513	60%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Water Mains	\$6,610,130	\$2,222,718	\$4,387,412	25%	\$709,501	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Facilities	\$2,566,328	\$1,010,159	\$1,556,169	61%	\$975,000	\$0	\$0	\$0	\$0	\$0	\$0	\$150,000
Planned Improvements	\$5,950,000	\$0	\$5,950,000	0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$17,533,365	\$7,485,965	\$10,047,400	23%	\$1,684,501	\$0	\$0	\$0	\$0	\$0	\$0	\$150,000
Palon High Water System												
Renewal												
Water Meters	\$31,374	\$12,549	\$18,824	60%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Water Mains	\$2,278,668	\$720,300	\$1,558,368	88%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Facilities	\$1,746,800	\$421,010	\$1,325,790	75%	\$165,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Planned Improvements	\$3,600,000	\$0	\$3,600,000	0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$150,000
Total	\$7,656,842	\$1,153,859	\$6,502,983	69%	\$165,000	\$0	\$0	\$0	\$0	\$0	\$0	\$150,000
Total Water	\$52,368,004	\$7,599,667	\$44,768,337	52%	\$1,849,501	\$0	\$0	\$0	\$0	\$0	\$0	\$600,000
Sanitary Sewer												
Renewal												
Sewer Mains	\$13,374,727	\$3,024,483	\$10,350,244	73%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lift Stations	\$5,872,750	\$2,247,775	\$3,624,975	55%	\$850,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sunset Ranch Sewer Mains	\$3,872,645	\$519,322	\$3,353,323	87%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Treatment	\$55,381,362	\$3,094,325	\$52,287,037	87%	\$7,638,441	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$84,501,484	\$9,906,905	\$74,594,579	87%	\$8,488,441	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Solid Waste												
Renewal												
Outside Cans	\$11,039,244	\$5,102,825	\$5,936,419	54%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Treatment	\$643,318	\$406,612	\$236,706	37%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$11,682,562	\$5,509,437	\$6,173,125	53%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

APPENDIX B

INPUTS

UNIT COST DERIVATION

The following is intended to outline how the unit costs included in the Asset Management Investment Plan were developed. The primary basis for most unit costs for the water and sewer assets is based on recently tendered projects in the Central Okanagan region.

Sanitary Sewer

Inputs

Pipe, Appurtenances (connection, manholes, services), road restoration, removals, engineering and contingency

In order to determine a per metre price, it was assumed a 100m long segment would include:

- 1 manhole (incl. 1m riser), 1 tie-in connection, 6 services
- 3.5m wide trench wide- asphalt removal, trench restoration, and asphalt restoration
- Soft Costs- engineering and contingency

Pipe

Per metre price:

Diameter (mm)	Unit Cost	Diameter (mm)	Unit Cost
200	\$165	525	\$410
250	\$170	600	\$500
300	\$205	750	\$640
350	\$235	900	\$790
375	\$235	1050	\$950
450	\$320	1200	\$1,350

Appurtenances

- 6 services (assume 10m long c/w IC) = (6 x \$2,600ea) /100m = \$156.00/m
- 1 Connection = (1 x \$3,500 ea) /100m = \$35.00/m
- 1 Manhole = (1 x \$3,505 ea) /100m = 35.05/m
- Total = \$226.05/m

Road Restoration (3.5m wide trench per metre of pipe)

Asphalt (assume 75mm thick unit price)
\$25.30m² x 3.5m x 1m = \$88.55 /m

Base gravel (assume 100m thick)
\$51.28 m³ x 3.5m x 1m x 0.1m = \$17.95/m
Total = \$106.50/m

Removals (3.5m wide trench per metre of pipe)

Asphalt removal
\$4.28 m² x 3.5m x 1m = \$14.98/m

Engineering & Contingency

Design - 7%, CA - 8%, Contingency - 20% = 35%

Total per m = Pipe cost per metre + \$226.05 + \$106.50 + \$14.98 + 40%

Water

Inputs

Pipe, Appurtenances (connection, fittings, services), road restoration, removals, engineering and contingency

In order to determine a per metre price, it was assumed a 100m long segment would include:

- 4 fittings, 2 tie-in connections, 6 services
- 3.5m wide trench wide- asphalt removal, trench restoration, and asphalt restoration
- Soft Costs- engineering and contingency

Pipe
Per metre price:

Diameter (mm)	Unit Cost	Diameter (mm)	Unit Cost
50	\$60	350	\$250
100	\$120	375	\$325
150	\$140	400	\$420
200	\$165	450	\$470
250	\$210	525	\$510
300	\$240	600	\$600

Appurtenances

- 6 services (assume 10m long c/w IC) = \$156.00/m
(6 x \$2,600 ea) /100m=
- 2 Connections = (2 x \$3,000 ea)/100m = \$60.00/m
- 4 Fittings = (4 x \$750 ea) /100m = \$30.00/m
- Total = \$246.00/m

Road Restoration (3.5m wide trench per metre of pipe.)

- Asphalt (assume 75mm thick unit price)
\$25.30m² x 3.5m x 1m = \$88.55 /m
 - Base gravel (assume 100m thick)
\$51.28 m³ x 3.5m x 1m x 0.1m = \$17.95/m
- Total = \$106.50/m

Removals (3.5m wide trench per metre of pipe).

- Asphalt removal
\$4.28 m² x 3.5m x 1m = \$14.98/m

Engineering & Contingency

Design -7%, CA-8%, Contingency - 20% = 35%

Total per m = Pipe cost per metre + \$246.00 + \$106.50 + \$14.98 + 40%

APPENDIX B

Service Life Estimates

The service life of an asset such as a pipe depends on many factors such as the materials it is constructed from, the properties of the soils that it is buried in, how it was installed and many, many other factors. For this reason, lifespan estimates are generally based on "rule of thumb" values. Most rule of thumb lifespans applied by engineers are conservative (on the safe side). In reality many assets could actually last much longer (50% longer or possibly more) than these estimates. The following tables summarize the "rule of thumb" values utilized in the AMIP.

The unit costs and service life estimates for the WWTP have been provided under separate cover. Unit costs for solid waste and other assets not included above will be based on historical cost (from invoices or TCA spreadsheets) and increased to 2017 dollars using the Engineering News record (ENR) cost increase factors.

Sanitary Sewer System	
Pipe Material	Life Expectancy (years)
AC	70
CONC	70
VCT	70
STEEL	70
PVC/HDPE	100
Component	
Pump Stations – Short lived	25
Pump Stations – Long Lived	80

Water Distribution System	
Pipe Material	Life Expectancy (years)
AC	80
CI	80
DI	60
COPPER	60
GALV	40
STEEL	60
Polyethylene	80
HDPE	80
PVC	100
Component	
Wells/Pumps/Treatment	25
Reservoirs	80
Flow Meters	30
Appurtenances	20

REGIONAL DISTRICT OF CENTRAL OKANAGAN

BYLAW NO. 1435

Being a bylaw to amend the Regional District of Central Okanagan Killiney Beach Water System Fees & Charges Bylaw No. 1371, 2015

WHEREAS the Regional Board of the Regional District of Central Okanagan established Bylaw No. 1371, 2015, a bylaw to provide for the imposition of fees and charges against the owner or occupier of real property located within the service area boundary, or connected to the Regional District of Central Okanagan Killiney Beach Water System.

AND WHEREAS the Regional Board deems it necessary to amend the said bylaw;

NOW THEREFORE THE REGIONAL DISTRICT OF CENTRAL OKANAGAN IN OPEN MEETING ASSEMBLED ENACTS AS FOLLOWS:

1. The Regional District of Central Okanagan Killiney Beach Water System Fees & Charges Bylaw No. 1371, 2015 is hereby amended by deleting:

“2. Killiney Beach Water System Annual Fees and Charges Table in its entirety,

Service Area	Fee Type	Quarterly Fees
Killiney Beach	User Fee - Basic	\$116.50
	User Fee - Consumption ¹	\$0.50 / M ³ for first 30 M ³ \$0.70 / M ³ for next 60 M ³ \$1.05 / M ³ for next 110 M ³ \$2.00 / M ³ for remainder
	Asset Renewal	\$164.25

¹ Rates and thresholds based on consumption per quarter”

and replacing it with:

2. Killiney Beach Water System Annual Fees and Charges Table:

Service Area	Fee Type	Quarterly Fees			
		Jul, 2019	Jan, 2020	Jan, 2021	Jan, 2022
Killiney Beach	User Fee - Basic	\$128.00	\$131.00	\$134.00	\$137.00
	User Fee - Consumption ¹	Rate for first 30 M ³	\$0.50 / M ³	\$0.50 / M ³	\$0.50 / M ³
		Rate for next 60 M ³	\$0.70 / M ³	\$0.70 / M ³	\$0.70 / M ³
		Rate for next 110 M ³	\$1.05 / M ³	\$1.05 / M ³	\$1.05 / M ³
		Rate for remainder	\$2.00 / M ³	\$2.00 / M ³	\$2.00 / M ³
	Asset Renewal Fee	\$164.25	\$168.00	\$171.00	\$174.00

¹ Rates and thresholds based on consumption per quarter

3. This bylaw may be cited as the "Regional District of Central Okanagan Killiney Beach Water System Fees & Charges Amendment Bylaw No. 1435, 2019".
4. This Bylaw comes into effect on July 1, 2019.

READ A FIRST TIME THIS	9 th	DAY OF	May	2019
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READ A SECOND TIME THIS	13 th	DAY OF	June	2019
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READ A THIRD TIME THIS	13 th	DAY OF	June	2019
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ADOPTED THIS	13 th	DAY OF	June	2019
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CHAIR

DIRECTOR OF CORPORATE SERVICES

I hereby certify the foregoing to be a true and correct copy of Bylaw No. 1435 cited as the "Regional District of Central Okanagan Killiney Beach Water System Fees & Charges Amendment Bylaw No. 1435, 2019", as read a third time and adopted by the Regional Board on the 13th day of June 2019.

Dated at Kelowna, B.C.
this 13th day of June 2019

DIRECTOR OF CORPORATE SERVICES

REGIONAL DISTRICT OF CENTRAL OKANAGAN

BYLAW NO. 1436

Being a bylaw to amend the Regional District of Central Okanagan Falcon Ridge Water System Fees & Charges Bylaw No. 1372, 2015

WHEREAS the Regional Board of the Regional District of Central Okanagan established Bylaw No. 1372, 2015, a bylaw to provide for the imposition of fees and charges against the owner or occupier of real property located within the service area boundary, or connected to the Regional District of Central Okanagan Falcon Ridge Water System.

AND WHEREAS the Regional Board deems it necessary to amend the said bylaw;

NOW THEREFORE THE REGIONAL DISTRICT OF CENTRAL OKANAGAN IN OPEN MEETING ASSEMBLED ENACTS AS FOLLOWS:

1. The Regional District of Central Okanagan Falcon Ridge Water Systems Bylaw No. 1372, 2015 is hereby amended by deleting:

- “2. Falcon Ridge Water System Annual Fees and Charges Table in its entirety,

Service Area	Fee Type	Quarterly Fees
Falcon Ridge	User Fee - Basic	\$137.00
	User Fee - Consumption ¹	\$0.40 / M ³ for first 30 M ³ \$0.55 / M ³ for next 60 M ³ \$0.80 / M ³ for next 110 M ³ \$2.00 / M ³ for remainder
	Asset Renewal	\$114.75

¹ Rates and thresholds based on consumption per quarter”

and replacing it with:

2. Falcon Ridge Water System Annual Fees and Charges Table:

Service Area	Fee Type	Quarterly Fees			
		Jul, 2019	Jan, 2020	Jan, 2021	Jan, 2022
Falcon Ridge	User Fee - Basic	\$185.00	\$204.00	\$208.00	\$212.00
	User Fee - Consumption ¹	Rate for first 30 M ³	\$0.40 / M ³	\$0.40 / M ³	\$0.40 / M ³
		Rate for next 60 M ³	\$0.55 / M ³	\$0.55 / M ³	\$0.55 / M ³
		Rate for next 110 M ³	\$0.80 / M ³	\$0.80 / M ³	\$0.80 / M ³
		Rate for remainder	\$2.00 / M ³	\$2.00 / M ³	\$2.00 / M ³
	Asset Renewal Fee	\$138.00	\$141.00	\$144.00	\$147.00

¹ Rates and thresholds based on consumption per quarter

2. This bylaw may be cited as the "Regional District of Central Okanagan Falcon Ridge Water System Fees & Charges Amendment Bylaw No. 1436, 2019".
3. This Bylaw comes into effect on July 1, 2019.

READ A FIRST TIME THIS	9 th	DAY OF	May	2019
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READ A SECOND TIME THIS	13 th	DAY OF	June	2019
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READ A THIRD TIME THIS	13 th	DAY OF	June	2019
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ADOPTED THIS	13 th	DAY OF	June	2019
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CHAIR

DIRECTOR OF CORPORATE SERVICES

I hereby certify the foregoing to be a true and correct copy of Bylaw No. 1436 cited as the "Regional District of Central Okanagan Falcon Ridge Water System Fees & Charges Amendment Bylaw No. 1436, 2019", as read a third time and adopted by the Regional Board on the 13th day of June 2019.

Dated at Kelowna, B.C.
this 13th day of June 2019

DIRECTOR OF CORPORATE SERVICES

REGIONAL DISTRICT OF CENTRAL OKANAGAN

BYLAW NO. 1437

Being a bylaw to amend the Regional District of Central Okanagan Sunset Ranch Water System Fees & Charges Bylaw No. 1373, 2015

WHEREAS the Regional Board of the Regional District of Central Okanagan established Bylaw No. 1373, 2015, a bylaw to provide for the imposition of fees and charges against the owner or occupier of real property located within the service area boundary, or connected to the Regional District of Central Okanagan Sunset Ranch Water System.

AND WHEREAS the Regional Board deems it necessary to amend the said bylaw;

NOW THEREFORE THE REGIONAL DISTRICT OF CENTRAL OKANAGAN IN OPEN MEETING ASSEMBLED ENACTS AS FOLLOWS:

1. The Regional District of Central Okanagan Sunset Ranch Water System Fees & Charges Bylaw No. 1373, 2015 is hereby amended by deleting:

- “2. Sunset Ranch Water System Annual Fees and Charges Table in its entirety,

Service Area	Fee Type	Quarterly Fees
Sunset Ranch	User Fee - Basic	\$90.00
	User Fee - Consumption ¹	\$0.25 / M ³ for first 30 M ³ \$0.35 / M ³ for next 60 M ³ \$0.55 / M ³ for next 110 M ³ \$2.00 / M ³ for remainder
	User Fee - Consumption - Club House ¹	\$0.35 / M ³
	Asset Renewal	\$54.75
	Investment - (> 0.25 ha)	\$450.00

¹ Rates and thresholds based on consumption per quarter”

and replacing it with:

2. Sunset Ranch Water System Annual Fees and Charges Table:

Service Area	Fee Type	Quarterly Fees			
		Jul, 2019	Jan, 2020	Jan, 2021	Jan, 2022
Sunset Ranch	User Fee - Basic	\$95.00	\$97.00	\$99.00	\$101.00
	User Fee - Consumption ¹	Rate for first 30 M ³	\$0.25 / M ³	\$0.25 / M ³	\$0.25 / M ³
		Rate for next 60 M ³	\$0.35 / M ³	\$0.35 / M ³	\$0.35 / M ³
		Rate for next 110 M ³	\$0.55 / M ³	\$0.55 / M ³	\$0.55 / M ³
		Rate for remainder	\$2.00 / M ³	\$2.00 / M ³	\$2.00 / M ³
	User Fee - Consumption - Club House ¹	\$0.35 / M ³	\$0.35 / M ³	\$0.35 / M ³	\$0.35 / M ³
	Asset Renewal Fee	\$54.75	\$56.00	\$57.00	\$58.00
	Investment Fee - (> 0.25 ha)	\$450.00	\$450.00	\$450.00	\$450.00

¹ Rates and thresholds based on consumption per quarter

2. This bylaw may be cited as the “Regional District of Central Okanagan Sunset Ranch Water System Fees & Charges Amendment Bylaw No. 1437, 2019”.
3. This Bylaw comes into effect on July 1, 2019.

READ A FIRST TIME THIS 9th DAY OF May 2019

READ A SECOND TIME THIS 13th DAY OF June 2019

READ A THIRD TIME THIS 13th DAY OF June 2019

ADOPTED THIS 13th DAY OF June 2019

CHAIR

DIRECTOR OF CORPORATE SERVICES

I hereby certify the foregoing to be a true and correct copy of Bylaw No. 1437 cited as the “Regional District of Central Okanagan Sunset Ranch Water System Fees & Charges Amendment Bylaw No. 1437, 2019”, as read a third time and adopted by the Regional Board on the 13th day of June 2019.

Dated at Kelowna, B.C.
this 13th day of June 2019

DIRECTOR OF CORPORATE SERVICES

REGIONAL DISTRICT OF CENTRAL OKANAGAN

BYLAW NO. 1438

Being a bylaw to amend the Regional District of Central Okanagan Dietrich Water System Fees & Charges Bylaw No. 1374, 2015

WHEREAS the Regional Board of the Regional District of Central Okanagan established Bylaw No. 1374, 2015, a bylaw to provide for the imposition of fees and charges against the owner or occupier of real property located within the service area boundary, or connected to the Regional District of Central Okanagan Dietrich Water System.

AND WHEREAS the Regional Board deems it necessary to amend the said bylaw;

NOW THEREFORE THE REGIONAL DISTRICT OF CENTRAL OKANAGAN IN OPEN MEETING ASSEMBLED ENACTS AS FOLLOWS:

1. The Regional District of Central Okanagan Dietrich Water System Fees & Charges Bylaw No. 1374, 2015 is hereby amended by deleting:

- “2. Dietrich Water System Annual Fees and Charges Table in its entirety,

Service Area	Fee Type	Quarterly Fees
Dietrich	User Fee - Basic	\$403.00
	User Fee - Consumption ¹	\$0.50 / M ³ for first 30 M ³ \$0.70 / M ³ for next 60 M ³ \$1.05 / M ³ for next 110 M ³ \$2.00 / M ³ for remainder
	Asset Renewal	\$189.25

¹ Rates and thresholds based on consumption per quarter”

and replacing it with:

2. Dietrich Water System Annual Fees and Charges Table:

Service Area	Fee Type	Quarterly Fees			
		Jul, 2019	Jan, 2020	Jan, 2021	Jan, 2022
Dietrich	User Fee - Basic	\$524.00	\$534.00	\$545.00	\$556.00
	User Fee - Consumption ¹	Rate for first 30 M ³	\$0.50 / M ³	\$0.50 / M ³	\$0.50 / M ³
		Rate for next 60 M ³	\$0.70 / M ³	\$0.70 / M ³	\$0.70 / M ³
		Rate for next 110 M ³	\$1.05 / M ³	\$1.05 / M ³	\$1.05 / M ³
		Rate for remainder	\$2.00 / M ³	\$2.00 / M ³	\$2.00 / M ³
	Asset Renewal Fee	\$259.00	\$264.00	\$269.00	\$274.00

¹ Rates and thresholds based on consumption per quarter

2. This bylaw may be cited as the "Regional District of Central Okanagan Dietrich Water System Fees & Charges Amendment Bylaw No. 1438, 2019".
3. This Bylaw comes into effect on July 1, 2019.

READ A FIRST TIME THIS 9th DAY OF May 2019

READ A SECOND TIME THIS 13th DAY OF June 2019

READ A THIRD TIME THIS 13th DAY OF June 2019

ADOPTED THIS 13th DAY OF June 2019

CHAIR

DIRECTOR OF CORPORATE SERVICES

I hereby certify the foregoing to be a true and correct copy of Bylaw No. 1438 cited as the "Regional District of Central Okanagan Dietrich Water System Fees & Charges Amendment Bylaw No. 1438, 2019", as read a third time and adopted by the Regional Board on the 13th day of June 2019.

Dated at Kelowna, B.C.
this 13th day of June 2019

DIRECTOR OF CORPORATE SERVICES

REGIONAL DISTRICT OF CENTRAL OKANAGAN

BYLAW NO. 1439

Being a bylaw to amend the Regional District of Central Okanagan Westshore Estates Water System Fees & Charges Bylaw No. 1375, 2015

WHEREAS the Regional Board of the Regional District of Central Okanagan established Bylaw No. 1375, 2015, a bylaw to provide for the imposition of fees and charges against the owner or occupier of real property located within the service area boundary, or connected to the Regional District of Central Okanagan Westshore Estates Water System.

AND WHEREAS the Regional Board deems it necessary to amend the said bylaw;

NOW THEREFORE THE REGIONAL DISTRICT OF CENTRAL OKANAGAN IN OPEN MEETING ASSEMBLED ENACTS AS FOLLOWS:

1. The Regional District of Central Okanagan Westshore Estates Water System Fees & Charges Bylaw No. 1375, 2015 is hereby amended by deleting:

- “2. Westshore Estates Water System Annual Fees and Charges Table in its entirety,

Service Area	Fee Type	Quarterly Fees
Westshore Estates	User Fee - Basic	\$137.50
	User Fee - Consumption ¹	\$0.50 / M ³ for first 30 M ³ \$0.70 / M ³ for next 60 M ³ \$1.05 / M ³ for next 110 M ³ \$2.00 / M ³ for remainder
	Asset Renewal	\$145.50

¹ Rates and thresholds based on consumption per quarter”

and replacing it with:

2. Westshore Estates Water System Annual Fees and Charges Table:

Service Area		Fee Type	Quarterly Fees			
			Jul, 2019	Jan, 2020	Jan, 2021	Jan, 2022
Westshore	User Fee - Basic		\$144.00	\$147.00	\$150.00	\$153.00
	User Fee - Consumption ¹	Rate for first 30 M ³	\$0.50 / M ³	\$0.50 / M ³	\$0.50 / M ³	\$0.50 / M ³
		Rate for next 60 M ³	\$0.70 / M ³	\$0.70 / M ³	\$0.70 / M ³	\$0.70 / M ³
		Rate for next 110 M ³	\$1.05 / M ³	\$1.05 / M ³	\$1.05 / M ³	\$1.05 / M ³
		Rate for remainder	\$2.00 / M ³	\$2.00 / M ³	\$2.00 / M ³	\$2.00 / M ³
Asset Renewal Fee		\$173.00	\$176.00	\$180.00	\$184.00	

¹ Rates and thresholds based on consumption per quarter

2. This bylaw may be cited as the “Regional District of Central Okanagan Westshore Estates Water System Fees & Charges Amendment Bylaw No. 1439, 2019”.
3. This Bylaw comes into effect on July 1, 2019.

READ A FIRST TIME THIS	9 th	DAY OF	May	2019
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READ A SECOND TIME THIS	13 th	DAY OF	June	2019
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READ A THIRD TIME THIS	13 th	DAY OF	June	2019
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ADOPTED THIS	13 th	DAY OF	June	2019
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CHAIR

DIRECTOR OF CORPORATE SERVICES

I hereby certify the foregoing to be a true and correct copy of Bylaw No. 1439 cited as the “Regional District of Central Okanagan Westshore Estates Water System Fees & Charges Amendment Bylaw No. 1439, 2019”, as read a third time and adopted by the Regional Board on the 13th day of June 2019.

Dated at Kelowna, B.C.
this 13th day of June 2019

DIRECTOR OF CORPORATE SERVICES

REGIONAL DISTRICT OF CENTRAL OKANAGAN

BYLAW NO. 1440

Being a bylaw to amend the Regional District of Central Okanagan Upper Fintry, Shalal Road, and Valley of the Sun Water System Fees & Charges Bylaw No. 1376, 2015

WHEREAS the Regional Board of the Regional District of Central Okanagan established Bylaw No. 1376, 2015, a bylaw to provide for the imposition of fees and charges against the owner or occupier of real property located within the service area boundary, or connected to the Regional District of Central Okanagan Upper Fintry, Shalal Road, and Valley of the Sun Water System.

AND WHEREAS the Regional Board deems it necessary to amend the said bylaw;

NOW THEREFORE THE REGIONAL DISTRICT OF CENTRAL OKANAGAN IN OPEN MEETING ASSEMBLED ENACTS AS FOLLOWS:

1. The Regional District of Central Okanagan Upper Fintry, Shalal Road, and Valley of the Sun Water System Fees & Charges Bylaw No. 1376, 2015 is hereby amended by deleting:

- “2. Upper Fintry, Shalal Road, and Valley of the Sun Water System Annual Fees and Charges Table in its entirety,

Service Area	Fee Type	Quarterly Fees
Upper Fintry, Shalal Road, and Valley of the Sun	User Fee - Basic	\$172.50
	User Fee - Consumption ¹	\$0.40 / M ³ for first 30 M ³ \$0.55 / M ³ for next 60 M ³ \$0.80 / M ³ for next 110 M ³ \$2.00 / M ³ for remainder
	Asset Renewal	\$50.00

¹ Rates and thresholds based on consumption per quarter”

and replacing it with:

2. Upper Fintry, Shalal Road, and Valley of the Sun Water System Annual Fees and Charges Table:

Service Area		Fee Type	Quarterly Fees			
			Jul, 2019	Jan, 2020	Jan, 2021	Jan, 2022
Upper Fintry	User Fee - Basic		\$198.00	\$202.00	\$206.00	\$210.00
	User Fee - Consumption ¹	Rate for first 30 M ³	\$0.40 / M ³	\$0.40 / M ³	\$0.40 / M ³	\$0.40 / M ³
		Rate for next 60 M ³	\$0.55 / M ³	\$0.55 / M ³	\$0.55 / M ³	\$0.55 / M ³
		Rate for next 110 M ³	\$0.80 / M ³	\$0.80 / M ³	\$0.80 / M ³	\$0.80 / M ³
		Rate for remainder	\$2.00 / M ³	\$2.00 / M ³	\$2.00 / M ³	\$2.00 / M ³
Asset Renewal Fee		\$60.00	\$61.00	\$62.00	\$63.00	

¹ Rates and thresholds based on consumption per quarter

2. This bylaw may be cited as the "Regional District of Central Okanagan Upper Fintry, Shalal Road, and Valley of the Sun Water System Fees & Charges Amendment Bylaw No. 1440, 2019".
3. This Bylaw comes into effect on July 1, 2019.

READ A FIRST TIME THIS	9 th	DAY OF	May	2019
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READ A SECOND TIME THIS	13 th	DAY OF	June	2019
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READ A THIRD TIME THIS	13 th	DAY OF	June	2019
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ADOPTED THIS	13 th	DAY OF	June	2019
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CHAIR

DIRECTOR OF CORPORATE SERVICES

I hereby certify the foregoing to be a true and correct copy of Bylaw No. 1440 cited as the "Regional District of Central Okanagan Upper Fintry, Shalal Road, and Valley of the Sun Water System Fees & Charges Amendment Bylaw No. 1440, 2019", as read a third time and adopted by the Regional Board on the 13th day of June 2019.

Dated at Kelowna, B.C.
this 13th day of June 2019

DIRECTOR OF CORPORATE SERVICES

REGIONAL DISTRICT OF CENTRAL OKANAGAN

BYLAW NO. 1442

Being a bylaw to amend the Regional District of Central Okanagan Water Systems Fees and Regulations Bylaw No. 1370, 2015

WHEREAS the Regional Board of the Regional District of Central Okanagan established Bylaw No. 1370, 2015, a bylaw to establish regulations under which water will be provided and to establish fees and charges which may be imposed against the owner of any parcel located within a Regional District of Central Okanagan water system service area;

AND WHEREAS the Regional Board deems it necessary to amend the said bylaw;

NOW THEREFORE THE REGIONAL DISTRICT OF CENTRAL OKANAGAN IN OPEN MEETING ASSEMBLED ENACTS AS FOLLOWS:

- a) The Regional District of Central Okanagan Water Systems Bylaw No. 1370 is hereby amended by

Deleting from SCHEDULE "A" FEES & CHARGES, Section 1. Application Fees b) Water meter Fees (/meter):

3/4" diameter.....	\$440.00
1" diameter.....	\$635.00
1 1/2" diameter.....	\$935.00
2" diameter.....	\$1,220.00
Pit <i>water meter</i> surcharge.....	\$325.00

And adding:

SCHEDULE "A" FEES & CHARGES, Section 1. Application Fees b) Water meter Fees (/meter):

Meter Type	Jul, 2019	Jan, 2020	Jan, 2021	Jan, 2022
5/8"x3/4" diameter	\$485.00	\$500.00	\$515.00	\$530.00
3/4" diameter	\$530.00	\$546.00	\$562.00	\$579.00
1" diameter	\$640.00	\$659.00	\$679.00	\$699.00
1 1/2" diameter	\$1,060.00	\$1,092.00	\$1,125.00	\$1,159.00
2" diameter	\$1,245.00	\$1,282.00	\$1,320.00	\$1,360.00
Pit <i>water meter</i> surcharge	\$380.00	\$391.00	\$403.00	\$415.00

- b) This bylaw may be cited as the "Regional District of Central Okanagan Water Systems Fees and Regulations Amendment Bylaw No.1442, 2019".
- c) This Bylaw comes into effect on July 1, 2019.

READ A FIRST TIME THIS	9 th	DAY OF	May	2019
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READ A SECOND TIME THIS	13 th	DAY OF	June	2019
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READ A THIRD TIME THIS	13 th	DAY OF	June	2019
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ADOPTED THIS	13 th	DAY OF	June	2019
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CHAIR

DIRECTOR OF CORPORATE SERVICES

I hereby certify the foregoing to be a true and correct copy of Bylaw No. 1442 cited as the "Regional District of Central Okanagan Water Systems Fees and Regulations Amendment Bylaw No.1442, 2019", as read a third time and adopted by the Regional Board on the 13th day of June 2019.

Dated at Kelowna, B.C.
this 13th day of June 2019

DIRECTOR OF CORPORATE SERVICES