

City of Kelowna

Regular Council Meeting

AGENDA



Monday, July 27, 2020
1:30 pm
Council Chamber
City Hall, 1435 Water Street

Pages

1. Call to Order

I would like to acknowledge that we are gathered today on the traditional, ancestral, unceded territory of the syilx/Okanagan people.

This Meeting is open to the public and all representations to Council form part of the public record. A live audio-video feed is being broadcast and recorded on kelowna.ca and a delayed broadcast is shown on Shaw Cable.

2. Confirmation of Minutes

6 - 13

PM Meeting - July 13, 2020

3. Non -Development Reports

3.1 Water Supply Update

14 - 18

To provide Council an update on the implementation of Stage 3 water restrictions on the potable water supply in southeast Kelowna.

3.2 COVID-19 Pandemic Public Hearing and Tuesday Meeting Measures

19 - 27

To provide information on the COVID-19-related changes to public hearing and Tuesday evening procedures and practices.

4. Development Application Reports & Related Bylaws

- 4.1 Highway 97 N 2339-2397 - Z20-0014 (BL12083) - Dilworth Shopping Centre Ltd., Inc. No. 319846** 28 - 44
- To rezone a portion of the subject property from the C4rcs – Urban Centre Commercial (Retail Cannabis Sales) zone to the C4rls/rcs – Urban Centre Commercial (Retail Liquor Sales / Retail Cannabis Sales) zone to facilitate the relocation of an existing liquor store on the subject site, and to waive the Public Hearing.
- 4.2 Highway 97 N 2339-2397 - BL12083 (Z20-0014) - Dilworth Shopping Centre Ltd., Inc. No. 319846** 45 - 46
- To give Bylaw No. 12083 first reading in order to rezone the subject property from the C4rcs – Urban Centre Commercial (Retail Cannabis Sales) zone to the C4rls/rcs – Urban Centre Commercial (Retail Liquor Sales/ Retail Cannabis Sales) zone.
- 4.3 Pacific Ave 1144 - Z20-0013 (BL12084) - 1217799 BC Ltd., Inc.No. BC1217799** 47 - 71
- To rezone the property from the RU6 – Two Dwelling Housing zone to the C4 – Urban Centre Commercial zone to facilitate the development of a 4 storey mixed use building with both commercial and residential uses, and to waive the Public Hearing.
- 4.4 Pacific Ave 1144 - BL12084 (Z20-0013) - 1217799 BC Ltd., Inc. No. BC1217799** 72 - 72
- To give Bylaw No. 12084 first reading in order to rezone the subject property from the RU6 – Two Dwelling Housing zone to the C4 – Urban Centre Commercial zone.
- 4.5 Park Ave 409 - Z20-0042 (BL12085) - Brenda Rusnak** 73 - 93
- To rezone the subject property from the RU1-Large Lot Housing zone to the RU2-Medium Lot Housing zone to facilitate a 2-lot subdivision.
- 4.6 Park Ave 409 - BL12085 (Z20-0042) - Brenda Rusnak** 94 - 94
- To give Bylaw No. 12085 first reading in order to rezone the subject property from the RU1 - Large Lot Housing zone to the RU2 – Medium Lot Housing zone.
- 4.7 Robson Rd W 235, 285 and Rutland Rd S 240 - Z20-0010 (BL12086) - 1918951 Alberta Ltd., Inc.No. A0110539** 95 - 119
- To rezone the subject property from the RU1- Large Lot Housing to the RM3- Low Density Multiple Dwelling Housing to facilitate the development of a multi-family building, and to waive the Public Hearing.
- 4.8 Robson Rd W 235, 285 and Rutland Rd S 240 - BL12086 (Z20-0010) - 1918951 Alberta Ltd., Inc. No. A0110539** 120 - 120
- To give Bylaw No. 12086 first reading in order to rezone the subject properties from the RU1 - Large Lot Housing zone to the RM3 - Low Density Multiple Housing zone.

- 4.9 Snowsell St 505-525 - OCP14-0027 (BL11105) and Z14-0059 (BL11106) - 1074470 B.C. Ltd., Inc.No. BC1074470** 121 - 123

To rescind all three readings given to OCP Amendment Bylaw No. 11105 and Rezoning Bylaw No. 11106, and direct staff to close the file.

- 4.10 Snowsell Rd N 505-525 - BL11105 (OCP14-0027) - 1074470 B.C. Ltd., Inc. No. BC1074470** 124 - 124

To rescind first three readings of Bylaw No. 11105.

- 4.11 Snowsell Rd N 505-525 - BL11106 (Z14-0059) - 1074470 B.C. Ltd., Inc. No. BC1074470** 125 - 125

To rescind first three readings of Bylaw No. 11106.

5. Bylaws for Adoption (Development Related)

- 5.1 Landsdowne Pl 1990 - BL12052 (Z19-0116) - Raul Holdings Inc., Inc. No. BC0968428** 126 - 126

To adopt Bylaw No. 12052 in order to rezone the subject property from the C10 - Service Commercial zone to the C10rcs - Service Commercial (Retail Cannabis Sales) zone.

- 5.2 Underhill St 1940, 1960 - BL12061 (Z18-0071) - 1940 Underhill Developments Corp., Inc. No. BC1159386** 127 - 128

To adopt Bylaw No. 12061 in order to rezone the subject properties from the A1 - Agriculture 1 zone and the C6 - Regional Commercial zone to the C4 - Urban Centre Commercial zone.

6. Non-Development Reports & Related Bylaws

- 6.1 Okanagan Gateway Study** 129 - 166

To provide Council with an update on the Okanagan Gateway Study.

- 6.2 Budget Adjustment - Cast and Ductile Iron Watermain Replacement** 167 - 169

To create a water utility project to replace approximately 850 m of poor condition cast and ductile iron watermain as part of the Ethel Street Active Transportation Corridor – Phase 3C.

- 6.3 Fall 2020 Transit Service Levels and System Performance Update** 170 - 192

To update Council on the transit ridership level observed over the course of the spring and early summer stemming from the COVID-19 pandemic; and to advise Council of the level of service that will be provided in the fall in response to reduced demand for public transit, the associated financial impact, and planned mitigation strategies.

6.4	Subdivision, Development and Servicing Bylaw 7900 - update	193 - 229
	To amend the Subdivision, Development and Servicing Bylaw No. 7900 and Approved Products List so they align with industry best practice and ensure the construction of high quality and long-lasting infrastructure.	
6.5	Amendment to Council Policy No. 266 - Subdivision, Development & Servicing - Approved Product List	230 - 247
	To amend Council Policy No. 266.	
6.6	BL12066 - Amendment No. 21 to the Subdivision, Development & Servicing Bylaw No. 7900	248 - 392
	To give Bylaw No. 12066 first, second and third reading.	
6.7	Audit Committee Meeting Review for 2019	393 - 395
	To provide a high-level review of the information provided to the Audit Committee during the meeting on July 14, 2020.	
6.8	2019 Consolidated Financial Statements	396 - 452
	To present the Consolidated Financial Statements to Council for acceptance per the legislative requirements, to provide Council with a recommendation on the appropriation of \$8,113,748 of surplus to general reserves and accumulated surplus and to seek approval to include the financial statements in the annual report.	
6.9	Permissive Tax Exemption Policy 327 - Non-Profits	453 - 470
	To respond to Council's July 14, 2020 request for a report explaining the permissive tax exemption policy as it relates to non-profits.	
6.10	Rental Housing Agreement Bylaws	471 - 472
	To consider two Rental Housing Agreements for projects pursuing rental housing incentives, in accordance with the Revitalization Tax Exemption Bylaw No. 9561.	
6.11	Leon Ave 815 - BL12044 - Housing Agreement Authorization Bylaw - 815 Leon Developments Ltd., Inc. No. BC1053909	473 - 480
	To give Bylaw No. 12044 first, second and third readings in order to authorize the City of Kelowna to enter into a Housing Agreement with 815 Development Ltd., Inc. No. BC1053909.	

- 6.12 Clement Ave 740 and Richter St 1195 - BL12046 - Housing Agreement Authorization Bylaw - PC Urban Clement Holdings Ltd., Inc. No. BC1099980** 481 - 495

To give Bylaw No. 12046 first, second and third readings in order to authorize the City of Kelowna to enter into a Housing Agreement with PC Urban Clement Holdings Ltd., Inc. No. BC1099980.

- 6.13 Rental Housing Tax Exemption Agreements** 496 - 547

To bring forward two rental housing tax exemption agreements in accordance with the Revitalization Tax Exemption Program Bylaw No. 9561 for Council consideration.

7. Mayor and Councillor Items

8. Termination



City of Kelowna Regular Council Meeting Minutes

Date: Monday, July 13, 2020
Time: 1:30 pm
Location: Council Chamber
City Hall, 1435 Water Street

Members Present Mayor Colin Basran, Councillor Maxine DeHart*, Ryan Donn, Gail Given, Charlie Hodge, Brad Sieben, Mohini Singh, Luke Stack and Loyal Wooldridge

Staff Present City Manager, Doug Gilchrist; City Clerk, Stephen Fleming; Divisional Director, Planning and Development Services, Ryan Smith*; Community Planning & Development Manager, Dean Strachan*; Urban Planning & Development Manager, James Moore*; Deputy City Manager, Joe Creron*; Fleet Services Manager, Alf Soros*; Cemetery Manager, David Gatzke*; Community & Neighbourhood Services Manager, Mariko Siggers*; Social Development Manager, Sue Wheeler*; Sport & Event Services Manager, Doug Nicholas*; Partnership Manager, Sandra Kochan*; Acting Long Range Policy Manager, Michelle Kam*; Legislative Coordinator (Confidential), Clint McKenzie

(* Denotes partial attendance)

1. Call to Order

Mayor Basran called the meeting to order at 1:38 p.m.

Mayor Basran advised that the meeting is open to the public and all representations to Council form part of the public record. A live audio-video feed is being broadcast and recorded on kelowna.ca and a delayed broadcast is shown on Shaw Cable.

2. Confirmation of Minutes

Moved By Councillor Hodge/Seconded By Councillor Wooldridge

R0438/20/07/13 THAT the Minutes of the Regular Meetings of June 1, 2020 be confirmed as circulated.

Carried

3. Development Application Reports & Related Bylaws

3.1 Arab Rd 185, Z20-0025 – 1046958 B.C. Ltd., Inc. No. BC1046958

Withdrawn by the applicant.

3.2 Byrns Rd 1756, A20-0001 - Byrnes Farm Ltd. Inc. No. 210094

Staff:

- Displayed a PowerPoint Presentation summarizing the application and responded to questions from Council.

Moved By Councillor Singh/Seconded By Councillor Stack

R0439/20/07/13 THAT Agricultural Land Reserve Appeal No. A20-0001 for Lot 23 District Lot 129 ODYD Plan 415 Except the East 4.14 Chains located at 1756 Byrns Road, Kelowna, BC for a Non-Adhering Residential Use pursuant to Section 25 of the Agricultural Land Commission Act, be supported by Council;

AND THAT the Council directs Staff to forward the subject application to the Agricultural Land Commission for consideration.

Carried

3.3 Barton St. 4642 - Z20-0034 (BL12063) - Jeff M. Clark, Jasmine C. Bedard, Brian G. Clark and Nancy S. Clark

Staff:

- Displayed a PowerPoint Presentation summarizing the application and responded to questions from Council.

Moved By Councillor Singh/Seconded By Councillor Hodge

R0440/20/07/13 THAT Rezoning Application No. Z20-0034 to amend the City of Kelowna Zoning Bylaw No. 8000 by changing the zoning classification of Lot 3 District Lot 580A SDYD Plan KAP69497, located at 4642 Barton St., Kelowna, BC from the RU1 – Large Lot Housing zone to the RU1c – Large Lot Housing with Carriage House zone, be considered by Council; AND FURTHER THAT Council, in accordance with Local Government Act s. 464(2), waive the Public Hearing for the Rezoning Bylaw.

Carried

3.4 Barton St. 4642 - BL12063 (Z20-0034) - Jeff M. Clark, Jasmine C. Bedard, Brian G. Clark and Nancy S. Clark

Moved By Councillor Singh/Seconded By Councillor Hodge

R0441/20/07/13 THAT Bylaw No. 12063 be read a first time.

Carried

3.5 Bach Road 185 - Z20-0019 (BL12064) - Ashwani K. Lakha and Komal R. Lakha

Staff:

- Displayed a PowerPoint Presentation summarizing the application.

Moved By Councillor Given/Seconded By Councillor Donn

R0442/20/07/13 THAT Rezoning Application No. Z20-0019 to amend the City of Kelowna Zoning Bylaw No. 8000 by changing the zoning classification of Lot B Section 26 Township 26 ODYD Plan KAP57577, located at 185 Bach Rd., Kelowna, BC from the RU1 – Large Lot Housing zone to the RU2 – Medium Lot Housing zone, be considered by Council;

AND THAT Council, in accordance with Local Government Act s. 464(2), waive the Public Hearing for the Rezoning Bylaw;

AND THAT final adoption of the Rezoning Bylaw be considered subsequent to the outstanding conditions of approval as set out in Schedule "A" attached to the Report from the Development Planning Department dated April 8, 2020;

AND FURTHER THAT final adoption of the Rezoning Bylaw be considered in conjunction with Council's consideration of a Development Variance Permit for the subject property.

Carried

3.6 Bach Road 185 - BL12064 (Z20-0019) - Ashwani K. Lakha and Komal R. Lakha

Moved By Councillor Hodge/Seconded By Councillor Singh

R0443/20/07/13 THAT Bylaw No. 12064 be read a first time.

Carried

3.7 Supplemental Report – Timberline Rd 178 – Z18-0069 (BL12051)

Moved By Councillor DeHart/Seconded By Councillor Wooldridge

R0444/20/07/13 THAT Council receives, for information, the report from the Office of the City Clerk dated July 13, 2020 with respect to the summary of correspondence received for Zoning Bylaw No. 12051;

AND THAT Rezoning Bylaw No. 12051 be forwarded for further reading consideration.

Carried

3.8 Timberline Rd – BL12051 (Z18-0069) – Michael Lanan Stang

Moved By Councillor Singh/Seconded By Councillor Hodge

R0445/20/07/13 THAT Bylaw No. 12051 be read a second and third time and be adopted.

Carried

3.9 Supplemental Report–Pandosy St 2340–Z19-0135 (BL12056)–1128710 BC Ltd.

Moved By Councillor Hodge/Seconded By Councillor Sieben

R0446/20/07/13 THAT Council receives, for information, the report from the Office of the City Clerk dated July 13, 2020 with respect to the summary of correspondence received for Zoning Bylaw No. 12056;

AND THAT Rezoning Bylaw No. 12056 be forwarded for further reading consideration.

Councillors Hodge and Sieben - Opposed

3.10 Pandosy Street – BL12056 (Z19-0135) – 1128710 B.C. Ltd Inc. No. BC1128710

Moved By Councillor Singh/Seconded By Councillor Hodge

R0447/20/07/13 THAT Bylaw No. 12056 be read a second and third time.

3.11 Supplemental Report – Underhill St 1940 and 1960 – Z18-0071 (BL12061) – 1940 Underhill Developments Corp Inc. No. BC1159386

Moved By Councillor Singh/Seconded By Councillor Hodge

R0448/20/07/13 THAT Council receives, for information, the report from the Office of the City Clerk dated July 13, 2020 with respect to the summary of correspondence received for Zoning Bylaw No. 12061;

AND THAT Rezoning Bylaw No. 12061 be forwarded for further reading consideration.

3.12 Underhill St 1940, 1960 - BL12061 (Z18-0071) - 1940 Underhill Developments Corp., Inc. No. BC1159386

Moved By Councillor DeHart/Seconded By Councillor Sieben

R0449/20/07/13 THAT Bylaw No. 12061 be read a second and third time.

Carried

4. Bylaws for Adoption (Development Related)

4.1 Gallagher Rd 2975, BL11983 (TA19-0017) - David Geen

Moved By Councillor Stack/Seconded By Councillor DeHart

R0450/20/07/13 THAT Bylaw No. 11983 be adopted.

Carried

4.2 BL12027 - Zoning Bylaw No. 8000 Text Amendment No. TA19-0009 – Fencing and Retaining Walls

Moved By Councillor DeHart/Seconded By Councillor Stack

R0451/20/07/13 THAT Bylaw No. 12027 be adopted.

Carried

5. Non-Development Reports & Related Bylaws

5.1 RU7 Housing Updates

Staff:

- Displayed a PowerPoint Presentation summarizing the proposed amendments and responded to questions from Council.

The meeting recessed due to technical difficulties with the external video broadcast and the internal audio-visual system at 2:12 p.m.

The meeting reconvened at 3:40 p.m.:

Moved By Councillor Donn/Seconded By Councillor Hodge

R0452/20/07/13 THAT Council receives, for information, the report from the Development Planning Department dated July 13, 2020, with respect to the RU7 Infill Housing Updates;

AND THAT Council directs Staff to prepare amendments to the Official Community Plan and Zoning Bylaw, as outlined in the RU7 Infill Housing Updates report from the Development Planning Department, dated July 13, 2020;

AND FURTHER THAT Council grant a 1-year extension to the fast-track process to the winners of the Infill Challenge, to conclude on July 13, 2021.

Carried

5.2 Fleet Services NAPA Parts Program Value for Money Audit Review

Staff:

- Displayed a PowerPoint Presentation summarizing the results of the review.

The City Manager provided a brief overview of the ongoing value for money audit program.

Moved By Councillor DeHart/Seconded By Councillor Donn

R0453/20/07/13 THAT Council receives for information the report from the Civic Operations Department, dated July 13, 2020 regarding the NAPA Fleet Parts Program Review.

Carried

5.3 Kelowna Memorial Park Cemetery Value for Money Audit Review

Staff:

- Displayed a PowerPoint Presentation summarizing the results of the review and responded to questions from Council.

Moved By Councillor Sieben/Seconded By Councillor Donn

R0454/20/07/13 THAT Council receives for information the report from the Civic Operations Department, dated July 13, 2020, regarding the Kelowna Memorial Park Cemetery Value for Money Review.

Carried

5.4 Child Care Needs Assessment Final Report

Staff:

- Introduced the presenter Daylin Mantyka, Urban Matters

Daylin Mantyka displayed a PowerPoint presentation summarizing the final report methodology and recommendations and responded to questions from Council.

Moved By Councillor Wooldridge/Seconded By Councillor Hodge

R0455/20/07/13 THAT Council accept the report from Active Living & Culture regarding the Community Child Care Planning & Needs Assessment Grant dated July 13, 2020 for information;

AND THAT Council direct staff to work with the Central Okanagan Child Care Committee to submit a final Union of BC Municipalities (UBCM) grant report and the Child Care Community Planning Report to the UBCM and the Ministry of Child and Family Development fulfilling the grant obligations of the Community Child Care Planning Program.

Carried

5.5 Health Canada Substance Use and Addictions Program Funding - PEOPLE Peer Navigators and Capacity Building Project

Staff:

- Provided a summary of the project and contribution agreement and responded to questions from Council.

Moved By Councillor Stack/Seconded By Councillor Hodge

R0456/20/07/13 THAT Council receive for information the report from the Active Living and Culture Department dated July 13, 2020 regarding funding received under the Health Canada Substance Use and Addictions Program for a PEOPLE Peer Navigators and Capacity Building Project;

AND THAT COUNCIL approve the amendment of the 2020 Financial Plan to include \$691,000 for a three-year Health Canada grant program.

Carried

5.6 2020 Memorial Cup Financial Summary

Staff:

- Displayed a PowerPoint Presentation summarizing the request from the Kelowna Memorial Cup Host Society and responded to questions from Council.

Moved By Councillor Hodge/Seconded By Councillor Sieben

R0457/20/07/13 THAT Council receives the report from the Sport & Event Services Manager, dated July 13, 2020, providing information related to the cancellation of the 2020 Memorial Cup and the financial outcomes associated with it;

AND THAT Council approves the allocation of \$90k in committed grant funds to the Kelowna Memorial Cup 2020 Society to assist with the outstanding operational expenses related to the preparations for hosting the 2020 Memorial Cup;

AND FURTHER THAT Council approves the remaining \$135k currently held in reserve be used for the 2023 Memorial Cup.

Carried

5.7 Tourism Recovery Support

Councillor Dehart declared a conflict of interest as her employer collects the MRDT tax, travels with Tourism Kelowna promoting the City, and has been in the industry for 30 years and left the meeting at 4:58 p.m.

Staff:

- Displayed a PowerPoint Presentation summarizing the request from Tourism Kelowna.

Moved By Councillor Sieben/Seconded By Councillor Given

R0458/20/07/13 THAT Council receives, for information, the report from the Partnership Office dated July 13, 2020 regarding tourism recovery support;

AND THAT Council direct staff to bring forward the 2021 Affordable Housing Plan with a 50/50 sharing of the Online Accommodation Platform revenue on a one time basis only;

AND FURTHER THAT the City of Kelowna endorses the resumption of destination marketing by Tourism Kelowna to local, regional, provincial and Western Canadian audiences, until such time as national and international visitation is approved as safe by provincial health authorities.

Defeated

Councillors Donn, Hodge, Singh, Stack and Wooldridge – Opposed

Councillor DeHart returned to the meeting at 6:14 p.m.

5.8 Okanagan Gateway Study

Deferred to the July 27, 2020 meeting.

6. Mayor and Councillor Items

The Mayor read a prepared statement regarding the recent announcement by IHA on COVID-19 cases in Kelowna.

Councillor Sieben provided comments on the mayor's statement.

Moved By Councillor Sieben/Seconded By Councillor Hodge

R0459/20/07/13 THAT Council direct staff to bring forward the various COVID-19 related public hearing initiatives for Council consideration.

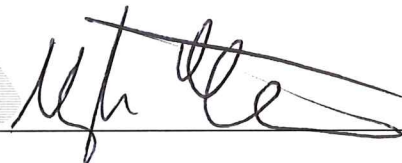
Carried

7. Termination

The meeting was terminated at 6:19 p.m.

Mayor Basran

/cm



City Clerk

Report to Council



Date: July 27, 2020
To: Council
From: City Manager
Subject: Water Supply Update
Department: Utility Services

Recommendation:

THAT Council receives, for information, the report from Utility Services dated July 27, 2020 regarding an update on potable water supply in southeast Kelowna;

AND THAT Council direct staff to bring forward a bylaw amendment to extend the deadline to request the \$500 credit for using new irrigation services to October 1, 2020

Purpose:

To provide Council an update on the implementation of Stage 3 water restrictions on the potable water supply in southeast Kelowna.

Background:

On Friday July 17, staff implemented modified Stage 3 water restrictions for the potable water system in southeast Kelowna, including the Crawford Estates neighbourhood. Stage 3 water restrictions allow for property irrigation on one day per week (only) as opposed to our "normal" Stage 1 restrictions of three days per week. The modification is that residents continue to be allowed to hand water or water with a spring-loaded garden hose at any time during this Stage 3 implementation. Users of the non-potable system as well as potable water users outside of the Stage 3 area, remain on Stage 1 restrictions.

On March 23, 2020 Council amended the Water Regulation Bylaw to encourage smaller properties in southeast Kelowna to quickly switch to non-potable water for irrigation through two financial initiatives. These were pricing new irrigation services at \$500 for all of 2020, and by providing a \$500 credit opportunity for property owners that used the new services by July 1, 2020. Staff recommend the \$500 credit be extended to October 1st.

Discussion:

Stage 3 water restrictions were implemented as an urgent response to operational concerns about our ability to ensure adequate potable water to our customers in the southeast Kelowna area, plus fire protection. This is a short-term challenge related to the transition of southeast Kelowna to the new potable water system. It is related to the capacity of the water system extension to southeast Kelowna and not the volume of water available from Okanagan Lake.

The city potable water system is operated under the following priorities:

1. Water for drinking, cooking, and sanitation
2. Water stored for fire fighting
3. Water for irrigation

Over the last couple of weeks, we have seen temperatures rise along with unanticipated high demand. With the coming heat, staff had serious concerns about our ability to ensure that the system had adequate water for sanitation and firefighting and therefore implemented restrictions on irrigation. The one day per week (Stage 3) restriction is expected to be short-term while we implement additional capacity on an emergency basis and work with area residents to reduce demand on the potable water system.

The higher than expected demand is largely attributable to the following:

1. Many of the service lines in the former South East Kelowna Irrigation District (SEKID) area have significant leaks on private property. As we implement new water meters in the larger lot areas, we are finding that about 25 per cent have substantial leaks. Most homeowners are unaware of domestic water consumption (including leaks) until meters are in place. The leaks are the responsibility of the property owners and we are working with area residents to have them addressed.
2. There are a number of large properties that are irrigating with potable water when non-potable water is available to them. We are working to motivate and transition these properties to irrigate with non-potable water, but it will take time to transition completely, particularly as the higher water rate for potable water consumption does not take effect this year. The potable system was not designed to provide irrigation water to all of these properties.

In 2021 water demands are predicted to drop significantly based on resolving the two issues noted above and an increase in consumer awareness as former SEKID customers will receive a water bill on a consumption basis starting January 2021. Water meters are proven to be the most effective water conservation tool available.

High demand will need to continue to be addressed over the coming year as we complete the transition of former SEKID customers to the City utility. In the meantime, water operations staff have been working to bring a water well online that will add to our capacity to provide water to the area in a safe and reliable way as we work through this transition year. We are also working closely with the project design team to ensure that the new system is being operated to its full design capacity during this commissioning period.

Conclusion:

Mid July to early August are typical peak demand periods on the water system. We expect the current restriction to be short-term and to be able to shift to Stage 2 watering restrictions (two times per week) soon if the current restrictions and actions are effective at reducing overall water demand in the area.

If current restrictions and staff efforts to increase supply are not effective in ensuring the safety of the water supply, additional options would need to be explored to ensure water for safety and sanitation remains available to area residents.

Internal Circulation:

Infrastructure Division
Utilities Planning
Infrastructure Delivery
Communications

Considerations applicable to this report:***Communications Comments:***

Letters, signage and direct communication to residents is helping to reduce demand on the water system and ensure residents understand the restrictions. Staff have additionally responded to requests for additional information as needed from affected residents and customers through a dedicated phone line and email address. A Frequently Asked Questions summary is provided for Council and community information.

Considerations not applicable to this report:

Legal/Statutory Authority:

Legal/Statutory Procedural Requirements:

Existing Policy:

Financial/Budgetary Considerations:

External Agency/Public Comments:

Submitted by:

K. Van Vliet, Utility Services Manager

Approved for inclusion:



J. Creron, Deputy City Manager

CC:

Alan Newcombe, Division Director Infrastructure

R. MacLean, Utility Planning Manager

Frequently Asked Questions

Stage 3 water restrictions southeast Kelowna

1. If the lake is at full pool, why are there watering restrictions?

The watering restrictions currently in place are related to the capacity of the water system extension to Southeast Kelowna and not the volume of water available in Okanagan Lake.

The City water system delivers over 210 million litres of water per day and requires over 630km of pipes, 57 water pump stations, 4 treatment stations and 26 reservoirs to support water delivery. The Southeast Kelowna and South Mission water systems, added through Phase 1 of the Kelowna Integrated Water Supply Plan, are an extension of the Cedar Creek system, adding 6,560 people to the potable supply.

The city potable water system is operated under the following priorities:

1. Water for drinking, cooking, and sanitation
2. Water stored for fire fighting
3. Water for irrigation

The unexpectedly high demands are affecting the water line feeding into the Southeast Kelowna and Crawford Estates area. The restrictions are in place to ensure adequate water is available for domestic use (drinking, washing, cooking) and fire supply, not due to shortage of overall water supply.

2. Why is there a water restriction in Southeast Kelowna and Crawford and not anywhere else?

This is expected to be a short-term issue with new water meters and tiered metering coming on board in this area.

- Leaks are a major culprit when it comes to water waste and one of the benefits of the new meter reading technology is the ability to detect these, of the water meters installed so far approx. 25% are identifying leaks on private property in this area.
- While a number of properties in this area have access to both potable and non-potable supply, not all water use has been transitioned to the appropriate supply source yet. Where available, non-potable water needs to be used for outdoor watering, as the potable system was not designed to support this use.

The high demand is only affecting infrastructure servicing this area. The distribution system in the remainder of the City is not under such stress.

3. Why is the Crawford area affected?

The new potable water system serving Southeast Kelowna is an extension of the existing distribution system servicing Crawford. New infrastructure was added to improve the supply to Crawford and upgrade some aging facilities which are now connected to Southeast Kelowna.

The entire system is being stressed due to the higher than expected demands this season caused by pre-existing leaks (which are being identified and fixed as meter installations are completed in this area) and the ongoing use of potable water for irrigation needs in Southeast Kelowna.

4. Why didn't SEKID have this issue, they didn't have meters?

SEKID did have meters for agricultural irrigation services which represented that majority of the flow in the legacy system. Domestic water consumption was not measured and thus not known hence the reason for using the Bylaw demand numbers by default. There were in fact times in the past when SEKID had to reduce allotments and enforce water reductions to ensure continued water supply for the system.

5. What about fruit trees, plants and/or food garden?

At Stage 3, food gardens and fruit trees may be irrigated Tuesdays & Fridays between 6am – 10am and 7pm to 12am, as required to maintain plant health. Hand watering with a spring-loaded nozzle can be done at any time as required to maintain plant life.

6. What about pools?

At Stage 3, pools may be topped up only. Pools may not be fully refilled at this stage.

For a detailed look at Stage 3 restrictions, see the [Watering Restrictions Bylaw Schedule](#). Note that the schedule does not reflect the designated days for each area.

Report to Council



Date: July 27, 2020
To: Council
From: City Manager
Subject: COVID-19 Pandemic Public Hearing & Tuesday Meeting Measures
Department: Office of the City Clerk

Recommendation:

THAT Council receives, for information, the report from the Office of the City Clerk dated July 27, 2020 with respect to the COVID-19 pandemic public hearing and meeting measures.

Purpose:

To provide information on the COVID-19-related changes to public hearing and Tuesday evening procedures and practices.

Background:

The declaration of a state of emergency in British Columbia on March 18, 2020 resulted in Ministerial Orders and Public Health Orders that impacted the way Council receives public input on certain types of development applications, and on the holding of public hearings and Council meetings where these development applications are considered by Council.

In response to these Orders, changes were made to ensure a balance between being compliant with the Orders and ensuring public process and procedural fairness requirements were met as required for Official Community Plan, rezoning, development variance permit, and liquor licence applications.

Council directed staff to bring forward a report identifying these changes for Council's consideration of whether to make any changes.

Discussion:

The changes introduced and implemented were to provide additional options for Council, public and applicant participation in the development application process, due to social distancing requirements and the restriction on the number of persons who may gather in any one place.

Public Hearing & Tuesday Regular Meeting Measures

Waived Public Hearings

On March 23, 2020, Council directed staff to recommend that the public hearing be waived for rezoning applications that are consistent with the Official Community Plan, have a recommendation of support from staff, and are not expected to generate significant public input based on correspondence received at the time of the report to Council. This expands on Council Policy No. 307, which refers to waiving the public hearing for commercial, industrial, institutional, and mixed use development that is not for a residential land use and is not abutting or adjacent to residential development. Sections 464 and 467 of the *Local Government Act* set out parameters for waiving public hearings and, to date, the Ministerial Orders have not changed these provisions.

Where a public hearing is waived, the public still has the opportunity to submit written correspondence to Council and public notification includes a newspaper ad, direct mailout to properties within 50 m, and a sign on the subject property. Staff are providing a supplemental report to Council with a summary of correspondence received and Council may choose to give the bylaw further readings, forward the application to a public hearing, or defeat the bylaw.

A total of 17 applications were directed to public hearings in May, June, and July, and the public hearing was waived for an additional 12 applications. Of these, correspondence was submitted on three items and one item was directed to public hearing after initially being waived. Council also directed one application to public hearing where the staff recommendation was to waive it.

Correspondence

Written correspondence for public hearing and Tuesday regular meeting items is normally accepted until 4 pm the day before the meeting. To accommodate those who may not be able or may choose not to attend in person during the pandemic, both written and verbal correspondence is being accepted until 12 pm the day of the meeting. Staff are recording verbal correspondence verbatim in writing and all correspondence is provided to Council prior to the meeting.

Scheduling

The normal start time for public hearings and Tuesday regular meetings is 6 pm, with all public hearing items followed by all regular meeting items, including the bylaws that were considered at the public hearing. Council first gave direction to hold public hearings and Tuesday regular meetings with items scheduled individually on April 20, 2020, followed by direction on June 1, 2020 to schedule meetings in this way and with start times as early as 4 pm until the Order of the Provincial Health Officer regarding Mass Gathering Events is lifted. Bylaws are also being considered immediately following the public hearing for that item.

Over the last few months, scheduling has been adjusted based on the experience with setting individual start times for applications. In June and July, items that were not expected to generate significant public attendance were scheduled at the same time to reduce time gaps between items and meetings have started at 4 pm or 6 pm depending on the number of applications on the agenda.

Other Measures

Applicants are still required to complete neighbourhood notification and consultation in advance of Council's consideration in accordance with Council Policy No. 367. Council waived requirements for face-to-face interactions and in-person public information sessions and staff are encouraging applicants to use alternative methods (e.g., websites, online surveys) to interact with residents.

To support Council members who choose to participate remotely, staff and applicant presentations for development applications are now included in the agenda package. For the public, seats are blocked off to support physical distancing within Council Chambers. Hand sanitizer and wipes are available for the public, along with enhanced cleaning and signage at the entrances to Council Chambers.

Summary

These measures better enable the City to comply with the Ministerial and Public Health Orders related to the COVID-19 pandemic and the provincial state of emergency while continuing to facilitate public input and involvement in the decision-making process on development applications. Specifically:

- Waiving public hearings reduces the number of people needing to attend public hearings and still provides for an opportunity for written submissions to Council;
- Expanding correspondence options increases opportunities for the public to submit their views on development applications, particularly those who may not want to or may not be able to attend in-person;
- Scheduling items individually increases the ability to maintain the maximum of 50 people in Council Chambers; and
- Physical distancing is supported by blocking off seats.

To date, these measures have not made use of Ministerial Order No. M192 provisions for electronic public hearings. Provisions are in place for Council members to participate remotely if they choose.

Ministerial Order No. M192

On June 17, 2020, Ministerial Order No. M192 was issued, updating requirements around local government meetings and bylaw processes during the COVID-19 state of emergency. The Order requires local governments to use best efforts to allow the public to attend open meetings in a way that is consistent with public health requirements and recommendations. Since April, items that would normally be considered at an AM open meeting have been considered at a PM meeting due to the inability for the public to be present in the Knox Mountain Room and meet Provincial Health Orders. To reinstate AM open meetings and meet the various Orders, these meetings will now be held in Council Chambers with the option for the public to attend.

Additionally, the new Order made changes to provisions for bylaw adoption, limiting bylaws that can be adopted on the same day they are given third reading to those that are under specific sections of the *Community Charter* that relate to taxes and financial decisions.

Conclusion:

In response to the COVID-19 pandemic and the various provincial orders and guidelines, Council gave direction to hold public hearings and Tuesday regular meetings in modified ways to support physical

distancing, reduce in-person interactions, and maintain the maximum of 50 people in Council Chambers. Public participation in the decision-making process is encouraged through different options for submitting correspondence and supporting physical distancing and enhanced cleaning for those who choose to attend in-person.

Council resolutions related to public hearing and Tuesday regular meeting measures are in place until the Order of the Provincial Health Officer regarding Mass Gathering Events is lifted. Council may choose to change or remove some or all of these measures in a way that still meets applicable orders.

Considerations applicable to this report:

Legal/Statutory Authority:

Ministerial Order No. M192

Local Government Act s. 464 Requirement for public hearing before adopting bylaw

- (2) A local government may waive the holding of a public hearing on a proposed zoning bylaw if
- (a) an official community plan is in effect for the area that is subject to the zoning bylaw, and
 - (b) the bylaw is consistent with the official community plan.

Legal/Statutory Procedural Requirements:

Local Government Act s. 467 Notice if public hearing waived

- (1) If a local government waives the holding of a public hearing under section 464 (2) [waiver for certain zoning bylaws], it must give notice in accordance with this section.

- (2) The notice must state

- (a) in general terms, the purpose of the zoning bylaw,
- (b) the land or lands that are the subject of the bylaw, and
- (c) the place where and the times and dates when copies of the bylaw may be inspected.

- (3) Section 466 (3), (4) and (6) to (8) applies to a notice under subsection (2) of this section, except that

- (a) the last publication under section 466 (3) is to be not less than 3 days and not more than 10 days before the bylaw is given third reading, and
- (b) the delivery under section 466 (4) (b) is to be at least 10 days before the bylaw is given third reading.

Existing Policy:

Council Policy No. 307 Waiver of Public Hearing

Considerations not applicable to this report:

Financial/Budgetary Considerations:

External Agency/Public Comments:

Communications Comments:

Submitted by: L. Bentley, Deputy City Clerk

cc:

R. Smith, Divisional Director, Planning & Development Services



Pandemic Public Hearing & Tuesday Meeting Measures

July 27, 2020



Background

- ▶ Ministerial Orders & Public Health Orders
- ▶ Balance between compliance with Orders & public process for development applications
- ▶ Council direction related to public hearings & Tuesday regular meetings

Measures & Impacts

Measure	Normal Process	COVID-19 Process	Impact
Waiving public hearings	<ul style="list-style-type: none"> - Council Policy No. 307 	Waive rezonings where: <ul style="list-style-type: none"> - consistent with OCP - staff support - not expected to have significant public input 	<ul style="list-style-type: none"> - Reduces number of people attending in-person - Opportunity for written correspondence
Correspondence	<ul style="list-style-type: none"> - Written correspondence - Accepted until 4 pm day before 	<ul style="list-style-type: none"> - Written & verbal correspondence - Accepted until 12 pm day of 	<ul style="list-style-type: none"> - More options to participate without need to attend in-person
Scheduling	<ul style="list-style-type: none"> - Start time of 6 pm - All public hearing items followed by all regular meeting items 	<ul style="list-style-type: none"> - Start time as early as 4 pm - Items scheduled individually - Bylaws considered immediately after public hearing for that item 	<ul style="list-style-type: none"> - Increased ability to maintain max. 50 in Chambers - Better physical distancing
Presentations	<ul style="list-style-type: none"> - Not included in agenda package 	<ul style="list-style-type: none"> - Staff & applicant PowerPoint in agenda package 	<ul style="list-style-type: none"> - Enables Council members to participate remotely

Summary

- ▶ Resolutions currently in place until Order regarding Mass Gathering Events is lifted
 - ▶ Council may choose to change or remove some or all measures
 - ▶ Need to meet applicable orders & recommendations
- ▶ Requirements for local government meetings & bylaw processes under Ministerial Order No. M192



Questions?

For more information, visit kelowna.ca.

REPORT TO COUNCIL



Date: July 27, 2020

To: Council

From: City Manager

Department: Development Planning

Application: Z20-0014

Owner: Dilworth Shopping Centre Ltd.,
Inc. No. 319846

Address: 2339-2397 Highway 97 N

Applicant: Urban Design Group Architects
Ltd.

Subject: Rezoning Application

Existing OCP Designation: MXR – Mixed Use (Residential / Commercial)

Existing Zone: C4rls/rcs – Urban Center Commercial (Liquor Retail Sales / Retail
Cannabis Sales)
C4rcs – Urban Centre Commercial (Retail Cannabis Sales)

Proposed Zone: C4rls/rcs – Urban Center Commercial (Liquor Retail Sales / Retail
Cannabis Sales)

1.0 Recommendation

THAT Rezoning Application No. Z20-0014 to amend the City of Kelowna Zoning Bylaw No. 8000 by changing the zoning classification of portions of Lot A, District Lots 126 and 532, ODYD, Plan 40108, located at 2339-2397 Highway 97 N, Kelowna, BC from the C4rcs – Urban Centre Commercial (Retail Cannabis Sales) zone to the C4rls/rcs – Urban Centre Commercial (Retail Liquor Sales / Retail Cannabis Sales) zone as shown on Map "A" attached to the Report from the Development Planning Department dated July 27, 2020, be considered by Council;

AND THAT Council, in accordance with *Local Government Act* s. 464(2), waive the Public Hearing for the Rezoning Bylaw;

AND FURTHER THAT final adoption of the Rezoning Bylaw be considered subsequent to the approval of the Ministry of Transportation and Infrastructure.

1.0 Purpose

To consider an application to rezone a portion of the subject property from the C4rcs – Urban Centre Commercial (Retail Cannabis Sales) zone to the C4rls/rcs – Urban Centre Commercial (Retail Liquor Sales / Retail Cannabis Sales) zone to facilitate the relocation of an existing liquor store on the subject site, and to waive the Public Hearing.

2.0 Development Planning

Development Planning Staff are recommending support for the proposed application to rezone a portion of the subject property from the C4rcs – Urban Centre Commercial (Retail Cannabis Sales) zone to the C4rls/rcs – Urban Centre Commercial (Retail Liquor Sales / Retail Cannabis Sales) zone to facilitate the relocation of an existing liquor store on site as it is consistent with the Official Community Plan (OCP) Future Land Use designation of MXR – Mixed Use (Residential / Commercial).

The property is split zoned with the western portion being zoned C4rls/rcs and the eastern half being zoned C4rcs. The intent of the rezoning application is to facilitate a minor rezoning that will allow an existing liquor store operating on the site to move to a larger commercial retail unit (CRU) located on the eastern half of the property.

3.0 Proposal

3.1 Background

The subject property currently contains 6 existing commercial buildings of varying size and totaling approximately 196,000 square feet of combined commercial floor area.

3.2 Project Description

The proposed development application to rezone a portion of the site from C4rcs to C4rls/rcs will facilitate the relocation of an existing liquor store operating on site to be moved from the western portion of the property to a new commercial retail unit (CRU) situated adjacent to Leckie Road near the eastern property boundary.

The new CRU in which the liquor store is proposed to be relocated to was recently created from the former Safeway store. When Safeway closed at the end of 2019/early 2020, the existing CRU was converted into two smaller commercial units with one of the units (southern CRU) containing the new FreshCo store and the remaining unit proposed to be occupied by the liquor store.

The new liquor store is proposed to occupy 16,700 square feet of commercial space located at the eastern edge of the Dilworth Shopping Centre and will include a new set of entry doors at the east building face fronting towards Leckie Rd. To accommodate the new entry doors, which will enhance the overall form and character of the building, the east parking lot adjacent to the commercial unit will be reconfigured and see 3 fewer parking stalls in total to facilitate the new store entry.

Staff are tracking an Urban Development Permit Minor application to facilitate exterior facade updates to the new commercial unit which will be occupied by the liquor store. No variances are being tracked at this time.

3.3 Site Context

The subject property is located in the Central City Sector and within the Midtown Urban Centre along the Highway 97 corridor. The property is situated on the south side of Hwy 97 N in between Leckie Rd to the east, Baron Rd to the south and Underhill St to the west. The surrounding neighbourhood is largely comprised of

commercially zoned properties including; C3 – Community Commercial, C4 – Urban Centre Commercial, C9 – Tourist Commercial and C10 – Service Commercial. Other adjacent land uses include P4 – Utilities, RM5 – Medium Density Multiple Housing & A1 – Agriculture 1.

Specifically, adjacent land uses are as follows:

Orientation	Zoning	Land Use
North	C4 – Urban Centre Commercial / C10 – Service Commercial	Commercial
East	C10 – Service Commercial	Commercial
South	C4/RS – Urban Centre Commercial / RM5 – Medium Density Multiple Housing	Commercial / Residential
West	C4 – Urban Centre Commercial	Commercial

Subject Property Map: 2339-2397 Highway 97 N



4.0 Current Development Policies

4.1 Kelowna Official Community Plan (OCP)

Chapter 5: Development Process

Objective 5.3 Focus development to designated growth areas

Policy .2 Compact Urban Form. Develop a compact urban form that maximises the use of existing infrastructure and contributes to energy efficient settlement patterns. This will be done by increasing densities (approximately 75-100 people and/or jobs per ha located within a 400 metre walking distance of transit stops is required to support the level of transit service) through development, conversion, and re-development within Urban Centres (See Map 5.3) in particular and existing areas as per the provisions of the Generalized Future Land Use Map 4.1

5.0 Application Chronology

Date of Application Received: February 12, 2020

Date Public Consultation Completed: July 7, 2020

Report prepared by: Andrew Ferguson, Planner II

Reviewed by: James Moore, Urban Planning & Development Policy Manager

Approved for Inclusion: Terry Barton, Development Planning Department Manager

Attachments:

Attachment A: Conceptual Site Plan

Attachment B: Map "A"

Attachment C: Applicant's Letter of Rationale



Z20-0014

2339-2397 Highway 97 N

Rezoning Application



Proposal

- ▶ To consider an application to rezone a portion of the subject property from the C4rcs – Urban Centre Commercial (Retail Cannabis Sales) zone to the C4rls/rcs – Urban Centre Commercial (Retail Liquor Sales/Retail Cannabis Sales) zone to facilitate the relocation of an existing liquor store on the subject site.

Development Process

Feb 12, 2020

Development Application Submitted



Staff Review & Circulation



July 7, 2020

Public Notification Received



July 27, 2020

Initial Consideration



Public Hearing – Request to Waive
Second & Third Readings

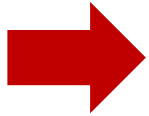


Final Reading

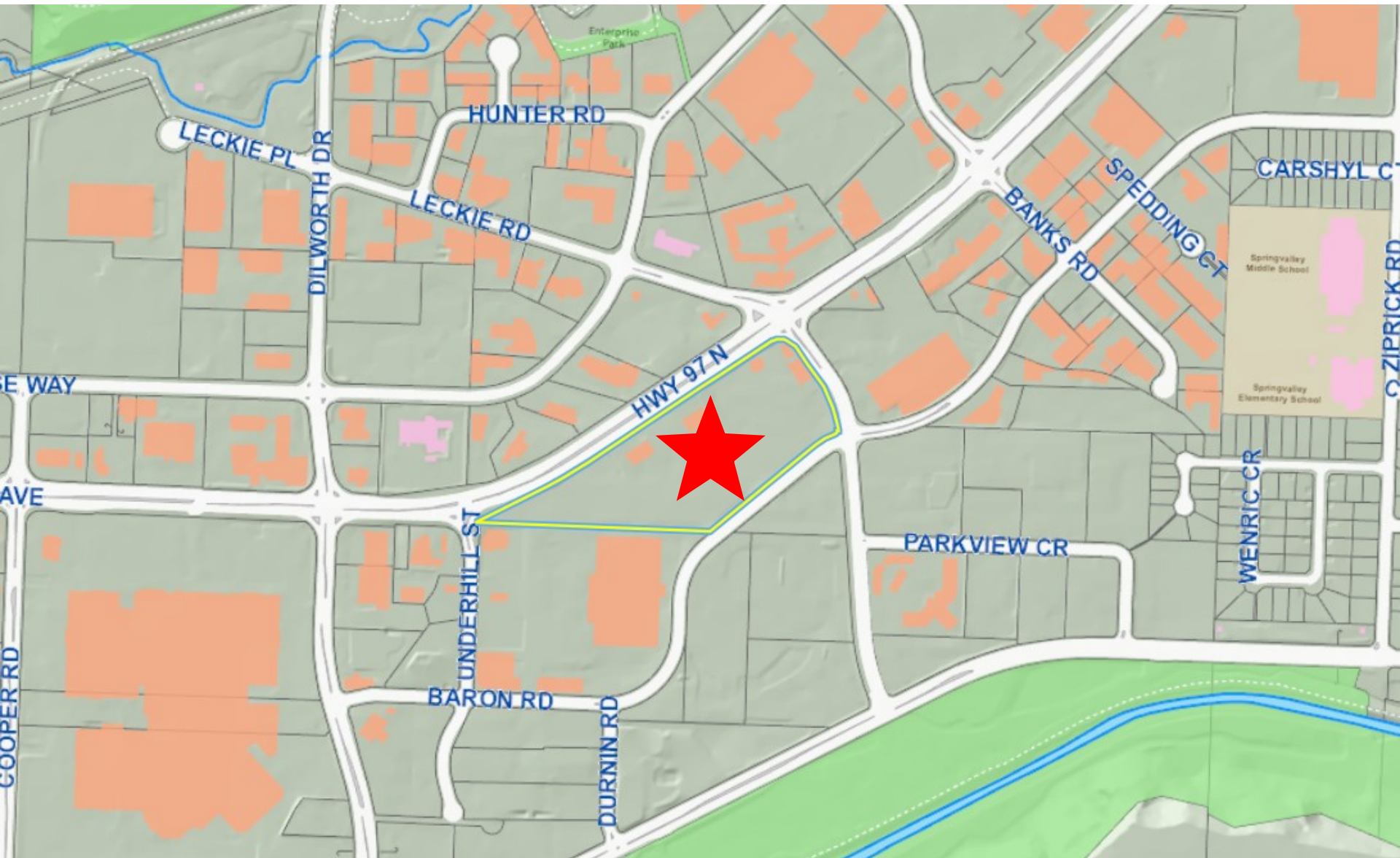


Building Permit

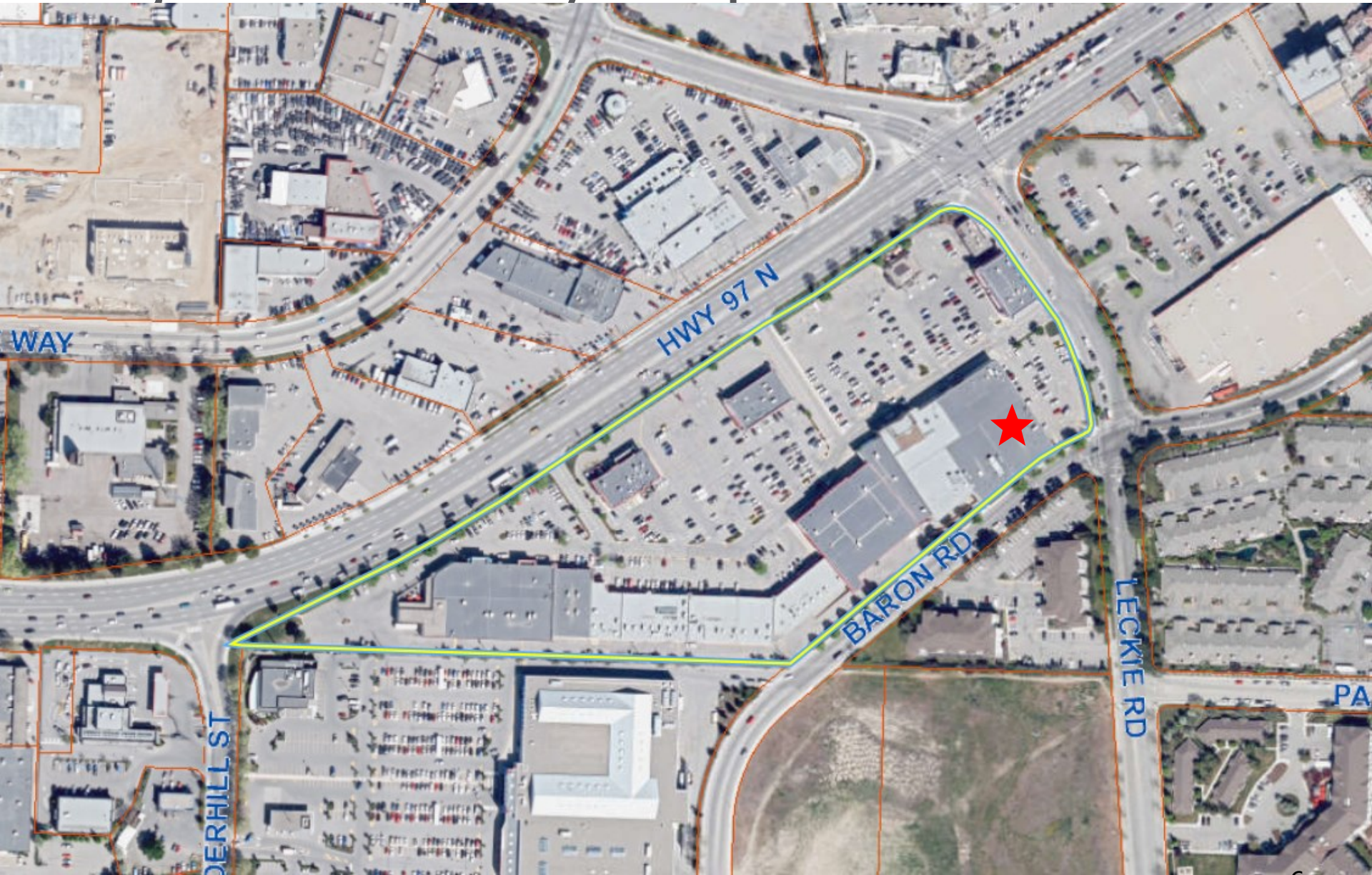
Council
Approvals



Context Map



Subject Property Map



Project/technical details

- ▶ Rezoning application to C4rls/rcs consistent with Future Land Use designation of MXR – Mixed Use (Commercial/Residential).
 - ▶ Facilitate the relocation of an existing liquor store operating on-site to a new commercial retail unit
 - ▶ New front entry doors proposed for relocated liquor store
 - ▶ Adjacent parking lot to be reconfigured to accommodate new front entrance
 - ▶ 3 less parking stalls to facilitate new entry

3 PROPOSED SITE PLAN
2-12 SCALE: 1/8" = 1'-0"

Staff Recommendation

- ▶ Staff recommend **support** of the proposed rezoning application:
 - ▶ Consistent with OCP
 - ▶ Minor rezoning
 - ▶ Will facilitate an existing liquor store operating on-site to move to a new commercial retail unit
- ▶ Recommend Public Hearing be waived for rezoning bylaw



Conclusion of Staff Remarks

3 PROPOSED SITE PLAN
2-12 SCALE: 1/8" = 1'-0"



City of Kelowna
DEVELOPMENT PLANNING



BOUNDARIES SHOWN HEREON ARE DERIVED FROM EXISTING RECORDS AND MUST BE
CONFIRMED BY SURVEY PRIOR TO THE DETERMINATION OF DIMENSIONS OR AREAS FOR
DEVELOPMENT PURPOSES.

All designs, concepts, and other information shown on this drawing, or for use on this project only, and shall not be used otherwise without written permission.

date	2019-08-02	sheet number
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Subject Property Notes:

Portion of the subject property zoned C4rls/rcs - Urban Centre Commercial (Retail Liquor Sales/Retail Cannabis Sales).

Subject Property Notes:

Rezone a portion of the subject property from C4rcs - Urban Centre Commercial (Retail Cannabis Sales) to C4rls/rcs - Urban Centre Commercial (Retail Liquor Sales/Retail Cannabis Sales).

HARVEY AVE

HWY 97 N

UNDERHILL ST

ENTERPRISE WAY

LECKE RD

BROWN RD




PARKVIEW CIR

DURRIN RD

MAP "A" Rezoning
2339-2397 Hwy 97 N
File #Z20-0014

Rev. 7/17/2020

Planner: af

-  C4rcs to C4rls/rcs
-  C4rls/rcs
-  Subject Property

0 50 100 Metres



This map is for general information only.
 The City of Kelowna does not guarantee its accuracy. All information should be verified.

Paul Chiu, Architect AIBC, MRAIC, AAA, SAA, MAA, OAA, SBA, Principal
Fariba Gharaei, Architect AIBC, MRAIC, OAA, LEED AP, SBA, Vice President
Crosbby Chiu, MRAIC, SBA, Senior Associate
Martin Grube, Associate

Rick Jones, Founding Principal
Aaron Vornbrock, Principal
Eric Ching, CSBA, Principal
Bojan Ilic, Associate
Sarah Chappell, Associate

January 20, 2020

City of Kelowna
Community Planning
1438 Water Street
Kelowna, BC V1Y 1J4



ATTN: Andrew Ferguson, BES, MLA
Planner II

RE: Project Description/Design Rationale, Rezoning/DP Application
Liquor Store Tenant Improvement, #500, 2339-2397 Highway 97N, Kelowna, BC **Our Project No. 5034**

Dear Andrew,

Please accept the enclosed drawings and documents for a Rezoning and Development Permit Application to accommodate a new Retail Liquor Sales use in the above-referenced address.

A new Liquor Store is proposed to occupy a 16,700 SF endcap space demised from the existing 55,724 SF Safeway food store (#500 2339 Hwy 97N) at the north end of the Dilworth Shopping Centre. The Dilworth Centre is within the City's Midtown Revitalization Development Permit Area and is split-zoned C4 (Urban Centre Commercial) and C4rls (Urban Centre Commercial Retail Liquor Sales). The new store is a relocation of an existing 3,757 SF Liquor Depot (#220 2339 Hwy 97N) from the south end of the mall within the property's C4rls Zone (Area 2), to the proposed location within the C4 Zone (Area 1), requiring a Rezoning of the latter to a C4rls designation. The subject relocation will allow the shopping centre to respond to current market demands and provide expanded services to the community.

Shell building Tenant Improvement work will include the reduction of a row of 18 parking spaces along the east end of the mall to 16, including 1 space for the disabled, to accommodate a new east facing storefront and pedestrian access way. No other amendments to the existing Site Plan is proposed. An enhanced façade, consisting of a 'portal' build-out clad in gray corrugated metal siding with stucco infill for the Tenant's signage, is proposed to provide the necessary identification and brand exposure for the store while keeping in step with the form and character upgrades anticipated for some of the Centre's existing standalone pads along the Highway. A veneer spandrel glazing panel with 'lifestyle' imaging representative of the new store's business and branding is proposed along the north side of the unit where no pedestrian access to the store will be provided by the tenant.

Should you require additional information or clarification regarding the foregoing, please do not hesitate to contact us directly. ~

Very truly yours,

Eric Ching, Principal

URBAN DESIGN GROUP ARCHITECTS LTD.

(ekc)

CITY OF KELOWNA
BYLAW NO. 12083
Z20-0014 - 2339-2397 Highway 97 N

A bylaw to amend the "City of Kelowna Zoning Bylaw No. 8000".

The Municipal Council of the City of Kelowna, in open meeting assembled, enacts as follows:

1. THAT City of Kelowna Zoning Bylaw No. 8000 be amended by changing the zoning classification of a portion of Lot A District Lots 126 and 532, ODYD, Plan 40108 located at Highway 97 N, Kelowna, BC from the C₄r_{cs} – Urban Centre Commercial (Retail Cannabis Sales) zone to the C₄rls/r_{cs} – Urban Centre Commercial (Retail Liquor Sales/ Retail Cannabis Sales) zone as shown on Map "A" attached to and forming part of this bylaw.
2. This bylaw shall come into full force and effect and is binding on all persons as and from the date of adoption.

Read a first time by the Municipal Council this

Public Hearing Waived by the Municipal Council this

Read a second and third time by the Municipal Council this

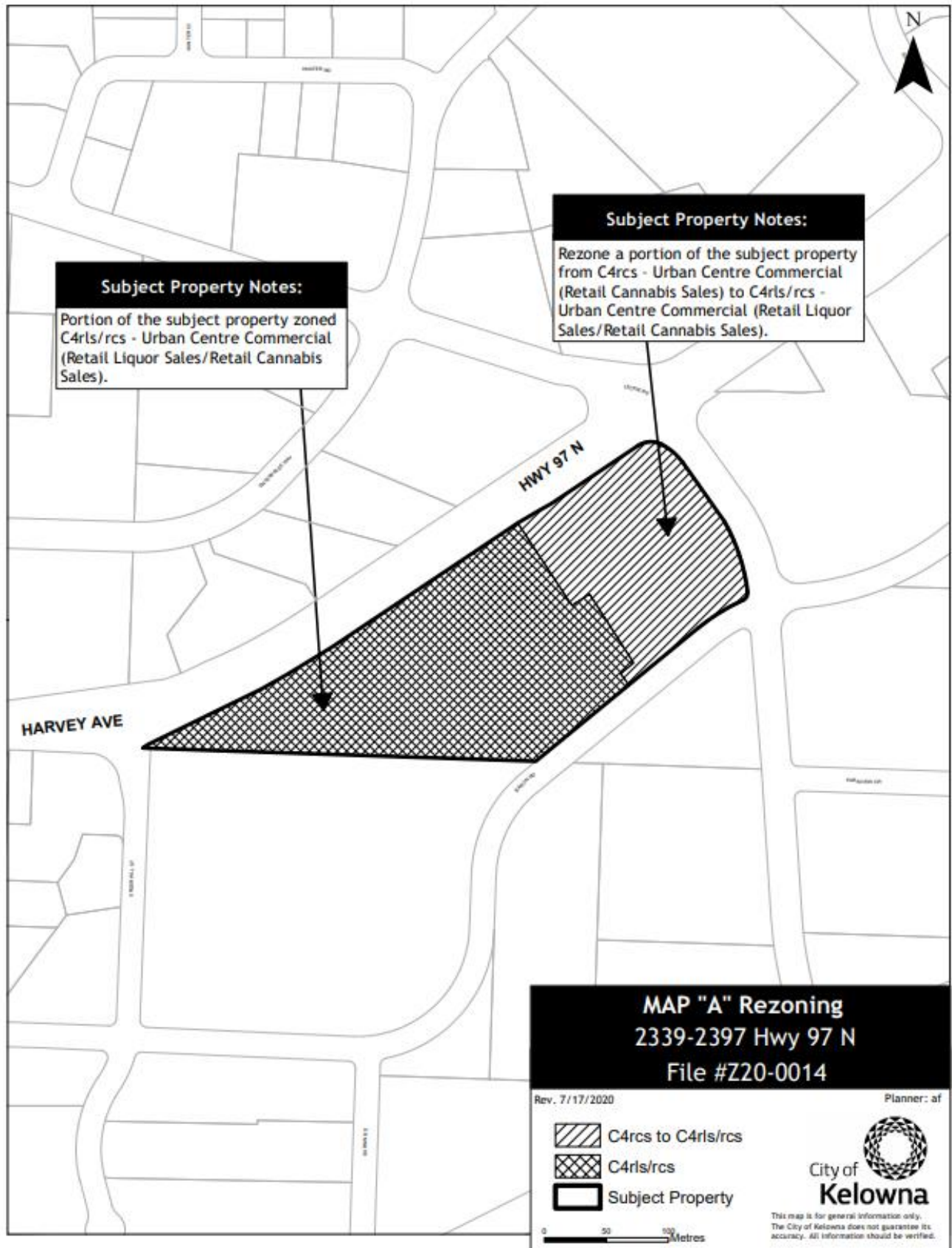
Approved under the Transportation Act this

(Approving Officer – Ministry of Transportation)

Adopted by the Municipal Council of the City of Kelowna this

Mayor

City Clerk



REPORT TO COUNCIL



Date: July 27, 2020

To: Council

From: City Manager

Department: Development Planning

Application: Z20-0013

Owner: 1217799 BC Ltd., Inc.No.
BC1217799

Address: 1144 Pacific Ave

Applicant: Jesse Alexander; New Town
Planning Services

Subject: Rezoning Application

Existing OCP Designation: MXR – Mixed Use (Residential / Commercial)

Existing Zone: RU6 – Two Dwelling Housing

Proposed Zone: C4 – Urban Centre Commercial

1.0 Recommendation

THAT Rezoning Application No. Z20-0013 to amend the City of Kelowna Zoning Bylaw No. 8000 by changing the zoning classification of Parcel A (DD KL82857) District Lot 137 ODYD Plan 2862, located at 1144 Pacific Avenue, Kelowna, BC from the RU6 – Two Dwelling Housing zone to the C4 – Urban Centre Commercial zone, be considered by Council;

AND THAT Council, in accordance with Local Government Act s. 464(2), waive the Public Hearing for the Rezoning Bylaw;

AND THAT final adoption of the Rezoning Bylaw be considered subsequent to the outstanding conditions of approval as set out in Schedule "A" attached to the Report from the Development Planning Department dated July 27, 2020;

AND FURTHER THAT final adoption of the Rezoning Bylaw be considered subsequent to the approval of the Ministry of Transportation and Infrastructure.

2.0 Purpose

To rezone the property from the RU6 – Two Dwelling Housing zone to the C4 – Urban Centre Commercial zone to facilitate the development of a 4 storey mixed use building with both commercial and residential uses, and to waive the Public Hearing.

3.0 Development Planning

Development Planning supports the proposal to rezone the property to C4 – Urban Centre Commercial to facilitate the development of a 4 storey mixed use building with both commercial and residential uses.

The subject property is in the Capri Landmark Urban Centre, and is in an area of the urban centre—just south of Capri Mall—that has been identified as being suitable for mixed use development. Accordingly, the subject property has a future land use designation of MXR – Mixed Use (Residential / Commercial), which does accommodate the proposed C4 zone. To reinforce this, the Capri-Landmark Urban Centre Plan also supports mixed use development in this area and on this lot (Capri-Landmark Urban Centre Plan p. 54, p. 89-90).

In this case, the lot fronts onto Pacific Ave, the south side of which has been designated to remain residential in terms of land use. This being the case, Staff are supportive of commercial uses on the north side of Pacific Ave provided the scale and design of any commercial component is respectful of the residential nature of the neighbourhood. That said, issues of form and character are only to be considered formally at Development Permit stage.

Staff are not tracking any variances at this time.

4.0 Proposal

4.1 Project Description

The applicant proposes to rezone the subject property to C4 – Urban Centre Commercial to facilitate the development of a 4 storey mixed use building with both commercial and residential uses. Specifically, the proposed building would have commercial uses across the first 2 storeys, and residential uses stepped back above. The applicant has worked with Staff to ensure the commercial component of the building is respectful of the residential development along the street and in the neighbourhood. However, questions of form and character will only be addressed formally at Development Permit stage. Staff are not tracking any variances at this time.

4.2 Site Context

The subject lot is in Central City Sector in the Capri Landmark Urban Centre and is one block south of Capri Mall. In addition to the mall, and the commercial space along Highway 97 to the north, the lot is also within walking distance of numerous parks and schools in the area. Accordingly, the lot has a Walkscore of 72, as “most errands can be accomplished on foot”. Though the property is surrounded to the east and west by single detached housing, the future land use in the area is either MXR – Mixed Use (Residential / Commercial) or MRM – Multiple Unit Residential (Medium Density). In addition, there are already numerous apartment housing developments in the neighbourhood, and further development in this direction is now underway (including across the street to the south).

Adjacent land uses are as follows:

Orientation	Zoning	Land Use
North	C4 – Urban Centre Commercial	Mixed Use Development
East	RU6 – Two Dwelling Housing	Single Detached Housing
South	RU6 / RM 4 / RM5	Single Detached Housing / Vacant / Apartment Housing
West	RU6 – Two Dwelling Housing	Single Detached Housing

Subject Property Map: 1144 Pacific Ave



5.0 Current Development Policies

5.1 Kelowna Official Community Plan (OCP)

Chapter 1: Introduction

Goals for a Sustainable Future:

Contain Urban Growth – Reduce greenfield urban sprawl and focus growth in compact, connected and mixed-use (residential and commercial) urban and village centres.

Chapter 5: Development Process

Objective 5.3 Focus development to designated growth areas

Policy .1 Permanent Growth Boundary. Establish a Permanent Growth Boundary as identified on Map 4.1 and Map 5.2. The City of Kelowna will support development of properties outside the PGB for more intensive use only to the extent permitted as per the OCP Future Land Use designations in

place as of initial adoption of OCP Bylaw 10500, except for Agri-Business designated sites or as per Council's specific amendment of this policy. The PGB may be reviewed as part of the next major OCP update.

5.2 Capri-Landmark Urban Centre Plan

Section 5: Community Structure

Land Use & Housing: Future Land Use Map (p. 54)

Section 6: Area Specific Policy Direction

Sub-Area 4: Five Bridges

Vision: Areas adjacent to the Capri-Centre Mall will provide a mid-rise transition from the high density redevelopment of the Capri-Centre Mall, buffering nearby townhouse and low-rise development in the area.

Land Use Policies: 1. Encourage mixed-use development on the south side of Sutherland Avenue from Gordon Drive to Capri Street.

6.0 Technical Comments

6.1 Development Engineering Department

- See Schedule A

7.0 Application Chronology

Date of Application Received: February 7, 2020

Date Public Consultation Completed: July 10, 2020

Report prepared by: Aaron Thibeault, Planner II

Reviewed by: James Moore, Acting Development Planning Manager

Reviewed by: Terry Barton, Development Planning Department Manager

Approved for Inclusion: Ryan Smith, Divisional Director, Planning & Development Services

Attachments:

Schedule A: Development Engineering Memo

Attachment A: Conceptual Drawing Package

Attachment B: Applicant Rationale

CITY OF KELOWNA

MEMORANDUM

Date: February 12, 2020
File No.: Z20-0013
To: Community Planning (AT)
From: Development Engineering Manager (JK)
Subject: 1144 Pacific Ave

SCHEDULE

A

This forms part of application
Z20-0013

Planner
Initials

AT



RU6 to C4

The Development Engineering Department has the following comments and requirements associated with this rezoning application. The road and utility upgrading requirements outlined in this report will be a requirement of this development. The Development Engineering Technologist for this project is Aaron Sangster.

1. Domestic Water and Fire Protection

- a) This property is currently serviced with a 13mm-diameter water service. The developer's consulting mechanical engineer will determine the domestic, fire protection requirements of this proposed development and establish hydrant requirements and service needs. The applicant will arrange for the removal and disconnection of the existing service and the installation of one new larger service at the applicants cost.
- b) A water meter is mandatory for this development and must be installed inside the building on the water service inlet as required by the City Plumbing Regulation and Water Regulation bylaws. The developer or building contractor must purchase the meter from the City at the time of application for a building permit from the Inspection Services Department and prepare the meter setter at his cost. Boulevard landscaping, complete with underground irrigation system, must be integrated with the on-site irrigation system
- c) The developer must obtain the necessary permits and have all existing utility services disconnected prior to removing or demolishing the existing structures. The City of Kelowna water meter contractor must salvage existing water meters, prior to building demolition. If water meters are not salvaged, the developer will be invoiced for the meters.

2. Sanitary Sewer

Our records indicate that this property is currently serviced with a 100mm-diameter sanitary sewer service. The applicant's consulting mechanical engineer will determine the requirements of the proposed development and establish the service needs. Only one service will be permitted for this development. If required, the applicant will arrange for the removal and disconnection of the existing service and the installation of one new larger service at the applicants cost.



3. Storm Drainage

- a) Provide a detailed Stormwater Management Plan for this development as per the Subdivision, Development and Servicing Bylaw #7900.
- b) Ground water will not be allowed to be pumped to City drainage system.
- c) The developer must engage a consulting civil engineer to provide a storm water management plan for this site which meets the requirements of the City Subdivision Development and Servicing Bylaw 7900. The storm water management plan must also include provision of lot grading plans, minimum basement elevations (MBE), if applicable, and provision of a storm drainage service and recommendations for onsite drainage containment and disposal systems

4. Road Improvements

- (a) Pacific Ave must be upgraded to an urban standard along the full frontage of this proposed development, including barrier curb and gutter, 1.5m sidewalk, irrigated landscaped boulevard, drainage system including catch basins, manholes and pavement removal and replacement and re-location or adjustment of utility appurtenances if required to accommodate the upgrading construction. Road cross section to be used is a SS-R5

4. Road Dedication and Subdivision Requirements

- (a) Grant Statutory Rights of Way if required for utility services.
- (b) If any road dedication or closure affects lands encumbered by a Utility right-of-way (such as Hydro, Telus, Gas, etc.) please obtain the approval of the utility. Any works required by the utility as a consequence of the road dedication or closure must be incorporated in the construction drawings submitted to the City's Development Manager.
- (c) Dedicate ~2.25m width along the full frontage of Pacific Ave. to achieve a 20.0m ROW.

5. Development Permit and Site Related Issues

- a) As per bylaw 7900 only one driveway will be permitted on this development.
- b) Direct the roof drains into on-site rock pits or splash pads.

6. Electric Power and Telecommunication Services

- a) All proposed distribution and service connections are to be installed underground. Existing distribution and service connections, on that portion of a road immediately adjacent to the site, are to be relocated and installed underground as this site is located within the Capri Landmark Urban Centre.
- b) Streetlights must be installed on Pacific Ave. if needed.
- c) Make servicing applications to the respective Power and Telecommunication utility companies. The utility companies are required to obtain the City's approval before commencing construction.
- d) Re-locate existing poles and utilities, where necessary. Remove aerial trespass (es).

SCHEDULE		A
This forms part of application		
# Z20-0013		
Planner Initials	AT	 City of Kelowna COMMUNITY PLANNING

7. Design and Construction

- (a) Design, construction supervision and inspection of all off-site civil works and site servicing must be performed by a Consulting Civil Engineer and all such work is subject to the approval of the City Engineer. Drawings must conform to City standards and requirements.
- (b) Engineering drawing submissions are to be in accordance with the City's "Engineering Drawing Submission Requirements" Policy. Please note the number of sets and drawings required for submissions.
- (c) Quality Control and Assurance Plans must be provided in accordance with the Subdivision, Development & Servicing Bylaw No. 7900 (refer to Part 5 and Schedule 3).
- (d) A "Consulting Engineering Confirmation Letter" (City document 'C') must be completed prior to submission of any designs.
- (e) Before any construction related to the requirements of this subdivision application commences, design drawings prepared by a professional engineer must be submitted to the City's Works & Utilities Department. The design drawings must first be "Issued for Construction" by the City Engineer. On examination of design drawings, it may be determined that rights-of-way are required for current or future needs.

8. Servicing Agreement for Works and Services

- (a) A Servicing Agreement is required for all works and services on City lands in accordance with the Subdivision, Development & Servicing Bylaw No. 7900. The applicant's Engineer, prior to preparation of Servicing Agreements, must provide adequate drawings and estimates for the required works. The Servicing Agreement must be in the form as described in Schedule 2 of the bylaw.
- (b) Part 3, "Security for Works and Services", of the Bylaw, describes the Bonding and Insurance requirements of the Owner. The liability limit is not to be less than \$5,000,000 and the City is to be named on the insurance policy as an additional insured.

2. Geotechnical Report

- a) Provide a comprehensive geotechnical report, prepared by a Professional Engineer competent in the field of hydro-geotechnical engineering to address the items below: **NOTE: The City is relying on the Geotechnical Engineer's report to prevent any damage to property and/or injury to persons from occurring as a result of problems with soil slippage or soil instability related to this proposed subdivision.**

The Geotechnical report must be submitted prior to submission of Engineering drawings or application for subdivision approval.

- i. Area ground water characteristics, including any springs and overland surface drainage courses traversing the property. Identify any monitoring required.
- ii. Site suitability for development.
- iii. Site soil characteristics (i.e. fill areas, sulphate content, unsuitable soils such as organic material, etc.).

- iv. Any special requirements for construction of roads, utilities and building structures.
- v. Suitability of on-site disposal of storm water and sanitary waste, including effects upon adjoining lands.
- vi. Slope stability, rock fall hazard and slippage including the effects of drainage and septic tank effluent on the site.
- vii. Identify slopes greater than 30%.
- viii. Top of bank assessment and location including recommendations for property line locations, septic field locations, building setbacks, and ground water disposal locations.
- ix. Recommendations for items that should be included in a Restrictive Covenant.
- x. Any special requirements that the proposed subdivision should undertake so that it will not impact the bank(s). The report must consider erosion and structural requirements.
- xi. Any items required in other sections of this document.
- xii. Recommendations for erosion and sedimentation controls for water and wind.
- xiii. Recommendations for roof drains and perimeter drains.
- xiv. Recommendations for construction of detention or infiltration ponds if applicable.


3. Charges and Fees

- (a) Development Cost Charges (DCC's) are payable
- (b) Fees per the "Development Application Fees Bylaw" include:
 - (i) Street/Traffic Sign Fees: at cost if required (to be determined after design).
 - (ii) Survey Monument, Replacement Fee: \$1,200.00 (GST exempt) – only if disturbed.
 - (iii) Engineering and Inspection Fee: 3.5% of construction value (plus GST).

James Kay

James Kay, P. Eng.
Development Engineering Manager

AS

SCHEDULE		A
This forms part of application # Z20-0013		
Planner Initials	AT	 City of Kelowna <small>COMMUNITY PLANNING</small>



FRONT VIEW FROM PACIFIC AVE

ALL CONTRACTORS ARE REQUIRED TO PRESERVE THEIR WORK AND SUPPORT THEIR PRODUCTS IN COMPLIANCE WITH ALL BUILDING CODES AND LAWS OF THE PROVINCE OF BRITISH COLUMBIA

This drawing is an instrument of service and the property of NEW TOWN ARCHITECTURE URBAN PLANNING CIVIL ENGINEERING. It is to be used only for the project and site for which it was prepared and publication thereof is expressly limited to such use.

This drawing must not be scaled.

Verify all dimensions and datums prior to commencement of work.

Report all errors and omissions to the Architect.



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URBAN PLANNING
CIVIL ENGINEERING
www.newtownservices.ca

Seal



Revision		
No	Date	Description
1	20-12-19	ISSUED FOR DP
2	30-04-20	RE-ISSUED FOR DP

ATTACHMENT A

This forms part of application

Z20-0013

Planner Initials

AT



project address
**1144 PACIFIC AVE,
KELOWNA, BC**

project no. 4100

file no.

drawing title

RENDERINGS

designed	scale
drawn	R.Y.A.B.L.A.
checked	R.Y.
drawing no.	

A1.01

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ALL CONTRACTORS ARE REQUIRED TO PERFORM THEIR WORK AND SUPPLY THEIR PRODUCTS IN COMPLIANCE WITH ALL BUILDING CODES AND LAWS OF THE PROVINCE OF BRITISH COLUMBIA. This drawing is an instrument of service and the design and construction of the project shown on this drawing shall be restricted to the original site for which it was prepared and publication thereof is expressly limited to such use.

This drawing must not be scaled.
Verify all dimensions and datums prior to commencement of work.
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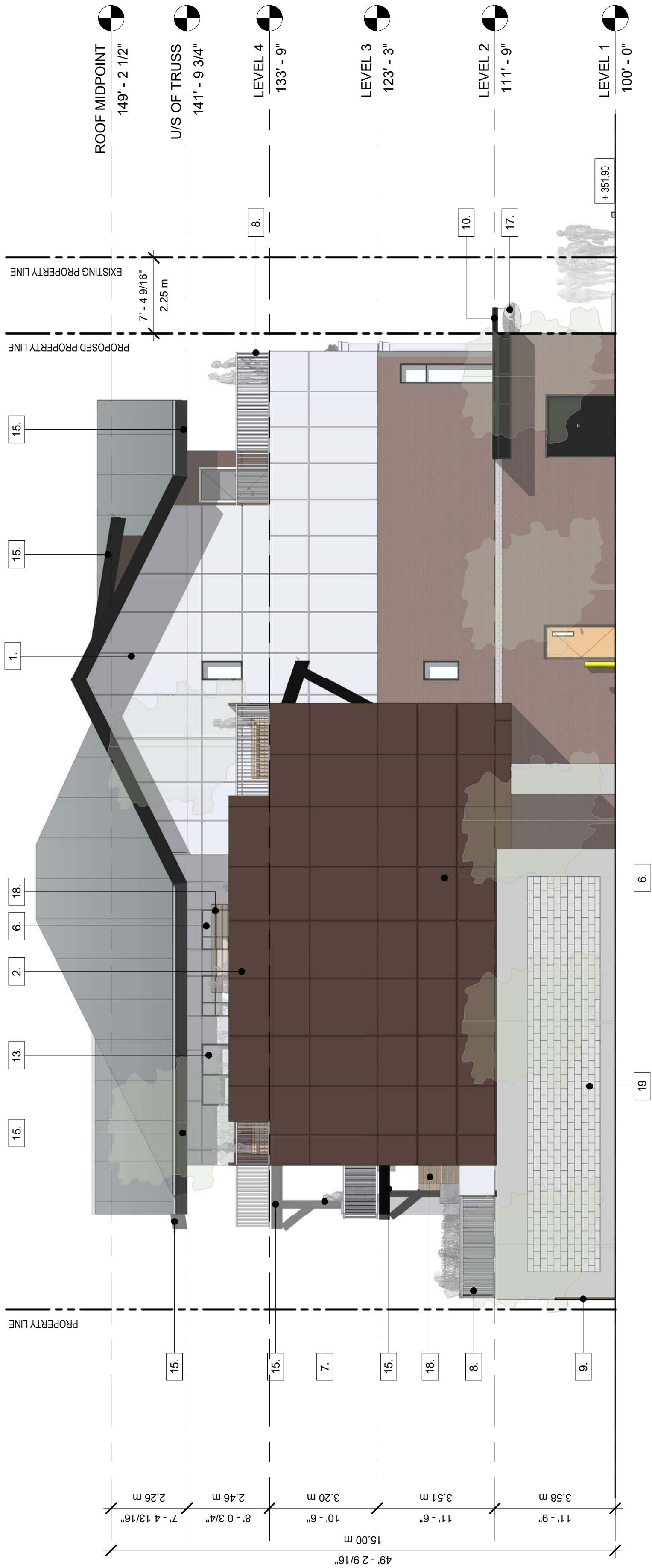
Seal



Revision		No	Date	Description
		1	20-12-19	ISSUED FOR DP
		2	30-04-20	RE-ISSUED FOR DP



1 SOUTH ELEVATION
1/8" = 1'-0"



2 WEST ELEVATION
1/8" = 1'-0"

ATTACHMENT A

This forms part of application
Z20-0013

Planner
Initials

AT

City of
Kelowna
COMMUNITY PLANNING



MATERIAL KEYNOTE	
1.	CEMENTITIOUS PANELS - ARCTIC WHITE
2.	CEMENTITIOUS PANELS - TURKISH COFFEE
3.	BOARD FORMED CONCRETE - PAINTED
4.	STOREFRONT GLAZING
5.	ALUMINUM GLAZED DOORS
6.	DOUBLE GLAZED WINDOWS
7.	BALCONY POSTS - BLACK
8.	WHITE PICKET RAILING
9.	1.8m HIGH FENCE
10.	ALUMINUM SOLAR SHADES w/ GLASS
11.	CONCRETE BASE
12.	BRICK VENEER
13.	PATIO DOORS
14.	PAINTED METAL EXTERIOR DOORS
15.	PRE-FINISHED METAL FLASHING
16.	BIKE RACK
17.	SUSPENDED SIGNAGE
18.	PRIVACY SCREEN
19.	PRECAST CONCRETE/TEXTURED CMU WALL
20.	DIRECTORY SIGN
21.	STUCCO- WHITE
22.	STUCCO- TAN

project title
**1144 PACIFIC- MIXED USE
DEVELOPMENT**

project address
**1144 PACIFIC AVE,
KELOWNA, BC**

project no. 4100

file no.

drawing title

ELEVATIONS

designed	scale	As indicated
drawn		R.Y./B.L.A.
checked		R.Y.
drawing no.		

A4.01

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ALL CONTRACTORS ARE REQUIRED TO PERFORM THEIR WORK AND SUPPLY THEIR PRODUCTS IN COMPLIANCE WITH ALL BUILDING CODES AND LAWS OF THE PROVINCE OF BRITISH COLUMBIA

This drawing is an instrument of service and the drawings shall be used for the project for which it was prepared and publication thereof is expressly limited to such use.

This drawing must not be scaled.

Verify all dimensions and datums prior to commencement of work.

Report all errors and omissions to the Architect.



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URBAN PLANNING
CIVIL ENGINEERING
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Seal



Revision		No	Date	Description
		1	20-12-19	ISSUED FOR DP
		2	30-04-20	RE-ISSUED FOR DP

project title		1144 PACIFIC- MIXED USE DEVELOPMENT
project address		1144 PACIFIC AVE, KELOWNA, BC
project no.	4100	
file no.		
drawing title		ELEVATIONS

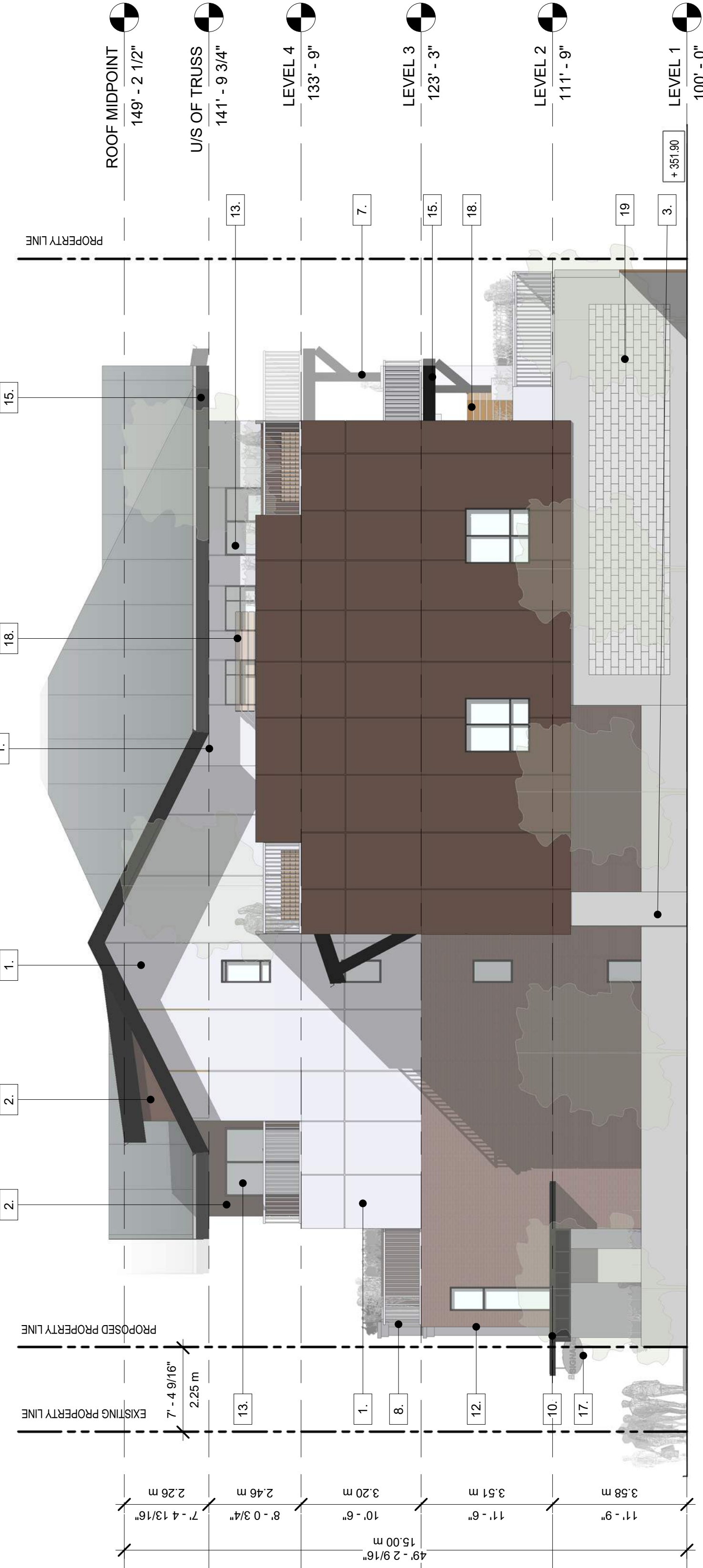
designed	scale	As indicated
drawn		
checked		R.Y.R.B.L.A.
drawing no.		R.Y.

A4.02

2020-04-28 3:04:24 PM



1 NORTH ELEVATION
1/8" = 1'-0"



2 EAST ELEVATION
1/8" = 1'-0"

MATERIAL KEYNOTE	
1.	CEMENTITIOUS PANELS - ARCTIC WHITE
2.	CEMENTITIOUS PANELS - TURKISH COFFEE
3.	BOARD FORMED CONCRETE - PAINTED
4.	STOREFRONT GLAZING
5.	ALUMINUM GLAZED DOORS
6.	DOUBLE GLAZED WINDOWS
7.	BALCONY POSTS- BLACK
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11.	CONCRETE BASE
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13.	PATIO DOORS
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15.	PRE-FINISHED METAL FLASHING
16.	BIKE RACK
17.	SUSPENDED SIGNAGE
18.	PRIVACY SCREEN
19.	PRECAST CONCRETE/TEXTURED CMU WALL
20.	DIRECTORY SIGN
21.	STUCCO- WHITE
22.	STUCCO- TAN

ATTACHMENT A

This forms part of application
Z20-0013

Planner Initials **AT**



ATTACHMENT B

This forms part of application

Z20-0013

Planner
Initials

AT



RE: Proposal for a Rezoning & Development Permit for: 1144 Pacific Avenue

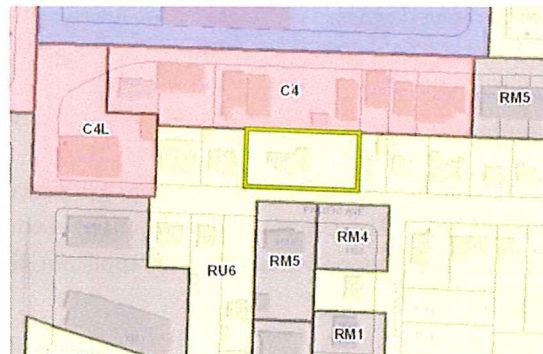
Introduction

This application is to facilitate the construction of a mixed-use development at 1144 Pacific Avenue, which is conveniently located within the Capri / Landmark Urban Centre. The intended use of the proposed development aligns with the City of Kelowna Official Community Plan.



Site Context and Land Use

The subject site consists of 1 parcel that is currently zoned *RU6 – Two Dwelling Housing*. The property is within the Mixed Use (Commercial/Residential) Land Use Designation as prescribed by the City of Kelowna Official Community Plan. The north abutting properties are zoned *C4 – Urban Centre Commercial* and therefore, the request to rezone is consistent within the neighbourhood context.





City of
Kelowna

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Initials **AT**

Overview & Building Form

This application for a Development Permit is to facilitate the construction of a 4-storey mixed use building. Currently there is a single-family dwelling on the subject site. This proposed infill development aligns with the City of Kelowna Official Community Plan's goals for a sustainable future by focusing growth in compact, connected, and mixed-use centres and by creating more variety of housing types for Kelowna residents.

The first floor of the proposed development consists of ground floor commercial units with covered parking provided at the rear of the building. Commercial units have also been placed on the second floor of the proposed development, fronting Pacific Avenue, which creates an inviting urban street interface. Residential units are on the second, third and fourth floor and each unit has access to a private balcony. Additionally, amenity space has been incorporated on the 4th floor with proposed community gardens. The provided open space is nearly 2.5 times the required amount.



The building itself has been designed with varying colours and materials, including glass, brick veneer, wood grain panels, black metal panels, white and coffee coloured hardi cladding, and board formed concrete. In addition, building articulations and a visually interesting roofline have been included into the design of the building. These design features align with the City of Kelowna's Urban Design DP Guidelines as they create a visually appealing building that adds to the pedestrian realm whilst reducing the perceived mass.

Summary

This application is to facilitate the construction of a mixed-use building, located in the Capri / Landmark Urban Centre. The proposed development is consistent with the City of Kelowna Official Community Plan and includes **no variances**. The applicant kindly requests the support from Staff and Council for this project.



Z20-0013 1144 Pacific Ave.

Rezoning Application



Proposal

- ▶ To rezone the property from the RU6 – Two Dwelling Housing zone to the C4 – Urban Centre Commercial zone to facilitate the development of a 4 storey mixed use building with both commercial and residential uses.

Development Process

Feb. 7, 2020

Development Application Submitted



Staff Review & Circulation



July 10, 2020

Public Notification Received



July 27, 2020

Initial Consideration



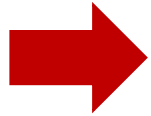
Public Hearing
Second & Third Readings



Final Reading
DP & Variances

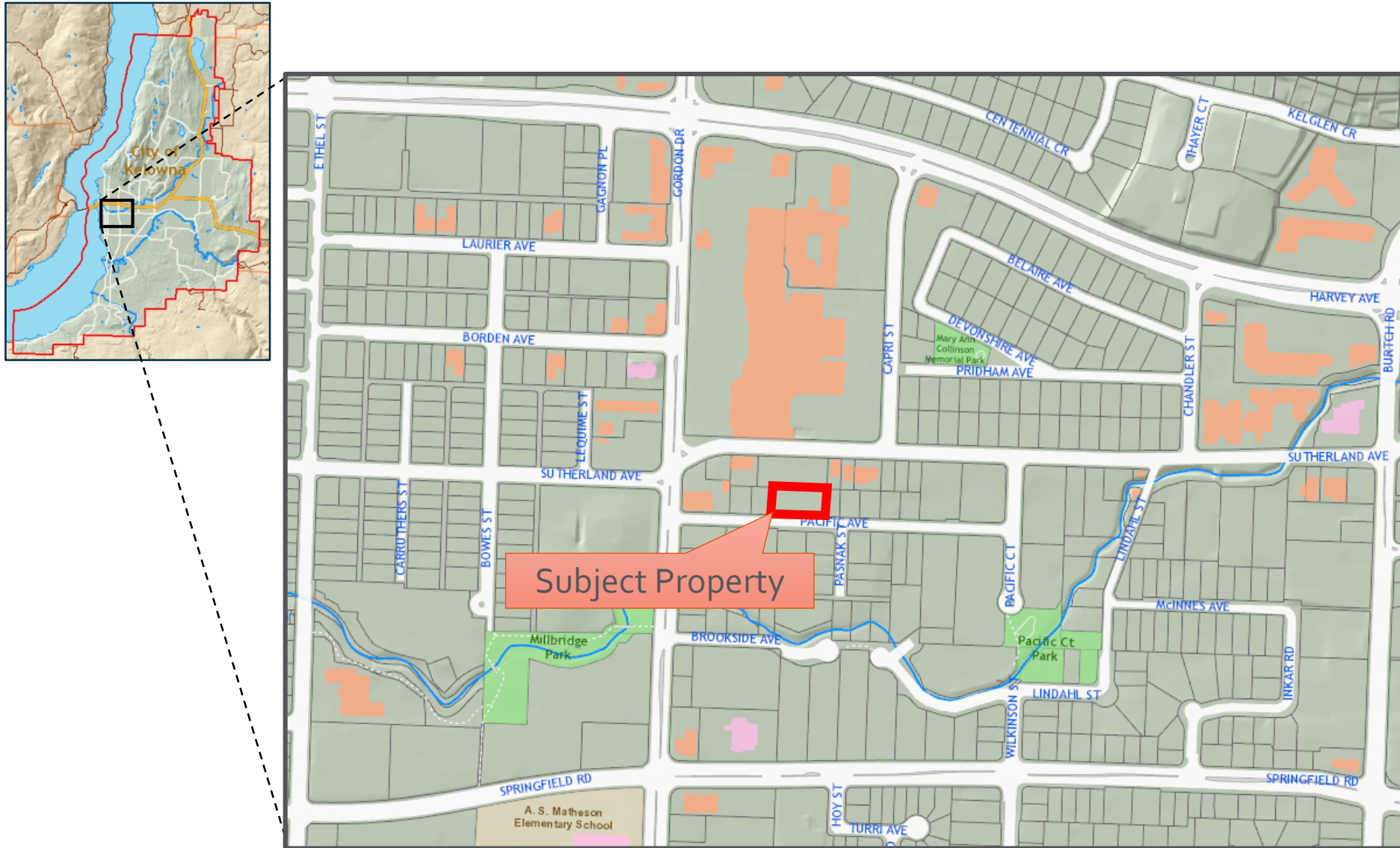


Building Permit

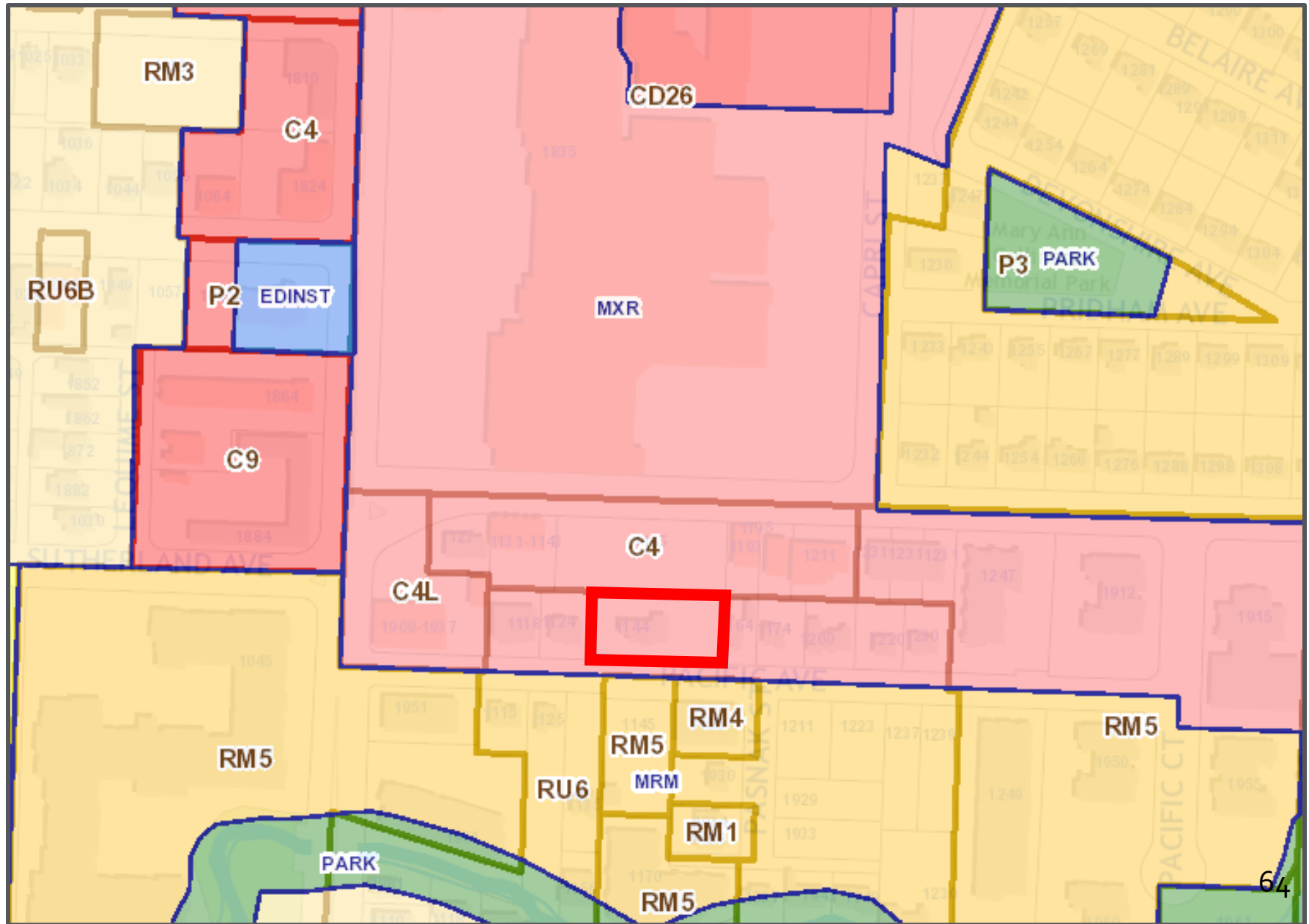


Council
Approvals

Context Map



OCP Future Land Use / Zoning



Subject Property Map



Project/technical details

- ▶ To rezone the lot to C4 – Urban Centre Commercial to facilitate the development of a 4 storey mixed use building.



Project/technical details

- ▶ Proposed building to have commercial uses across the first 2 storeys, and residential uses stepped back above.
- ▶ Applicant worked with Staff to ensure the commercial component of the building is respectful of the residential development along the street and in the neighbourhood.
 - ▶ Questions of form and character will only be addressed formally at Development Permit stage
 - ▶ Staff are not tracking any variances at this time

Development Policy

▶ OCP

- ▶ Contain Urban Growth
- ▶ Focus Development to Designated Growth Areas
 - ▶ Esp. Urban Centres

▶ Capri-Landmark Urban Centre Plan

- ▶ Encourage mixed-use and transitional development on the periphery of Capri Mall.

Public Notification Policy #367

- ▶ The public consultation process included both a Neighbour Consultation and a Public Information Session and was executed in full compliance with Policy #367
 - ▶ Public Consultation completed by July 10, 2020

Staff Recommendation

- ▶ Staff support rezoning the property to C₄ – Urban Centre Commercial for the following reasons:
 - ▶ OCP
 - ▶ Contain Urban Growth
 - ▶ Focus Development to Designated Growth Areas
 - ▶ Esp. Urban Centres
 - ▶ Capri-Landmark Urban Centre Plan
 - ▶ Encourage mixed-use and transitional development on the periphery of Capri Mall.



Conclusion of Staff Remarks

CITY OF KELOWNA
BYLAW NO. 12084
Z20-0013 – 1144 Pacific Avenue

A bylaw to amend the "City of Kelowna Zoning Bylaw No. 8000".

The Municipal Council of the City of Kelowna, in open meeting assembled, enacts as follows:

1. THAT City of Kelowna Zoning Bylaw No. 8000 be amended by changing the zoning classification of Parcel A (DD KL82857), District Lot 137, ODYD, Plan 2862 located at Pacific Avenue, Kelowna, BC from the RU6 – Two Dwelling Housing zone to the C4 – Urban Centre Commercial zone.
2. This bylaw shall come into full force and effect and is binding on all persons as and from the date of adoption.

Read a first time by the Municipal Council this

Public Hearing Waived by the Municipal Council this

Read a second and third time by the Municipal Council this

Approved under the Transportation Act this

(Approving Officer – Ministry of Transportation)

Adopted by the Municipal Council of the City of Kelowna this

Mayor

City Clerk

REPORT TO COUNCIL



Date: July 27, 2020

To: Council

From: City Manager

Department: Development Planning

Application: Z20-0042

Owner: Brenda Rusnak

Address: 409 Park Ave

Applicant: David Cullen- CTQ Consultants Ltd.

Subject: Rezoning Application

Existing OCP Designation: S2Res- Single/Two Dwelling Housing

Existing Zone: RU1- Large Lot Housing

Proposed Zone: RU2- Medium Lot Housing

1.0 Recommendation

THAT Rezoning Application No. Z20-0042 to amend the City of Kelowna Zoning Bylaw. No. 8000 by changing the zoning classification of Lot 7, Block 6, District Lot 14 Osoyoos Division Yale District Plan 431, located at 409 Park Ave, Kelowna, BC, from the RU1- Large Lot Housing zone to the RU2- Medium Lot Housing zone, be considered by Council;

AND THAT the Rezoning Bylaw be forwarded to a Public Hearing for further consideration;

AND THAT final adoption of the Rezoning Bylaw be considered subsequent to the issuance of a Preliminary Layout Review Letter by the Approving Officer;

AND THAT final adoption of the Rezoning Bylaw be considered subsequent to the approval of the Ministry of Transportation and Infrastructure;

AND FURTHER THAT final adoption of the Rezoning Bylaw be considered subsequent to the outstanding conditions of approval as set out in Schedule "A" attached to the Report from the Development Planning Department dated July 27, 2020.

2.0 Purpose

To consider an application to rezone the subject property from the RU1-Large Lot Housing zone to the RU2-Medium Lot Housing zone to facilitate a 2-lot subdivision.

3.0 Development Planning

Development Planning is supportive of the proposed rezoning application. The subject property is located in the Heritage Conservation Area and currently contains no structures.

The proposed rezoning application will allow for a future two lot subdivision. Under the proposed zoning, each lot will be able to develop a single-family dwelling. The proposed density is aligned with the future land use designation of S2Res- Single/Two Dwelling Housing and will create lot sizes and a development opportunity for a single-family dwelling that can be built within the development regulations of the RU2 zone. The proposed lot size and configuration under the RU2 zone will fit in with the existing lot pattern of the area, which varies greatly and does not follow a consistent overall pattern.

Staff are confident that the proposed zone will allow for context sensitive development that will conform to the Zoning Bylaw. The proponent has made a Heritage Alteration Permit (HAP) application for the subdivision and a new dwelling on the lot located at the corner of Park Ave and Long St. An additional HAP will be required for future development on the second lot.

4.0 Proposal

4.1 Background

The subject property recently went through a request to remove a previously existing home from the Kelowna Heritage Registry. The request was granted and the home was demolished.

4.2 Project Description

The rezoning application will allow for a future two lot subdivision. The proposed lots are 504.6m² and 593.1m² accessed off Long St (refer to Attachment A). The proponent has made a Heritage Alteration Permit (HAP) application for the subdivision and a new dwelling on the lot located at the corner of Park Ave and Long St. The HAP will go to the Heritage Advisory Committee for consideration and subsequently issued at the Staff level. Staff are currently not tracking any variances on the HAP. Should a variance request be made through the HAP review process, the variance request would come forward for Council consideration.

4.3 Site Context

The subject property is located in the Heritage Conservation Area at the corner of Park Ave and Long St. The property is surrounded by single-family development. A few properties in the surrounding area are designated as RU1c- Large Lot Housing with Carriage House.

Specifically, adjacent land uses are as follows:

Orientation	Zoning	Land Use
North	RU1- Large Lot Housing	Single dwelling housing
East	RU1- Large Lot Housing	Single dwelling housing
South	RU1- Large Lot Housing	Single dwelling housing
West	RU1- Large Lot Housing	Single dwelling housing

Subject Property Map:



5.0 Current Development Policies

5.1 Kelowna Official Community Plan (OCP)

Chapter 16: Heritage Conservation Area Guidelines Objectives

Maintain the residential and historical character of the Marshall Street and the Abbott Street Heritage Conservation Areas

Encourage that change to buildings and streetscapes will be undertaken in ways which offer continuity of the 'sense of place' for neighbours and the broader community

Chapter 5: Development Process

Objective 5.7 Identify and conserve heritage resources.

Policy .4 Heritage Conservation Areas. Continue to recognize the established heritage conservation areas of Abbott Street and Marshall Street as identified on Map 9.1

6.0 Technical Comments

6.1 Development Engineering Department

See attached memorandum.

7.0 Application Chronology

Date of Application Received: May 21, 2020

Date Public Consultation Completed: May 24, 2020

Report prepared by: Jocelyn Black, Planner Specialist

Reviewed by: James Moore, Urban Planning & Development Policy Manager

Approved for Inclusion: Dean Strachan, Suburban and Rural Planning Manager

Attachments:

Schedule A: Development Engineering Memo

Attachment A: Site Plan & Project Rendering



CITY OF KELOWNA

MEMORANDUM

Date: May 27, 2020

File No.: Z20-0042

To: Community Planning (JB)

From: Development Engineering Manager (JK)

Subject: 409 Park Ave.

RU1 to RU2

The Development Engineering Department has the following comments and requirements associated with this application to rezone the subject property from RU1 to RU2. The road and utility upgrading requirements outlined in this report will be a requirement of this development. The Development Engineering Technician for this project is Aaron Sangster.

1. General

- a) These are Development Engineering comments/requirements and area subject to the review and requirements from the Ministry of Transportation (MOTI) Infrastructure Branch.
- b) The following requirements are valid for one (1) years from the reference date of this memo, or until the PLR and/or application has been closed, whichever occurs first. The City of Kelowna reserves the rights to update/change some or all items in this memo once these time limits have been reached.

2. Domestic Water and Fire Protection

- a) The subject property is currently serviced with a 19mm water service. One metered water service will be required for the development. The disconnection of the existing small diameter water services and the tie-in of a larger service is the developer's responsibility.

3. Sanitary Sewer

- a) This property is currently serviced with a 100-mm sanitary service. The developer's consulting mechanical engineer will determine the development requirements of this proposed development and establish the service needs. Only one service will be permitted for this development. The applicant, at their cost, will arrange for the removal and disconnection of the existing services and the installation of one new larger service, if necessary.

4. Storm Drainage

- a) The developer must engage a consulting civil engineer to provide a storm water management plan for the site, which meets the requirements of the Subdivision, Development and Servicing Bylaw No. 7900. The storm water management plan must also include provision of lot grading plan, minimum basement elevation (MBE), if applicable, and provision of a storm drainage service for the development and / or recommendations for onsite drainage containment and disposal systems. Only one

service will be permitted for this development. The applicant, at his cost, will arrange the installation of one overflow service if required.

5. Electric Power and Telecommunication Services

- a) All proposed service connections are to be installed underground. It is the developer's responsibility to make a servicing application with the respective electric power, telephone and cable transmission companies to arrange for these services, which would be at the applicant's cost.

6. Road Improvements

- a) Park Ave. must be upgraded to a local standard along the full frontage of this proposed development, curb and gutter, drainage system, catch basin, manholes, pavement removal and replacement, and re-location or adjustment of utility appurtenances if required to accommodate the upgrading construction. The road cross section to be used is a SS-R3.

7. Road Dedication and Subdivision Requirements

- a) Grant Statutory Rights of Way if required for utility services.
- b) If any road dedication or closure affects lands encumbered by a Utility right-of-way (such as Hydro, Telus, Gas, etc.) please obtain the approval of the utility. Any works required by the utility as a consequence of the road dedication or closure must be incorporated in the construction drawings submitted to the City's Development Manager.


8. Erosion Servicing Control Plan

- a) Provide a detailed ESC Plan for this development as per the Subdivision, Development and Servicing Bylaw #7900.
- b) The developer must engage a consulting civil engineer to provide an ESC plan for this site which meets the requirements of the City Subdivision Development and Servicing Bylaw 7900.
- c) Civil consultant is responsible for all inspection and maintenance.
- d) A Security Deposit for ESC Works equal to 3.0% of the Consulting Engineer's opinion of probable costs of civil earthworks and infrastructure will be added to the Servicing Agreement.

9. Geotechnical Report

Provide a geotechnical report prepared by a Professional Engineer competent in the field of hydro-geotechnical engineering to address the items below: NOTE: The City is relying on the Geotechnical Engineer's report to prevent any damage to property and/or injury to persons from occurring as a result of problems with soil slippage or soil instability related to this proposed subdivision. The Geotechnical reports must be submitted to the Development Services Department (Subdivision Approving officer) for distribution to the Development Engineering Branch and Inspection Services Division prior to submission of Engineering drawings or application for subdivision approval.

- (i) Area ground water characteristics, including any springs and overland surface drainage courses traversing the property. Identify any monitoring required.

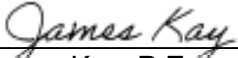
SCHEDULE		A
This forms part of application		
# Z20-0042		
Planner	IB	 City of Kelowna

SCHEDULE		A
This forms part of application # Z20-0042		
Planner Initials	JB	 City of Kelowna <small>DEVELOPMENT PLANNING</small>

- (ii) Site suitability for development.
- (iii) Site soil characteristics (i.e. fill areas, sulphate content, unsuitable soils such as organic material, etc.).
- (iv) Any special requirements for construction of roads, utilities and building structures.
- (v) Recommendations for items that should be included in a Restrictive Covenant.
- (vi) Recommendations for roof drains, perimeter drains and septic tank effluent on the site.
- (vii) Any items required in other sections of this document.

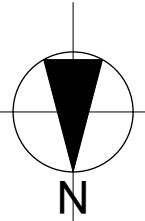
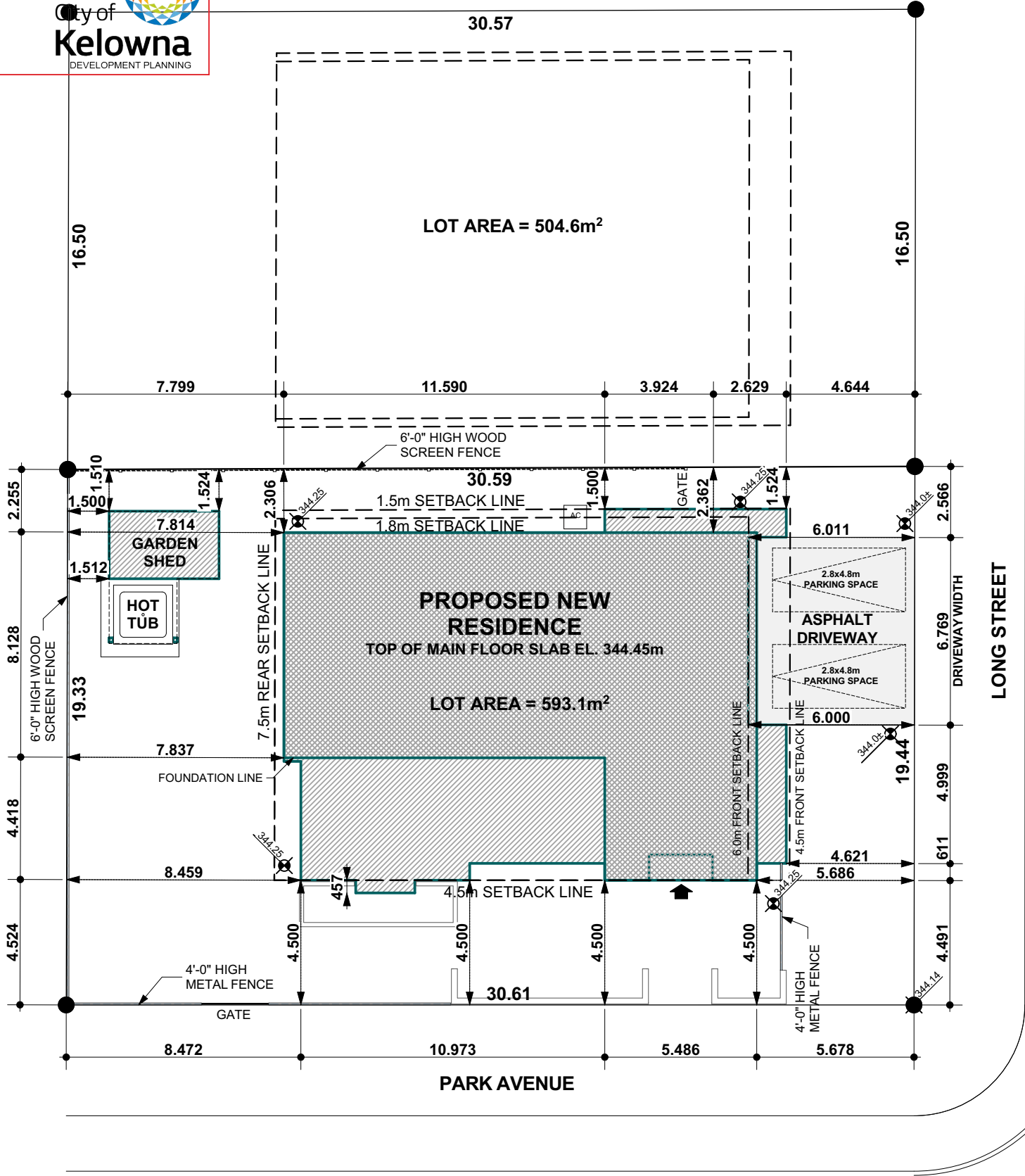
10. Charges and Fees

- a) Development Cost Charges (DCC's) are payable.
- b) Fees per the "Development Application Fees Bylaw" include:
 - i) Survey Monument, Replacement Fee: \$1,200.00 (GST exempt) – only if disturbed.



James Kay, P.Eng.
Development Engineering Manager

AS



409 PARK AVENUE

LEGAL DESCRIPTION: LOT 7, BLOCK 6, DL 14, ODYD, PLAN 431

ZONING: PROPOSED RU2 -MEDIUM LOT HOUSING

SITE DETAILS:

LOT AREA:	593.10 m²	400m² MIN.
LOT WIDTH:	19.39 m	15.0m MIN.
LOT DEPTH:	30.59 m	30.0m MIN.

FOOTPRINT AREA OF DWELLING:	220.63 m²
AREA OF DRIVEWAY & PARKING:	38.63 m²
AREA OF DECKS:	0.00 m²
AREA OF COVERED PATIOS (15.98m² < 23m²):	0.00 m²
AREA OF ACCESSORY BUILDING:	9.66 m²

SITE COVERAGE (%)

DWELLING, DECKS, ACCESSORY BUILDING AND COVERED PATIOS >23m²:	38.83 %	40% MAX.
DWELLING, DRIVEWAYS & PARKING:	43.71 %	50% MAX.
ACCESSORY BUILDINGS:	1.63 %	14% MAX.

DWELLING DETAILS:

TOTAL FLOOR AREA OF DWELLING:	308.38 m²	
GARAGE / WORKSHOP AREA:	64.71 m²	
HEIGHT OF BUILDING:	7.38 m	9.5m MAX. OR 2 1/2 STOREYS (WHICHEVER IS THE LESSER)

SETBACKS (IN METRES):

WEST SETBACK TO GARAGE:	6.000 m	6.0m MIN.
WEST SETBACK TO LIVING SPACE:	4.621 m	4.5m MIN.
SOUTH SETBACK - TO 1 STOREY PORTION:	1.500 m	1.5m MIN.
SOUTH SETBACK - TO 2 STOREY PORTION:	2.306 m	1.8m MIN.
NORTH SETBACK - TO FLANKING STREET:	4.500 m	4.5m MIN.
EAST SETBACK:	7.814 m	7.5m MIN.

NUMBER OF PARKING STALLS (IN GARAGE):	2	2 MIN.
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FELIX WESTERKAMP, dipl-ing(FH)

1587 SUTHERLAND AVENUE
KELOWNA, B.C. V1Y - 5Y7
(250) 878-7846

e-mail: bauhaus1@shaw.ca
web: www.bauhausdesigns.com

PROJECT :	PARK AVENUE RESIDENCE 409 PARK AVENUE KELOWNA, BC		TITLE :	Site Plan
	APPLICANT: DAVE CULLEN, P.Eng. CTQ CONSULTANTS 1334 ST. PAUL STREET KELOWNA, B.C. V1Y 2E1 250 870 6525	CIVIC : 409 PARK AVENUE KELOWNA, B.C.	LEGAL : LOT 7, BLOCK 6, D.L. 14, ODYD, PLAN 431	

REVISED :

REVISED :

REVISED :

REVISED :

SCALE :	DATE :
AS NOTED	5/20/2020

SHEET :

A-003



FELIX WESTERKAMP, dipl-ing(FH)

1587 SUTHERLAND AVENUE
KELOWNA, B.C. V1Y - 5Y7
(250) 878-7846

e-mail: bauhaus1@shaw.ca
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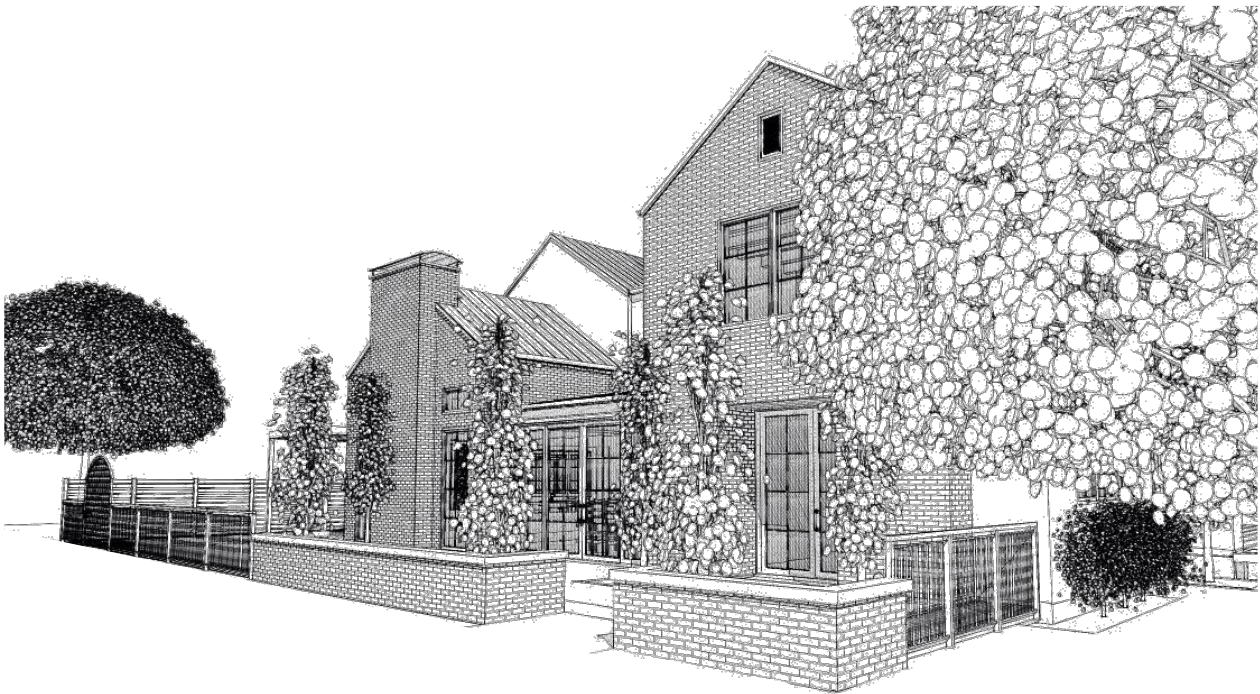
View from Park Avenue, Left Side



View from Long Street, Right Side



View from Long Street, Left Side



View from Park Avenue, Right Side

PARK AVENUE RESIDENCE
409 PARK AVENUE KELOWNA, BC

Cover Sheet - 2

PROJECT :	TITLE :
APPLICANT: DAVE CULLEN, P.Eng. CTQ CONSULTANTS 1334 ST. PAUL STREET KELOWNA, B.C. V1Y 2E1 250 870 6525	CIVIC : 409 PARK AVENUE KELOWNA, B.C. LEGAL : LOT 7, BLOCK 6, D.L. 14, ODYD, PLAN 431

REVISED :	DATE :
REVISED :	5/20/2020
REVISED :	
REVISED :	
SCALE :	
AS NOTED	

SHEET :
A-002



Z20-0042 409 Park Ave

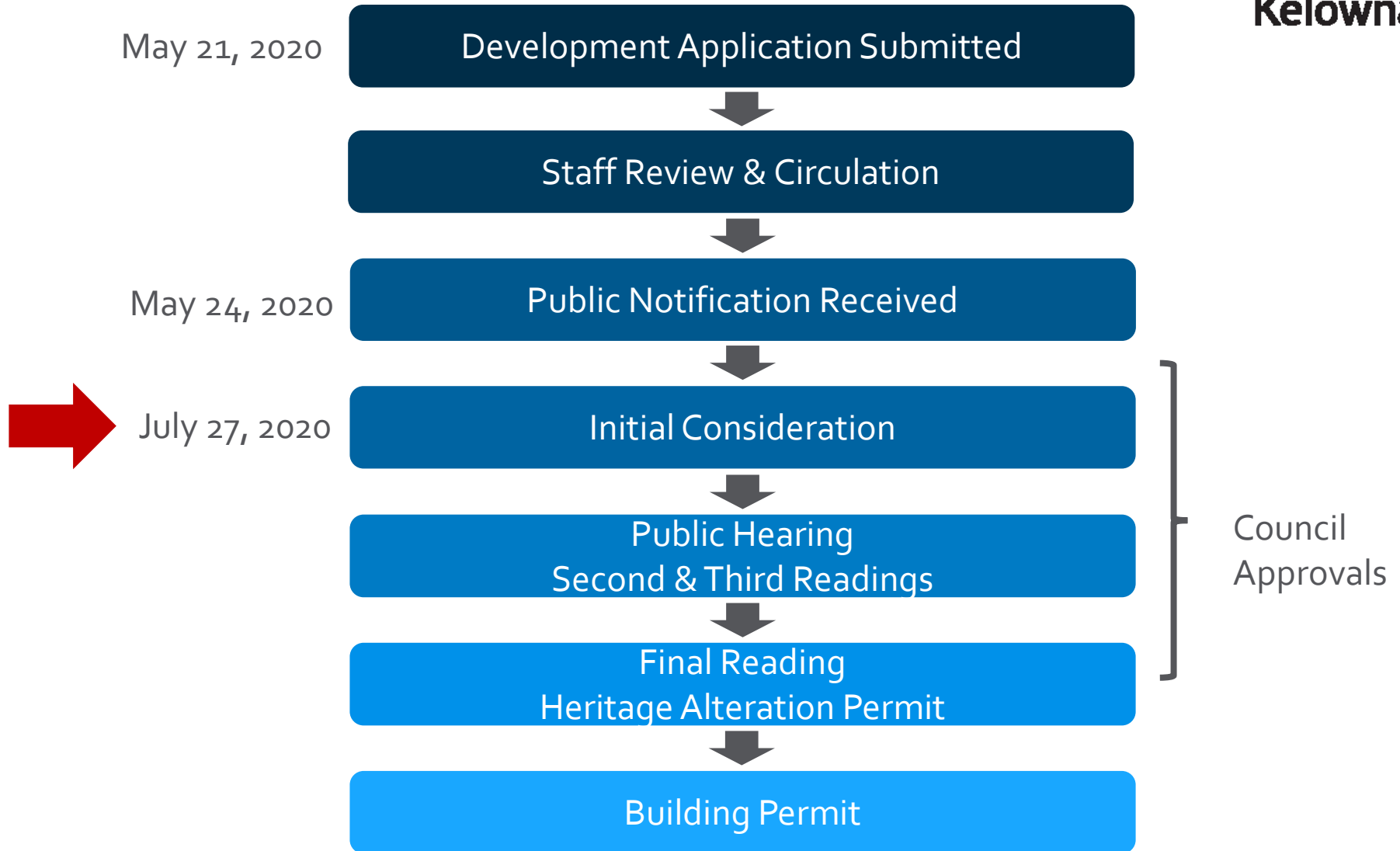
Rezoning Application



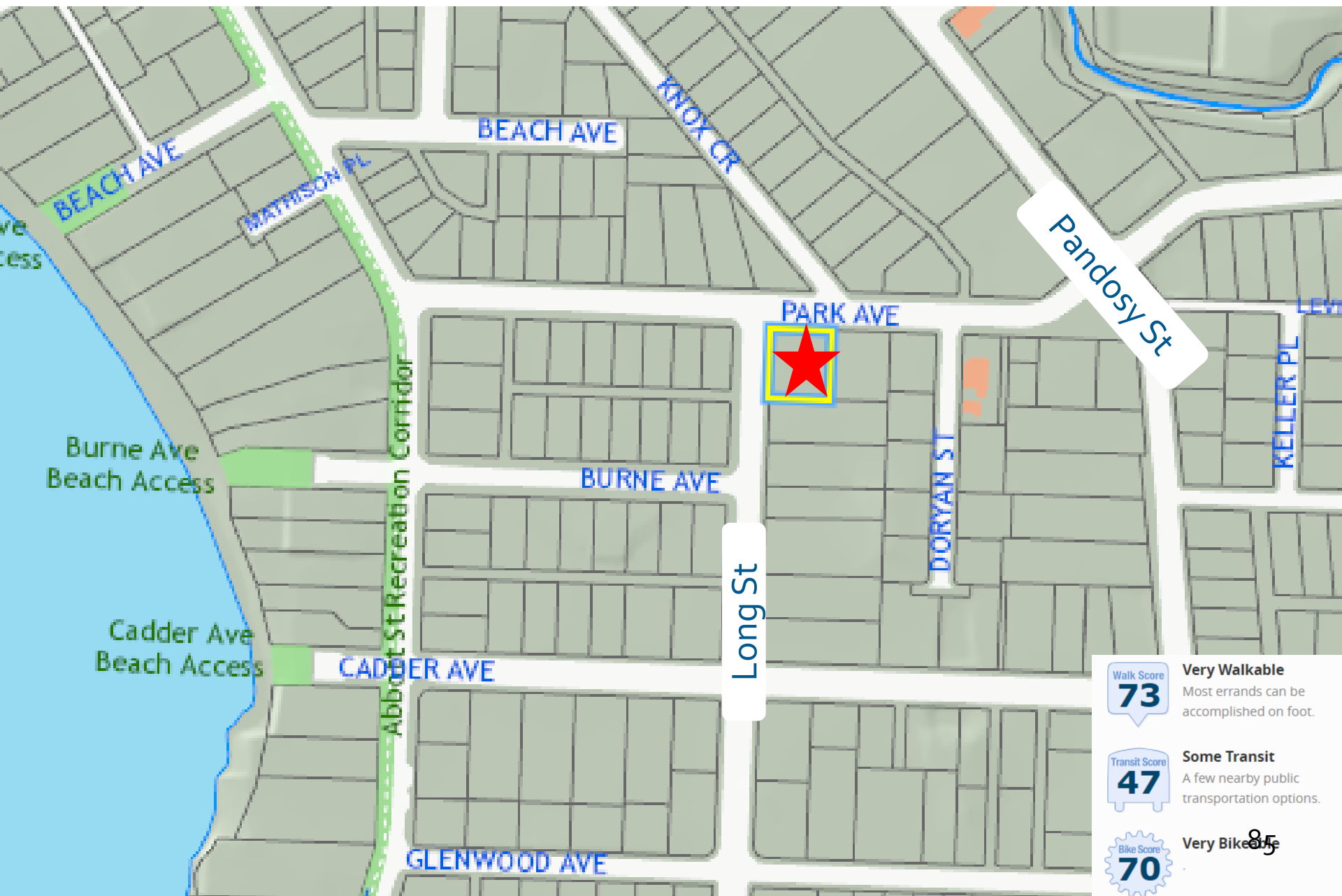
Proposal

- ▶ To consider an application to rezone the property from RU1- Large Lot Housing to RU2- Medium Lot Housing to facilitate a two lot subdivision

Development Process



Context Map



Walk Score

73

Very Walkable

Most errands can be accomplished on foot.

Transit Score

47

Some Transit

A few nearby public transportation options.

Bike Score

70

Very Bikeable

85

Block Pattern



Subject Property Map



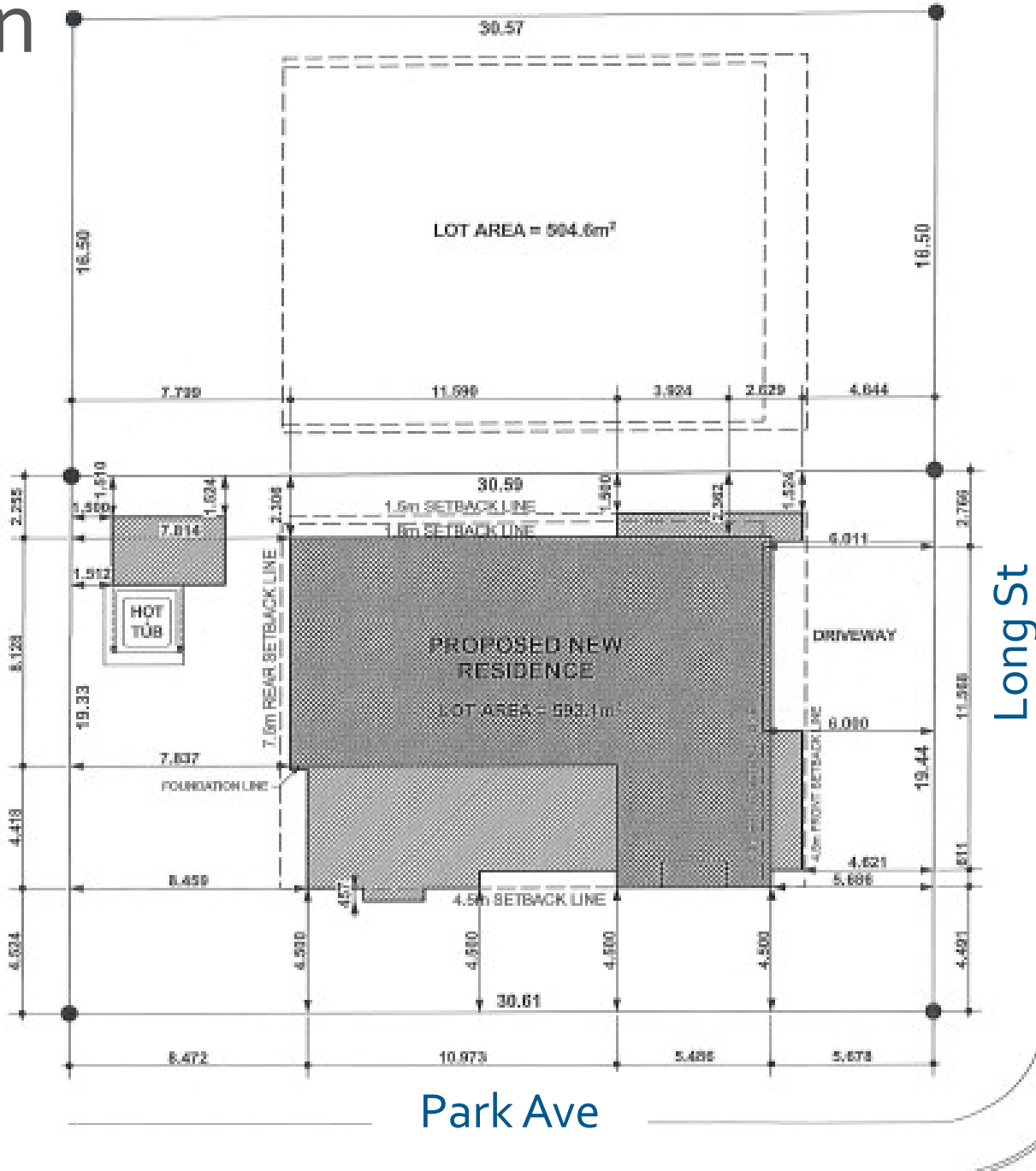
Subject Property Map



Project/technical details

- ▶ Rezoning application allows for future two lot subdivision under the RU2- Medium Lot Housing zone
- ▶ A Heritage Alteration Permit (HAP) has been made for the subdivision & new dwelling

Site Plan



Development Policy

- ▶ Heritage Conservation Area Guidelines
 - ▶ Maintain the residential and historical character
 - ▶ Encourage change to streetscapes which offer continuity of the “sense of place”

Staff Recommendation

- ▶ Staff are supportive of the rezoning to allow for a two lot subdivision
 - ▶ Proposed lots fit within the existing lot pattern of the neighbourhood
 - ▶ Heritage Alteration Permits are required for all proposed structures and will undergo review by the Heritage Advisory Committee
 - ▶ Sensitive infill development



Conclusion of Staff Remarks

CITY OF KELOWNA
BYLAW NO. 12085
Z20-0042 - 409 Park Avenue

A bylaw to amend the "City of Kelowna Zoning Bylaw No. 8000".

The Municipal Council of the City of Kelowna, in open meeting assembled, enacts as follows:

1. THAT City of Kelowna Zoning Bylaw No. 8000 be amended by changing the zoning classification of Lot 7, Block 6, District Lot 14, ODYD, Plan 431 located at Park Avenue, Kelowna, BC from the RU1 - Large Lot Housing zone to the RU2 – Medium Lot Housing zone.
2. This bylaw shall come into full force and effect and is binding on all persons as and from the date of adoption.

Read a first time by the Municipal Council this

Considered at a Public Hearing on the

Read a second and third time by the Municipal Council this

Approved under the Transportation Act this

(Approving Officer – Ministry of Transportation)

Adopted by the Municipal Council of the City of Kelowna this

Mayor

City Clerk

REPORT TO COUNCIL



Date: July 27, 2020

To: Council

From: City Manager

Department: Development Planning

Application: Z20-0010

Owner: 1918951 Alberta Ltd., Inc.No.
A0110539

Address: 235 & 285 Robson Rd W and 240
Rutland Rd S

Applicant: New Town Architecture and
Engineering Inc.

Subject: Rezoning Application

Existing OCP Designation: MRL- Multiple Unit Residential (Low Density)

Existing Zone: RU1- Large Lot Housing

Proposed Zone: RM3- Low Density Multiple Housing

1.0 Recommendation

THAT Rezoning Application No. Z20-0010 to amend the City of Kelowna Zoning Bylaw No. 8000 by changing the zoning classification of Lot 1 and Lot 2, Section 23, Township 26, Osoyoos Division Yale District, Plan 12830 and Lot 10, Section 23, Township 26, Osoyoos Division Yale District, Plan 12078, located at 235 and 285 Robson Rd W and 240 Rutland Rd S, Kelowna BC from the RU1- Large Lot Housing zone to the RM3- Low Density Multiple Housing zone, be considered by Council;

AND THAT Council, in accordance with Local Government Act s. 464(2), waive the Public Hearing for the Rezoning Bylaw;

AND THAT final adoption of the Rezoning Bylaw be considered subsequent to the outstanding conditions of approval as set out in Schedule "A" attached to the Report from the Development Planning Department dated July 27, 2020;

AND THAT final adoption of the Rezoning Bylaw be considered subsequent to the approval of the Ministry of Transportation and Infrastructure;

AND FURTHER THAT final adoption of the Rezoning Bylaw be considered in conjunction with Council's consideration of a Development Permit for the subject property.

2.0 Purpose

To consider an application to rezone the subject property from the RU1- Large Lot Housing to the RM3- Low Density Multiple Dwelling Housing to facilitate the development of a multi-family building, and to waive the Public Hearing.

3.0 Development Planning

Development Planning Staff are supportive of the proposed rezoning application to facilitate the future development of a 3 storey, 54-unit apartment building. The properties are located in the Rutland Urban Centre. The subject site offers close proximity to transit routes, a commercial node within walking distance and everyday amenities and employment opportunities.

Planning Staff are supportive of achieving residential density and a variety of housing forms in Urban Centres. The proposed rezoning is well aligned with the future land use designation of MRL- Multiple Unit Residential (Low Density) in the Official Community Plan and other OCP housing goals and policies.

The applicant has met the requirements of Council Policy 367 and completed public engagement through mail outs to neighbours within 50m.

4.0 Proposal

4.1 Project Description

The subject properties (three separate lots) are currently zoned RU1- Large Lot Housing, two of which contain a single-family dwelling. The proposal will allow for the future development of a 3 storey, 54-unit building with a floor area ratio (FAR) of 0.887. The proposal fronts Rutland Rd S and Robson Rd W. Parking is located underground and is accessed from Robson Rd W. A form and character Development Permit has been submitted and Staff are currently not tracking any variances.

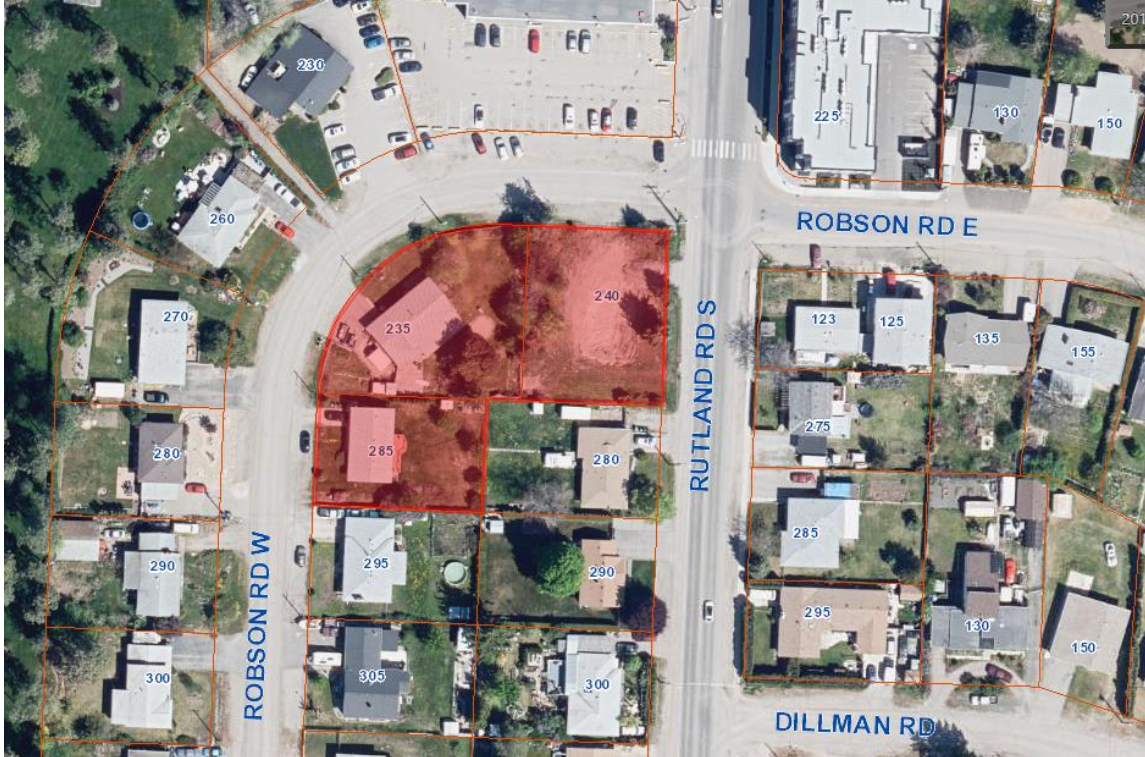
4.2 Site Context

The subject properties are located in the Rutland Urban Centre. One of the lots fronts onto Rutland Rd S, at the corner of Rutland Rd and Robson Rd. The properties are located to the south of a main commercial node (Plaza 33) located off Hwy 33. Rutland Lions Park is located in close proximity to the east. The properties are predominantly surrounded by single family dwellings the east, south and west. The site is in the Revitalization Development Permit Area (DPA) and is subject to review under the revitalization urban design guidelines.

Specifically, adjacent land uses are as follows:

Orientation	Zoning	Land Use
North	C2- Neighbourhood Commercial/C4 Urban Centre Commercial	Health Services/Thrift Store
East	RU1- Large Lot Housing	Single dwelling housing
South	RU1- Large Lot Housing	Single dwelling housing
West	RU1- Large Lot Housing	Single dwelling housing

Subject Property Map:



5.0 Current Development Policies

5.1 Kelowna Official Community Plan (OCP)

Chapter 1: Introduction

Goals for a Sustainable Future:

Contain Urban Growth – Reduce greenfield urban sprawl and focus growth in compact, connected and mixed-use (residential and commercial) urban and village centres.

Chapter 5: Development Process

Objective 5.2 Develop Sustainably

Policy .4 Complete Communities Support the development of complete communities with a minimum intensity of 35-40 people and/or jobs per hectare to support basic transit service- a bus every 30 minutes.

Objective 5.22 Ensure context sensitive housing development

Policy .11 Housing Mix. Support a greater mix of housing unit size, form and tenure in new multi-unit residential and mixed-use developments.

Policy .13 Family Housing. Support housing alternatives for families when single detached housing is too costly, including features that are important to families such as: outdoor space, direct access to grade, workshop space, larger units, safe design, and neighbourhood characteristics (e.g.: location and amenities).

6.0 Technical Comments

6.1 Development Engineering Department

6.1.1 See attached memorandum.

7.0 Application Chronology

Date of Application Received: February 4, 2020

Date Public Consultation Completed: June 12, 2020

Report prepared by: Jocelyn Black, Planner Specialist

Reviewed by: James Moore, Urban Planning & Development Policy Manager

Approved for Inclusion: Dean Strachan, Community Planning & Development Manager

Attachments:

Schedule A: Development Engineering Memo

Attachment A: Site Plan & Project Rendering



CITY OF KELOWNA
MEMORANDUM

Date: April 28, 2020 (Rev 1)
File No.: Z20-0010
To: Urban Planning Management (JB)
From: Development Engineering Manager (JK)
Subject: 240 Rutland Rd S, 235 and 285 Robson Rd W RU1 to RM3

The Development Engineering Branch has the following comments and requirements associated with this application to rezone the subject property from RU1 to RU6. The road and utility upgrading requirements outlined in this report will be a requirement of this development. The Development Engineering Technician for this project is Jim Hager (250-575-3800; jhager@kelowna.ca).

1. General

- a) These Development Engineering Branch comments/requirements are subject to the review and requirements from the Ministry of Transportation and Infrastructure (MoTI) Infrastructure Branch.
- b) This proposed development may require the installation of centralized mail delivery equipment. Please contact Arif Bhatia, Delivery Planning Officer, Canada Post Corporation, 530 Gaston Avenue, Kelowna, BC, V1Y 2K0, (250) 859-0198, arif.bhatia@canadapost.ca to obtain further information and to determine suitable location(s) within the development.

2. Lot consolidation and dedication

- a) Lot consolidation will be a requirement of this development.
- b) A 6.0-m corner rounding will be required on the northeast corner of 240 Rutland Rd S.

3. Domestic Water and Fire Protection

- a) The subject lots are within the Rutland Waterworks District (RWD) water service area. The developer is required to make satisfactory arrangements with RWD for all water and fire protection-related issues. All charges for service connection and upgrading costs, as well as any costs to decommission existing services, shall be the responsibility of the developer.
- b) The developer's consulting mechanical engineer will determine the domestic, fire protection requirements of this proposed development and establish hydrant requirements and service needs. All fire flow calculations approved by BMID are to be shared with the Development Engineering Branch upon submittal of off-site civil engineering drawings.



4. **Sanitary Sewer**

- a) Two of the subject lots (235 and 285 Robson Rd W) are currently serviced by respective on-site septic systems. These septic systems are to be decommissioned and the proposed development will be granted a single sewer service connection.
- b) Two of the subject lots (235 and 285 Robson Rd W) are in the Central Rutland (No. 22) Sewer Connection Area. As per the Sewer Connection Charge Bylaw (No. 11540). In lieu of paying any connection charges for the Sewer Connection Area, the Developer will be required to construct a 200-mm sanitary main along the entire Robson Rd W frontage to the next manhole (c/w cap and 3m stub for future extension) as per the existing design for the Sewer Connection Area (Contact the Development Technician for a copy of this design). Lots 230, 260, 270, 280, 290, 295, 300, 305, 325, and 330 Robson Rd W are to be pre-serviced by the Developer. The Developer will be reimbursed by the City for each sewer connection up to \$4,000. In return for the \$4,000 per service connection, the Developer will waive the right to apply any Latecomer to the installed sanitary sewer works.
- c) Provide an adequately sized sanitary sewer system complete with a single lot connection.

5. **Storm Drainage**

- a) The developer must engage a consulting civil engineer to provide a storm water management plan for the site, which meets the requirements of the Subdivision, Development and Servicing Bylaw No. 7900. The storm water management plan must also include provision of lot grading plan, minimum basement elevation (MBE), if applicable, and provision of a storm drainage service for the development and / or recommendations for onsite drainage containment and disposal systems. Only one service will be permitted for this development. The applicant, at their cost, will arrange the installation of one overflow service if required.
- b) The City Engineer may permit use of individual ground water disposal systems, where soils are suitable. For on-site disposal of drainage water, a hydrogeotechnical report will be required complete with a design for the disposal method (i.e. trench drain / rock pit). The Lot Grading Plan must show the design and location of these systems.
- c) Provide the following drawings:
 - i. A detailed Lot Grading Plan (indicate on the Lot Grading Plan any slopes that are steeper than 30% and areas that have greater than 1.0 m of fill);
 - ii. A detailed Stormwater Management Plan; and
 - iii. An Erosion and Sediment Control Plan.
- d) Show details of dedications, rights-of-way, setbacks and non-disturbance areas on the lot Grading Plan.
- e) Register right of ways on private properties for all the storm water infrastructure carrying, conveying, detaining and/or retaining storm water that is generated from public properties and public road right of ways, if necessary.

6. **Electric Power and Telecommunication Services**

- a) All proposed service connections are to be installed underground. It is the developer's responsibility to make a servicing application with the respective electric

SCHEDULE		A
This forms part of application		
# Z20-0010		
Developer Initials	JB	 City of Kelowna DEVELOPMENT PLANNING

power, telephone and cable transmission companies to arrange for these services, which would be at the applicant's cost.

- b) The subject lots are within the Rutland Urban Centre and subject to *Council Policy 101 – Conversion of Overhead Powerlines to Underground Installation*. As a result, all proposed service connections and existing overhead wiring is to be installed underground. It is the developer's responsibility to make a servicing application with the respective electric power, telephone and cable transmission companies to arrange for these services, which would be at the applicant's cost.
- c) Re-locate existing utilities, where necessary.

7. Road Improvements

- a) The full frontage of Rutland Rd S is to be constructed as a modified SS-R5 complete with separated 1.8-m wide sidewalks at property line, 1.8-m wide bike lanes (c/w painted buffer) streetlights, drainage system, landscaped boulevard and irrigation, and street trees.
- b) The full frontage of Robson Rd is to be constructed as a modified SS-R5 complete with separated 1.8-m wide sidewalks offset 0.20 m from property line, streetlights, drainage system, landscaped boulevard and irrigation, and street trees.
- a) The existing BC Transit stop fronting the subject lots on Rutland Rd S is to be upgraded and designed as per *BC Transit's Infrastructure Design Guide* for a "Typical bus stop and furnishing layout", including:
 - i) Accessibility requirements to be met (tactile warning strip, information panels, boarding platforms, etc.)
 - ii) It is recommended to provide min 3.2m width instead of 3m for Transit waiting pad and sidewalk, for constructability proposes.
 - iii) A bus shelter is requested but may be considered in the future, therefore the waiting pad, space and include pre-ducting for future shelter is still required.


Further details on the requirements for the bus pad and bus shelter can be requested from the Development Technician on this file.

8. Erosion and Sediment Control

- a) An Erosion and Sediment Control Plan is to be prepared by a Professional Engineer proficient in the field of erosion and sediment control. The plan is to be prepared as per section 3.14 of Schedule 4 of Bylaw 7900. If a line item for ESC is not included in the Engineer's cost estimate for off-site work, then an additional 3% will be added to the performance security based on the total off-site construction estimate.

9. Geotechnical Report

Provide a geotechnical report prepared by a Professional Engineer competent in the field of hydro-geotechnical engineering to address the items below: NOTE: The City is relying on the Geotechnical Engineer's report to prevent any damage to property and/or injury to persons from occurring as a result of problems with soil slippage or soil instability related to this proposed subdivision. The Geotechnical reports must be submitted to the Development Services Department for distribution to the Development Engineering Branch and

SCHEDULE		A
This forms part of application		
# Z20-0010		
City of Kelowna DEVELOPMENT PLANNING		
Signature of Engineer with Initials	JB	

Inspection Services Division prior to submission of Engineering drawing application for subdivision approval.

- (i) Area ground water characteristics, including any springs and overland surface drainage courses traversing the property. Identify any monitoring required.
- (ii) Site suitability for development.
- (iii) Site soil characteristics (i.e. fill areas, sulphate content, unsuitable soils such as organic material, etc.).
- (iv) Any special requirements for construction of roads, utilities and building structures.
- (v) Recommendations for items that should be included in a Restrictive Covenant.
- (vi) Recommendations for roof drains, perimeter drains and septic tank effluent on the site.
- (vii) Any items required in other sections of this document.

9. Design and Construction

- (a) Design, construction supervision, and inspection of all off-site civil works and site servicing must be performed by a Consulting Civil Engineer and all such work is subject to the approval of the City Engineer. Drawings must conform to City standards and requirements.
- (b) Engineering drawing submissions are to be in accordance with the City's "Engineering Drawing Submission Requirements" Policy. Please note the number of sets and drawings required for submissions.
- (c) Quality Control and Assurance Plans must be provided in accordance with the Subdivision, Development & Servicing Bylaw No. 7900 (refer to Part 5 and Schedule 3).
- (d) A "Consulting Engineering Confirmation Letter" (City document 'C') must be completed prior to submission of any designs.
- (e) Before any construction related to the requirements of this subdivision application commences, design drawings prepared by a professional engineer must be submitted to the City's Works & Utilities Department. The design drawings must first be "Issued for Construction" by the City Engineer. On examination of design drawings, it may be determined that rights-of-way are required for current or future needs.

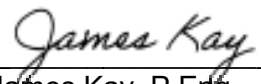
10. Servicing Agreements for Works And Services

- (a) A Servicing Agreement is required for all offsite works and services on City lands in accordance with the Subdivision, Development & Servicing Bylaw No. 7900. The applicant's Engineer, prior to preparation of Servicing Agreements, must provide adequate drawings and estimates for the required works. The Servicing Agreement must be in the form as described in Schedule 2 of the bylaw.
- (b) Part 3, "Security for Works and Services", of the Bylaw, describes the Bonding and Insurance requirements of the Owner. The liability limit is not to be less than

\$5,000,000 and the City is to be named on the insurance policy as an additional insured.

12. Charges and Fees

- a) Development Cost Charges (DCCs) are payable.
- b) Sewer Connection Area Fees (No. 22 Central Rutland) – **Construction of main in lieu of charge**
- c) Fees per the “Development Application Fees Bylaw” include:
 - i) Survey Monument, Replacement Fee: \$1,200.00 (GST exempt) – only if disturbed.
 - ii) Engineering and Inspection Fee: 3.5% of construction value (plus GST).



James Kay, P.Eng.
Development Engineering Manager

JKH

ALL CONTRACTORS ARE REQUIRED TO PERSONALLY INSPECT AND SUPERVISE THEIR PRODUCTS IN THE FIELD TO ENSURE THEY COMPLY WITH THE LAND OF THE PROVINCE OF BRITISH COLUMBIA ACT AND THE LAND OF THE PROVINCE OF BRITISH COLUMBIA REGULATIONS. The use of this drawing is limited to the specific project and site shown. Any other use without the written consent of the author is prohibited. This drawing must not be altered. Verify all dimensions and details prior to construction. Report all errors and corrections to the Architect.



**NEW TOWN
ARCHITECTURE**
ARCHITECTS
1111 1/2 STREET
VICTORIA, BC V8W 2E6
www.newtownarchitecture.ca

Scale



Revision	No	Date	Description
1	16/12/04	ISSUED FOR DP	
2	20/05/08	REISSUED FOR DP	

Project Title
**RUTLAND-ROBSON
MULTI-FAMILY**

Project Address
**RUTLAND & ROBSON RD,
KELOWNA
BC V1Y 1C9**

Project No.
4095

Drawing Title
SITE PLAN

Drawn by
L.A. 1:10" = 1'-0"

Checked by
L.A. 1:10" = 1'-0"

Project No.
A2.00

Date
26/03/2011 10:00 AM

ATTACHMENT A

This forms part of application

Z20-0010

Planner
Initials **JB**



1 SITE PLAN
1/16" = 1'-0"

RUTLAND-ROBSON MULTI-FAMILY

RE-ISSUED FOR DEVELOPMENT PERMIT, MAY 28, 2020



ALL CONTRACTORS ARE REQUIRED TO PROVIDE THEIR WORK AND SUPPLY FINISHED PRODUCTS IN ACCORDANCE WITH THE BRITISH COLUMBIA LAND OF THE PROVINCE OF BRITISH COLUMBIA. THE ARCHITECT'S OFFICE SHALL BE RESPONSIBLE FOR THE PROVISION OF ALL NECESSARY PERMITS AND INSURANCE. THE ARCHITECT'S OFFICE SHALL BE RESPONSIBLE FOR THE PROVISION OF ALL NECESSARY PERMITS AND INSURANCE. THE ARCHITECT'S OFFICE SHALL BE RESPONSIBLE FOR THE PROVISION OF ALL NECESSARY PERMITS AND INSURANCE.

Scale



Revision	No	Date	Description
1	15-12-04	ISSUED FOR DP	
2	20-05-28	RE-ISSUED FOR DP	



NEW TOWN
SERVICES
215-1100-8888
215-1100-1111

Project Title

RUTLAND-ROBSON
MULTI-FAMILY

Project Address
RUTLAND & ROBSON RD,
KELLOWNA
PROJECT NO.

Project No.

drawing title
COVER SHEET
& DRAWING
LIST

Sheet No. 1 of 1
Scale 1/8" = 1'-0"

Project No. 20-0010
Date 28 MAY 2020 11:28:49 AM

A0.00

ATTACHMENT A

This forms part of application

Z20-0010

Planner
Initials

JB

City of
Kelowna
DEVELOPMENT PLANNING



LANDSCAPE DRAWING LIST:

L1/2 CONCEPTUAL LANDSCAPE PLAN
L3/2 WATER CONSERVATION PLAN

CIVIL DRAWING LIST:

STORMWATER MANAGEMENT STRATEGY

ARCHITECTURAL DRAWING LIST:

COVER SHEET & DRAWING LIST
A1.01 RENDERINGS
A1.02 RENDERINGS
A1.03 SITE PLAN
A2.00 ANALYSIS
A3.01 LEVEL 1
A3.02 LEVEL 2
A3.03 LEVEL 3
A4.00 MATERIALS
A4.01 BUILDING ELEVATIONS
A4.02 BUILDING SECTIONS
A5.01

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L20-0010

235 & 285 Robson Rd W & 240 Rutland Rd S

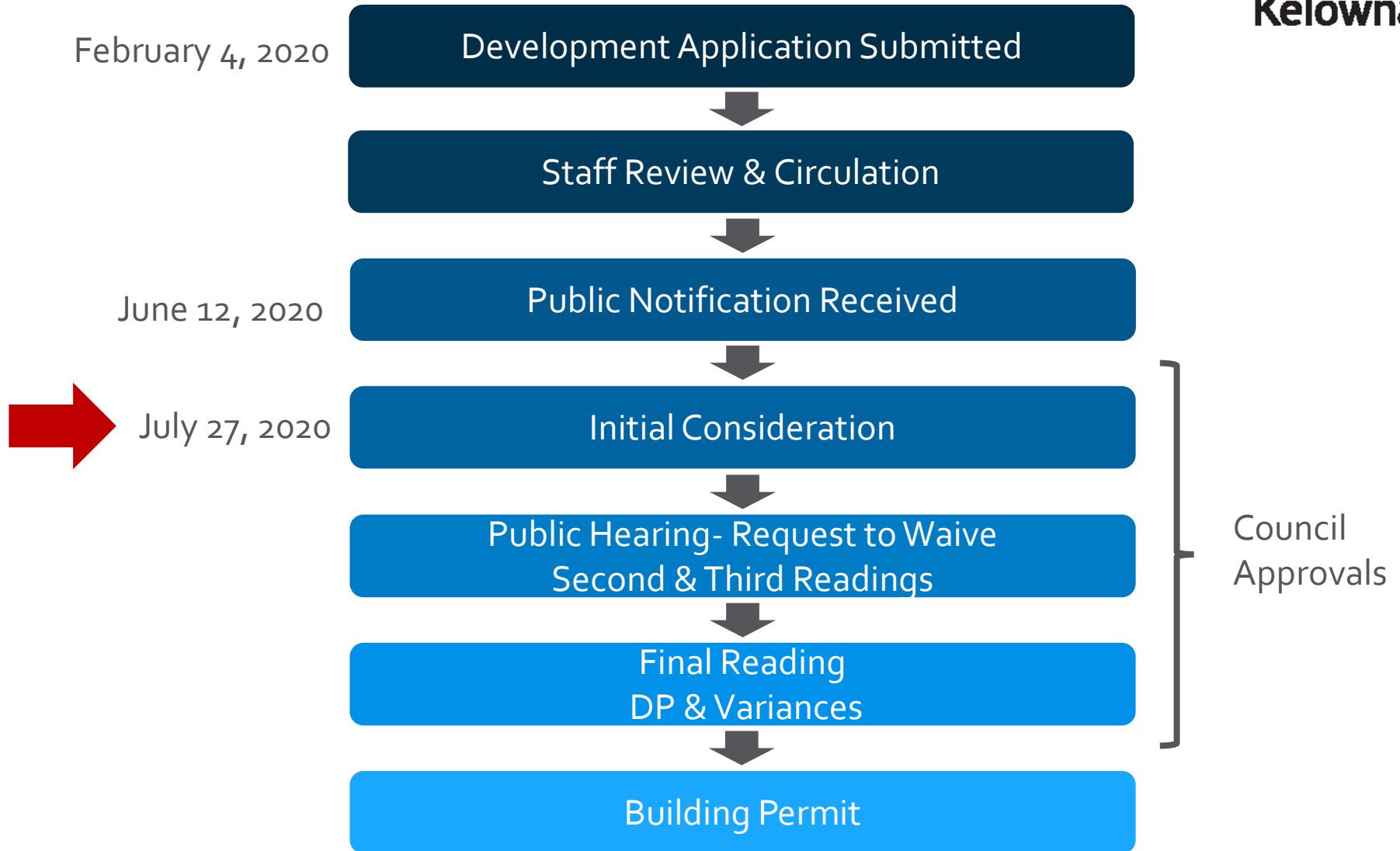
Rezoning Application



Proposal

- ▶ To consider an application to rezone the subject properties from RU1- Large Lot Housing to RM3- Low Density Multiple Dwelling Housing to facilitate the development of a multi-family building

Development Process



Context Map



City of Kelowna

Walk Score

69

Somewhat Walkable

Some errands can be accomplished on foot.

Transit Score

40

Some Transit

A few nearby public transportation options.

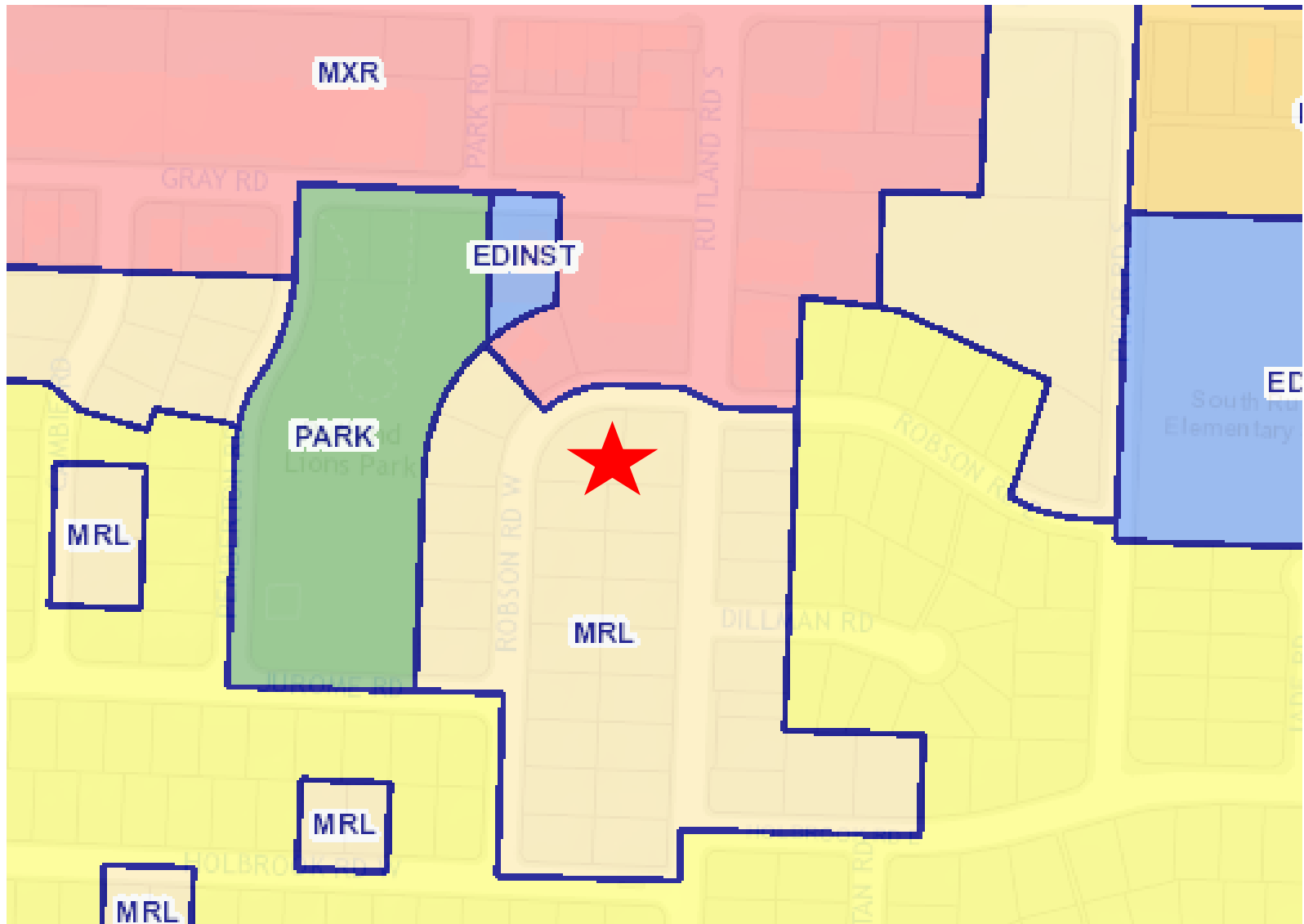
Bike Score

82

Very Bikeable

Biking is convenient for most trips.

OCP Future Land Use / Zoning



Subject Property Map



Project/technical details

- ▶ Rezoning application will allow for a 3 storey, 54 unit apartment building
- ▶ Staff are tracking no variances

Site Plan



Renderings



SITE OVERVIEW - BIRDSEYE PERSPECTIVE

Renderings



VIEW FROM RUTLAND x ROBSON ROAD INTERSECTION

Development Policy

- ▶ Support residential density in Urban Centres
 - ▶ Allows for residential development close to the Plaza 33 commercial node, transit opportunities and everyday amenities
- ▶ Ensure context sensitive development
 - ▶ Housing mix with varying unit size, form and tenure in multi-unit residential

Staff Recommendation

- ▶ Staff are supportive of the proposed rezoning application
 - ▶ Allows for context sensitive residential development in an Urban Centre
 - ▶ Falls within the future land use and goals of the Official Community Plan



Conclusion of Staff Remarks

CITY OF KELOWNA

BYLAW NO. 12086

Z20-0010

235 and 285 Robson Road W and 240 Rutland Road S

A bylaw to amend the "City of Kelowna Zoning Bylaw No. 8000".

The Municipal Council of the City of Kelowna, in open meeting assembled, enacts as follows:

1. THAT City of Kelowna Zoning Bylaw No. 8000 be amended by changing the zoning classification of Lot 1 Section 23 Township 26, ODYD, Plan 12830 located at Robson Road W, Kelowna, B.C., from the RU1 – Large Lot Housing zone to the RM3 – Low Density Multiple Housing zone;
2. AND THAT City of Kelowna Zoning Bylaw No. 8000 be amended by changing the zoning classification of Lot 2 Section 23 Township 26, ODYD, Plan 12830 located at Robson Road W, Kelowna, B.C., from the RU1 – Large Lot Housing zone to the RM3 – Low Density Multiple Housing zone.
3. AND THAT City of Kelowna Zoning Bylaw No. 8000 be amended by changing the zoning classification of Lot 10 Section 23 Township 26, ODYD, Plan 12078 located at Rutland Road S, Kelowna, B.C., from the RU1 – Large Lot Housing zone to the RM3 – Low Density Multiple Housing zone.
4. This bylaw shall come into full force and effect and is binding on all persons as and from the date of adoption.

Read a first time by the Municipal Council this

Public Hearing Waived by the Municipal Council this

Read a second and third time by the Municipal Council this

Approved under the Transportation Act this

(Approving Officer – Ministry of Transportation)

Adopted by the Municipal Council of the City of Kelowna this

Mayor

City Clerk

REPORT TO COUNCIL



Date: July 27, 2020

To: Council

From: City Manager

Department: Development Planning Department

Application: OCP14-0027 and Z14-0059

Owner: 1074470 B.C. Ltd., Inc. No.
BC1074470

Address: 505-525 Snowsell Street

Applicant: 1074470 B.C. Ltd., Inc. No.
BC1074470

Subject: Bylaw Rescindment

Existing OCP Designation: S2RES – Single / Two Unit Residential

Proposed OCP Designation: COMM – Commercial

Existing Zone: C1 – Local Commercial

Proposed Zone: C2 – Neighbourhood Commercial

1.0 Recommendation

THAT Council receives, for information, the Report from the Development Planning Department dated July 27, 2020 with respect to Bylaw No. 11105 for OCP Amendment Application (OCP14-0027), and Bylaw No. 11106 for Rezoning Application (Z14-0059) for the property located at Lot 1, District Lot 9, Township 23, Osoyoos Division Yale District Plan EPP21900, at 505-525 Snowsell Street, Kelowna, BC;

AND THAT Bylaw No. 11105 and Bylaw No. 11106 be forwarded for rescindment consideration and the file be closed.

2.0 Purpose

To rescind all three readings given to OCP Amendment Bylaw No. 11105 and Rezoning Bylaw No. 11106, and direct staff to close the file.

3.0 Development Planning

On December 23, 2014, the City received an Official Community Plan (OCP) Amendment and a rezoning application for the subject property. The OCP amendment application proposed to amend the future land

use designation from S2RES - Single / Two Unit Residential to COMM – Commercial, and the rezoning application proposed to rezone the property from C1 – Local Commercial to C2 – Neighbourhood Commercial.

Bylaw numbers 11105 (OCP Amendment) and 11106 (rezoning) received second and third readings at a Regular Meeting of Council on July 14, 2015, following the Public Hearing held on the same date. Final adoption of the Bylaws was held pending the applicant satisfying the Development Engineering requirements. The applicant requested and was approved by Council three separate extensions; October 2, 2016, October 16, 2017, and July 27, 2018. Council granted the third and final extension in 2018 with no further extensions.

The property has since sold and the new owners are considering their options. Given this, Staff are recommending that Bylaw 11105 and 11106 be rescinded.

Subject Property Map: 505-525 Snowsell St



4.0 Current Development Policies

4.1 Development Applications Procedures Bylaw No. 10540

Section 2.12.1 Lapse of Application:

In the event that an application made pursuant to this bylaw is one (1) year old or older, and has been inactive for a period of six (6) months or greater:

- a) The application will be deemed to be abandoned and the applicant will be notified in writing that the file will be closed;
- b) Any bylaw that has not received final adoption will be of no force and effect;
- c) In the case of an amendment application, the City Clerk will place on the agenda of a meeting of Council a motion to rescind all readings of the bylaw associated with the amendment application.

5.0 Application Chronology

Date of Application Received:	December 23, 2014
Date Public Hearing:	July 14, 2015
Date of First Rezoning and OCP Amendment Extension:	October 2, 2016
Date of Second Rezoning and OCP Amendment Extension:	October 16, 2017
Date of Third Rezoning and OCP Amendment Extension:	July 27, 2018

Report prepared by:

Barbara B. Crawford, Planner II

Reviewed by and Approved for Inclusion:

Terry Barton, Development Planning Department Manager

CITY OF KELOWNA

BYLAW NO. 11105

Official Community Plan Amendment No. OCP14-0027 – Garoslav and Catherine Maruszczak 505-525 Snowsell Road North

A bylaw to amend the "*Kelowna 2030* – Official Community Plan Bylaw No. 10500".

The Municipal Council of the City of Kelowna, in open meeting assembled, enacts as follows:

1. THAT Map 4.1 - **GENERALIZED FUTURE LAND USE** of "*Kelowna 2030* – Official Community Plan Bylaw No. 10500" be amended by changing the Generalized Future Land Use designation of Lot 1, District Lot 9, Township 23, ODYD, Plan EPP21900, located on Snowsell Road North, Kelowna, B.C., from the Single / Two Unit Residential (S2RES) designation to the Commercial (COMM) designation;
2. This bylaw shall come into full force and effect and is binding on all persons as and from the date of adoption.

Read a first time by the Municipal Council this 15th day of June, 2015.

Considered at a Public Hearing on the 14th day of July, 2015.

Read a second and third time by the Municipal Council this 14th day of July, 2015.

Rescind first, second and third readings by the Municipal Council of the City of Kelowna this

Mayor

City Clerk

CITY OF KELOWNA

BYLAW NO. 11106

Z14-0059 - Garoslav and Catherine Maruszczak 505-525 Snowsell Road North

A bylaw to amend the "City of Kelowna Zoning Bylaw No. 8000".

The Municipal Council of the City of Kelowna, in open meeting assembled, enacts as follows:

1. THAT City of Kelowna Zoning Bylaw No. 8000 be amended by changing the zoning classification of Lot 1, District Lot 9, Township 23, ODYD, Plan EPP21900, located on Snowsell Road North, Kelowna, B.C., from the C1 – Local Commercial zone to the C2 – Neighbourhood Commercial zone.
2. This bylaw shall come into full force and effect and is binding on all persons as and from the date of adoption.

Read a first time by the Municipal Council this 15th day of June, 2015.

Considered at a Public Hearing on the 14th day of July, 2015.

Read a second and third time by the Municipal Council this 14th day of July, 2015.

Rescind first, second and third readings by the Municipal Council of the City of Kelowna this

Mayor

City Clerk

CITY OF KELOWNA
BYLAW NO. 12052
Z19-0116 – 1990 Landsdowne Place

A bylaw to amend the "City of Kelowna Zoning Bylaw No. 8000".

The Municipal Council of the City of Kelowna, in open meeting assembled, enacts as follows:

1. THAT City of Kelowna Zoning Bylaw No. 8000 be amended by changing the zoning classification of Lot A, Section 35, Township 26, ODYD, Plan 19674 Except Plans 23587 and EPP53538 located at Landsdowne Place, Kelowna, BC from the C10 – Service Commercial zone to the C10rcs – Service Commercial (Retail Cannabis Sales) zone.
2. This bylaw shall come into full force and effect and is binding on all persons as and from the date of adoption.

Read a first time by the Municipal Council this 15th day of June, 2020.

Considered at a Public Hearing on the 14th day of July, 2020.

Read a second and third time by the Municipal Council this 14th day of July, 2020.

Approved under the Transportation Act this 15th day of July, 2020.

Audrie Henry

(Approving Officer – Ministry of Transportation)

Adopted by the Municipal Council of the City of Kelowna this

Mayor

City Clerk

CITY OF KELOWNA
BYLAW NO. 12061
Z18-0071 – 1940 and 1960 Underhill Street

A bylaw to amend the "City of Kelowna Zoning Bylaw No. 8000".

The Municipal Council of the City of Kelowna, in open meeting assembled, enacts as follows:

1. THAT City of Kelowna Zoning Bylaw No. 8000 be amended by changing the zoning classification of portions of the following:
 - a) Lot 1, District Lot 4646 & 127, ODYD, Plan EPP101738 located at Underhill Street, Kelowna, BC; and
 - b) Lot 2, District Lot 4646 & 127, ODYD, Plan EPP101738 located at Underhill Street, Kelowna, BCfrom the A1 – Agriculture 1 zone and the C6 – Regional Commercial zone to the C4 – Urban Centre Commercial zone as shown on Map "A" attached to and forming part of this bylaw.
2. This bylaw shall come into full force and effect and is binding on all persons as and from the date of adoption.

Read a first time by the Municipal Council this 22nd day of June, 2020.

Public Hearing Waived by the Municipal Council this 22nd day of June, 2020.

Read a second and third time by the Municipal Council this 13th day of July, 2020.

Approved under the Transportation Act this 15th day of July, 2020.

Audrie Henry

(Approving Officer – Ministry of Transportation)

Adopted by the Municipal Council of the City of Kelowna this

Mayor

City Clerk



MAP "A" ZONING AMENDMENT File Z18-0071



Rezoning a portion of the subject property from
C6 - Regional Commercial to C4 - Urban Centre Commercial.



Rezoning a portion of the subject property
from A1 - Agriculture to
C4 - Urban Centre Commercial.

This map is for general information only.
The City of Kelowna does not guarantee its
accuracy. All information should be verified.

0 30 60 Metres Rev. Thursday, June 11, 2020



Report to Council



Date: July 13, 2020
To: Council
From: City Manager
Subject: Okanagan Gateway Study
Department: Integrated Transportation

Recommendation:

THAT Council receives, for information, the report from the Integrated Transportation Department dated July 13, 2020, with respect to the Okanagan Gateway Study.

Purpose:

To provide Council with an update on the Okanagan Gateway Study.

Background:

The Okanagan Gateway Transportation Study (OGTS) has been developed in partnership with the Kelowna International Airport (YLW), the City of Kelowna (COK), the University of British Columbia - Okanagan (UBCO) and the BC Ministry of Transportation and Infrastructure (BC MoTI).

This study recommends a suite of future transportation projects, programs and policies to strengthen the economy, quality of life and further the OGTS partners' commitment to climate action by improving connections to the Kelowna International Airport and the University of British Columbia Okanagan. The OGTS supports the vision of YLW, UBCO and surrounding area as a growing, vibrant and connected hub that benefits the whole region.

Discussion:

The table below summarizes the core functions and objectives to be addressed in the OGTS.

Core Function	Functional Objectives and Description
Access for people to and from the Okanagan Gateway	<ul style="list-style-type: none">Provision of capacity for private vehicles will meet the residual demand not accommodated by transit, active modes or through trip reduction strategies.
Business, tourism and industrial access to and from the Okanagan Gateway	<ul style="list-style-type: none">Strategically-placed highway access is focused on supporting economic growth in the area, with a particular emphasis on moving goods to and from the Gateway.

Moving people and goods through the Okanagan Gateway	<ul style="list-style-type: none"> The network will allow for efficient and generally unimpeded travel through the Gateway on the highway and rail trail.
Moving people within the Okanagan Gateway	<ul style="list-style-type: none"> Given the short nature of internal Gateway trips, walking, cycling and transit should be prioritized for trips between internal Gateway locations on local streets.

Recommendations from the OGTS are being integrated into concurrent transportation planning efforts for consideration, including the Regional Transportation Plan and Kelowna Transportation Master Plan.

Conclusion:

The recommendations from the OGTS have been coordinated with and incorporated into the Regional Transportation Plan with the intent to have a coordinated approach to look for funding to advance the various phases of the study.

Internal Circulation:

Airport Director
Communications Advisor
Divisional Director, Planning & Development Services
Infrastructure Engineering Manager
OCP Project Planner
Senior Airport Development Manager
Strategic Transportation Planning Manager
Transportation Engineering Manager

Considerations applicable to this report:

Legal/Statutory Authority:
Legal/Statutory Procedural Requirements:
Existing Policy:
Financial/Budgetary Considerations:
External Agency/Public Comments:
Communications Comments:

Considerations not applicable to this report:

Submitted by:
G. Foy, Transportation Engineering Manager

Approved and reviewed by:
R. Villarreal, Integrated Transportation Manager

Approved for inclusion:



A. Newcombe, Divisional Director, Infrastructure

Attachment 1 – Okanagan Gateway Study Presentation

cc: Airport Director
Divisional Director, Corporate Strategic Services
Divisional Director, Infrastructure
Divisional Director, Planning & Development Services
Senior Airport Development Manager



Okanagan Gateway Transportation Study

Kelowna Council Presentation

July 13, 2020

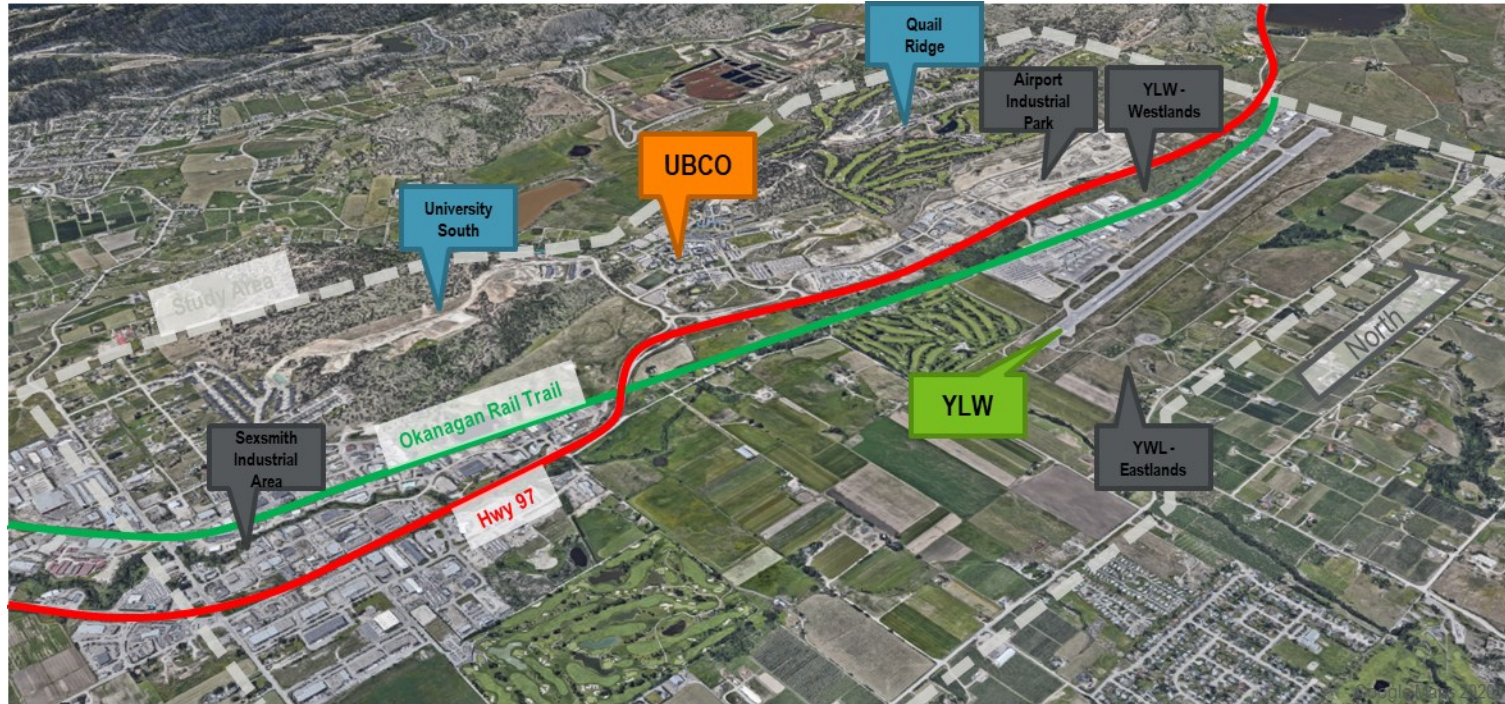


The Okanagan Gateway Transportation Study (OGTS)

- ▶ An overall transportation strategy for an important and growing area.
- ▶ In partnership, the BC Ministry of Transportation and Infrastructure, the City of Kelowna, Kelowna International Airport and the University of British Columbia coordinated efforts to assess future transportation needs.
- ▶ An approach that recognizes shared interest in the Gateway's success, the interconnected nature of transportation and the benefits of coordinated action.

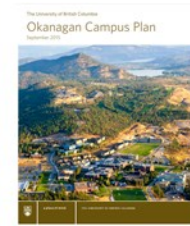
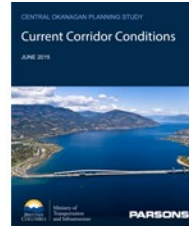


The Okanagan Gateway



The Okanagan Gateway Transportation Study (OGTS)

- ▶ A focused technical study of the future transportation needs of the Okanagan Gateway
- ▶ Considers current and future conditions.
- ▶ Recommends policies, projects and programs for consideration within other City, regional and provincial plans.



**Kelowna Transportation
Master Plan**



**Regional Transportation
Plan**



01 **Objectives and Background**

02 **Travel Patterns**

03 **Modal Shift**

04 **Implementation and Future Study**

01

Objectives and Background

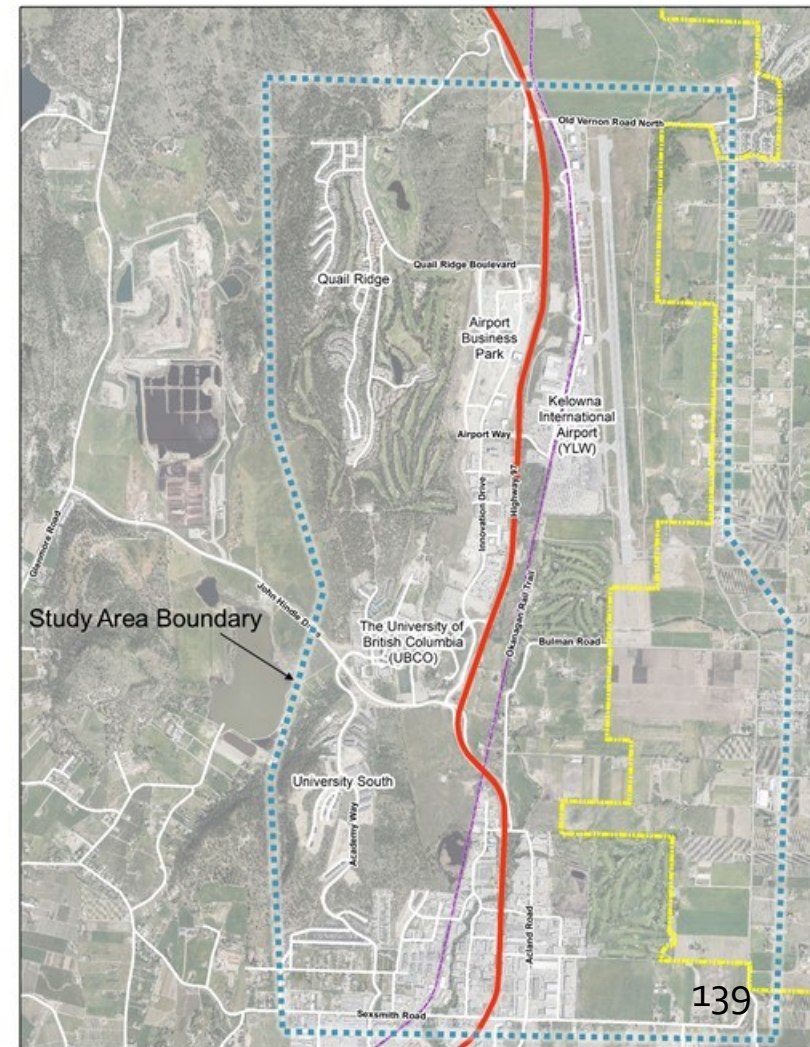
OGTS Partners



The OGTS

- defines future transportation projects, programs and policies to strengthen the economy and quality of life
- furthers the OGTS partners' commitment to climate action
- improves connections to YLW and UBCO

The OGTS supports the vision of YLW, UBCO and surrounding area as a growing, vibrant and connected hub that benefits the whole region.



Functions and Objectives

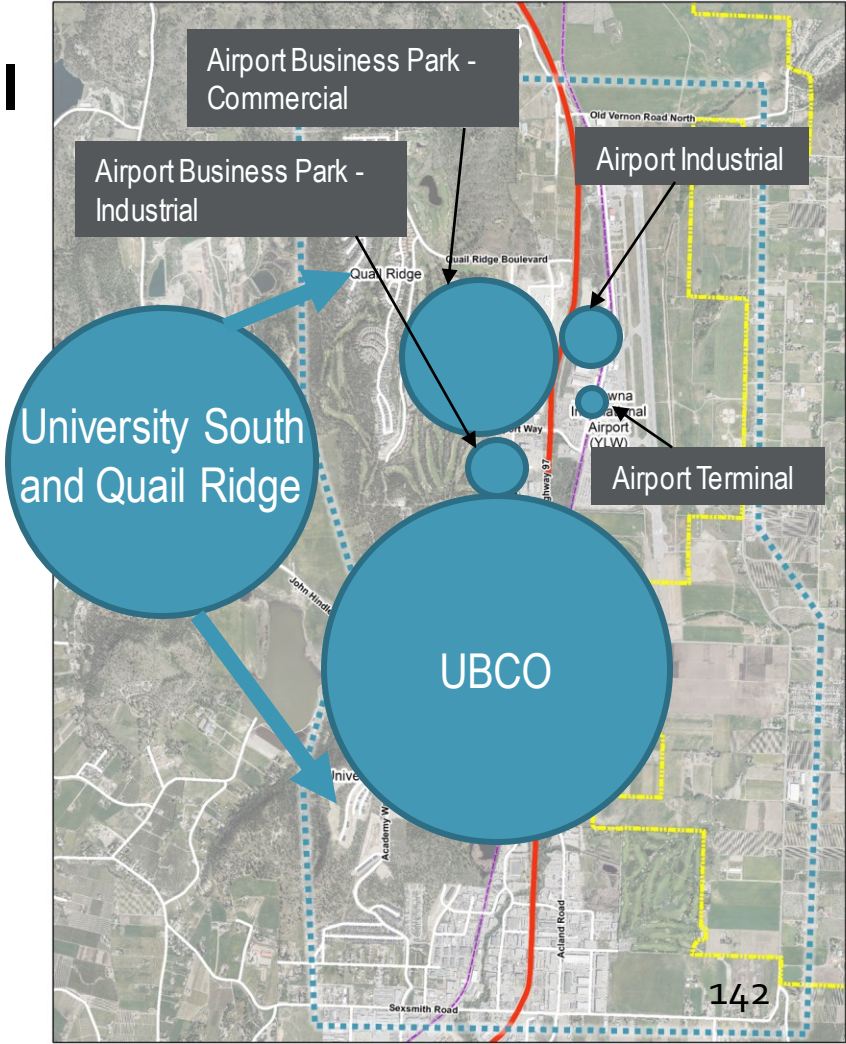
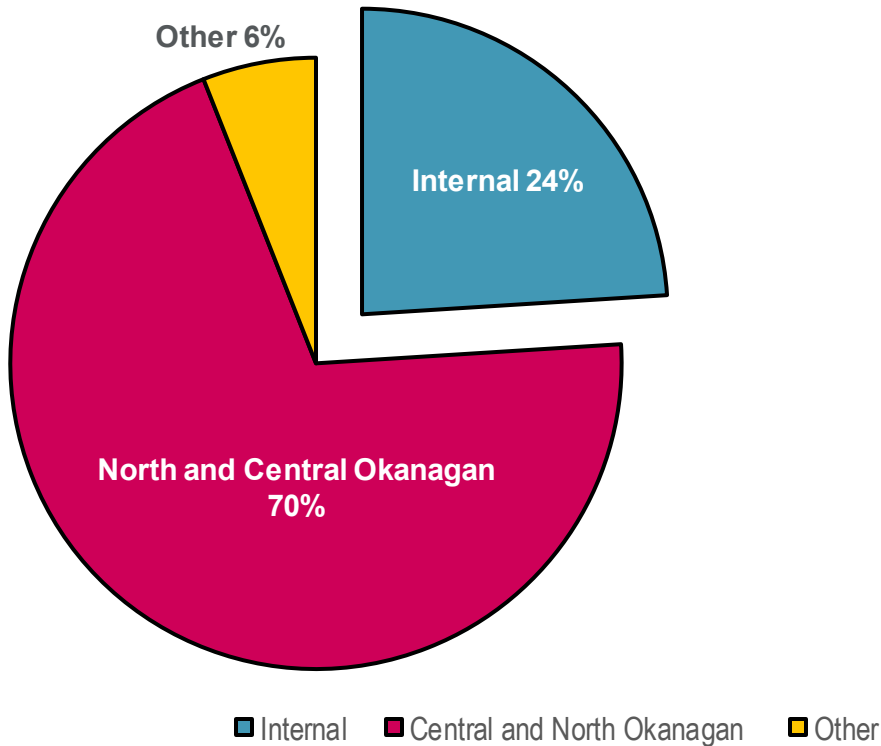
Core Function	Functional Objectives and Description
Access for people to and from the Okanagan Gateway	<ul style="list-style-type: none"> Provision of capacity for private vehicles will meet the residual demand not accommodated by transit, active modes or through trip reduction strategies.
Business, tourism and industrial access to and from the Okanagan Gateway	<ul style="list-style-type: none"> Strategically-placed highway access is focused on supporting economic growth in the area, with a particular emphasis on moving goods to and from the Gateway.
Moving people and goods through the Okanagan Gateway	<ul style="list-style-type: none"> The network will allow for efficient and generally unimpeded travel through the Gateway on the highway and rail trail.
Moving people within the Okanagan Gateway	<ul style="list-style-type: none"> Given the short nature of internal Gateway trips, walking, cycling and transit should be prioritized for trips between internal Gateway locations on local streets.

02 **Travel Patterns**

Existing Travel Patterns – Internal

(Streetlight Data)

Travel to the Gateway

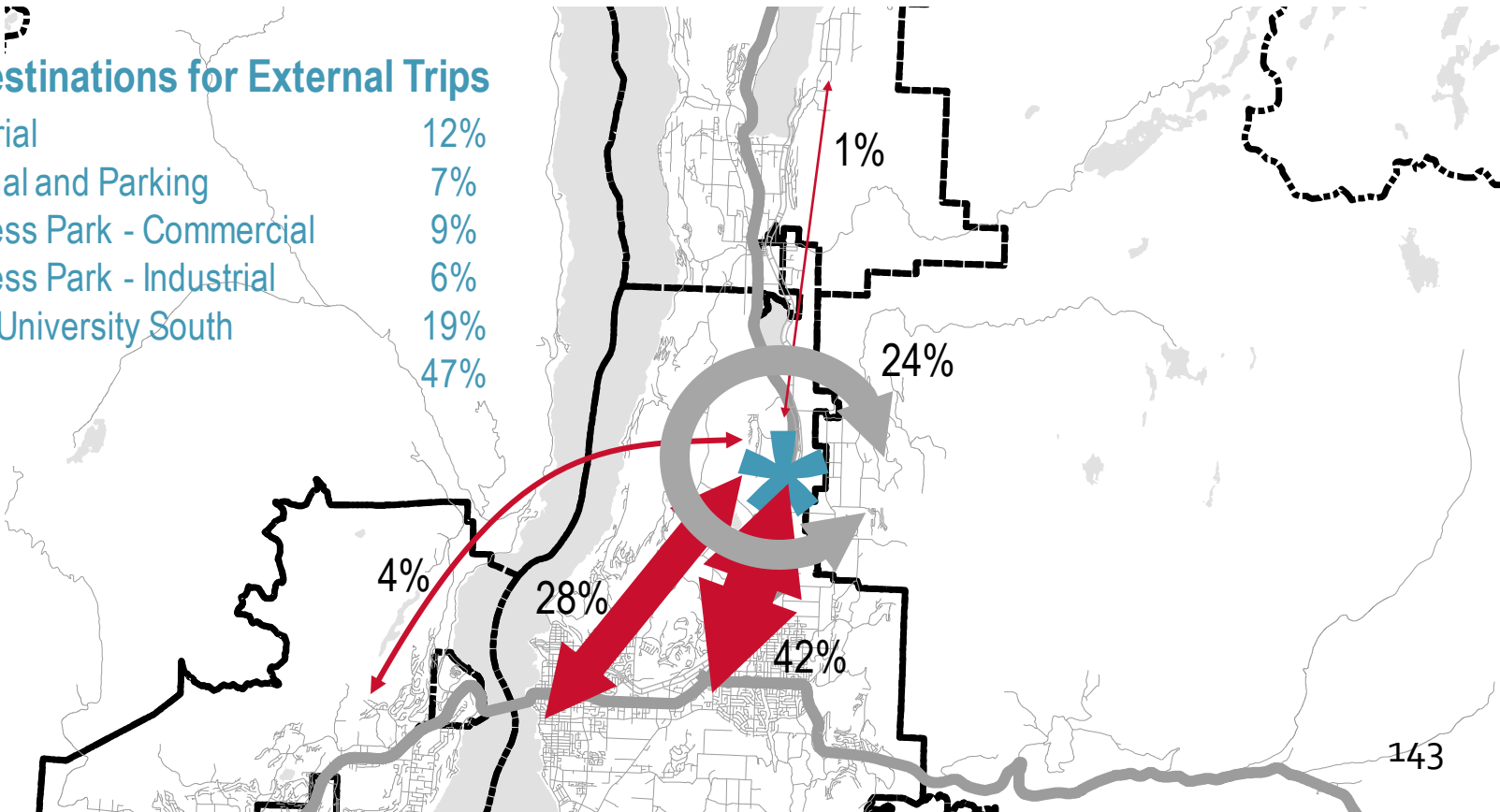


Existing Travel Patterns – External

(Streetlight Data)

Gateway Destinations for External Trips

Airport Industrial	12%
Airport Terminal and Parking	7%
Airport Business Park - Commercial	9%
Airport Business Park - Industrial	6%
Quail Ridge / University South	19%
UBCO	47%

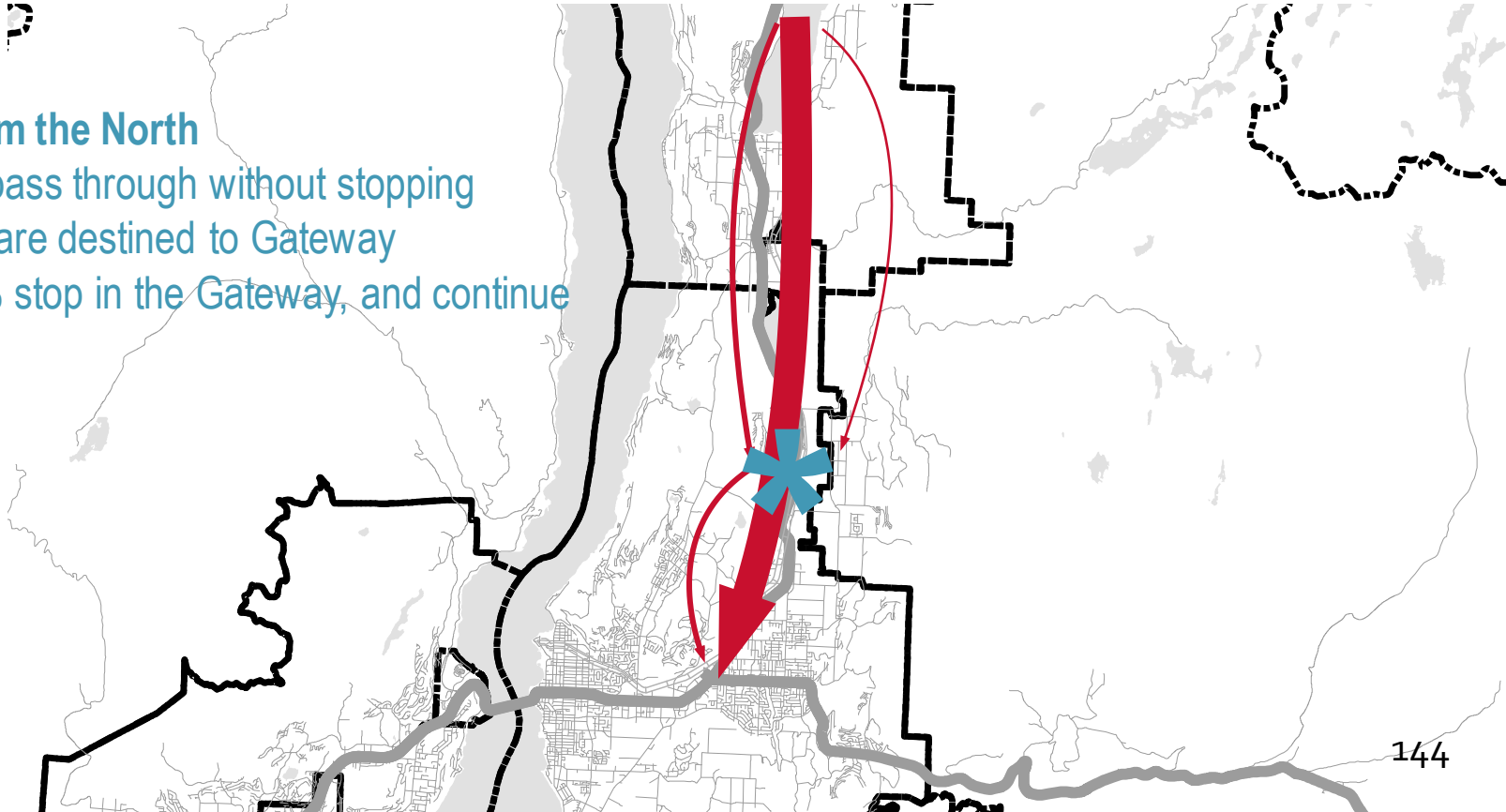


Existing Travel Patterns – From the North

(Streetlight Data)

Trips from the North

- 72% pass through without stopping
- 2.5% are destined to Gateway
- 25.5% stop in the Gateway, and continue



Total Daily Gateway Trips (to/from/through Gateway)

by car - 164,000



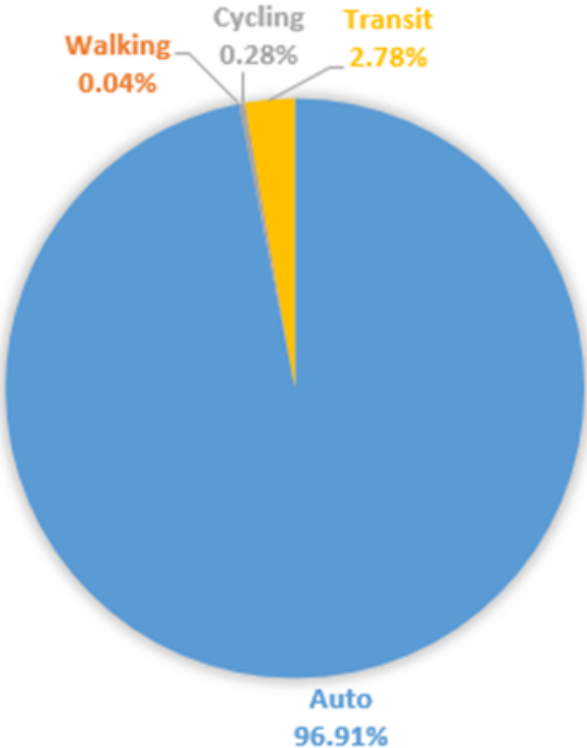
by transit - 4,700



cycling - 500



walking - 50



Future Issues (unless something changes)

- Highway access to YLW
- UBCO Access
- Sexsmith Road and adjacent area
- Internal Gateway Travel
- Other
 - Industrial expansion
 - Active transportation network gaps
 - Network redundancy
 - Transit at airport
 - Minor street access to the highway

03

Modal Shift

Trends and Technology

Potential Effects on Vehicle Demand



Younger generations are less car-dependent than their parents



Job automation in industrial and agricultural fields



Trending towards telecommuting



Goods movement optimization and drones



Online shopping



Shared mobility



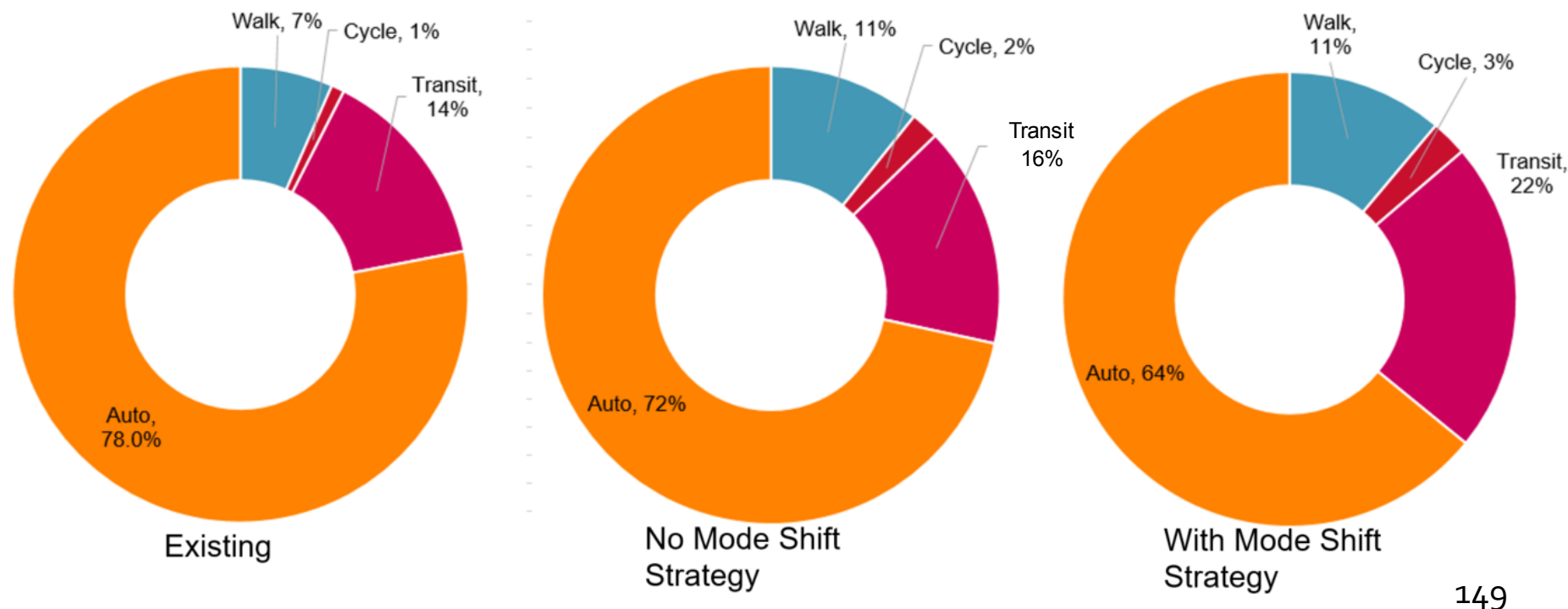
Automated and connected vehicles*



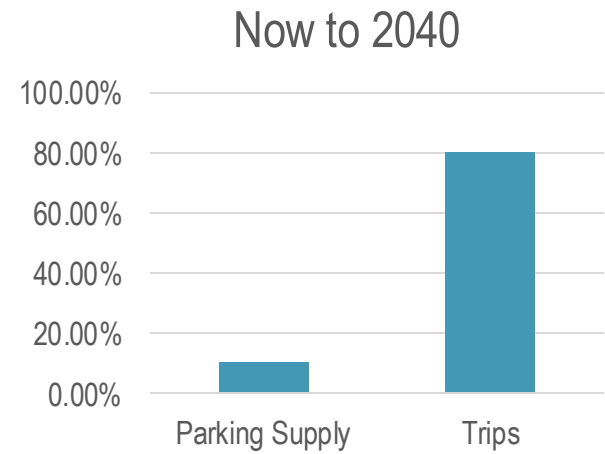
Vehicle electrification

* - Likely to be affected by government regulation

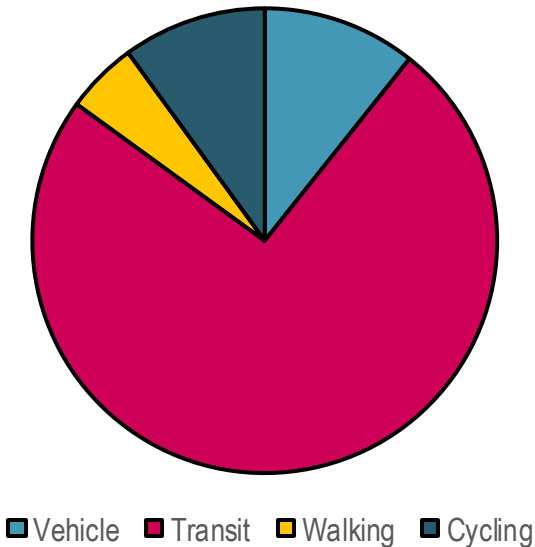
The OGTS Mode Shift Strategy



Travel to UBCO



Allocation of Future Trips



Scenario	Parking Spaces	Trips (AM + PM PHs)				
		Walk	Bike	Transit	Auto	Total
Existing	2,900	545	42	1383	2221	4190
Future (based on EMME Model)	Un-constrained	1134	76	2495	3856	7561
Adjusted Future (based on parking constraint)	3,210	1204	215	3683	2458	7561

Airport Transit

- Airport Daily Trips (all modes) - ~7,000
- Cost to extend RapidBus (or similar service) from UBCO to YLW:
 - Daily half hour service 6:00 am to 9:00 pm (15 hours/day) - \$630,000/year
 - Typical farebox recovery of 36% generates \$224,000 in annual revenue
 - Requires about 250 trips/day to achieve 36% farebox recovery
 - **Transit mode share needs to be approx. 3.6%**
 - Service hours could be extended to align with Kelowna Flightcraft shift change by dropping late evening frequency to hourly

Transit Use is Low at Airports...

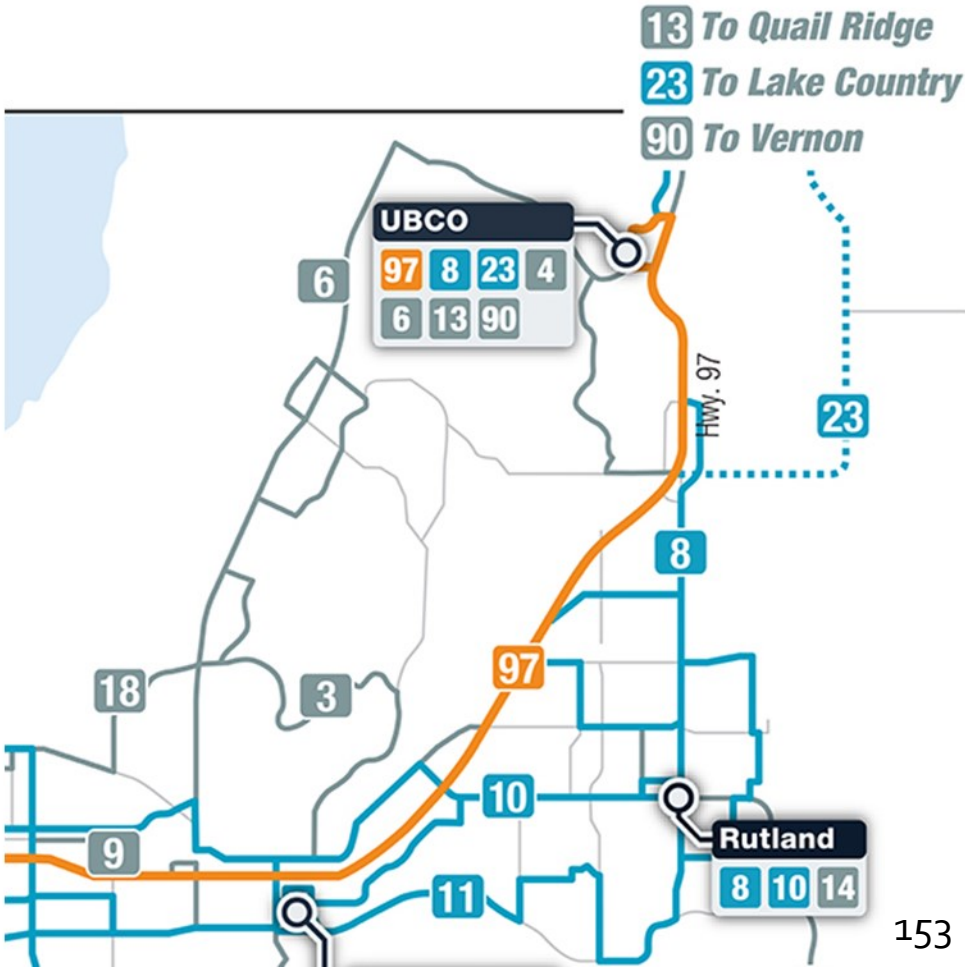
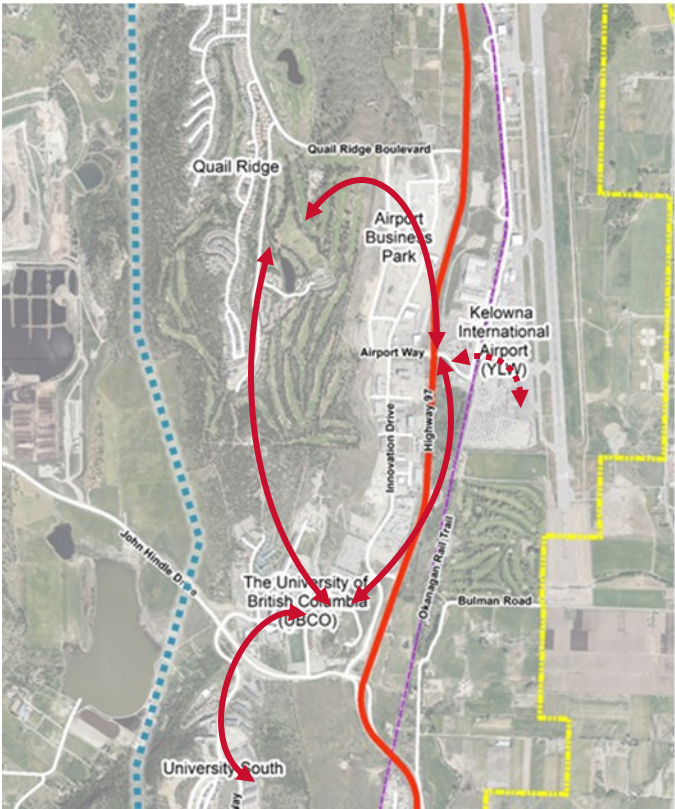
- **Winnipeg:** "Currently only about 2% of trips to the airport use transit"
- **Victoria:** "Only 60 passengers carried on a typical day. Most of trips are employees going to/from work"

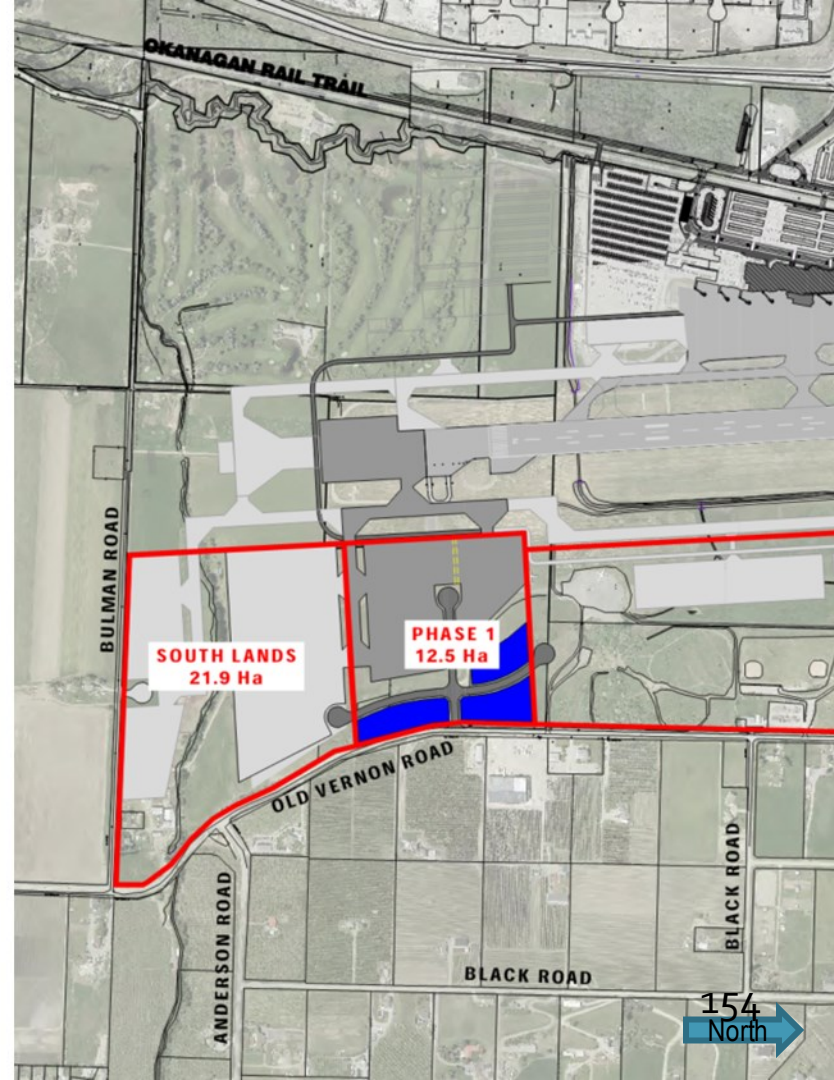
Quail Ridge Connection

- Current connection uses Pine Trail, which generally parallels the Glenmore Ellison Improvement District (GEID) access between Country Club Drive and the Upper Residence parking lot
- Rugged and not lit
- 2019 counts by UBCO – average daily use
 - 195 pedestrians
 - 33 cyclists



Gateway Transit Shuttle





Pedestrian Network Gaps



Airport to hotels –
southwest side



Innovation Drive –
sidewalk gaps



Sexsmith Road –
sidewalk gaps

Potential Employer Based Initiatives

- On-site cycling infrastructure and end-of-trip facilities (secure bike storage, showers, change areas, etc.);
- Employee programs and incentives to coordinate shift times to align with transit service;
- Incentives to use transit or cycle, such as transit pass subsidies or fun programs such as bike to work week; and,
- Carpool incentives such as reduced parking costs or premium parking spaces.

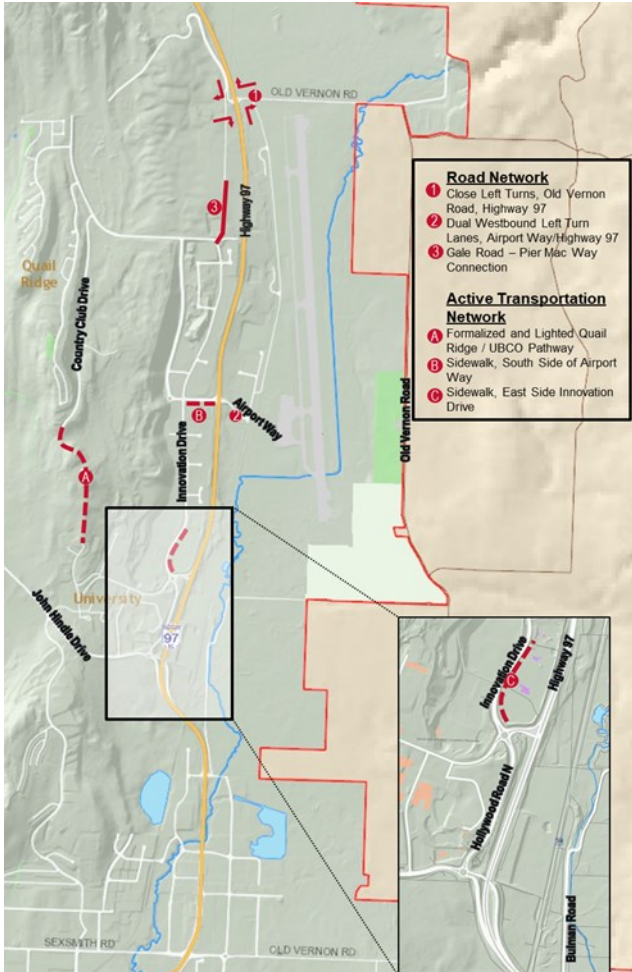
04 **Implementation and Future Study**

Road and Highway Network

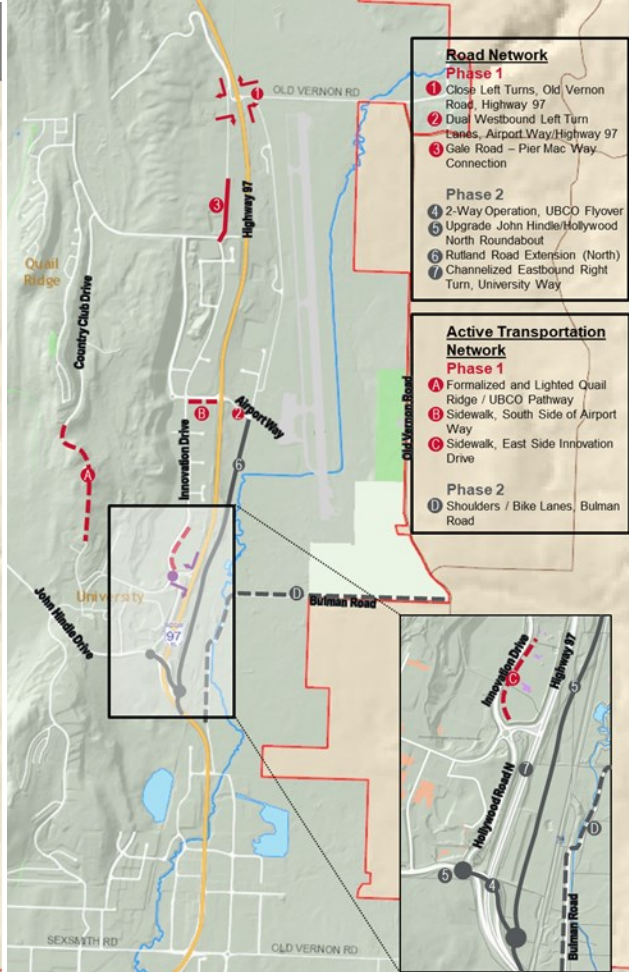


Implementation

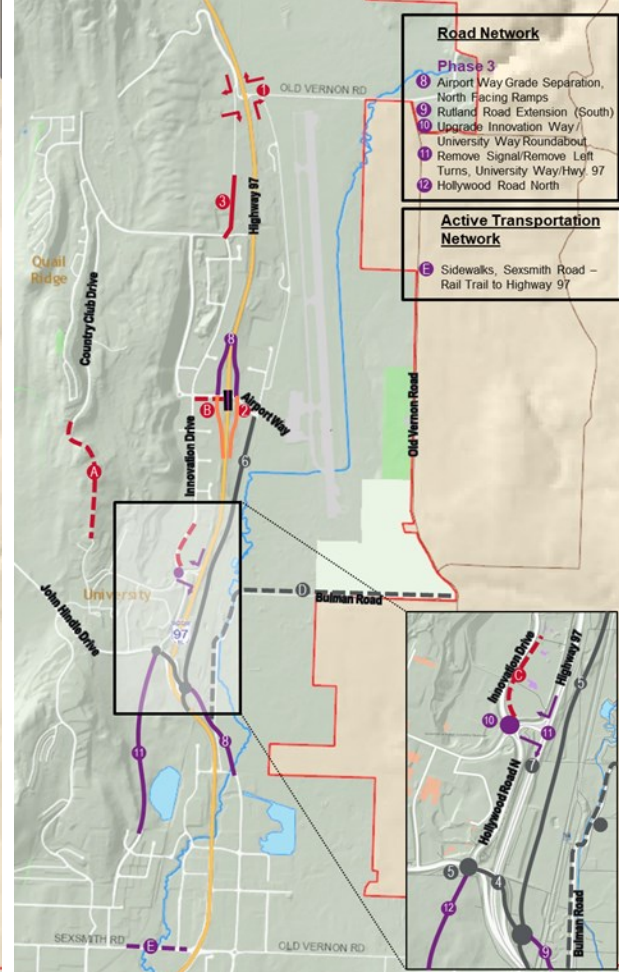
- Phased approach that allows investment to be spread over the full horizon of the OGTS
- Phasing Assumptions
 - Phase 1 – within 5 years
 - Phase 2 – 5 to 10 years
 - Phase 3 – 10 to 15 years
 - Phase 4 – beyond 15 years
- Priorities will change over time; implementation should be adaptable to take advantage of opportunities (eg., funding)
- OGTS is a conceptual plan; further detailed planning and engineering refinement is required to optimize concepts.



Phase 1



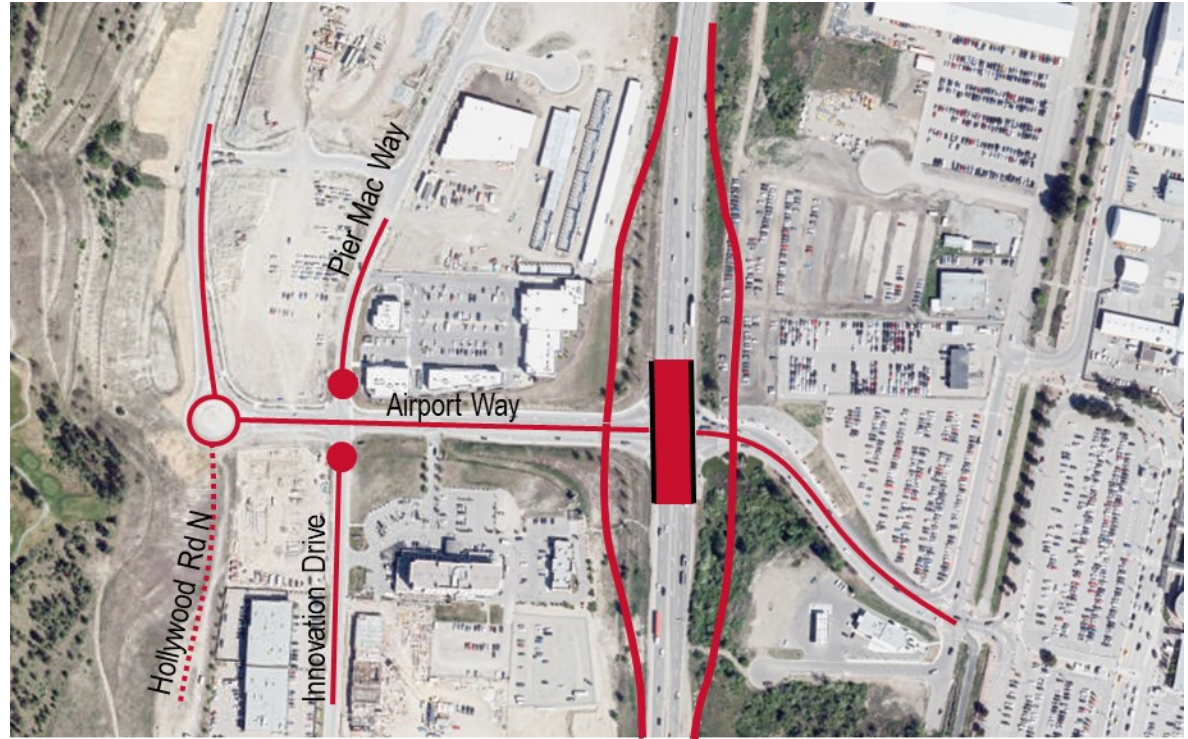
Phase 2



Phase 3

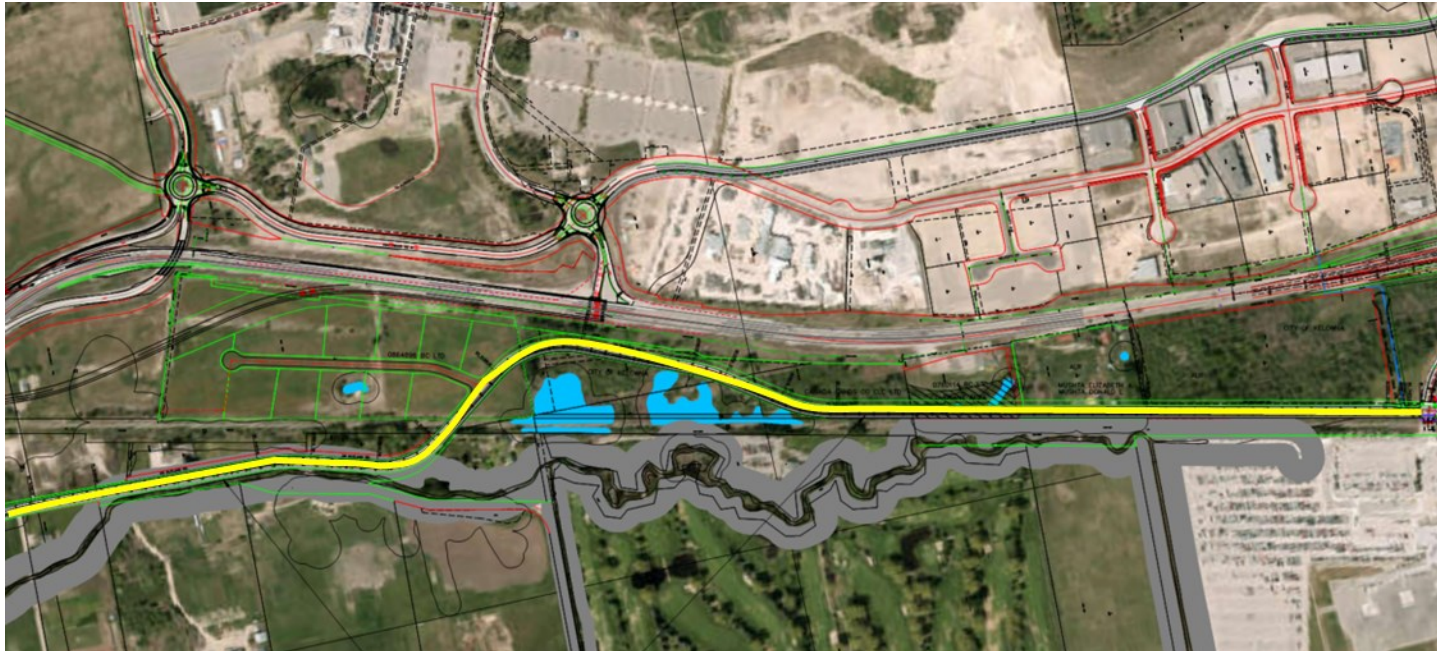
Future Engineering Refinement – Airport Way Interchange

- Previous versions required Hollywood North Extension, closure of Innovation Way
- Through design and engineering, optimize interchange and local road network connections



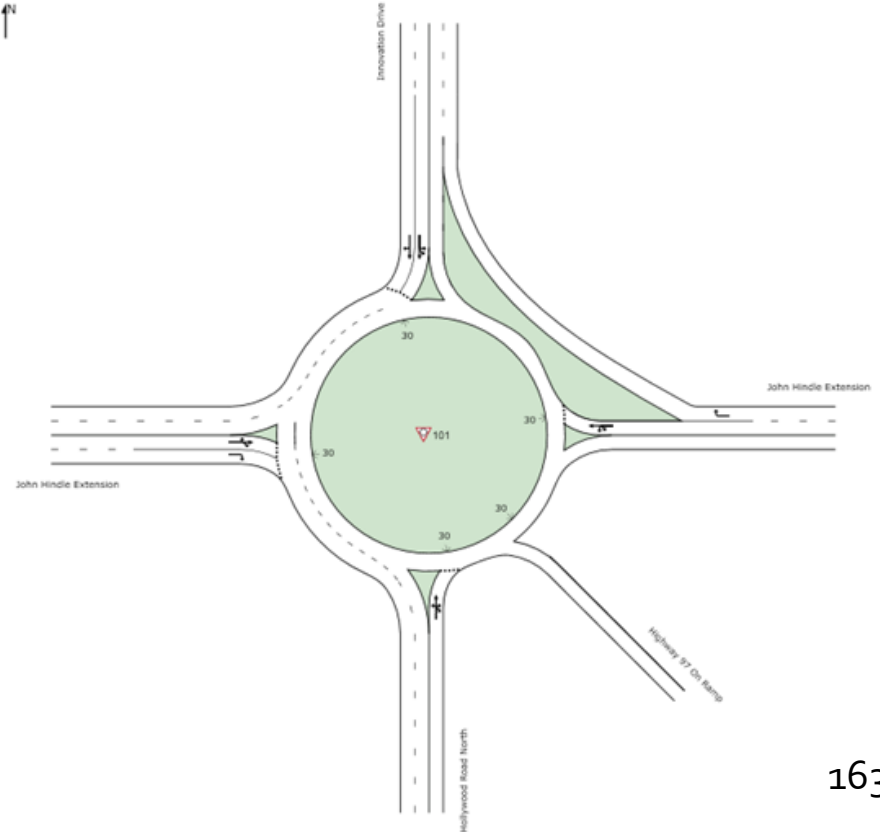
Future Engineering Refinement – Rutland Road Extension

- Previous alignments impacted wetlands, Okanagan Rail Trail
- Opportunity to reduce impact by routing through YLW-owned lands



Future Engineering Refinement – John Hindle Drive Extension

- Roadway geometry associated with UBCO Flyover conversion to two-way traffic
- Detailed traffic operations assessments on roundabouts on both sides of Highway 97
- Detailed assessment of Highway 97 exit to roundabout on east side



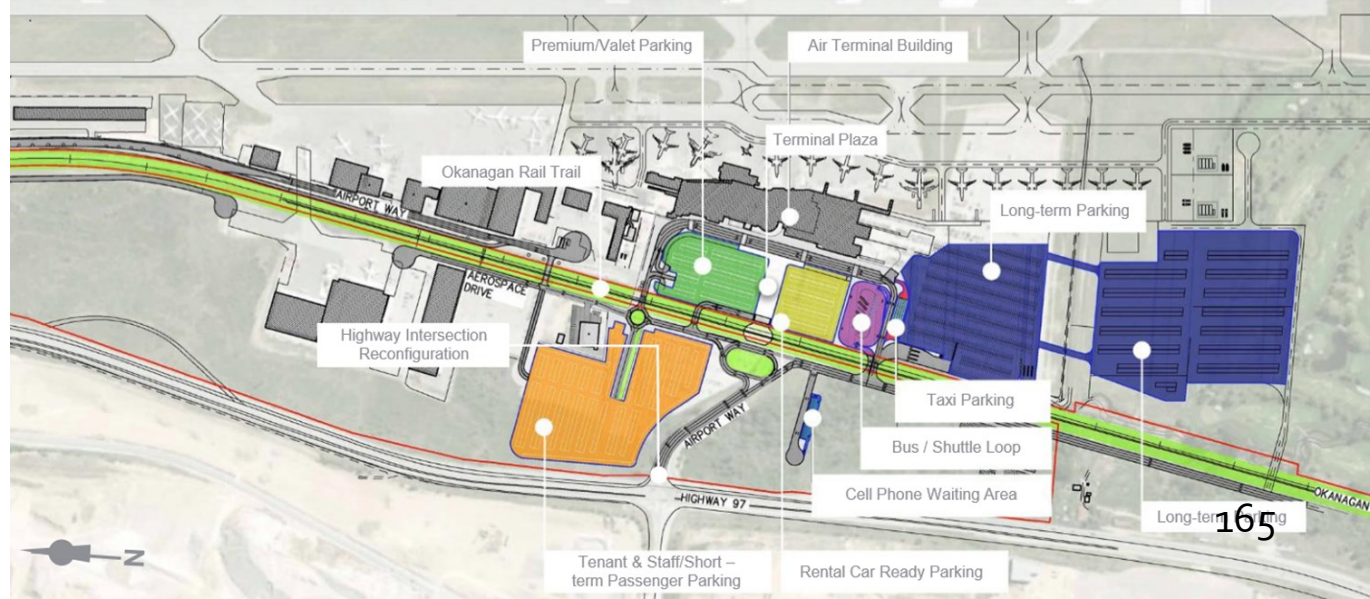
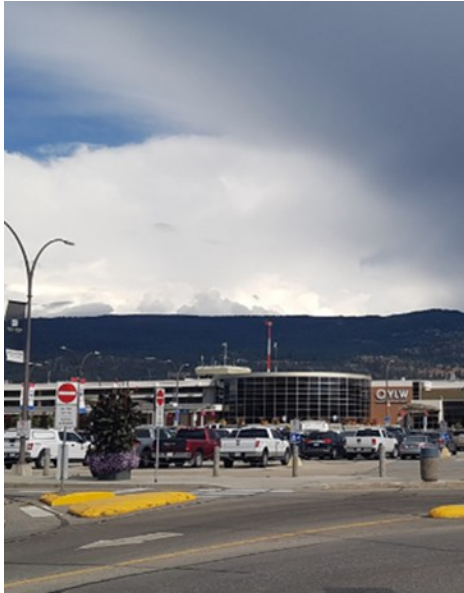
Future Engineering Refinement – UBCO Transit

- Significant service planning update
- Revenue and cost recovery assessments (eg., UPass effects)
- Gateway shuttle



Future Engineering Refinement – Airport Transit

- Strategy to build to 3-4% transit mode split
- Service planning
- Employer coordination
- East airport industrial lands





THE UNIVERSITY OF BRITISH COLUMBIA

Thank you.

Questions?

Report to Council



Date: July 27, 2020
To: Council
From: City Manager
Subject: Budget Adjustment – Cast and Ductile Iron Watermain Replacement
Department: Infrastructure Engineering

Recommendation:

THAT Council receives for information, the report from Infrastructure Engineering dated July 27, 2020 regarding the project creation and budget adjustments required to replace approximately 850 m of poor condition cast and ductile iron watermain as part of the Ethel Street Active Transportation Corridor – Phase 3C;

AND THAT the 2020 Financial Plan be amended to reflect the transfer of \$390,000 from the carry over budget for the Ethel St Watermain Replacement, Sutherland – Springfield (329001W), as part of the Ethel Street Active Transportation Corridor – Phase 4 to the Ethel Phase 3C ATC Water Main Replacement project;

AND THAT the 2020 Financial Plan be amended to reflect the cancellation and transfer of \$195,880 from the Chute Lake Rd Pressure Reducing Valve Upgrade (3387) to the Ethel Phase 3C ATC Water Main Replacement project;

AND FURTHER THAT the 2020 Financial Plan be amended to include an additional \$415,000 from the Water Utility for the Ethel Phase 3C ATC Water Main Replacement project.

Purpose:

To create a water utility project to replace approximately 850 m of poor condition cast and ductile iron watermain as part of the Ethel Street Active Transportation Corridor – Phase 3C.

Background:

The existing 250mm watermain along the Ethel Street Active Transportation Corridor – Phase 3C is 1975 vintage, making it only 45 years old. Initial project set up did not identify a Water Utility component for this section of the Ethel ATC project since the assets were expected to have another 35 years remaining service life.

Further field investigation during the Ethel ATC Project section just north (Cadder Ave to Rose Ave) identified extensive pitting and corrosion throughout much of the existing ductile iron watermain, triggering a full replacement of the watermain along that section. Further testing identified the

presence of “hot” soils (promoting corrosion) and overall poor conditions leading to the existing watermain deteriorating at almost twice the design rate.

Further exposures of sections of watermain along the current Ethel ATC project confirmed the same poor condition along this extent of main.

A Class C cost estimate provided by AllNorth Engineering Consultants identifies a budget requirement of \$1.0 Million to replace 850 m of cast iron and ductile iron watermain, and their respective appurtenances, along the Ethel Street Active Transportation Corridor – Phase 3C (Rose Ave to Raymer Ave.).

The work requires realignment of funds from existing project budgets as well as an additional request from the Water Utility to meet the commitments identified above:

Ethel St Watermain Replacement, Sutherland – Springfield (329001W): (\$390,000)

High tender prices in 2018 led staff to ask for additional funds to ensure completion of the above-mentioned project. Efficiencies found and implemented throughout the project, along with lower than expected bids allowed for a project completion delivered considerably under budget. Staff request that the remaining available budget be transferred to the Ethel ATC – 3C Water Main Replacement project.

Chute Lake Rd Pressure Reducing Valve Upgrade (3387): (\$195,880)

The Chute Lake Rd Pressure Reducing Valve Upgrade project is recommended to be cancelled for 2020 and deferred to a later date in the 10-year Capital Plan. This project is being re-scoped to coordinate with Transportation for the future Chute Lake Rd and Frost Road Intersection. Staff recommend the full \$195,880 available budget to be transferred to the Ethel ATC – 3C Water Main Replacement project.

The remaining \$415,000 is requested from the Water Utility.

Internal Circulation:

Department Manager, Infrastructure Administration
Divisional Director, Infrastructure
Financial Planning Manager

Considerations not applicable to this report:

Legal/Statutory Authority:

Legal/Statutory Procedural Requirements:

Financial/Budgetary Considerations:

Existing Policy:

Personnel Implications:

External Agency/Public Comments:

Communications Comments:

Alternate Recommendation:

Submitted by:

Rod MacLean, Manager Utilities Planning

Approved for inclusion:



A. Newcombe, Divisional Director, Infrastructure

cc: Divisional Director, Infrastructure
Director, Financial Services
Financial Planning Manager
Department Manager, Transportation Planning
Department Manager, Utilities Planning
Department Manager, Infrastructure Administration

Report to Council



Date: July 27, 2020

To: Council

From: City Manager

Subject: Fall 2020 Transit Service Levels and System Performance Update

Department: Integrated Transportation

Recommendation:

THAT Council receives for information, the report from the Integrated Transportation Department, dated July 27, 2020, regarding fall 2020 transit service levels, transit system performance update, and financial mitigation strategies;

Purpose:

To update Council on the transit ridership level observed over the course of the spring and early summer stemming from the COVID-19 pandemic; and to advise Council of the level of service that will be provided in the fall in response to reduced demand for public transit, the associated financial impact, and planned mitigation strategies.

Background:

Transit ridership in the City of Kelowna had been trending upward in recent years. Approximately 15% more trips were taken between 2017 and 2019 with ridership nearing 6 million annual trips. The COVID-19 pandemic has had a profound impact on how transit services are delivered to the community and on system ridership.

As the Province established physical distancing protocols and businesses, community facilities and post-secondary institutions closed or reduced hours, and work at home and sheltering at home occurred, transit ridership declined sharply. By the third week of March ridership was down by just over 40% as compared to the same week a year prior, with further declines to follow. In mid-March BC Transit instructed First Transit, the service operator, to implement significantly enhanced bus cleaning measures. Also in March, public transportation was defined as an essential service by the provincial Public Safety Minister. Just before the end of March, BC Transit's Emergency Operations Centre made the decision to mandate all BC Transit systems to cease fare collection and implement rear-door only boarding to protect operators and riders from potential exposure to COVID-19. Also, in March a cap was placed on the number of people allowed on board buses so that physical distancing could be maintained for people who were still riding transit. These provincial mandates were unilaterally imposed on the Kelowna Regional Transit system without input from the City based on a rapidly evolving crisis.

In response to rapidly declining demand and loss of fare revenues, transit service levels in Kelowna were reduced to the summer service level effective April 5th which was three weeks ahead of the scheduled implementation of the usual spring service level. While a customized schedule that would have targeted service reductions more effectively and with greater financial impact was preferred by staff, BC Transit's capacity limitations to respond quickly meant options were limited to pre-defined service levels.

By June 1st, BC Transit had acted to install temporary barriers between bus operators and the farebox facilitating the reinstatement of fare collection and front door boarding. By this time ridership had recovered to 45% of levels observed a year prior from a low of just 27.5% in the second week of April. The reinstatement of fare collection did not negatively impact ridership levels which, as of the beginning of July had recovered further to 60% of levels observed during the same week of 2019. Beginning in June, with physical distancing capacity limitations in place, pass-ups were occurring on key routes where bus occupancy maximums had been met and riders were left at stops, having to wait for the next scheduled bus. As of July 1st, in keeping with provincial re-opening protocols, bus capacity maximums were relaxed to allow near full-seated capacity on heavy duty buses and 50% capacity on light duty Community buses. The relaxation of capacity restrictions will help to effectively eliminate pass-up situations for the time being.

Fall passenger volumes are expected to remain well below levels typically observed that time of year primarily as a result of UBCO's move to online course delivery and the resulting reduction in demand for transit among students. In consideration of continued suppressed demand for transit services but recognizing the capacity limitations on buses, a spring level of service will be implemented effective September 6. This level of service provides an acceptable balance between providing a convenient, usable service that can retain current ridership and support incremental ridership growth as people shift to their fall travel patterns while also ensuring on-board distancing can be maintained.

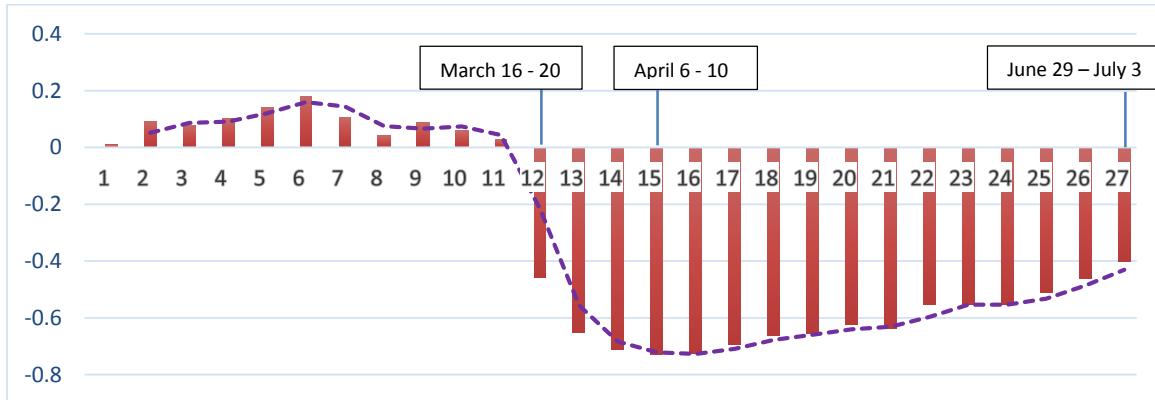
Discussion:

System performance and COVID-19 Mitigation

Over the first few months of 2020 transit ridership levels had continued the two-year trend of strong growth. As the COVID-19 situation emerged, system-wide ridership declined sharply. By the week of April 6th to 12th (week 15) average weekday ridership had declined nearly 73% as compared to levels from the same week a year prior. A steady recovery in ridership levels in the weeks that followed culminated in reaching 60% of 2019 levels by early July¹. Notably, ridership remained stable as fare collection and front door boarding was reinstated on June 1st.

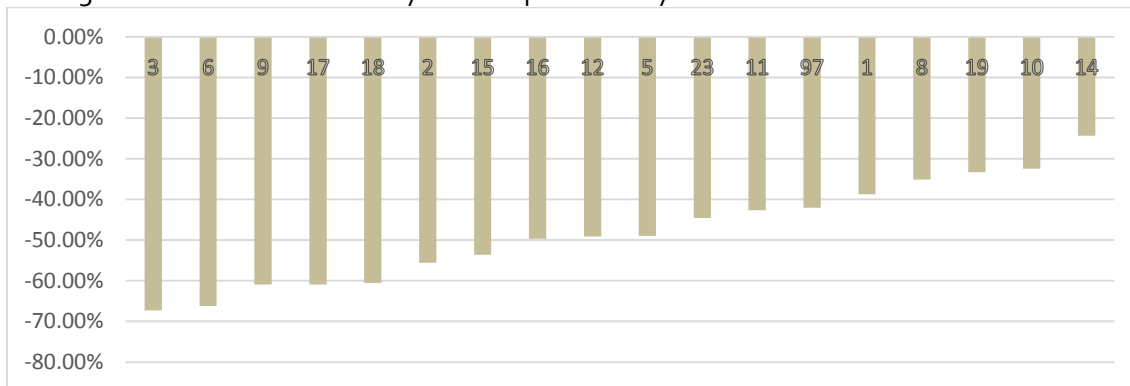
¹ Week 27 (June 29-July 3) – 8,929 rides per average weekday (source: BC Transit Avg. Weekday Ridership by route/week report).

Average 2020 Weekday Transit System Ridership by 2020 Week Number



In Kelowna, major routes such as the 10 North Rutland, 8 University, 1 Lakeshore, 97 Okanagan and 11 Rutland lead the recovery in ridership. Local routes 14 Black Mountain and 19 Glenmore-Orchard Park have also performed strongly in recent weeks.

Average Year-over-Year Weekday Ridership Decline by Route



BC Transit has continued to target a comfortable capacity on buses which at times, may result in buses being full and customers experiencing pass ups. As ridership has recovered, these conditions began to manifest more frequently on select trips on busier routes. On a full-sized bus, up to 16 persons were permitted to ride at the operator's discretion. As of July 1st, capacity was increased to near full-seated level (approximate 40 passenger maximum) which will provide some relief to these pass-up situations. Riders are being encouraged to check the NextRide platform to check for capacity conditions in advance of boarding. Wearing of face coverings is being encouraged on buses and at bus stops where physical distancing is not possible. The installation of permanent full driver doors has also been accelerated to ensure operators and customers are protected.

Spring/Summer Service

On April 5th a summer level of service was implemented in response to ridership declines and the inability to collect fares. This level of service has proven effective in ensuring that appropriate physical distancing could be maintained on board buses however instances of trips with loads exceeding maximum have increased as ridership has recovered. Fare collection was halted on all BC Transit systems on March 20th and was not reinstated until June 1st. Based on average ridership over this period

which was down 66.5%, approximately \$254,000 in revenue from passes, tickets and cash paid fares was forgone². The early shift to summer service resulted in a reduction of about 2,000 service hours over the period of April 5th to June 30th³. This represents a reduction in operating costs of approximately \$195,000 of which the city's share is 46.7% or about \$91,000.

Fall Service

Traditionally demand for transit increases significantly in the fall. As post-secondary, middle and high schools return to session and transit's share of commuter trips grows, service levels are increased accordingly. While ridership levels are showing encouraging recovery from peak lows in April, a return to pre-COVID-19 levels is not expected in the near term. A variety of factors will contribute to suppressed ridership this fall including a move to online course delivery by UBCO for the Fall Term (and potentially beyond)⁴, an anticipated reduction in campus population and in-person classes at Okanagan College and the possibility of reduced or limited in-person classes for Middle and High School students⁵. These factors in conjunction with potentially suppressed commuter ridership will continue to put pressures on system productivity and revenues warranting a reduction in service this fall.

The level of service intended to have been provided this past spring will be in place over the fall resulting in a reduction of 9,494 hours as compared to the planned fall service. This will reduce operating costs by about \$920,000 of which about \$490,000 is the city's share. A spring level of service best matches anticipated ridership as it the level of service that is typically in place from late April to late June when post-secondary institutions are no longer in session. The level of service that had been planned for spring 2020 had already been reduced by approximately 1,000 hours as compared to 2019 further reducing operating costs this year by \$97,000 (\$51,000 local share). To account for any unanticipated spike in ridership or tightening of passenger load restrictions, a pool of additional service hours will be made available to the operating company to add in buses as needed.

A modest 950-hour expansion planned for this fall will not proceed allowing the City to avoid this added expense going forward. In the weeks ahead, staff will be collaborating with BC Transit to re-assess the Transit Improvement Program (TIP) considering the significant changes and uncertainties around demand for public transit in the community.

Summary - estimated 2020 service hour and cost reductions

Period	Service hour reduction	Estimated local cost reduction
Spring 2020 vs. budgeted	1,000	\$51,000
Spring	2,011	\$91,000
Fall - reductions	9,494	\$490,000
Fall – expansion cancellation	950	\$49,000
TOTAL	13,455	\$681,000

² City of Kelowna share of total revenues over the period. Revenues from U-Pass and BC Bus Pass were unaffected over this period. Over this same period in 2019, \$750,000 in total revenue was collected.

³ Winter service levels traditionally remain in effect to the end of April with a Spring level of service extending to the end of June when Summer service typically begins.

⁴ 15% of the typical student population is expected to be campus daily in fall. UBCO student population in 2019/20 – 11,000 (Source: UBCO Campus Planning).

⁵ School District #23 has outlined 4 stages of attendance at local schools for the fall ranging from full attendance to no physical attendance. A final decision may not be made until late summer.

Projected reductions in operating costs presented in this report are “order of magnitude” estimates. Additional savings from spring cancelled school specials, additional hours budgeted, etc. are not considered nor are new costs incurred due to measures taken to address the impacts of COVID-19 on operations.

Revenue Loss Mitigation

The COVID-19 pandemic and response to it has had two types of revenue impacts – fare revenue loss from mandated rear-door boarding which forced suspension of fare collection, and fare revenue loss from severe ridership declines when fares were being collected. Revenue losses are projected to potentially reach 3.2 million by year end or about a 43% reduction from 2019 levels.

Mitigation of potential revenue loss is to take place on two levels: - cost savings through reduction of service level; and offset of lost potential revenue through application of operating reserves, other operational service savings, and financial support from federal and provincial COVID-19 emergency response funding initiatives.

Service level reductions implemented and upcoming that differ from previously budgeted and approved costs will create an estimated \$681,000 reduction in cost from budget. Specific detail will be brought forward to Council in the Annual Operating Agreement report slated for September.

With respect to Operating Reserves, since 2015, BC Transit has been accumulating annual cost savings where actual costs were less than budgeted costs, placing the surplus in an Operating Reserve account for use in exceptional circumstances where costs may exceed budget. BC Transit has confirmed that Local Governments will be able to access their reserve to its maximum capacity at the Local Governments discretion. Presently, Kelowna’s Operating Reserve is estimated to be sufficient to cover projected budget shortfalls for the 2020/21 fiscal year. However, this application would stretch the intent of the reserve which is meant to cover year to year fluctuations in budget due to unforeseen operating cost overages and there is some concern that effectively depleting the reserve may leave us in an unfortunate position in future years. Additionally, the reserve is comprised of BC Transit/City shared funds and City contribution only funds. It would be preferable not to have to access the City-only funds, as BC Transit should share in any mitigation. More specific detail and strategies around this this will be brought forth with the Annual Operating Agreement report, to be presented to Council in September.

Additional cost savings proposed by BC Transit include a “lease payment holiday” on buses in the Kelowna fleet, to be fully funded by BC Transit. More detail will be coming in the future.

As discussed previously with Council, staff continues investigating mobile ticketing platforms. A digital ticketing system can provide a safer and more pleasant fare payment experience, potentially supporting a quicker return to traditional ridership levels. However, the ability of Kelowna to pilot a system before the BC Transit led broader provincial roll-out is still under consideration.

Finally, on the federal/provincial emergency assistance front, the Canadian Urban Transit Association and other government and industry related associations have been lobbying for emergency pandemic relief for public transit systems faced with significant budget implications. While the Prime Minister has included public transit in the safe recovery plan, details are yet to be released. BC Transit is working

with the province to press for emergency funding for public transport including BC Transit, Translink and BC Ferries. The impact upon our local budget is unknown at this time, but staff continue to impress our needs upon BC Transit and the various lobbying associations.

Moving into the coming year and the continued impact of the COVID-19 pandemic, there is a call for BC Transit to better manage fixed and variable costs, with more transparency and consultation with the City and other partners with the aim of improved agility and response in times of crisis.

Conclusion:

A summer level of transit service in place since April 5th has proven effective at meeting demand under COVID-19 passenger load restrictions. About 33% of ridership lost during the peak of the COVID-19 impact in April has been recovered up to early July. Fare collection was reinstated on June 1st and the bulk of ridership gains have occurred since. Demand for public transit in the fall is still expected to exceed summer levels but remain below traditional fall levels as people, particularly students travel less. A spring level of service will be implemented on September 6th and remain in place until at least the end of December at which time service levels could be adjusted should conditions change.

Service reductions resulting in operating savings, application of the Transit Operating Reserve, and other mitigation strategies including those from BC Transit directly and through the yet defined federal government safe recovery plan will be strategically sought and applied to replace lost and reduced fare revenue. Though the Transit Operating Reserve alone is estimated to be sufficient to cover any budget deficiencies, for the reasons described above, the other sources will be sought as a priority application – or put another way, the Operating Reserve will only be sought as a last resort to mitigate losses.

The collective cost reductions from service changes and other measures will be reflected in the 2020/21 Annual Operating Agreement from BC Transit, planned to be presented to Council in September.

Internal Circulation:

Communications Advisor
Director Community Relations, BC Transit
Divisional Director, Infrastructure
Financial Analyst
Infrastructure Administration Manager
Integrated Transportation Department Manager

Financial/Budgetary Considerations:

Financial and budget implications are to be considered in the transit Annual Operating Agreement report due in September.

Considerations not applicable to this report:

Legal/Statutory Authority:
Legal/Statutory Procedural Requirements:
Existing Policy:
External Agency/Public Comments:
Communications Comments:

Submitted by:

J. Dombowsky, Transit and Programs Manager

Reviewed and Approved by: R. Villarreal, Department Manager, Integrated Transportation

Approved for inclusion:

A square box containing a handwritten signature in black ink, which appears to be 'A. Newcombe'.

A. Newcombe, Divisional Director, Infrastructure

Attachment 1 – Transit Service Levels and System Performance Update Presentation

cc: Divisional Director, Corporate Strategic Services
Divisional Director, Financial Services
Divisional Director, Infrastructure
Chris Fudge, Director Community Relations, BC Transit



Fall Transit Service & Performance update

July 27, 2020 17

Purpose

To provide, for Council's information:

- ▶ an update on the impact of the COVID-19 pandemic upon transit operations,
- ▶ actions taken to date, and upcoming fall service adjustments,
- ▶ information on revenue loss mitigation efforts.

COVID-19 Impact

- ▶ Prior to COVID-19, 15% ridership growth over past two years.
- ▶ As business and schools closed and work and sheltering at home became more prevalent transit ridership dropped dramatically.

COVID-19 Impact

Provincial government actions:

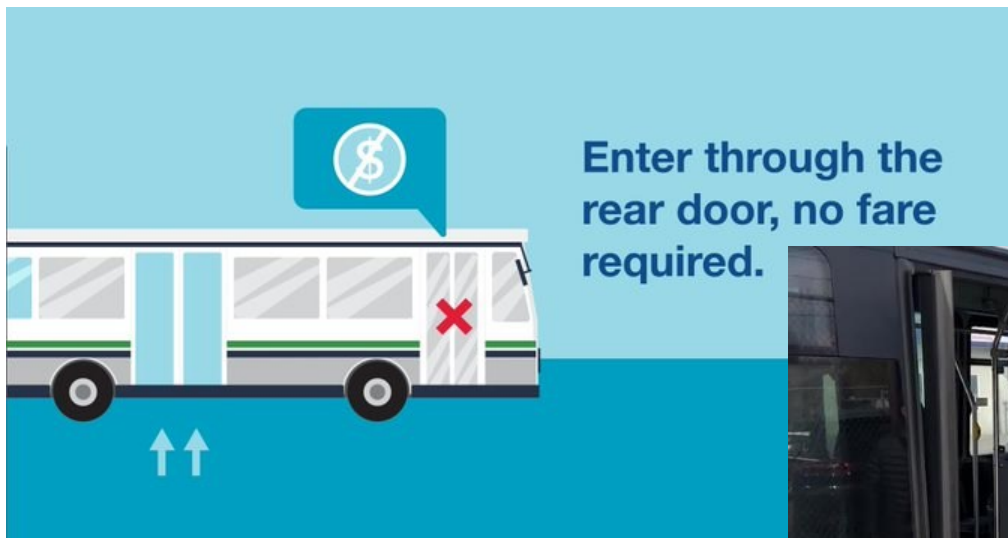
Enhanced bus cleaning protocols



COVID-19 Impact

Provincial government actions:

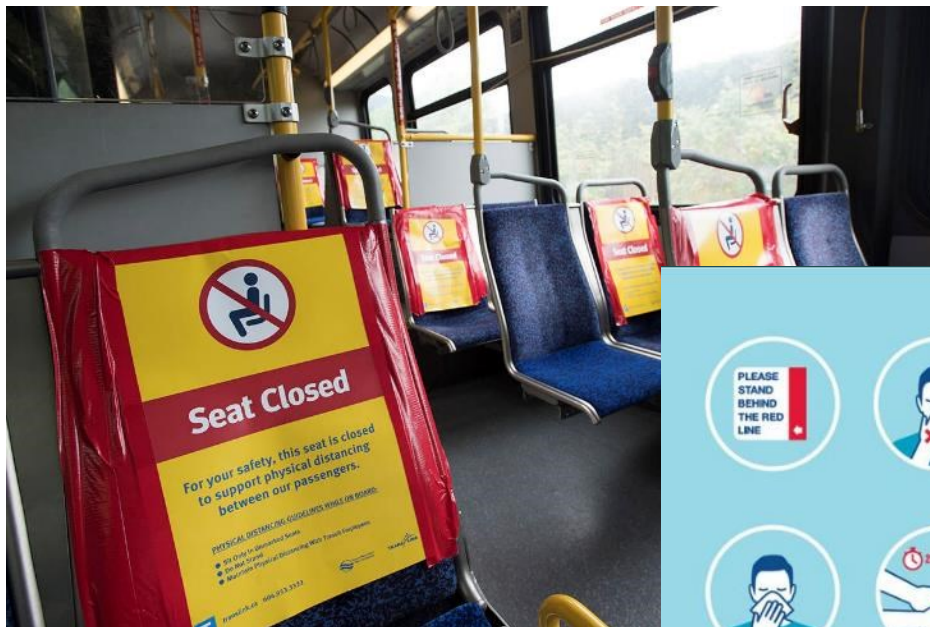
Mandated rear-door boarding and fare collection suspension



COVID-19 Impact

Provincial government actions:

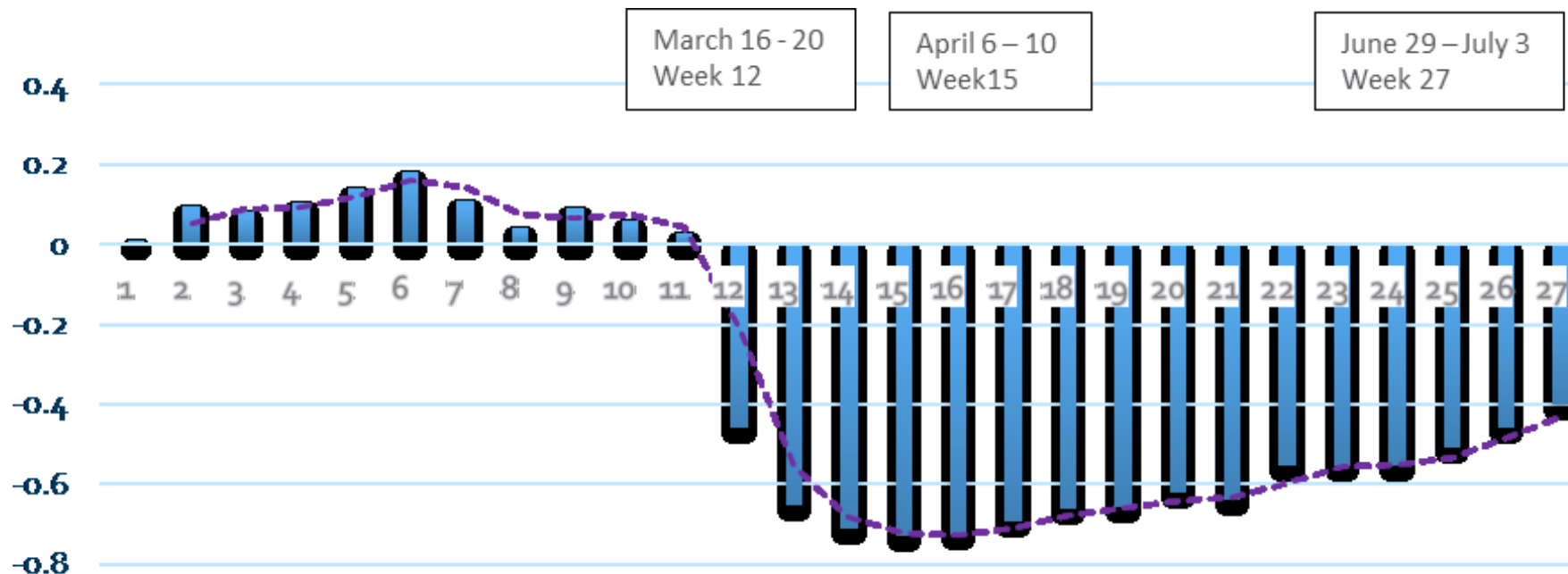
Mandated physical distancing



COVID-19 Impact

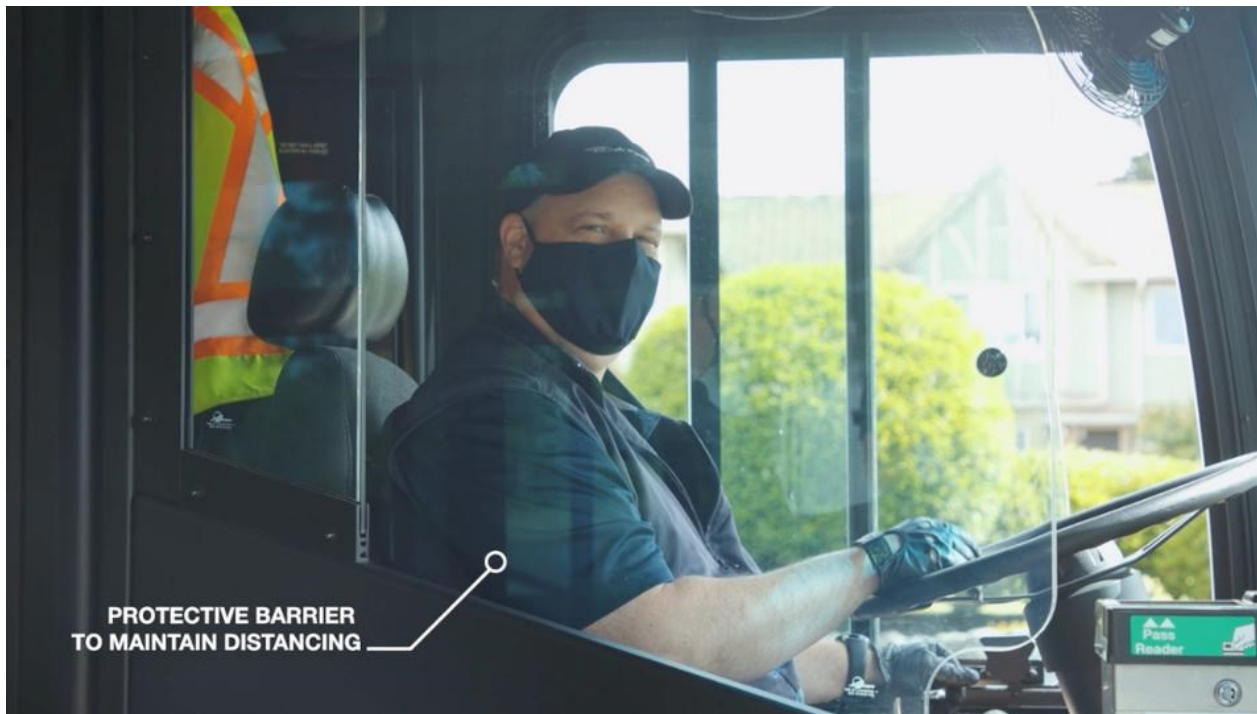
Ridership decline:

Average 2020 Weekday Transit System Ridership by Week Number



COVID-19 Impact

Ridership recovery



COVID-19 Impact

Ridership recovery

- ▶ By June, with physical distancing rules in place, pass-ups were occurring on key routes
- ▶ July 1st - bus capacity maximums relaxed to near full-seating.
- ▶ Early July ridership recovers to 60% of previous year's level

COVID-19 Impact

Fall Service Level

Three possible service levels:

1. Fall/winter service level
2. Spring service level
3. Summer service level



COVID-19 Impact

Fall Service Level

- ▶ Spring Service level to be initiated September 6th
- ▶ Operating cost reduction of \$977,000 (\$490,000 City share).
- ▶ Additional efficiencies of 1,000 hours.
- ▶ Planned 950-hour expansion put on hold.
- ▶ “insurance policy” pool of additional hours to manage possible overloads and pass ups.
- ▶ Total estimated savings of \$1.28m (\$681,000 City share).

COVID-19 Impact

Revenue Impact and Mitigation

Two types of revenue impacts:

1. Mandated rear-door boarding fare loss
2. Severe ridership decline

Revenue loss could reach the \$3m level this year (43% reduction from last year)



COVID-19 Impact

Mitigation

Two levels:

1. Service reductions
2. Supplemental funding - Operating Reserve access; other operational savings; federal and provincial COVID-19 response funding

COVID-19 Impact

mitigation

Potential:

- ▶ Service level reductions of \$677,000
- ▶ Shared Operating Reserve balance of \$3.9m (all partner)
- ▶ Local Operating Reserve balance of \$2.1m (all partner)
- ▶ Possible “lease payment holiday”
- ▶ Federal Safe Recovery plan fund \$19B (\$600m provincially?)

COVID-19 Impact

CONCLUSION

- ▶ Numerous impacts from COVID-19 including provincial mandates - service strategies enacted
- ▶ Spring service level in September; expansion on hold
- ▶ Mitigation via: service reductions; Operating Reserve; BC Transit initiatives; federal/prov. Safe Recovery Plan
- ▶ Priority for sources other than Operating Reserve
- ▶ 2020/21 Annual Operating Agreement due for Council consideration in September



Questions?

Report to Council



Date: July 27, 2020
To: Council
From: City Manager
Subject: Subdivision, Development and Servicing Bylaw 7900 – Amendment
Department: Infrastructure Engineering

Recommendation:

THAT Council receives, for information, the report from the Infrastructure Engineering Department dated July 27th, 2020, with respect to amending the Subdivision, Development and Servicing Bylaw No. 7900;

AND THAT Bylaw No. 12066, being Amendment No. 21 to Subdivision, Development and Servicing Bylaw No. 7900 be forwarded for reading consideration;

AND THAT Council Policy No. 266, being Subdivision, Development & Servicing – Approved Products List, be revised as outlined in the Report from Infrastructure Engineering Department dated July 27th, 2020.

Purpose:

To amend the Subdivision, Development and Servicing Bylaw No. 7900 and Approved Products List so they align with industry best practice and ensure the construction of high quality and long-lasting infrastructure.

Background:

Subdivision, Development & Servicing Bylaw 7900 sets the minimum standards and specifications for works and services in connection with developing and servicing lands within the City boundaries. Policy 266 – Approved Products List specifies the preapproved products and materials for infrastructure construction. Policy 266 is referenced and used in coordination with the Subdivision, Development and Servicing Bylaw.

The City periodically updates these standards to assure that the infrastructure installed is high quality, long lasting and supports service delivery. These standards are also reviewed against industry best practice to ensure the Community is receiving best value for their infrastructure dollars.

Staff's goal is to maintain Bylaw 7900 and Policy 266 as living documents through regular updates. To this end, a working committee was formed with representation from various internal groups, including Infrastructure Engineering, Infrastructure Delivery, Development Engineering, Development Planning

and Civic Operations. The working group meets regularly to review sections of the Bylaw, engage with internal and external stakeholders (such as the Urban Development Institute) and recommend changes to bring forward to Council. The changes identified below form part of the major components as part of this revision.

Schedule 4 - Design Standards Section 4 – Highway

The update to Highway standards includes addressing existing challenges identified by staff and to better align the Bylaw with existing policies and engineering best practices. This includes several minor wording/formatting changes and more significant changes including clarification of the cul-de-sac standards and inclusion of a design standard for roadway lighting and traffic signals.

Schedule 4 - Design Standards Section 5 – Roadway Lighting

The City owns and operates over 14,000 streetlights. The Roadway Lighting design standard has been added as a separate comprehensive section to the Bylaw. Some of these standards were previously contained in the Highway standards. These standards detail the City's Roadway Lighting design standards to ensure proper lighting for roadway and pedestrian safety and align with industry best practice (MMCD and Transportation Association of Canada).

Schedule 4 - Design Standards Section 6 – Traffic Signals

The City owns and operates over 700 traffic signals and crosswalks. The Traffic Signal design standard has been added as a separate comprehensive section to the Bylaw. Some of these standards were previously contained in the Highway standards. These standards detail Traffic Signal design standards for intersection performance and safety and align with MMCD and industry best practice.

Schedule 5 - Construction Standards - Sanitary Sewer Lift Station Design drawings and Traffic Signal Design Drawings

The City owns and operates more than 43 lift stations. Sanitary Sewer Lift Station design drawings were added to assist with the design of new lift stations to ensure that they are completed to a high standard. Standard detail designs will provide consistency which minimizes life cycle cost of operating and maintaining these critical infrastructure components.

Design drawings have also been added for the design of new traffic signals and pedestrian flashers. These drawings support the Traffic Signals design standards (Schedule 4).

Council Policy 266 Approved Products List

The Approved Products List (APL) is a listing of preapproved materials and products for infrastructure construction. The City has an internal process for ensuring the materials and products added to the APL are high quality and long-lasting. The APL has been updated with a standardized streetlight that is compatible with the Roadway Lighting Design standard.

Schedules A and B to this report provide a detailed review the of the proposed changes for Bylaw 7900 and Policy 266, respectively.

Internal Circulation:

Infrastructure Divisional Director
Infrastructure Delivery Department Manager
Development Engineering Manager
Engineering Technical Support Coordinator

Infrastructure Operations Department Manager
Utility Services Manager
Planner Specialist
Traffic Signals & Systems Supervisor
Integrated Transportation Manager
Senior Transportation Planning Engineer

Legal/Statutory Authority:

Subdivision, Development and Servicing Bylaw 7900 Design and Construction Standards will be amended upon Council's approval.

Existing Policy:

Policy 266 – Approved Products List Standards will be amended upon Council's approval.

External Agency/Public Comments:

The City undertook multiple consultations with UDI and received feedback on the proposed changes to Bylaw 7900 and Policy 266. We are committed to continuing to work together to make improvements where appropriate.

Considerations not applicable to this report:

Legal/Statutory Procedural Requirements
Financial/Budgetary Considerations
Personnel Implication
Communications Comments
Alternate Recommendation

Submitted by:

Joel Shaw, P.Eng., Infrastructure Engineering Manager

Approved for inclusion:



A. Newcombe, Divisional Director, Infrastructure

Attachment 1 – Schedule A – Summary of changes to Bylaw 7900

Attachment 2 – Schedule B – Summary of changes to Policy 266

Attachment 3 – Presentation

cc Deputy City Manager
Development Engineering Manager
Development Services Director
Divisional Director, Corporate Strategic Services
Divisional Director, Financial Services
Divisional Director, Infrastructure
Divisional Director, Partnership & Investments
Divisional Director, Planning & Development Services
Engineering Technical Support Coordinator
Infrastructure Delivery Department Manager

Infrastructure Operations Department Manager
Integrated Transportation Manager
Planner Specialist
Senior Transportation Planning Engineer
Traffic Signals & Systems Supervisor
Utility Services Manager

Schedule A – Proposed Bylaw Amendments

Subdivision, Development and Servicing Bylaw No. 7900

No.	Section	Current Wording	Proposed Wording	Reason for Change
1.	SUBDIVISION, DEVELOPMENT AND SERVICING BYLAW NO. 7900 Part 1 – INTRODUCTION – Section 4.1 Definitions	N/A	<u>“Active Transportation Corridor”</u> means a corridor reserved for human powered and electric assisted transportation modes such as walking or bicycling, amongst other modes, as defined in the current version of the City of Kelowna Pedestrian and Bicycle Mater Plan. An Active Transportation Corridor, or ATC, may exist along a Highway right-of-way or it may exist along other public land such as but not limited to, the Okanagan Rail Trail or Mission Creek Greenway”	Add Definition
2.	SUBDIVISION, DEVELOPMENT AND SERVICING BYLAW NO. 7900 Part 1 – INTRODUCTION – Section 4.1 Definitions	<u>“Certificate of Substantial Performance”</u> means a certificate issued by the Consulting Engineer in accordance with Section 9.5 of this bylaw, certifying that Substantial Performance of all of the Works and Services has been achieved.	<u>“Certificate of Substantial Performance”</u> means a certificate issued by the Consulting Engineer in accordance with Section 9.5 of this bylaw, verified by the City Engineer , certifying that Substantial Performance of all of the Works and Services has been achieved.	To ensure the City is in agreement with the Consultants’ assessment.

3.	SUBDIVISION, DEVELOPMENT AND SERVICING BYLAW NO. 7900 Part 1 – INTRODUCTION – Section 4.1 Definitions	" <u>Certificate of Total Performance</u> " means a certificate issued by the Consulting Engineer in accordance with Section 10.2 of this bylaw, certifying that Total Performance of all of the Works and Services has been achieved.	" <u>Certificate of Total Performance</u> " means a certificate issued by the Consulting Engineer in accordance with Section 10.2 of this bylaw, verified by the City Engineer , certifying that Total Performance of all of the Works and Services has been achieved.	To ensure the City is in agreement with the Consultants' assessment.
4.	SUBDIVISION, DEVELOPMENT AND SERVICING BYLAW NO. 7900 Part 1 – INTRODUCTION – Section 4.1 Definitions	" <u>Fees</u> " means those fees payable to the City in connection with the Subdivision or Development of land, as prescribed by the City of Kelowna Development Fees Application Bylaw No. 8034.	" <u>Fees</u> " means those fees payable to the City in connection with the Subdivision or Development of land, as prescribed by the current version of the City of Kelowna Development Fees Application Bylaw.	To ensure continuity in the event the Bylaw number changes.
5.	SUBDIVISION, DEVELOPMENT AND SERVICING BYLAW NO. 7900 Part 1 – INTRODUCTION – Section 4.1 Definitions	"General Conditions" means the following general conditions contained in Volume II of the Master Municipal Construction Document published by the Master Municipal Construction Documents Association, 1996, as may be amended from time to time, and referred to in the Specifications and Standard Detail Drawings: GC 4.2 (Safety), GC 4.3 (Protection of Work, Property and Public), GC 4.4 (Temporary Structure and Facilities), GC 4.12 (Inspections), and GC 20 (Laws, Notices, Permits and Fees).	" <u>General Conditions</u> " means the following general conditions contained in Volume II of the Master Municipal Construction Document published by the Master Municipal Construction Documents Association, 2009, as may be amended from time to time, and referred to in the Specifications and Standard Detail Drawings located in Schedule 5	To reflect the updated edition of MMCD.

6.	SUBDIVISION, DEVELOPMENT AND SERVICING BYLAW NO. 7900 Part 1 – INTRODUCTION – Section 4.1 Definitions	" <u>Highway</u> " includes a street, road, lane, bridge, viaduct, walkway and any other way open to public use, but does not include an easement on private property.	" <u>Highway</u> " includes a street, road, lane, bridge, viaduct, walkway, active transportation corridor and any other way open to public use, but does not include an easement on private property.	To add ATC to the definition of Highway.
7.	SUBDIVISION, DEVELOPMENT AND SERVICING BYLAW NO. 7900 Part 1 – INTRODUCTION – Section 4.1 Definitions	" <u>Highway Reservation Agreement</u> " means an agreement between the Owner and the City, in the form prescribed by the City, as referred to in Section 526 of the <i>Local Government Act</i> .	" <u>Highway Reservation Agreement</u> " means an agreement between the Owner and the City, in the form prescribed by the City, as referred to in Section 513 of the <i>Local Government Act</i> .	Update of section referenced
8.	SUBDIVISION, DEVELOPMENT AND SERVICING BYLAW NO. 7900 Part 1 – INTRODUCTION – Section 4.1 Definitions	" <u>Latecomer Agreement</u> " means an agreement between the Owner and the City, in the form prescribed by the City, as referred to in Section 939 of the <i>Local Government Act</i> .	" <u>Latecomer Agreement</u> " means an agreement between the Owner and the City, in the form prescribed by the City, as referred to in Section 508 of the <i>Local Government Act</i> .	Update of section referenced
9.	SUBDIVISION, DEVELOPMENT AND SERVICING BYLAW NO. 7900 Part 1 – INTRODUCTION – Section 4.1 Definitions " <u>Maintenance Period (c)</u> "	(c) with respect to Works and Services that appear to be incomplete, defective or deficient during the Maintenance Period referred to in either (a) or (b) above, the period of one year from the date on which such Works and Services are completed or corrected in accordance with Section 10.3	(c) with respect to Works and Services that appear to be incomplete, defective or deficient during the Maintenance Period referred to in either (a) or (b) above, the period of one year from the date on which such Works and Services are completed or corrected in accordance with Section 10.3 Notwithstanding, the Maintenance Period does not expire until the City has been	To ensure the City is requested to do a final inspection prior to the expiry of the maintenance period.

			contacted and conducts a final inspection of the Works.	
10.	SUBDIVISION, DEVELOPMENT AND SERVICING BYLAW NO. 7900 Part 1 – INTRODUCTION – Section 4.1 Definitions	"OCP" means the City of Kelowna Official Community Plan (1994 – 2013) Bylaw No. 7600.	"OCP" means the current version of the City of Kelowna Official Community Plan Bylaw.	Update of section to latest version of OCP.
11.	SUBDIVISION, DEVELOPMENT AND SERVICING BYLAW NO. 7900 Part 1 – INTRODUCTION – Section 4.1 Definitions	"Specifications and Standard Detail Drawings" means the specifications and standard detail drawings for Works and Services prescribed by Volume II of the Master Municipal Construction Document, and the General Conditions referred to therein, published by the Master Municipal Construction Documents Association, 1996, attached as Schedule 6 hereto and as further amended or supplemented by City of Kelowna Construction Standards attached as Schedule 5 hereto.	"Specifications and Standard Detail Drawings" means the specifications and standard detail drawings for construction of Works and Services, located in Schedule 5 of this bylaw.	Update of section referenced
12.	SUBDIVISION, DEVELOPMENT AND SERVICING BYLAW NO. 7900 Part 1 – INTRODUCTION – Section 4.1 Definitions	"Statutory Right-of-Way Agreement" means an agreement between the Owner and the City, in the form prescribed by the City, as referred to in Part 14 of the <i>Land Title Act</i> .	"Statutory Right-of-Way Agreement" means an agreement between the Owner and the City, in the form prescribed by the City, as referred to in Part 7, Division 11 of the <i>Land Title Act</i> .	Update of section referenced
13.	SUBDIVISION, DEVELOPMENT AND SERVICING BYLAW NO. 7900 Part 1 – INTRODUCTION – Section 4.1 Definitions	"Substantial Performance" means the stage of completion of all of the Works and Services when: (a) the Works and Services are ready to be used for their intended purpose, as certified by the Consulting Engineer; and	"Substantial Performance" means the stage of completion when: All Works and Services, as certified by the Consulting Engineer, and verified and inspected by the City Engineer, is capable of	To align w. MMCD.

		<p>(b) the total of the incomplete, defective and deficient Works and Services can be completed at a cost, as estimated by the Consulting Engineer and verified by the City Engineer, of no more than 3% of the total cost of the Works and Services.</p>	<p>completion or correction at a cost of not more than:</p> <p>(a) 3% of the first \$500,000 of the Works and Services;</p> <p>(b) 2% of the next \$500,000 of the Works and Services; and</p> <p>(c) 1% of the balance of the Works and Services; and</p> <p>the Works and Services, or a substantial part of it, is ready for use or is being used for the purpose intended.</p>	
14.	<p>SUBDIVISION, DEVELOPMENT AND SERVICING BYLAW NO. 7900 Part 1 – INTRODUCTION – Section 4.1 Definitions</p>	<p>"Works and Services" includes Highways, sidewalks, boulevards, boulevard crossings, transit bays, street lighting, wiring, water distribution systems, fire hydrant systems, sewage collection and disposal systems, drainage collection and disposal systems and such other infrastructure or systems as may be provided within the City from time to time.</p>	<p>"Works and Services" includes Highways, sidewalks, boulevards, boulevard crossings, transit bays, street lighting, wiring, water distribution systems, fire hydrant systems, sewage collection and disposal systems, drainage collection and disposal systems and such other infrastructure or systems as may be provided within the City from time to time.</p>	N/C

15.	SUBDIVISION, DEVELOPMENT AND SERVICING BYLAW NO. 7900 Part5 - OWNER TO PERFORM WORK 9.6 Section Design and Construction Requirements	<u>As-Built Drawings and Disks.</u> The Owner must provide the City in accordance with Section 9.5, Item (d) with detailed, reproducible as-built drawings of the Works and Services, sealed by the Consulting Engineer, and City compatible computer disks, as Constructed as of the date of Substantial Performance.	<u>As-Built/Record Drawings and Electronic Information.</u> The Owner must provide the City in accordance with Section 9.5, Item (d) and Policy 265 (Engineering Drawing Submission Requirements), with detailed, reproducible as-built drawings of the Works and Services, sealed by the Consulting Engineer, and City compatible electronic information, as Constructed as of the date of Substantial Performance.	To reflect current processes and Policy 265.
16.	SCHEDULE 1 – WORKS & SERVICES REQUIREMENTS, WORKS & SERVICES REQUIREMENTS Table	N/A	See Table Amendment below	Adding information
17.	SCHEDULE 1 – WORKS & SERVICES REQUIREMENTS, WORKS & SERVICES REQUIREMENTS – ARTERIAL Column of Table	IN ACCORDANCE WITH 'MAJOR ROAD NETWORK PLAN' CLASSIFICATION	IN ACCORDANCE WITH 'MAJOR ROAD NETWORK PLAN' CLASSIFICATION (SS-R8 to SS-R16)	To clarify referenced cross sections in the table, consistent with previous page
18.	SCHEDULE 1 – WORKS & SERVICES REQUIREMENTS, WORKS & SERVICES REQUIREMENTS Notes	(2) Where the collector road is on a bikeway route, as defined by the City's Bikeway Network Plan the road requirement will be based on Drawing Standard SS – R6.	(2) Where the collector road is on a bikeway route, as defined by the City's Bikeway Pedestrian and Bicycle Master Plan or Transportation Master Plan, the road requirement will be based on Drawing Standard SS – R6.	To reflect the OCP Maps that are used to determine these routes.

19.	SCHEDULE 1 – WORKS & SERVICES REQUIREMENTS, WORKS & SERVICES REQUIREMENTS Notes	N/A	(6) Active Transportation Corridors not located with road right-of-way's, such as but not limited to the Okanagan Rail Trail and Mission Creek Greenway, are transportation corridors requiring frontage improvements	To address the limitations of the current bylaw to require appropriate improvements along with ATC's that are not along an existing roadway.
20.	SCHEDULE 3 – QUALITY CONTROL AND ASSURANCE	This Schedule sets out the City's minimum standards for quality in design, quality in construction and quality in record-keeping for the Works and Services to be designed and constructed in accordance with this bylaw.	This Schedule sets out the City's minimum standards for quality in design, quality in construction and quality in record-keeping for the Works and Services to be designed and constructed in accordance with this bylaw. Professional Engineers shall fulfill their obligations under the Engineers and Geoscientists Act and the Engineers and Geoscientists of British Columbia's Quality Management Guidelines	To align City requirements with current Engineering regulatory body (EGBC) Quality management requirements.
21.	SCHEDULE 4 – Design Standards, Highway, Section 4.1 General	N/A	All highways (roads, lanes, Active Transportation Corridors) within the City of Kelowna shall be designed with good engineering judgement, in accordance with the recommended practice as outlined in the most current editions of the following design guidelines, unless specifically addressed by City Bylaw or policy: Transportation Association of Canada – Geometric Design	Added a preamble that references current design guidelines and clarifies the hierarchy of requirements.

			<p>Guide for Canadian Roads; Transportation Association of Canada – Manual of Uniform Traffic Control Devices for Canada;</p> <p>Other applicable Transportation Association of Canada best practice design guides, such as but not limited to, the Canadian Roundabout Design Guide, the Canadian Guide to Traffic Calming, Pedestrian Crossing Control Guide and Bikeway Traffic Control Guidelines for Canada;</p> <p>Master Municipal Construction Documents Association – Design Guidelines;</p> <p>British Columbia Active Transportation Design Guide, and</p> <p>BC Transit Infrastructure Design Guidelines</p>	
22.	SCHEDULE 4 – Design Standards, Highway, Section 4.1 General	N/A	<p>To reduce vehicular delays and for safety considerations, modern roundabouts must be considered as the first option for intersection designs where all way stop control or traffic signals are warranted by traffic analysis.</p>	<p>To align with current best practices and support the goals of the Community Climate Action Plan, reduce traffic delays and increase intersection safety performance.</p>

23.	SCHEDULE 4 – Design Standards, Highway, Section 4.1 General	N/A	Designs for significant work to a major collector or arterial road identified on the Major Road Network and Road Classification Plan, must undertake an independent Road Safety Audit.	To ensure significant investments in major roads consider safety outcomes, align with OCP policy 7.6.3 and current best practices.
24.	SCHEDULE 4 – Design Standards, Highway, Section 4.2 Road Classification	1. Transportation Association of Canada - Geometric Design Guide for Canadian Roads, 1999 Edition	1. Transportation Association of Canada - Geometric Design Guide for Canadian Roads, 2017 Edition.	Update of version referenced
25.	SCHEDULE 4 – Design Standards, Highway, Section 4.2 Road Classification, Table 1 notes	Surface Width - on urban section, this measures from back of curb to back of curb - on rural section, it measures from the edge of asphalt to edge of asphalt.	Surface Width - on urban section, this measures from face of curb to face of curb - on rural section, it measures from the edge of asphalt to edge of asphalt.	Align text with industry practice and design guidance.
26.	SCHEDULE 4 – Design Standards, Highway, Section 4.3 Geometric Standards, Table 2	N/A	For Emergency Access added criteria for: Radius (meters) (min) = 12 K-value (min.) = 2	Address missing geometric design criteria for emergency accesses to ensure they are effective and maintainable.
27.	SCHEDULE 4 – Design Standards, Highway, Section 4.4 Horizontal Alignment	A turn-around or a second point of access is required on roads longer than 100 m. The maximum length of a permanent cul-de-sac shall be 200 m. Where it is part of a temporary and/or staged development, this maximum length may be 400 m. Cul-de-sac lengths greater	Maintaining street connectivity for safety reasons wherever possible will remain a priority. 1. A cul-de-sac, turn-around, or a second point of access is required at the terminus of roads longer than 90m. 2. A Hillside Emergency	Clarify the maximum length of cul-de-sacs with and without secondary access points (lanes, emergency accesses) to improve public safety and emergency access.

		<p>than 200 m may be considered by the Approving Officer.</p>	<p>and Utility Vehicle Access is required on roads between 90m and 360m in length, serving more than 100 units*.</p> <p>3. Access Public Lane is required within the last 360m on roads longer than 360m and serving/designed to serve up to 100 units*.</p> <p>4. Local street is required within the last 360m on roads longer than 360m and serving more than 100 units*.</p> <p>*unit count total shall include all units that depend on a single point of access to the major road network, including branching cul-de-sacs. The number of units shall include the maximum potential unit count of single family, multi-family, secondary suite/carriage houses as permitted by zoning. For non-residential land uses, building occupancy will be considered.</p> <p>*. Beyond 600 units*, a 3rd access route is required. Turnarounds are required every 360m.</p>	
28.	SCHEDULE 4 – Design Standards, Highway, Section	N/A	Measurement for roadway width shall be measured from	To align text with industry practice, design

	4.5 Road Cross-Section		face of curb, or edge of asphalt, to centreline of paint line.	guidance and Table 1 Note
29.	SCHEDULE 4 – Design Standards, Highway, Section 4.5 Road Cross-Section	N/A	For the design of local and collector roads with on-street parking, curb extensions shall be considered at intersections and at pedestrian crossings.	To improve pedestrian cyclist safety and comfort on neighbourhood streets.
30.	SCHEDULE 4 – Design Standards, Highway, Section 4.5 Road Cross-Section	N/A	For road designs in rock cut sections, a rockfall catchment area sized by a qualified Geotechnical Engineer (minimum 3.0m wide), is required. The rockfall catchment area is defined as the area between the edge of the highway pavement (or back of sidewalk if present) and the base of the rock slope. This structure has the function of preventing fallen rock from reaching the highway (or sidewalk) surface and intercepts seepage water from the rock cut.	Reduce the frequency of rockfall onto sidewalks and roadways adjacent to rock cuts.
31.	SCHEDULE 4 – Design Standards, Highway, Section 4.5 Road Cross-Section	N/A	For all urban roads in cut sections greater than 1 m, a 100 mm perforated subdrain located 600 mm deep (minimum dimensions), is required behind the sidewalk or curb. The sub-drain shall connect to the nearest catchbasin with a long radius bend and include an inspection chamber with service box at the top end.	To address the premature failure of new roadways in cut sections due to poor drainage and water infiltration under the road surface.

32.	SCHEDULE 4 – Design Standards, Highway, Section 4.6 Curb and Gutter, Sidewalks and Bike Lanes	Driveway accesses to commercial and industrial corner lots shall be a minimum of 15 m from the property line of the adjoining road. The maximum width of a driveway to a commercial or industrial property having only one access shall be 11 m. The maximum width of each driveway to a commercial or industrial property having more than one access shall be 9 m.	Driveway accesses to commercial and industrial corner lots shall be a minimum of 15 m from the property line of the adjoining road. The maximum width of a driveway to a commercial or industrial property having only one access shall be 11 m. The maximum width of each driveway to a commercial or industrial property having more than one access shall be 9 m. A variance to these standards may be considered by the City Engineer.	To provide flexibility for the City Engineer to consider a driveways specific context to accommodate large vehicles accessing commercial and industrial sites.
33.	SCHEDULE 4 – Design Standards, Roadway Lighting Section 5	Replacement for Section 5 Electrical	Replace entirely (see updated attachment Schedule 4 with Council Report)	This bylaw is intended to provide some basic lighting and electrical criteria and guidelines to aid in the design of street lighting. This is a formalization of the standards City is already following that is currently absent from the bylaw
34.	SCHEDULE 4 – Design Standards, Traffic Signals Section 6	Replacement for Section 5 Electrical	Replace entirely (see updated attachment Schedule 4 with Council Report)	This bylaw is intended to establish the traffic signal design standards. This is a formalization of the standards City is already following that is currently absent from the bylaw

35.	SCHEDULE 4 – Design Standards, Electrical Section 5		Remove section	Replaced by updated Section 5 Roadway Lighting (34) and Section 6 Traffic Signals (35)
36.	SCHEDULE 4 – Design Standards, LANDSCAPE AND IRRIGATION	6. LANDSCAPE AND IRRIGATION	7. LANDSCAPE AND IRRIGATION	Renumbered Landscape and irrigation section
37.	SCHEDULE 4 – Design Standards, HILLSIDE DEVELOPMENT STREET STANDARDS	7. HILLSIDE DEVELOPMENT STREET STANDARDS	8. HILLSIDE DEVELOPMENT STREET STANDARDS	Renumbered Landscape and irrigation section
38.	SCHEDULE 4 – Design Standards, HILLSIDE DEVELOPMENT STREET STANDARDS, 7.3.8 Cul-de-Sac Streets Hillside Emergency Accesses and Hillside Private Lanes	<p>Some of the Local streets within complex topographic areas will take the form of a cul-de-sac. Generally, cul-de-sac streets are used where street connectivity is not possible (i.e. steep terrain) or not warranted (i.e. serves very few homes). Although the appropriate Local street standard will also apply to cul-de-sac streets, there are two additional street specifications unique to this street form that must be addressed in relation to liveability: permitted length and the design of the street turnaround.</p> <p>In complex topographic areas long streets may be required to access developable pockets within areas of steep terrain. Due to the complex topography it will often not be advisable, or even possible, for connectivity to be achieved at both ends of a street.</p>	<p>In complex topographic hillside areas long streets may be required to access developable pockets within areas of steep terrain. Due to the complex topography it may not be possible for connectivity to be achieved at both ends of a street. However, in response to public safety a:</p> <ol style="list-style-type: none"> 1) A cul-de-sac, turn-around, or a second point of access is required at the terminus of roads longer than 90m. 2) A Hillside Emergency and Utility Vehicle Access is required on roads between 90m and 360m in length, serving more than 100 units*. 3) Access Public Lane is required within the last 360m on roads longer than 360m and serving/designed to serve 	Clarify the maximum length of cul-de-sacs with and without secondary access points (lanes, emergency accesses) to improve public safety and emergency access.

		<p>Longer cul-de-sac streets will result and systems of branching cul-de-sacs will be established to access some areas of extremely difficult terrain. In response to public safety issues, it is desirable that emergency access routes to such areas are available – Hillside Emergency Access standards are included below. This is considered more acceptable from a liveability stance than requiring street connectivity in all situations as the lower standards required for an emergency access will result in a lesser impact to the hillside. Maintaining street connectivity wherever possible will remain a priority. The radius of a cul-de-sac also plays a role in the liveability of a street. Laying a cul-de-sac requires a relatively large flat area. The larger this area is, the greater the impact to the landscape, particularly in complex topographic areas. Large cul-de-sacs can also decrease the social quality of a street by terminating the public corridor with a large, barren paved surface. A reduction of the cul-de-sac radius is feasible if parking is restricted in the cul-de-sac, which will ensure a large enough circumference for car turning</p>	<p>up to 100 units*.</p> <p>4) Local street is required within the last 360m on roads longer than 360m and serving more than 100 units*.</p> <p>*unit count total shall include all units that depend on a single point of access to the major road network, including branching cul-de-sacs. The number of units shall include the maximum potential unit count of single family, multi-family, secondary suite/carriage houses as permitted by zoning. For non-residential land uses, building occupancy will be considered.</p> <p>*. Beyond 600 units*, a 3rd access route is required. Turnarounds are required every 360m.</p> <p>In general, temporary secondary points of access will not be considered. However, a Hillside Emergency Access may be considered, consistent with the limitations of this access type, where it is; 1) ultimately replaced by a permanent</p>	
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			<p>connection on another alignment or to higher standard (i.e. public lane, local street, etc.), 2) constructed over the applicants lands within a highway road reservation, 3) constructed to the Hillside Emergency Access standard (but unpaved) and 4) maintained by the applicant to the satisfaction of the Fire Department. Temporary secondary points of access will not be considered to defer the construction of ultimate works on the same alignment.</p> <p>Maintaining street connectivity for safety reasons wherever possible will remain a priority.</p>	
39.	SCHEDULE 4 – Design Standards, HILLSIDE DEVELOPMENT STREET STANDARDS, 7.3.9 Lighting Standards	Remove section	N/A	Removed to avoid inconsistencies. new section 5 Roadway Lighting provides bylaw requirements
40.	SCHEDULE 4 – Design Standards, HILLSIDE DEVELOPMENT STREET STANDARDS, 7.3.10 Sanitary Sewer Location and Corridors	Remove section	N/A	Housekeeping items in this section have been addressed in other section of the bylaw (sewer section)
41.	SCHEDULE 5 – CONSTRUCTION STANDARDS, 1. CONSTRUCTION SPECIFICATIONS INDEX	93 01S – Planting of Trees, Shrubs & Ground Covers	32 93 01S – Planting of Trees, Shrubs & Ground Covers	Correction

42.	SCHEDULE 5 – CONSTRUCTION STANDARDS, 1. CONSTRUCTION SPECIFICATIONS, Soil Cells Section 2.4	Inspection Riser Assmebly	Inspector Riser Assembly	Spelling correction
43.	SCHEDULE 5 – CONSTRUCTION STANDARDS, 1. CONSTRUCTION SPECIFICATIONS, Soil Cells Section 2.4	Fittings	Fittings	Spelling correction
44.	SCHEDULE 5 – CONSTRUCTION STANDARDS, 1. CONSTRUCTION SPECIFICATIONS	Personel	Personnel	Correct all occurrences in the section
45.	SCHEDULE 5 – CONSTRUCTION STANDARDS, 2. STANDARD DRAWINGS, CITY OF KELOWNA STANDARD DRAWINGS INDEX AND CROSS-REFERENCE TO MMCD STORM AND SANITARY SEWERS:		See table amendment below	Adding information
46.	SCHEDULE 5 – Drawings - Part 2b – Storm and Sanitary Sewers		Add Drawings: SS-S59 SS-S60 SS-S61 SS-S62 SS-S63	The purpose of the details is to reduce the amount of review and design time required. In addition, it will also ensure a consistent product is delivered to the City. .

(16) Table Amendment

HD1	WTR	SWR	STM	UG	SL	URBAN	N/A	SS – R7	SS – R6
HD2	WTR	SWR	STM	UG	SL	URBAN	N/A	SS-R7	SS-R6
HD3	WTR	SWR	STM	UG	SL	URBAN	N/A	SS-R7	SS-R6
I6	WTR	SWR	STM	UG	SL	URBAN	N/A	SS-R5	SS-R6

(45) Table Amendment

Comment	Dwg.	Title
Added	SS-S58	Groundwater Recharge Suitability Map
Added	SS-S59	Typical Lift Station Site Layout
Added	SS-S60	Sanitary Lift Station
Added	SS-S61	Above Ground Valve Kiosk
Added	SS-S62	Pigging Port
Added	SS-S63	Radio Antenna mast and Base
Added	SS-E1.1	Type M (NEMA Cabinet) Concrete Controller Base
Added	SS-E1.2	Type P (NEMA Cabinet) Concrete Controller Base
Added	SS-E1.4	Controller Service Panel Installation
Added	SS-E1.8	Typical Installation For Traffic Controller Orientation, Service Panel and Concrete Pad
Added	SS-E2.1	Large Round Plastic Junction Box Details
Added	SS-E2.3	Traffic Signal Main Vault Details
Added	SS-E2.4	Traffic Signal Junction Box Details
Added	SS-E2.5	Concrete Traffic Communication Pull Box Details
Added	SS-E2.6	Plastic Communications Pull Box Details

Added	SS-E5.3	Signal/Pedestrian Head Mounting on Traffic Signal Poles
Added	SS-E5.12	Pedestrian and Audible Signal Installation Details
Added	SS-E5.15	Overhead Pedestrian Crosswalk Sign
Added	SS-E5.16	Roadside Pedestrian Activated Flashers (No Median Option)
Added	SS-E5.17	Roadside Pedestrian Activated Flashers (Median Option)
Added	SS-E5.18	Roadside Pedestrian Activated Flashers (Overhead Sign Option)
Added	SS-E5.19	Roadside Pedestrian Activated Flashers (Overhead Sign Median Option)
Added	SS-E5.20	Signal Head Quick Change kit
Added	SS-E7.10	Grounding of Electrical Service Installation Details
Added	SS-E7.11	Luminaire Wiring in Pole Handhole Detail
Added	SS-E7.19	Signal Wiring Colour Code Chart (From JB to Pole)
Added	SS-E8.2	Detector Loops
Added	SS-E8.8	Pre-Formed Diamond Detector Loops
Added	SS-E8.9	Pre-Formed Diamond Detector Loops
Added	SS-E8.10	Pre-Formed Detector Diamond Loops

Schedule B – Proposed Changes to Policy 266

No.	Section	Current Wording	Proposed Wording	Reason for Change
1.	Section A – Kiosks, 6.0	Insulated heated enclosure where above ground air valves are utilized	Insulated heated enclosure where above ground air valves are utilized	Update wording to correct textual error
2.	Section A - Fittings & Appurtenances , 2.0	Nelson Valve Box with Water Lid. Riser pipe to be notched out an mounted over service and supported by precast concrete patio block. Or as required by ID	Nelson Valve Box with Water Lid. Riser pipe to be notched out and mounted over service and supported by precast concrete patio block. Or as required by ID	Update wording to correct textual error
3.	Section B - Fittings & Appurtenances , 3.0	Installed in minimm 1050mm manhole barrel to replace standard catch basin. Use of these devices to be limited to intersections and not used as primary outfall treatment device.	Installed in minimum 1050mm manhole barrel to replace standard catch basin. Use of these devices to be limited to intersections and not used as primary outfall treatment device.	Update wording to correct textual error
4.	Section A - Fittings & Appurtenances , 2.0	Nelson Valve Box with Water Lid. Riser pipe to be notched out an mounted over service and supported by precast concrete patio block. Or as required by ID.	Nelson Valve Box with Water Lid. Riser pipe to be notched out and mounted over service and supported by precast concrete patio block. Or as required by ID	Update wording to correct textual error
5.	Section D – Service Bases, 7.0, Open Top Service Base	No current wording	Open top service base for use with Davit and Post Top poles. Powder Coated Kelowna Green	Add section D, 7.0 in order to improve the existing Approved Product List.
6.	Section D – Service Bases, 7.0, Closed Top Service Base	No current wording	Closed top service base for use as a remote service with any pole style. Powder coated Kelowna Green for davit and post	Add section D, 7.0 in order to improve the existing Approved Product List.

			top poles and powder coated Black for decorative pole locations	
7.	Section D – Electrical Service Disconnect, 8.o, Electrical	No current wording	Base Service Disconnect	Add section D, 8.o in order to improve the existing Approved Product List.

Bylaw 7900 – Subdivision, Development and Servicing Bylaw Updates

July 27th, 2020

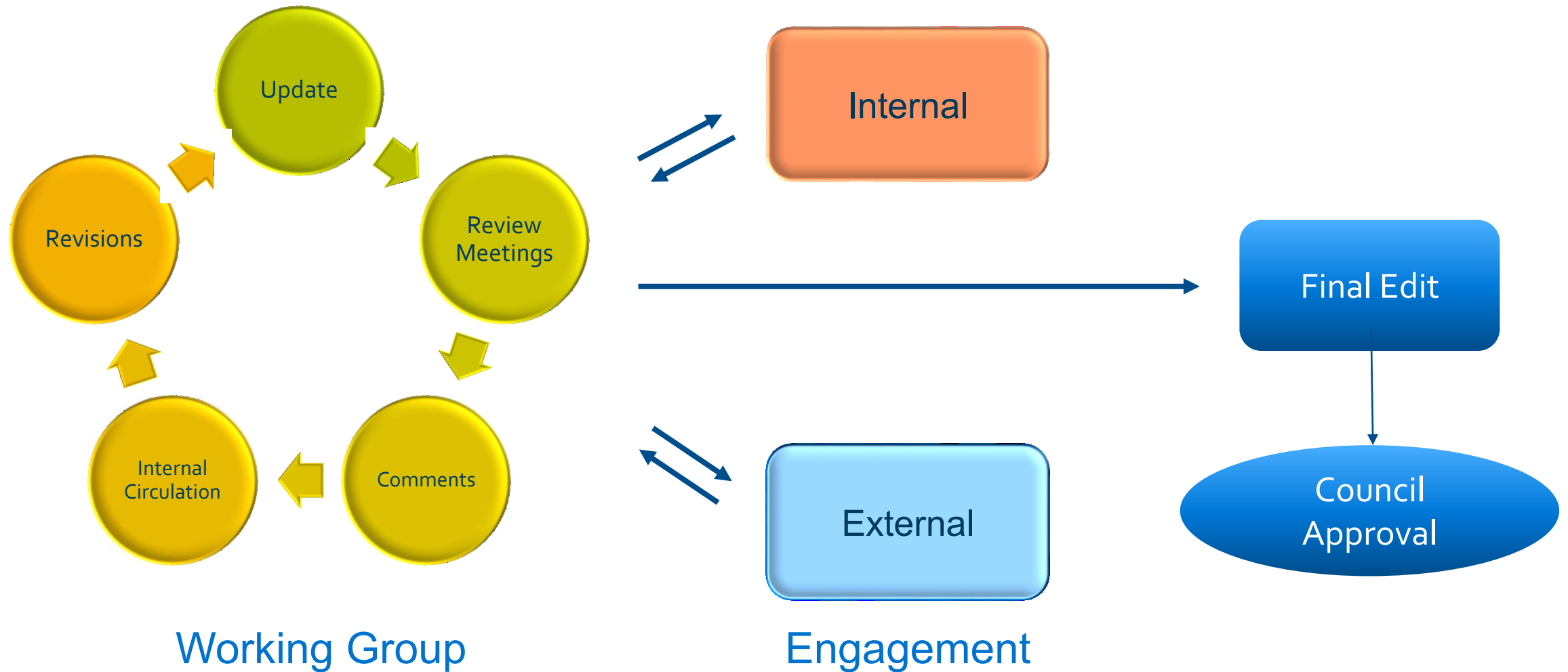
Subdivision, Development and Servicing (Bylaw 7900)

- ▶ Sets out subdivision application procedures
- ▶ Provides design and construction standards for works and services
 - ▶ Schedule 4 – Design Standards
 - ▶ Schedule 5 – Construction Standards
- ▶ Specify materials for infrastructure construction – Approved Products List (Policy 266)

Regular Bylaw Review and Updates Ensures...

- ▶ Alignment with industry best practice,
- ▶ Delivery of quality and long-lasting infrastructure,
- ▶ Consistent administration of standards.

Bylaw 7900 Working Group



Design and Construction Standards

- ✓ Water
- ✓ Sanitary Sewer
- ✓ Drainage
- ✓ Highway (Transportation)
- ✓ Roadway Lighting
- ✓ Traffic Signals
- ▶ Landscaping & Irrigation
- ▶ Hillside Development Standards

Transportation Design Standards

- ▶ 874 km of roads, 287 km of bike lanes, 442 km of sidewalks, 100 km shared-use
- ▶ Update references to current design guidelines
- ▶ Minor grammatical formatting
- ▶ Align with existing policies and best practice



Transportation Design Standards

- ▶ Roundabout consideration for intersections
 - ▶ Support the goals of the Community Climate Action Plan, reduce traffic delays and increase intersection safety performance.
- ▶ Road Safety Audit
 - ▶ To ensure significant investments in major roads consider safety outcomes, align with OCP policy 7.6.3 and current best practices.
- ▶ Clarified Cul-De-Sac length requirements
 - ▶ Clarify the maximum length of cul-de-sacs with and without secondary access points to improve public safety and emergency access.



Roadway Lighting Design Standards

- ▶ 14,000 street lights, most of which are now energy efficient LED technology
- ▶ Stand alone section added to Bylaw
- ▶ Ensure proper lighting for roadway and pedestrian safety
- ▶ Align with industry best practice (MMCD and TAC)



Traffic Signal Design Standards

- ▶ 125 signal locations, 672 signals, 45 ped. signals
- ▶ Stand-alone section to bylaw
- ▶ Details traffic signal design standards for intersection performance and safety
- ▶ Aligns with best practice (MMCD and TAC)




Schedule 5 – Construction Standards

- ▶ Add typical sewer lift station Standard Detail Drawings
- ▶ Add traffic signal and pedestrian flasher design drawings
- ▶ Aligns with industry best practices and City requirements for access, maintenance and safety provisions



Approved Products List - Policy 266

- ▶ Standard streetlight bases added to APL
- ▶ Consistent with Roadway Lighting Design standard.



City of Kelowna
1435 Water Street
Kelowna, BC V1Y 1J4
250 469-8500
kelowna.ca

POLICY 266

Council Policy

Subdivision, Development & Servicing –
Approved Products List

APPROVED July 29, 2002

RESOLUTION: R874/18/09/17
REPLACING: R375/10/04/26; R602/09/05/25; R59/99/01/25; R651/00/07/24; R650/02/07/29
DATE OF LAST REVIEW: September 2018

This policy specifies the Approved Products to be used in the construction of Works and Services in the City of Kelowna. This list will be expanded and amended from time to time.

The purpose of the Policy is to:

- (a) Standardize the products used across the City;
- (b) To limit the number of certain products that can be used within the City, to ensure that staff is trained to maintain those items, and to limit the inventory necessary for maintenance;
- (c) To make it easier for contractors & suppliers to select products for use and minimize errors.

Next Steps

- ▶ Landscape and Irrigation Standards.
- ▶ Major update to Transportation Design Standards.



Questions?





City of Kelowna
1435 Water Street
Kelowna, BC V1Y 1J4
250 469-8500
kelowna.ca

Council Policy

Subdivision, Development & Servicing –
Approved Products List

ESTABLISHED: 2002-07-29

Contact Department: INFRATRUCTURE

Guiding Principle

This policy specifies the Approved Products to be used in the construction of Works and Services in the City of Kelowna. This list will be expanded and amended from time to time.

Purpose

The purpose of the Policy is to:

- (a) Standardize the products used across the City;
- (b) To limit the number of certain products that can be used within the City, to ensure that staff is trained to maintain those items, and to limit the inventory necessary for maintenance;
- (c) To make it easier for contractors & suppliers to select products for use and minimize errors.

See Subdivision, Development & Servicing Bylaw 7900 Schedules 4 & 5 and Standard Detail Drawings for detailed information on design and construction requirements. For Development Projects, any requests for project specific variances shall be made to the **City Engineer (Development Engineering Manager)** who will determine if the request warrants review by the respective Civic Operations Manager responsible for those products.

Manufacturers or Suppliers that would like products considered for inclusion need to submit their request in writing or by email to the **Civic Operations Engineering Technical Support Coordinator** along with all supporting technical information. The Coordinator will determine if the request warrants review by the respective Civic Operations Manager responsible for those products.

TABLE OF CONTENTS

A. WATERWORKS DIVISION

1. Watermain and Service Pipe
2. Fittings & Appurtenances
3. Valves
4. Hydrants and Hydrant Paint
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6. Kiosks

B. SANITARY SEWER AND STORM DRAINAGE WORKS

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7. Service Bases
8. Electrical Service Disconnect

A. WATERWORKS DIVISION

Note:

- Products must conform to CSA Standard, where applicable.
- All bolts to be stainless steel or high-strength low-alloy steel bolts. All bolts & unprotected metallic fittings to be protected with petrolatum primer and tape. Chipped or damaged epoxy coated fittings must be repaired as per manufactured specifications.

1. Watermain and Service Pipe

Manufacturer	Make/Model	Size Range	Comments/Conditions
Main Line Pipe			
IPEX, Royal	PVC DR 18, PR235 AWWA C900	100 to 900mm	
IPEX, Royal	PVC DR 25, PR165 AWWA C900	350 to 1500mm	Only if approved by the City Engineer. Not to be used for pump mains or where there might be frequent transient pressure fluctuations, or where potential pressure zone changes could occur.
Canada Pipe, US Pipe	Ductile C151	400mm and up	Only if approved by City Engineer. Soil conditions must be investigated to determine need for cathodic protection. Must be installed with Polyethylene encasement per manufacturer regardless of soil conditions. (See Bylaw 7900 Water Design section) Pipe to be cement mortar lined to AWWA C-104.
Service Pipe			
Great Lakes Copper	Type K Copper	min. 19mm (3/4") max. 50mm (2")	Must conform to CSA HC.7.6 & ASTM B88
IPEX	Polyethylene*	min. 25mm (1") max. 50mm (2")	Only Series 160 or 200 conforming to CAN/CSA-B137.1-M
Rehau	MUNICIPEX*	min. 25mm (1") max. 50mm (2")	

*Note: Due to its thicker wall, all plastic pipe's ID are smaller than copper; confirm flow capacity. Add trace wire for plastic service pipe.

2. Fittings & Appurtenances

Manufacturer	Material	Comments/Conditions
Anti-Corrosion Petrolatum Products		
Petro Coating Systems Ltd.	Paste & primer, Mastic, Tape	See City of Kelowna Standard Drawings.
Denso North America	Denso Paste, LT tape	

Manufacturer	Make/Model	Main Size Range	Comments/Conditions
Fittings			
TC / ACS Sigma Corporation	Iron	100 – 600 mm	C-153 Fittings only
IPEX, Galaxy Plastics Ltd, Pro-Line Fittings, Royal	PVC 5 degree CIOD bend	All Sizes	C900 / 905 / 907. PRESURE CLASS TO MEET OR EXCEED MAINLINE.
Restraining Joints (not to be used on AC or CI Watermain)			
Ford Meter Box Co. / Uni-Flange	UFR1300C UFR1350C UFR1390C UFR1309-C UFR1400	100 – 1050 mm 100 – 600 mm 100 – 1050 mm 100 – 600 mm 100 – 1050 mm	
Smith Blair	115 165 136 (PVC Fittings)	100 – 600 mm 100 – 600 mm 100 – 200 mm	
Sigma	PV – LOC Series Zip Flange	100 – 600 mm 100 – 600 mm	PV-LOC is directional only for PVC. Install according to manufacturer's instructions. Zip Flange is a flange adaptor for DI pipe.
EBAA Iron	Series 1500 PVC Series 2800 Series 1900 Series 2946	100 – 300 mm 350 – 600 mm 100 – 300 mm 400mm	Series 1500 is only for C900 (i.e., 100-300mm)
Service Saddles (19 – 50mm)			
Robar	2616	50 – 300 mm	Dbl-bolt
	2626	100 – 450 mm	Dbl-bolt
	2706	100 – 600 mm	Dbl-strap with stainless steel straps
Canada Pipe	SC-2	100 – 400 mm	With stainless steel straps
Ford			
	FS313	100 – 300mm	
	202 BS	100 – 762 mm	With stainless steel straps
Cambridge Brass	812	100 – 300 mm	Two-piece – 4 bolts
	8403	100 – 300 mm	Single piece – 2 bolts
	8407	300mm & larger	Two-piece – 4 bolts
Service Tapping Saddles (100mm & larger)			
Robar, Smith-Blair, JCM	All	100mm & larger	Manufactured steel for metal pipe only.
Robar, Smith-Blair, JCM	All	100mm & larger	Stainless steel for all pipe types.

Fittings & Appurtenances cont'd

Manufacturer	Make/Model	Main Size Range	Comments/Conditions
Couplings (All couplings to be Fusion Bonded Epoxy Coated Ductile Iron)			
Ford	FC1-ESH	100 – 300 mm	
	FCA-ESH	100 – 600 mm	
	FC2W Ultra Flex	100 – 300 mm	
Robar	1506 & 1506R	100 – 600 mm	
	1596 Vantage	100 – 300 mm	
	1696 2-bolt stainless	100 – 200 mm	
Smith Blair	441	100 – 400 mm	
	421	100 – 300 mm	
Romac	XR 501 Extended Range	100 – 300 mm	All Romac to be epoxy coated
IPEX, Royal, Galaxy Plastics Ltd, Pro-Line Fittings	PVC Repair & High Deflection Couplings	All sizes	C900 / 905 / 907. Pressure class To meet or exceed mainline.
Service Boxes			
Meuller	A-726	20 – 25 mm	c/w Stainless Steel Rods & SS-RHD or MD-RHD Clevis Ends.
	A-728	37 – 50 mm	Nelson Valve Box with Water Lid. Riser pipe to be notched out and mounted over service and supported by precast concrete patio block. Or as required by ID.
Trojan Industries	VSBI	20 – 25 mm	c/w Stainless Steel Rods & SS-RHD or MD-RHD Clevis Ends.
	VSBI	37 – 50 mm	Nelson Valve Box with Water Lid. Riser pipe to be notched out and mounted over service and supported by precast concrete patio block. Or as required by ID.
Main Valve Boxes			
TC / ACS	MR-6	Minimum 375mm	Nelson Type Lid
Dobney Foundry Armtec	MR-6		Nelson Type Lid

3. Valves

Manufacturer	Make/Model	Main Size Range	Comments/Conditions
Gate Valves – Resilient Wedge			
Mueller	A-2362	50 – 100 mm	250 PSI
Mueller	A-2361	100 - 1370 mm	250 PSI – DI
TC / ACS	3100 PO x PO	100 – 300mm	250 PSI – DI
	3200 PO x FL	100 – 300mm	
	3300 MJ x MJ	100 – 300mm	
	3400 MJ x FL	100 – 300mm	
	3500 FL x FL	50mm – 300mm	
	3700 Thrd x Thrd	50mm – 75mm	
Butterfly Valves			
All design recommendations to be approved by the City Engineer. Installation requires placement within chamber for access and maintenance.			
Air Valves			
Vent-O-Mat	RBX		

4. Hydrants and Hydrant Paint

Manufacturer	Make/Model	Size Range	Comments/Conditions	
Hydrants				
Terminal City	C-71-P		TCH1A only c/w Storz Fitting	
Canada Valve	Mueller-Century		c/w Storz Fitting	
Identity #	Product Description	Product #	Colour	Formula per 3.78L
Hydrant Paint	DULUX PAINTS (High gloss, lead free enamel. Self-priming with rust inhibitor)			
P-1	METALCLAD	218419	RED	STOCK COLOUR
P-2	METALCLAD	218412	BLUE	STOCK COLOUR
P-3	METALCLAD	218413	YELLOW	FFR1Y32
P-4	METALCLAD	218414	GREEN	STOCK COLOUR
P-5	METALCLAD	218427	ORANGE	STOCK COLOUR
P-6	METALCLAD	218420	BLACK	STOCK COLOUR

5. Brass Service Fittings (No Lead Brass)

Manufacturer	Make/Model	Size Range	Comments/Conditions
Corporation Stops			
Mueller	B-25008	20 – 50 mm	Full port only
A.Y. McDonald	74701BQ	20 – 50 mm	Full port only
Ford	FB 1000	20 – 50 mm	Full port only
Cambridge Brass	Series 301	20 – 50 mm	Full port c/w new mueller gasket
Curb Stops (Stop & Drains NOT permitted)			
Mueller	B-25209	20 – 50 mm	Full port only
A.Y. McDonald	76100Q	20 – 50 mm	Full port only
Ford	B44 Series	20 – 50 mm	Only full port models 333, 444, 555, 666 & 777
Cambridge Brass	Series 202	20 – 50 mm	
Service Line Couplers			
Ford	C44 Series	20 – 50 mm	Models C44-1 to C44-88
Mueller	H-15403	20 – 50 mm	H15403, H15404 & H12940
Cambridge Brass	Series 118 & 119	20 – 50 mm	

6. Kiosks

Manufacturer	Make/Model	Size	Comments/Conditions
PRV STATIONS			
Valid Manufacturing	KXXA89-150-47-01	89"Hx150"Wx47D	Quad Door Kiosk with end Cabinet
AIR VALVES			
Manufacturer	Make/Model	Size Range	Comments/Conditions
Valid Manufacturing	HRV344227-170165	25-100mm	Insulated heated enclosure where above ground air valves are utilized.

B. SANITARY SEWER AND STORM DRAINAGE WORKS

Note:

- All Concrete used in construction shall be sulphate resistant cement Type HS (Type 50) or alternate cement type may be approved by the City Engineer. All manhole cast iron, steel or ductile iron components shall be coated with an asphalt varnish.

1. Sanitary Sewer and Storm Drainage Pipes

Manufacturer	Model / Type	Size Range	Comments / Restrictions
Pipes			
IPEX "Ring-Tite" Royal "Flex-Lox"	PVC DR35	For 200mm diameter and up.	Must meet CSA B182.2 Gasket joint.
IPEX "Ring-Tite" Rehau "BondLoc" Royal "Flex-Lox"	PVC DR28	100 – 150mm (All Makes)	Must meet CSA B182.2 Gasket joint
IPEX "Ultra Rib" Royal "Kor Flo"	Ribbed PVC (storm only)	200 – 600mm	Must meet CSA B182.4 Concentric ribbed pipe only is accepted. (storm only). No spiral ribbed pipe.
(as above)	Perforated PVC (storm only)	200 – 600mm	With perforations as per Standard Drawing SS-S53 (storm only)
IPEX "Blue Brute" Royal "FlexLox"	Pressure Pipe for Sewer Forcemains	100 – 300mm 350 – 900mm	Colour to be White with "SEWER FORCEMAIN" Printed on it. Must meet CSA B137.3, C900, Class 235 (DR 18), gasket joint.
Langley Ocean Pipe A.E. Concrete Armtec	Reinforced Concrete	300 – 3000mm	Concrete pipe must meet CSA A257 Series-14, C 789M-95a specification for Precast Reinforced Concrete Pipe. Sulphate resistant ASTM E 632.
Culverts			
Langley Concrete Ocean A.E. Concrete Armtec Atlantic Industries	Non-reinforced Concrete Reinforced Concrete Reinforced Concrete Arch Reinforced Concrete Box Corrugated Steel Multi-Plate BOSS 2000 HDPE Ribbed	See manufacturer spec's	Concrete pipe must meet CSA A257 Series-14. Soils testing required for suitability when specifying metal pipe. C 789M-95a Specification for Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers. C 850M-95b Specification for Precast reinforced concrete Box Sections for culverts, Storm Drains and Sewers with less than 0.6 m of cover subjected to Highway Loadings. Note: Corrugated steel pipe (CSP) limited to driveway and road crossings only. Not to be used contiguous with collection pipe networks.
Headwall Inlet			
Kon Kast	Inlet structure with grillage Model 1487		Grills required for 450mm and larger pipes longer than 30m.
Headwall			
Langley Concrete, Ocean Pipe, Tri-Kon, AE Concrete	Pre-cast concrete headwalls		Grills required for 450mm and larger and pipes longer than 30m

2. Fittings and Appurtenances

Manufacturer	Model / Type	Size Range	Comments / Restrictions
Couplings			
IPEX Royal Galaxy Plastics Ltd. Mission Rubber (Flex-Seal)	PVC Gasketed Corebell Adaptor Shielded Transitional PVC 100 to 675mm	100 – 675mm 100 – 675mm 100 & up	Must not be plasticized PVC. Shear band and clamps to be 316 Series stainless steel. Clamps must be nut & bolt design. Bushings to be integral.
Inserted Service Connections			
Galaxy Plastics Ltd. Inserta Fittings Co. Royal	EZ Tee Inserta Tee Fat Boy, PVC gasket type	100mm	May be used on existing mains 200mm & larger or on new mains 375mm & larger
"	"	150mm	Refer to STD DWG SS-50 for Manhole requirement. May be used on existing mains 300mm & larger or new mains 375mm & larger
"	"	200mm	Manhole required on services 200mm and up. Special Approval required for existing mains 300mm & larger or new mains 375mm & larger
Inspection Chambers			
Royal Galaxy Plastics	Sewer Gasketed Fittings	100 – 200mm	Single service IC's only. With provision for "add-a-flap" check valve (PICF04*SS).
Inspection Chamber Caps & Lids			
Royal Galaxy Plastics	191-LL (Red/Green)	200mm	PVC. Must be locking type. Red in colour for sanitary sewer Green in colour for storm drainage
Service Boxes			
Langley Concrete Kon Kast	WM-37-1 No. 1480	590 x 410mm 545 x 370mm	Brooks style box. State "Sanitary" or "Storm" on cover.
45 Degree Wye			
Royal IPEX Galaxy Plastics Ltd.	Services	All	PVC gasket type. No wye saddles allowed.
Bends			
Royal Galaxy Plastics Ltd.	Service sweep Fittings	All	Long radius sweeps only. PVC Gasketed. PVC Gasketed Sewer Fittings
Catch Basin Rollover Frame and Grate			
Westview Dobney Foundry Ltd. Terminal City Ironworks Trojan Industries	RB7 frame & grate B-39M – modified grate T-K7	632mm (~25in)	Specified by design engineer where location of driveway letdowns are unknown.
Catch Basin Combined Side & Gutter Inlet			
Westview Sales Ltd. TC/ACS Dobney & Trojan	TR-39B – 3-piece storm with side inlet	627mm (~25in)	To be used with standard barrier curb or as specified by design engineer.
Gaskets			
IPEX	"Ring-tite" PVC	200 – 1200mm	

Manufacturer	Model / Type	Size Range	Comments / Restrictions
Rehau	"BondLoc" PVC		
Royal	"Flex-Lox" PVC		

3. Manholes and Drywells

Manufacturer	Model / Type	Size Range	Comments / Restrictions
Manhole Frame & Cover			
Terminal City Ironworks Dobney Foundry Trojan Industries Westview Sales Armtec/AE Concrete	Adjustable C18 & C44 C44A TR40 C23 C18	762mm (30 in)	Refer to Supplementary Standard Detail Drawings for required lettering on manhole covers. Refer to installation specifications.
Manhole Grade Rings			
Kon Kast Langley Concrete AE Concrete	720 – 723 MH-6 915	50 - 150mm	760mm diameter opening 760mm, 565 Sloped rings
Manhole Barrel Sections			
Kon Kast Langley Concrete	Concrete	1050 – 2400mm	Refer to Standard Detail Drawings
Manhole Rungs			
	Aluminum		Refer to Standard Detail Drawings
Manhole Barrel Lids (donuts)			
Kon Kast Langley Concrete	Concrete	1050 – 2400mm	Refer to Standard Detail Drawings 760mm diameter opening
Manhole Barrel Bases			
Kon Kast Langley Concrete	Concrete	1050 – 2400mm	Refer to Standard Detail Drawings
Flow Control			
Galaxy Plastics Ltd.	Inlet Control Device	100mm & larger	For use in Flow Control Manholes Debris Screens
Internal Drops			
Royal Reliner/Duran	PVC A-4 A-6 B-8 B-10	100 - 200mm 100mm 150mm 200mm 250mm	Refer to Standard Detail Drawings Inside drop bowl.

4. Containment Devices and Oil/Grit Separators

Product/Supplier	Unit Type	Comments
Armtec	Pro-Eco-Lite Headwalls	300mm – 2000mm
Armtec Downstream Defender	Swirl-type oil/water separator ¹	
Armtec Hydro-Brake	Vortex flow control	Alternate to orifice control. Must be engineered and design verified by Armtec.
Contech Construction - CDS Technologies	Swirl-type oil/water separator ¹	
Contech CON/SPAN	Concrete Detention & Infiltration	Large volume underground detention. Open bottom optional for infiltration.
Imbrium Stormceptor – Langley Concrete	Swirl-type oil/water separator ¹	
Infiltrator Water Technologies	Infiltrator systems	Where infiltration is recommended.
PolyDrain - Interceptor A-67	Drain systems	Interceptor trench drains.
Snout – Best Management Products	Enhanced trapping hood system for gravity separation.	Installed in minimum 1050mm manhole barrel to replace standard catch basin. Use of these devices to be limited to intersections and not used as primary outfall treatment device.
Stormtech Chambers	Chamber / Infiltrator	

¹ Units are to be verified by Canadian Environmental Technology Verification Program (Canadian ETV) and have sufficient capacity to meet regulatory requirements for water quality to receiving waters.

C. PARKS, LANDSCAPING & IRRIGATION

1. Irrigation Products

Product	Manufacturer	Make/Model	Comments/Conditions
Controller	Toro	Sentinel V3	Configured to communicate with Sentinel Central Control c/w level 3 surge protection
	Rain Bird	ESP LXMEF	Configured to communicate with Rain Bird IQ Central Control
	Rain Bird	ESP LXD	For decoder systems; configured to communicate with Rain Bird IQ Central Control
Controller Kiosk	Valid Manufacturing	Dwg# KSDA48-36-16-02	48"Hx36"Wx16"D W/MW and lockable handles
Controller Kiosk Base	Leko Precast Ltd.	Per Detail Drawing	
Backflow Prevention Assembly - DCVA	Apollo	4A-100 Series	Up to 2"
	Apollo	4A-100 Series	2 1/2" or greater
	Watts	Series 709w/NRS	2 1/2" or greater
Pressure Regulating Valve	Watts	LF25 AUB-DU-Z3	Up to 2", lead free, double union
	Watts	Watts PV 10M	Greater than 2"
Hydrometer (1.5")	Netafim	LHM15EM11AAFMEL	ER register preprogrammed. Output: gal/pulse red: 0.1 green: 1.0 Instructions: wire controller to red wire only. Decoder systems require manufacturer's decoder cable. Other systems require PE39 cable
Hydrometer (2")	Netafim	LHM2EM11AAFMEL	
Hydrometer (3")	Netafim	LHM3EM11AAFMEL	
Electrical Control Valve	Hunter	ICV	
	Rain Bird	PEB	
	Toro	P-220	
Low Flow Control Valve	Hunter	ICV	
	Rain Bird	PEB	
	Toro	TPV	

Low Flow Filter	Rain Bird	QKCHK	
	Rain Bird	PRB-QKCHK	
High Flow Filter	Amiad	Amiad 1.5" Super	Installed as per Detail Drawings.
Air Relief Valve	Rain Bird	ARV050	0.5" air relief valve
	Rain Bird	Air/Vacuum Relief Valve Kit	0.75" air relief valve w/ compression tee and flush cap
	Toro	T-YD-500-34	0.5" air relief valve
Isolation Valve	Red & White	206	Up to 2"
	Clow	Resilient Wedge Gate Valve Model C509 w/flanged ends	3"
	Clow	Resilient Wedge Gate Valve Model C515 w/flanged ends	4" or greater
Quick Coupler Valve	Rain Bird	5-RC	
Sprinklers - Sprayhead	Hunter	PRO-SPRAY PRS30	
	Hunter	PRO-SPRAY PRS40	
	Rain Bird	PRS-SAM Series	
	Toro	PRX-COM Series	
Sprinklers - Rotor	Hunter	PGJ	
	Hunter	I-20	
	Hunter	I-25	
	Hunter	I-40	
	Rain Bird	3500 SAM	
	Rain Bird	5000 PL SAM PRS	
Sprinklers - Rotor	Rain Bird	5500	
	Rain Bird	6504	

	Rain Bird	8005	
	Toro	Mini 8	
	Toro	T5	
	Toro	T7	
Drip Emitter / Bubblers	Hunter series		Installed as per Detail Drawings.
	Rain Bird series		Installed as per Detail Drawings.
	Toro series		Installed as per Detail Drawings.
Sub-surface Dripline	Hunter	PLD	
	Rain Bird	XFS	
	Toro	DL2000 Series	
	Netafim	Techline HCVXR	
Root Zone Watering System	Hunter	RZWS	w/ root watering sock
	Rain Bird	RWS Series	
Valve Box / Extensions	Carson Industries	LLC Specification Grade	Locking lid w/stainless steel bolt and washer
	NDS Manufacturing	Pro Series	
	Rain Bird	VB-SPR (Super Jumbo Valve Box)	for Auto Flush Filter
Meter Vault	Kon Kast	1102	
Meter Vault Lid	Kon Kast	1102B	
Irrigation Vault	Kon Kast	1102	
Irrigation Vault Base	Kon Kast	1102B	
Irrigation Vault Lid	Excel Metal Fab	3974-2	c/w locking hinge for support when open
Irrigation Vault c/w Base	Kon Kast	1132	

Irrigation Vault Lid	Excel Metal Fab	11040-4	3974-2
Vault support jack	Excel Metal Fab	VPSS-1 -with s/s pipe clamp and 1/8 rubber liner	Specify pipe size and adjustment length when ordering
Vault sealant foam	Dow	Great Stuff Pro	to be utilized around vault openings
Wire Splice Box	Carson Industries	LLC Specification Grade	Locking lid w/stainless steel bolt and washer. Grey in color
	NDS Manufacturing	Pro Series	
Wire Splices	3M	DBY	2-step direct bury splice kit
Pipe	PVC	CSA	
	HDPE	UL, ULC, CSA	
	PE	UL, ULC, CSA	
Fittings	PVC	CSA	
	HDPE	UL, ULC, CSA	

D. STREET LIGHTING

1. LED Cobra Luminares

Style	Description	Man.	Model
Cobra	31W, LED, 4000 Lumens, Type II Wide, 3000K 120V-277V, ANSI C136.41 7 Pin, Gray, IP66, Tool-less Entry, Optional Secondary Enhanced Surge Protection	GE GE	31W_ERL1_0_04_B3_30A_GRAY_ILR 31W_ERL1_0_04_C3_30A_GRAY_ILR
Cobra	39W, LED, 5000 Lumens, Type II Wide, 3000K 120V-277V, ANSI C136.41, 7 Pin, Gray, IP66, Tool-less Entry, Optional Secondary Enhanced Surge Protection	GE GE	39W_ERL1_0_05_B3_30A_GRAY_ILR 39W_ERL1_0_05_C3_30A_GRAY_ILR
Cobra	47W, LED, 6000 Lumens, Type II Wide, 3000K 120V-277V, ANSI C136.41, 7 Pin, Gray, IP66, Tool-less Entry, Optional Secondary Enhanced Surge Protection	GE GE	47W_ERL1_0_06_B3_30A_GRAY_ILR 47W_ERL1_0_06_C3_30A_GRAY_ILR
Cobra	71W, LED, 8000 Lumens, Type II Wide, 3000K 120V-277V, ANSI C136.41, 7 Pin, Gray, IP66, Tool-less Entry, Optional Secondary Enhanced Surge Protection	GE GE	71W_ERL1_0_08_B3_30A_GRAY_ILR 71W_ERL1_0_08_C3_30A_GRAY_ILR
Cobra	82W, LED, 10000 Lumens, Type II Wide, 3000K 120V-277V, ANSI C136.41, 7 Pin, Gray, IP66, Tool-less Entry, Optional Secondary Enhanced Surge Protection	GE GE	82W_ERL1_0_10_B3_30A_GRAY_ILR 82W_ERL1_0_10_C3_30A_GRAY_ILR
Cobra	136W, LED, 15000 Lumens, Type II Wide, 3000K 120V-277V, ANSI C136.41, 7 Pin, Gray, IP66, Tool-less Entry, Optional Secondary Enhanced Surge Protection	GE GE	136W_ERL1_0_15_B3_30A_GRAY_ILR 136W_ERL1_0_15_C3_30A_GRAY_ILR

2. LED Decorative Luminaires

Style	Description	Man.	Model
Post Top	Post Top, LED 4000 Lumens, Type II 3000 K 120-277V, Flat glass dimmable, UL/CSA listed, 10 KV/KA surge protection, Gray, 7 pin photoeye receptical, meets ANSI C136.31, UL8750, UL1598, B2-U2-G1	Phillips Phillips	PDP10050W64LED3KMPPCCLE2 UNIVRCD7MGY PDP10050W64LED3KMPPCCLE5 UNIVRCD7MGY
Decorative Post Top	WELLINGTON STYLE Luminaire, LED,4000 Lumens, Type II Wide, 3000K 120V-277V, with Photoeye receptical and side shield	King Luminaire	K123R-B2AR-II-50(SSL)-1042-120: 277-3K-HSS-K14
Decorative Post Top	ACCORN STYLE Luminaire, LED,4000 Lumens, Type II Wide, 3000K 120V-277V, with Photoeye receptical and side shield	King Luminaire	K425R-T1AR-II-50(SSL)-4004-120: 277-3K-HSS-K14
Decorative Pendant	AURORA SAG STYLE Luminaire, LED,4000 Lumens, Type II Wide, 3000K 120V-277V, with Photoeye receptical and side shield, c/w Plumbizer	King Luminaire	47W_ERL1_0_06_B3_30A_GRAY_ILR

Decorative Pendant	HARBOUR STYLE Luminaire, LED,4000 Lumens, Type II Wide, 3000K 120V-277V, with Photoeye receptical and side shield, c/w Plumbizer	King Luminaire	47W_ERL1_0_06_C3_30A_GRAY_ILR
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3. Photocell

Style	Description	Man.	Model
	LOCKING TYPE 120-277 Volt	INTERMATIC	LED4536SC

4. Galvanized Powder Coated Green Poles

Style	Description	Man.	Model
Davit	22x6 Single Davit, C/W 10"-11" BCD, Galv. & Powder Coated Green	Nova Pole, Valmont	122-30-A2206A-F5 10020-07
Davit	30x8 Single Davit, C/W 10"-11" BCD, Galv. & Powder Coated Green	Nova Pole, Valmont	122-30-A3008A-F5 10170-07
Double Davit	Type 2C Double Davit Arm, Type 1 Flange Galv. & Powder Coated Green	Nova Pole, Valmont	102-75-60202C-F5
Double Davit Pole	Type 2 Shaft, 6.5 m, Type 1 Flange, Galv. & Powder Coated Green	Nova Pole, Valmont	
Post Top	6 metre Galv. & Powder Coated Green	Nova Pole, Valmont	
Post Top	7.5 metre Galv. & Powder Coated Green	Nova Pole, Valmont	

5. Decorative Powder Coated Black Poles

Style	Description	Man.	Model
Decorative Davit Pole	30 ft (9.1 m), 6 in (150 mm) Dia., Powder Coated Black	Nova Pole, Valmont	NSR630LD
Decorative Davit Arm	Truss 1, Single Davit Arm 2.5 m, Powder Coated Black	Nova Pole, Valmont	S15-50-SCK-S01
Decorative Post Top	16 ft (4.9 m) Straight Round 4 in (100 mm) Dia., Powder Coated Black	Nova Pole, Valmont	NSR416LD
Decorative Post Top	20 ft (6.1 m) Straight Round 4 in (100 mm) Dia., Powder Coated Black	Nova Pole, Valmont	NSRS420LD
Decorative Arm	Marina, Powder Coated Black	Nova Pole, Valmont	S15-50-COQ-A001

6. Decorative Bases

Style	Description	Man.	Model
Decorative Base	Henderson With Transition adapter Powder Coated Black	Nova Pole, Valmont	

7. Service Bases

Style	Description	Man.	Model
Open Top Service Base	Open top service base for use with Davit and Post Top poles. Powder Coated Kelowna Green	Nova Pole	NTB36 Open Top
Closed Top Service Base	Closed top service base for use as a remote service with any pole style. Powder coated Kelowna Green for davit and post top poles and powder coated Black for decorative pole locations	Nova Pole	NTB36 Closed Top

8. Electrical Service Disconnect

Style	Description	Man.	Model
Electrical	Base Service Disconnect	Valid Manufacturing	BSDA6A18

Amendments

Resolution: TBA

Replacing: R874/18/09/17; R375/10/04/26; R602/09/05/25; R59/99/01/25; R651/00/07/24; R650/02/07/29

CITY OF KELOWNA

BYLAW NO. 12066

Amendment No. 21 to Subdivision, Development and Servicing Bylaw No. 7900

The Municipal Council of the City of Kelowna, in open meeting assembled, enacts that the City of Kelowna Subdivision, Development and Servicing Bylaw No. 7900 be amended as follows:

1. THAT **SUBDIVISION, DEVELOPMENT AND SERVICING BYLAW NO. 7900 Part 1 – INTRODUCTION – Section 4.1 Definitions** be amended by the following:

- a) adding the definition “Active Transportation Corridor” in it’s appropriate location that reads:

“Active Transportation Corridor” means a corridor reserved for human powered and electric assisted transportation modes such as walking or bicycling, amongst other modes, as defined in the current version of the City of Kelowna Pedestrian and Bicycle Mater Plan. An Active Transportation Corridor, or ATC, may exist along a Highway right-of-way or it may exist along other public land such as but not limited to, the Okanagan Rail Trail or Mission Creek Greenway”;

- b) deleting the definition for “Certificate of Substantial Performance” that reads:

“Certificate of Substantial Performance” means a certificate issued by the Consulting Engineer in accordance with Section 9.5 of this bylaw, certifying that Substantial Performance of all of the Works and Services has been achieved.”

And replacing it with:

“Certificate of Substantial Performance” means a certificate issued by the Consulting Engineer in accordance with Section 9.5 of this bylaw, **verified by the City Engineer**, certifying that Substantial Performance of all of the Works and Services has been achieved”;

- c) deleting the definition for “Certificate of Total Performance” that reads:

“Certificate of Total Performance” means a certificate issued by the Consulting Engineer in accordance with Section 10.2 of this bylaw, certifying that Total Performance of all of the Works and Services has been achieved.”

And replacing it with:

“Certificate of Total Performance” means a certificate issued by the Consulting Engineer in accordance with Section 10.2 of this bylaw, **verified by the City Engineer**, certifying that Total Performance of all of the Works and Services has been achieved.”;

- d) deleting the definition for “Fees” that reads:

“Fees” means those fees payable to the City in connection with the Subdivision or Development of land, as prescribed by the City of Kelowna Development Fees Application Bylaw No. 8034.”

And replacing it with:

"Fees" means those fees payable to the City in connection with the Subdivision or Development of land, as prescribed by the current version of the City of Kelowna Development Fees Application Bylaw.";

- e) deleting the definition for "General Conditions" that reads:

"General Conditions" means the following general conditions contained in Volume II of the Master Municipal Construction Document published by the Master Municipal Construction Documents Association, 1996, as may be amended from time to time, and referred to in the Specifications and Standard Detail Drawings: GC 4.2 (Safety), GC 4.3 (Protection of Work, Property and Public), GC 4.4 (Temporary Structure and Facilities), GC 4.12 (Inspections), and GC 20 (Laws, Notices, Permits and Fees).

And replacing it with:

"General Conditions" means the following general conditions contained in Volume II of the Master Municipal Construction Document published by the Master Municipal Construction Documents Association, 2009, as may be amended from time to time, and referred to in the Specifications and Standard Detail Drawings located in Schedule 5";

- f) deleting the definition for "Highways" that reads:

"Highway" includes a street, road, lane, bridge, viaduct, walkway and any other way open to public use, but does not include an easement on private property.

And replacing it with:

"Highway" includes a street, road, lane, bridge, viaduct, walkway, active transportation corridor and any other way open to public use, but does not include an easement on private property.";

- g) deleting the definition for "Highway Reservation Agreement" that reads:

"Highway Reservation Agreement" means an agreement between the Owner and the City, in the form prescribed by the City, as referred to in Section 526 of the *Local Government Act*."

And replacing it with:

"Highway Reservation Agreement" means an agreement between the Owner and the City, in the form prescribed by the City, as referred to in Section 513 of the *Local Government Act*.";

- h) deleting the definition for "Latecomer Agreement" that reads:

"Latecomer Agreement" means an agreement between the Owner and the City, in the form prescribed by the City, as referred to in Section 939 of the *Local Government Act*."

And replacing it with:

"Latecomer Agreement" means an agreement between the Owner and the City, in the form prescribed by the City, as referred to in Section 508 of the *Local Government Act*.";

- i) deleting the definition for "Maintenance Period (c)" that reads:

"(c) with respect to Works and Services that appear to be incomplete, defective or deficient during the Maintenance Period referred to in either (a) or (b) above, the period of one

year from the date on which such Works and Services are completed or corrected in accordance with Section 10.3"

And replacing it with:

"(c) with respect to Works and Services that appear to be incomplete, defective or deficient during the Maintenance Period referred to in either (a) or (b) above, the period of one year from the date on which such Works and Services are completed or corrected in accordance with Section 10.3

Notwithstanding, the Maintenance Period does not expire until the City has been contacted and conducts a final inspection of the Works";

- j) deleting the definition for "OCP" that reads:

"OCP" means the City of Kelowna Official Community Plan (1994 – 2013) Bylaw No. 7600."

And replacing it with:

"OCP" means the current version of the City of Kelowna Official Community Plan Bylaw";

- k) deleting the definition for "Specifications and Standard Detail Drawings" that reads:

"Specifications and Standard Detail Drawings" means the specifications and standard detail drawings for Works and Services prescribed by Volume II of the Master Municipal Construction Document, and the General Conditions referred to therein, published by the Master Municipal Construction Documents Association, 1996, attached as Schedule 6 hereto and as further amended or supplemented by City of Kelowna Construction Standards attached as Schedule 5 hereto.

And replacing it with:

"Specifications and Standard Detail Drawings" means the specifications and standard detail drawings for construction of Works and Services, located in Schedule 5 of this bylaw.";

- l) deleting the definition for "Statutory Right-of-Way Agreement" that reads:

"Statutory Right-of-Way Agreement" means an agreement between the Owner and the City, in the form prescribed by the City, as referred to in Part 14 of the *Land Title Act*."

And replacing it with:

"Statutory Right-of-Way Agreement" means an agreement between the Owner and the City, in the form prescribed by the City, as referred to in Part 7, Division 11 of the *Land Title Act*.";

- m) deleting the definition for "Substantial Performance" that reads:

"Substantial Performance" means the stage of completion of all of the Works and Services when:

(a) the Works and Services are ready to be used for their intended purpose, as certified by the Consulting Engineer; and

(b) the total of the incomplete, defective and deficient Works and Services can be completed at a cost, as estimated by the Consulting Engineer and verified by the City Engineer, of no more than 3% of the total cost of the Works and Services."

And replacing it with:

"Substantial Performance" means the stage of completion when:

All Works and Services, as certified by the Consulting Engineer, and verified and inspected by the City Engineer, is capable of completion or correction at a cost of not more than:

(a) 3% of the first \$500,000 of the Works and Services;

(b) 2% of the next \$500,000 of the Works and Services; and

(c) 1% of the balance of the Works and Services; and

the Works and Services, or a substantial part of it, is ready for use or is being used for the purpose intended";

n) deleting the definition for "Works and Services" that reads:

"Works and Services" includes Highways, sidewalks, boulevards, boulevard crossings, transit bays, street lighting, wiring, water distribution systems, fire hydrant systems, sewage collection and disposal systems, drainage collection and disposal systems and such other infrastructure or systems as may be provided within the City from time to time."

And replacing it with:

"Works and Services" includes Highways, sidewalks, boulevards, boulevard crossings, transit bays, street lighting, wiring, water distribution systems, fire hydrant systems, sewage collection and disposal systems, drainage collection and disposal systems and such other infrastructure or systems as may be provided within the City from time to time";

2. AND THAT **SUBDIVISION, DEVELOPMENT AND SERVICING BYLAW NO. 7900 Part5 - OWNER TO PERFORM WORK 9.6 Section Design and Construction Requirements** be amended:

Delete the following:

"As-Built Drawings and Disks. The Owner must provide the City in accordance with Section 9.5, Item (d) with detailed, reproducible as-built drawings of the Works and Services, sealed by the Consulting Engineer, and City compatible computer disks, as Constructed as of the date of Substantial Performance."

And replace with:

"As-Built/Record Drawings and Electronic Information. The Owner must provide the City in accordance with Section 9.5, Item (d) and Policy 265 (Engineering Drawing Submission Requirements), with detailed, reproducible as-built drawings of the Works and Services, sealed by the Consulting Engineer, and City compatible electronic information, as Constructed as of the date of Substantial Performance.;"

3. AND THAT **SCHEDULE 1 – WORKS & SERVICES REQUIREMENTS, WORKS & SERVICES REQUIREMENTS** Table be amended by:

(a) adding the following rows in their appropriate location that reads:

HD1	WTR	SWR	STM	UG	SL	URBAN	N/A	SS – R7	SS – R6
HD2	WTR	SWR	STM	UG	SL	URBAN	N/A	SS-R7	SS-R6
HD3	WTR	SWR	STM	UG	SL	URBAN	N/A	SS-R7	SS-R6
I6	WTR	SWR	STM	UG	SL	URBAN	N/A	SS-R5	SS-R6

(b) deleting text in the Table - ARTERIAL column that reads:

"IN ACCORDANCE WITH 'MAJOR ROAD NETWORK PLAN' CLASSIFICATION"

and replacing it with:

"IN ACCORDANCE WITH 'MAJOR ROAD NETWORK PLAN' CLASSIFICATION (SS-R8 to SS-R16)"

(c) amend Notes by deleting the following:

"(2) Where the collector road is on a bikeway route, as defined by the City's Bikeway Network Plan the road requirement will be based on Drawing Standard SS – R6";

and replacing it with:

"(2) Where the collector road is on a bikeway route, as defined by the City's Bikeway Pedestrian and Bicycle Master Plan or Transportation Master Plan, the road requirement will be based on Drawing Standard SS – R6.";

(d) amend Notes by adding the following in its appropriate location:

"(6) Active Transportation Corridors not located with road right-of-way's, such as but not limited to the Okanagan Rail Trail and Mission Creek Greenway, are transportation corridors requiring frontage improvements";

4. AND THAT **SCHEDULE 3 – QUALITY CONTROL AND ASSURANCE** be amended by adding the following at the end of the first paragraph:

"Professional Engineers shall fulfill their obligations under the Engineers and Geoscientists Act and the Engineers and Geoscientists of British Columbia's Quality Management Guidelines";

5. AND THAT **SCHEDULE 4 – Design Standards** be deleted in its entirety and replaced with Schedule "A" attached to and forming part of this bylaw;

6. AND THAT **SCHEDULE 5 – CONSTRUCTION STANDARDS, 1. CONSTRUCTION SPECIFICATIONS INDEX** be amended by removing the title:

"93 01S – Planting of Tress, Shrubs & Ground Covers"

and replacing it with:

"32 93 01S – Planting of Trees, Shrubs & Ground Covers";

7. AND THAT **SCHEDULE 5 – CONSTRUCTION STANDARDS, 1. CONSTRUCTION SPECIFICATIONS, Soil Cells Section 2.4** be amended by:

(a) removing the title in its entirety and replacing it with

"Inspector Riser Assembly";

(b) replacing "Fitings" with "Fittings";

8. AND THAT **SCHEDULE 5 – CONSTRUCTION STANDARDS, 1. CONSTRUCTION SPECIFICATIONS** be amended by replacing all instances of "Personel" with "Personnel";
9. AND THAT **SCHEDULE 5 – CONSTRUCTION STANDARDS, 2. STANDARD DRAWINGS, CITY OF KELOWNA STANDARD DRAWINGS INDEX AND CROSS-REFERENCE TO MMCD** be updated by adding the following in their appropriate location under **STORM AND SANITARY SEWERS**:

Comment	Dwg.	Title
Added	SS-S58	Groundwater Recharge Suitability Map
Added	SS-S59	Typical Lift Station Site Layout
Added	SS-S60	Sanitary Lift Station
Added	SS-S61	Above Ground Valve Kiosk
Added	SS-S62	Pigging Port
Added	SS-S63	Radio Antenna mast and Base

10. AND THAT **SCHEDULE 5 – Drawings – Index for Reference, CITY OF KELOWNA STANDARD DRAWINGS INDEX AND CROSS-REFERENCE TO MMCD** be updated by adding the following in their appropriate location under **STORM AND SANITARY SEWERS**:

Comment	Dwg.	Title
Added	SS-S58	Groundwater Recharge Suitability Map
Added	SS-S59	Typical Lift Station Site Layout
Added	SS-S60	Sanitary Lift Station
Added	SS-S61	Above Ground Valve Kiosk
Added	SS-S62	Pigging Port
Added	SS-S63	Radio Antenna mast and Base

11. AND THAT **SCHEDULE 5 – Drawings - Part 2b – Storm and Sanitary Sewers** be amended by adding a standard detailed drawing for **TYPICAL LIFT STATION LAYOUT SS-S59** as attached to and forming part of this bylaw as Drawing A;
12. AND THAT **SCHEDULE 5 – Drawings - Part 2b – Storm and Sanitary Sewers** be amended by adding a standard detailed drawing for **SANITARY LIFT STATION SS-S60** as attached to and forming part of this bylaw as Drawing B;
13. AND THAT **SCHEDULE 5 – Drawings - Part 2b – Storm and Sanitary Sewers** be amended by adding a standard detailed drawing for **ABOVE GROUND VALVE KIOSK SS-S61** as attached to and forming part of this bylaw as Drawing C;
14. AND THAT **SCHEDULE 5 – Drawings - Part 2b – Storm and Sanitary Sewers** be amended by adding a standard detailed drawing for **PIGGING PORT SS-S62** as attached to and forming part of this bylaw as Drawing D;
15. AND FURTHER THAT **SCHEDULE 5 – Drawings - Part 2b – Storm and Sanitary Sewers** be amended by adding a standard detailed drawing for **RADIO ANTENNA MAST AND BASE SS-S63** as attached to and forming part of this bylaw as Drawing E;
16. This bylaw may be cited for all purposes as "Bylaw No.12066, being Amendment No. 21 to Subdivision, Development and Servicing Bylaw No. 7900."
17. This bylaw shall come into full force and effect and is binding on all persons as and from the date of adoption.

Read a first, second and third time by the Municipal Council this

Adopted by the Municipal Council of the City of Kelowna this

Mayor

City Clerk

SCHEDULE 4
OF BYLAW 7900
CITY OF KELOWNA
DESIGN STANDARDS

- 0. GENERAL DESIGN CONSIDERATIONS
- 1. WATER DISTRIBUTION
- 2. SANITARY SEWER
- 3. STORMWATER MANAGEMENT
- 4. HIGHWAY
- 5. ROADWAY LIGHTING
- 6. TRAFFIC SIGNALS
- 7. LANDSCAPE AND IRRIGATION
- 8. HILLSIDE DEVELOPMENT STREET STANDARDS

GENERAL

This latest update of Schedule 4 of Bylaw 7900 - City of Kelowna Design Standards is based on the Municipal Infrastructure Design Guidelines 2014 as prepared under the auspices of the Master Municipal Construction Document Association (MMCDA), which is an association of British Columbia Municipalities, Regional Districts, Contractors and Consultants. The purpose of the Design Standards is to provide a standardized set of guidelines to be utilized by consultants, contractors and City staff involved with design and construction of municipal infrastructure. Users of this Schedule should note the following:

- These Standards are considered a “living document” and will be updated on a regular basis to reflect evolving industry advancements, new materials, improved methods and best practices.
- The contents of this manual are intended to complement the following documents:
 - MMCD Specifications and Standard Detailed Drawings.
 - City of Kelowna Schedule 5 – Supplementary Specifications and Supplementary Standard Detailed Drawings.
 - Policy 265 (Engineering Drawing Submission Requirements).
 - Policy 266 (Approved Products List).
- Links to other documents have been provided to augment the material included in these Design Standards.

This manual is not intended to be a substitute for sound engineering knowledge and experience. It is the designer's responsibility to exercise professional judgment on technical matters in the best interests of the owners and users of the infrastructure. Standards contained herein are provided to assist in making these judgments, but should not be used as a substitute. Since the standards are general, they do not, and cannot, cover all particular cases.

DISCLAIMER

This manual is not intended to be used as a basis for establishing civil liability.

6.0 General Design Considerations

6.1 General

This latest update of Schedule 4 of Bylaw 7900 - City of Kelowna Design Standards is based on the Municipal Infrastructure Design Guidelines 2014 as prepared under the auspices of the Master Municipal Construction Document Association (MMCD), which is an association of British Columbia Municipalities, Regional Districts, Contractors and Consultants. The purpose of the Design Standards is to provide a standardized set of guidelines to be utilized by consultants, contractors and City staff involved with design and construction of municipal infrastructure. Users of this Schedule should note the following:

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6.2 Sustainability and Asset Management

Development of appropriate design guidelines for municipal infrastructure involves consideration of the principles of sustainability and asset management. These principles include the following:

- Improve and enhance quality of life.
- Minimize negative impacts on health, safety and the environment.
- Investigate the impacts of potential actions to manage and mitigate risk.
- Consistently make informed long-term infrastructure decisions.
- Minimize overall life cycle investment.

Some of the above principles involve conflicting priorities, for example, undue concentration on financial economies may have adverse impacts on environmental protection and life cycle costs of infrastructure.

A balanced approach to design of municipal infrastructure requires careful consideration of all of the above principles.

o.3 Independent Utilities

Independent utilities are those not normally supplied by municipal or regional authorities and are not included in these guidelines. Independent utilities include:

- Electrical power
- Communications (telephone, data, fibre optics and cable)
- Gas

Design of municipal infrastructure must include consideration of the above utilities. Design of these utilities is normally carried out by the utility owner and coordinated for conflicts by the municipal designer and/or the local authority.

In new urban developments, all wiring is generally to be underground as per Policy 101 – Conversion of Overhead Power Lines to Underground Installation. This excludes electrical transmission lines, which are normally located in separate rights-of-way.

o.4 Utility Rights-of-Way

Utility right-of-way locations should be selected to avoid environmentally sensitive areas, such as, watercourses, wetlands, wildlife migration corridors and forested areas, as outlined in the Official Community Plan (OCP).

Where the location of a municipal utility in a right-of-way is approved by the City, the minimum desirable right-of-way widths are as follows:

Table o.4 Right-of-Way Widths

Service Type	Right-of-Way Width
Single service	Twice the depth from surface to the crown of the pipe plus trench width (4.5 m minimum width).
Two services within the same trench	Twice the depth from surface to the crown of the deeper pipe PLUS trench width (5.5 m minimum width).
Two or more services adjacent to one another but in separate trenches	Cumulative widths for single services (noted above) PLUS any difference to provide the required separation (6 m minimum width).
When the service is within a road allowance, and the distance from the property line to the centre of the service is less than one half of the width indicated above for a single service, the difference should be provided as right-of-way on the adjacent property.	
The rights-of-way noted are desirable but in some cases may not be practical and alternative	

combined right-of-way corridors may be required as approved by the City Engineer.

In all cases, the width of rights-of-way should be sufficient to permit an open excavation with side slopes in accordance with the WorkSafeBC Requirements for excavation and trenching safety, without impacting on or endangering adjacent structures.

Where required, sanitary trunk and interceptor sewers should have rights-of-way wide enough for future widening and/or twinning. The width of the right-of-way should be the required separation between pipe centrelines plus 2 times the depth to the crown of the deeper sewer.

The designer should provide cross sections indicating the minimum safe distances to adjacent building footings based on a safe angle of repose from the limits of the excavation.

Where a utility is located within a right-of-way, and valves, valve chambers, manholes, or other appurtenances which require maintenance are located within a right-of-way, maintenance road access from a public road must be provided. The maintenance access must be sufficiently wide and structurally adequate to support the maintenance vehicles for which the access is intended.

0.5 Utility Separation

Requirements for separation of sanitary or storm sewers from water mains are as follows, unless otherwise indicated by Interior Health (IH).

0.5.1 Horizontal Separation

At least three (3) metre horizontal separation (pipe wall to pipe wall) should be maintained between a water main and either a sanitary sewer or a storm sewer.

In special circumstances where 3.0 m separation is not possible, a smaller separation than 3.0 m may be permitted upon approval from Interior Health.

The designer shall obtain Interior Health approval for all water main designs prior to commencement of construction.

0.5.2 Vertical Separation

Where a water main crosses a sanitary sewer or storm sewer, the water main should be above the sewer with a minimum clearance of 0.45 m and installed in accordance with Interior Health requirements.

0.5.3 Sewers in Common Trench

In special circumstances when typical separation cannot be reasonably achieved (i.e. hill side development, rock excavation), storm and sanitary sewers may be installed in a common trench provided that the design has taken into account:

- Interference with service connections,
- Stability of the benched portion of the trench,
- Conflict with manholes and appurtenances.

The horizontal clearance between sewer pipes should be not less than 1.0 m. Separation between manholes should be not less than 0.3 m.

o.6 Trenchless Technologies

Installation or rehabilitation of pipelines using trenchless methods may be indicated. The MMCD Specifications Section 33.05.23 Trenchless Sewer Pipe Bursting; and MMCD Specifications Section 33.05.24 Cured in Place Pipe Liners are two examples of trenchless applications.

Circumstances favouring trenchless installation include:

- Installation or rehabilitation in heavily built-up areas,
- Stream crossings,
- Railway crossings,
- Highway crossings.

Available technologies include the following:

- Slip-lining
- Cured-in-place pipe (CIPP)
- Pipe bursting
- Horizontal directional drilling (HDD)
- Micro-tunnelling
- Pipe jacking

o.7 Seismic and Geo-hazard Design Standards

Underground utilities are at risk of damage caused by seismic events, soil liquefaction and land slides. The most significant seismically-triggered geo-hazard that underground utilities are exposed to is horizontal ground displacement from landslides and soil liquefaction induced lateral ground displacement. Seismic design standards must be considered in seismically active zones with a potential for landslide or soil liquefaction. This becomes even more critical when considering a shared fire flow and potable water distribution system, which, during a severe seismic event, is required to remain functional if it is to be relied upon to provide fire suppression throughout the community.

The design shall consider the stability of the soils present, as well as establishing the site's susceptibility to lateral ground displacement during seismic activity.

This section does not cover seismic design considerations of larger size chambers (typically in excess of 10 m² in footprint), pump station structures, storage tanks, reservoirs and similar large components of the water and sanitary systems. These structures, along with seismically resistant pipe connections, shall be individually assessed by civil, geotechnical and structural engineers using the latest edition of BC Building Code and Application of the Seismic Guidelines for Government to meet post-disaster requirements and other specialty seismic standards applicable to buried and above ground structures.

o.8 Referenced Standards

All referenced standards contained within (i.e. AWWA, BC Building Code, Water Supply for Public Fire Protection, etc.) are to be the most recent version unless specifically noted otherwise.

o.9 Record Drawings and Operation and Maintenance Manuals

Record drawings are to be prepared and submitted in accordance with Policy 265 (Engineering Drawing Submission Requirements).

Operation and Maintenance Manuals are to be prepared and submitted for pump stations, lift stations, PRVs, reservoirs, valves, air valves and appurtenances as described below:

Supply two (2) paper copies and one (1) electronic copy of operating and maintenance manuals prior to substantial completion.

Bind contents in a three-ring, hard covered, plastic jacketed binder with the name of the facility to be embossed onto binder cover and spine.

Each section shall be separated from the preceding section with a plasticized cardboard divider with a tab denoting contents of the section.

Contents to include:

- Title sheet, labelled "Operation and Maintenance Instructions", and containing project name and date.
- List of contents.
- Reviewed shop drawings of all equipment.
- Equipment list showing all model and serial numbers.
- All equipment manufacturers manuals.
- Record drawings of all mechanical, electrical, control and alarm installations.
- Full description of system operations including: design points, designed pump and system curves, ultimate capacity, area served and any relevant design criteria relevant to the operation of the system.
- Full description of entire mechanical, electrical and alarm system operation.
- Names, addresses and telephone numbers of all major sub-contractors and suppliers.
- Commissioning report showing pressures, flows, current drawings for all possible operating conditions.

o.10 Kiosks/Laminate Wrapping Requirements

All electrical kiosks to be wrapped with anti graffiti vinyl wrapping. Wrap material shall be a cast vinyl then laminated with a high gloss laminate. The wrap is to be visually pleasing and compliment the area it would be situated in considering the landscape, geography, or general theme of the specific area.

Artwork to have a high degree of contrast so as to be more impervious to graffiti vandalism and not to be for commercial advertising. All artwork to be approved before installation.

o.11 Interpretation

If there is any inconsistency or conflict between the provisions of these Design Standards and the Standard Drawings the Design Standards shall govern.

1. WATER DISTRIBUTION

- 1.1 [General](#)
- 1.2 [Metering](#)
- 1.3 [Per Capita Demand](#)
- 1.4 [Non-Residential Demand](#)
- 1.5 [Fire Flows](#)
- 1.6 [Design Flows](#)
- 1.7 [Water Pressure](#)
- 1.8 [Hydraulic Design](#)
- 1.9 [Minimum Pipe Diameter](#)
- 1.10 [Dead Ends](#)
- 1.11 [Minimum Depth of Cover](#)
- 1.12 [Grade](#)
- 1.13 [Corrosion Protection](#)
- 1.14 [Valves](#)
- 1.15 [Hydrants](#)
- 1.16 [Blow Offs and Blow Downs](#)
- 1.17 [Test Points](#)
- 1.18 [Air Valves](#)
- 1.19 [Thrust Restraint](#)
- 1.20 [Chambers](#)
- 1.21 [Service Connections](#)
- 1.22 [Alignments and Corridors](#)
- 1.23 [Reservoirs](#)
- 1.24 [Pump Stations](#)
- 1.25 [Pressure Reducing Valve \(PRV\) Stations](#)
- 1.26 [Facility Site Requirements](#)

3 General

These guidelines are not intended to be a substitute for sound engineering knowledge and experience. Water distribution system designs should be prepared under the direction of a design professional who has the appropriate experience and is registered with Engineers and Geoscientists British Columbia.

Water for Kelowna is provided by the City of Kelowna Water Utility and three major water purveyors.

- Black Mountain Irrigation District
- Glenmore Ellison Improvement District
- Rutland Water Works

These design standards apply to the City of Kelowna Water Utility and are in general conformance with

the four major water purveyors. The Purveyors requirements may differ in some instances so it is the responsibility of the designer to confirm with the independent water purveyors regarding their specific requirements. The location of water infrastructure within roadways shall be in accordance with these standards.

4 Metering

Water meters tend to reduce per capita water demand and are required as per the City of Kelowna Plumbing Bylaw, Water Use Regulation Bylaw and Water Purveyors bylaw(s).

5 Per Capita Demand

Use the following per capita demands for future residential requirements:

- Average annual daily demand (ADD): 900 litres per capita per day (L/c/d)
- Maximum day demand (MDD): 1800 litres per capita per day
- Peak hour demand (PHD): 4000 litres per capita per day

Design population density:

Single Family	3.0 people/dwelling
Multi-Family	2.0 people/dwelling

6 Non-Residential Demand

Commercial, industrial and institutional demands should be determined using specific data related to the development or zoning. In the absence of such data, or municipal regulations, use the following for maximum day demands for single story buildings (MDD):

Commercial or institutional:	22,500 litres per hectare per day
Industrial:	100,000 litres per hectare per day

Note: the above rates do not include outdoor irrigation and assume that all connections are metered.

BL11913 amended section 1.5

7 Fire Flows

Fire flows are subject to the following minimum requirements (Table 1.5) for all offsite works.

Table 1.5 Minimum Required Fire Flow by Zoning Designation

General Zoning Designation	Minimum Fire Flow*
Single Family & Two Dwelling Residential	60 L/s
Modular / Mobile Home	60 L/s
Three & Four Plex Housing	90 L/s
Apartments, Townhouses	150 L/s
Commercial	150 L/s
Institutional	150 L/s
Industrial	225 L/s

*Off-site fire flow requirements are calculated in accordance with the requirements of the current edition of "Water Supply for Public Fire Protection - A Guide to Recommended Practice", published by Fire Underwriters Survey.

Subdivisions and main extensions must utilize hydraulic information from water model results provided by the City.

Onsite requirements are defined during the Building Permit process:

- a) Fire flow requirements for structures are to be calculated based on the worst-case requirement consistent with Section 3.2.5.7 of the BC Building Code.
- b) Where a structure design includes an automated sprinkler system to NFPA 13 as per Section 3.2.5.12 of the BC Building Code, then:
 - i. The NFPA 13 fire flow result for the worst-case building shall be the fire flow requirement on site.
 - ii. Confirmation of meeting the NFPA 13 requirement must be provided to the City.

The Owner or Developer must report to the City that the calculated fire flow does not exceed the minimum requirements for that zoning found in Table 1.5.

8 Design Flows

Unless otherwise indicated by the City Engineer, system design flows should be based on the ultimate population and fully developed non-residential land as anticipated in the Official Community Plan (OCP).

Total design flows (Q_{design}) are to be the greater of the following:

$Q_{\text{design}} = \text{MDD} + \text{FF}$ Maximum Day Demand plus the Fire Flow, or

$Q_{\text{design}} = \text{PHD}$ Peak Hour Demand

9 Water Pressure

The water system must be designed to provide domestic water at the building main floor elevation on each Parcel as follows:

Maximum allowable static pressure	830 kPa(120 psi)
Minimum static pressure	275 kPa(40 psi)
Minimum system pressure at Peak Hour Demand (PHD)	275 kPa(40 psi)
Minimum pressure in system during design Maximum Day Demand and Fire Flow (MDD+FF)	140 kPa(20 psi)

For large lot and hill side development the designer shall be responsible to identify suitable building elevations for all buildings based on available hydraulic pressure. Determination of pressure limits should include consideration of property elevations relative to street level. Designer to note properties on service cards and record drawings where pressure at service connection exceeds 75 psi.

Where the maximum pressure exceeds 515 kPa (75 psi), design must identify service connections that must be individually protected by pressure reducing valves located in the buildings being served.

10 Hydraulic Design

Where there is an existing hydraulic network in place, the City will provide any available information for assistance in designing changes to the network. Depending on the complexity and extent of the proposed distribution system, the City may require a hydraulic analysis design showing flows and pressures.

Use a proven network analysis computer model based on the Hazen-Williams formula:

$$Q = \frac{CD^{2.63} S^{0.54}}{278,780} \quad \text{Where:}$$

Q = Rate of flow in L/s

D = Internal pipe diameter in mm

S = Slope of hydraulic grade line in m/m

C = Roughness coefficient (Table 1.8)

Table 1.8 Roughness Coefficients for Various Pipe Materials

Pipe Material	C Factor
PVC	130

Cement Lined Ductile Iron, Cement Lined Steel, Asbestos Cement	120
Cast Iron	100

It should be noted that the values listed in the above table are for pipe losses only and do not include losses associated with fittings, tees and valves which also require design consideration.

The maximum allowable design velocity shall not exceed the following:

Pump Supply, Reservoirs and Trunk Mains 2.0 m/s

Distribution Lines

- At Peak Hour Demand (PHD) 2.0 m/s
- At Maximum Day Demand (MDD) plus Fire Flow (FF) 4.0 m/s
-

Designers are responsible for assuring that surge and transients pressures are accounted for in their design.

When water mains cross railroads, major regional roads including Provincial highways, or watercourses, a steel casing pipe must be provided and must be designed to all applicable static, dynamic and seismic loadings and all other requirements of the authority having jurisdiction. The water main must be constructed with the appropriate spacers to support the pipe and prevent sagging or uplift (floating) inside the casing pipe. The water main inside the casing must be joint restrained. Service connections crossing highways and railroads are not recommended and require approval from the City Engineer.

11 Minimum Pipe Diameter

Distribution mains: 200 mm*

Fire hydrant connections: 150 mm

Service connections: 19 mm CU / 25 mm PE

Service diameter for buildings with sprinklers to be determined on a case by case basis based on fire flow demand.

* For looped distribution mains with lengths less than 500 m in residential subdivisions, the diameter can be reduced to 150 mm, providing that fire flow requirements can be met.

* Subject to approval of the City Engineer, distribution main minimum diameter in residential areas may be reduced to 100 mm provided that the main terminates in a short residential cul-de-sac, has a length less than 80 m, serves no fire hydrants or fire sprinkler systems and where no further extension is planned.

* In separated water systems where irrigation and fire flow are separated from domestic (potable)

water, the minimum pipe size for the domestic water system may be 100 mm.

For commercial/industrial/institutional areas, the minimum allowable water main size shall be 200 mm diameter.

12 Dead Ends

Water mains must be looped wherever possible. Where dead ends are unavoidable, and approved by the City Engineer, blow-offs shall be provided (see Section 1.16 for sizing).

The maximum length of any permanent non-interconnected water main is 200 m. All mains exceeding 200 m in length, unless it is a temporary situation, must be looped.

Where the water system network is deficient, installation of additional water main capacity may be required and may necessitate the provision of rights-of-way in favour of the City.

13 WD_Minimum_Depth_of_Cover

The cover over any water main must not be less than 1.5 m from pipe crown to surface. U-bends should be used to avoid conflict and maintain minimum depth of cover. Rigid insulation may be used to provide protection to the water main from freezing for short sections of water main (< 4 m) with approval from the City Engineer, as per manufacturer's recommended guidelines for Utility line insulation (ex. DOW Tech Solutions 602.0 Styrofoam Brand Highload Insulation for Buried Utility lines).

14 Grade

Water mains must be designed with a rising grade wherever possible, to minimize high points in the main. Grades should be straight lines between defined deflection points. Elevations should be recorded on record drawings.

The minimum grade of water mains shall be 0.1%. Grading should be designed to minimize the number of high points and maintain continuous grade.

When the slope exceeds 15%, provide anchorage, joint restraints, trench dams and trench drainage as per standard MMCD drawing G8. Provide geotechnical engineering report where appropriate that assesses slope stability.

15 Corrosion Protection

Where there is a potential for encountering corrosive soils, a geotechnical corrosion analysis on the alignment of any proposed metallic water main or metallic appurtenances shall be conducted to determine the corrosiveness of the native soils and the suitability of metallic pipe and appropriate corrosion protection measures. One example is MMCD Specification Section 26 42 13, Cathodic Protection.

Regardless of soil condition, all metallic pipe shall be installed with poly-wrap as per the manufacturers

recommended procedures.

Petrolatum tape and paste shall be used to wrap all nuts and bolts on buried metallic fittings and joint restraint fasteners.

Metallic water main with less than 400 mm diameter are not permitted.

16 Valves

In general, valves should be located as follows:

- In intersections, either in a cluster at the pipe intersection or at projected property lines to avoid conflicts with curbs and sidewalks:
 - 3 valves at "X" intersection;
 - 2 valves at "T" intersection;
 - Or as directed by the City Engineer, in order to allow for the isolation of specific sections of the main, minimize service disruption and/or facilitate network operation and maintenance.
- Not more than 200 m apart (except on trunk mains greater than 300 mm diameter, where spacing can be increased upon approval of the City Engineer). Where possible avoid the use of inline valves.
- In locations and at a frequency so that not more than two hydrants are out of service when a section of the main is turned off. An isolation valve is required for each hydrant, typically flanged to the hydrant tee.
- Not more than 20 service connections isolated.

In order to permit the use of pigging cleaning methods the valve sizing and type selection should be as follows:

- The valves shall be the same diameter as the water main.
- All valves shall be gate valves. Butterfly valves with appropriate chamber sized for maintenance and replacement may be used in special circumstances for water mains greater than 400 mm with approval from the City Engineer.

17 Hydrants

Fire hydrants should be located in general at street intersections and as follows:

- Not more than 150 m apart in single family residential areas measured along road centre line.
- Not more than 100 m apart in higher density residential, commercial, industrial and institutional areas.
- Hydrant locations as per BC Building Code for all buildings.
- In accordance with "Water Supply for Public Fire Protection - A Guide to Recommended Practice" (latest edition), published by Fire Underwriters Survey.

- 1.5 m back from curb or 0.5 m back of sidewalk to centre line of hydrant.
- Minimum 1.0 m clear of any other utility structure in all directions.
- Minimum 3.0 m clear in direct line with hose connections.
- At property lines in mid-block locations.
- SRW required where open cut excavation to base of hydrant assembly extends into private property.
- Bollards or concrete barriers for hydrant protection may be required at the City Engineer's discretion.

Hydrants shall not be located on sidewalks. Where this is not possible and with approval from the City Engineer, a minimum distance of 1.5 m must be maintained between the front of the pumper port and the back of curb, in accordance with the Transportation Association of Canada Manual for Canadian Roads.

On arterial highways with, or designated to be constructed with, a raised median, fire hydrants shall be installed on both sides of the highway with each side treated exclusively for spacing requirements.

18 Blow Offs and Blow Downs

Blow-offs shall be provided at the terminal ends of all water mains whether permanent or temporary to facilitate scouring velocities during flushing. Blow-off sizes are:

- 50 mm dia. for 100 mm dia. water mains (see Drawing SS-W8A)
- 100 mm dia. for 150 mm dia. and larger water mains (see Drawing SS-W8B)

Where practical, and approved by the City Engineer, a hydrant may serve a secondary role as a blow-off.

On all mains greater than 300 mm diameter, install blow downs at the lowest point in the water main profile between the line valves.

19 Test Points

Test points shall be installed on all water mains in order to provide for the ability to collect water samples in accordance with AWWA C651 – Disinfecting Water Mains.

20 Air Valves

Combination air valves shall be installed at the summits of all mains. Air valves may not be required on water mains 200 mm diameter and smaller upon approval by the City Engineer for the following:

- Where active service connections are suitably located to dissipate entrapped air,
- Where the difference in elevation between the summit and valley is less than 600 mm and it can be shown that air pockets will be carried by typical flows.

Air valve sizes, subject to design analysis, are as follows (Table 1.18):

Table 1.18 Typical Air Valve Sizes

Water Main Size	Valve Size
100 mm to 300 mm	25 mm
350 mm to 600 mm	50 mm
Larger than 600 mm	Special design

Air valves must be vented to an appropriate secured above-grade location to eliminate any potential for cross connection in a flooded or contaminated chamber.

21 Thrust Restraint

Cast in place concrete thrust blocking and/or adequate joint restraining devices must be provided at bends, tees, wyes, reducers, plugs, caps, valves, hydrants and blow-offs. Bends at 5-degrees may not require thrust blocking and/or joint restraining devices provided they are properly engineered.

The restraint system must take into account potential future excavations in the vicinity of the water main. Design calculations must be based on fitting type, water pressure and soil conditions.

Precast thrust blocks are not permitted except in combination with joint restraints as approved by the City Engineer.

When required, provide the City Engineer with calculations for the thrust block/joint restraint design.

22 Chambers

Chambers or manholes should allow adequate room for maintenance, including headroom and side room. Access openings must be suitable for removing valves and equipment and permitting inspection cameras and pigging equipment. The chamber is to be provided with a drain to a storm sewer or ditch, complete with backflow prevention, to prevent flooding of the chamber. Rock pits may be considered subject to suitable soil and groundwater conditions and subject to approval by the City Engineer. A pumping system may be required for drainage.

Adequate venting should be provided. The City Engineer may require provision of forced ventilation, lighting, heating and dehumidification. Access and ventilation details must comply with WorkSafeBC requirements.

Insulation to prevent freezing should be provided where necessary.

23 Service Connections

Service connection size should be calculated on the basis of the designated land use including sprinkler systems and/or on-site hydrants, where applicable. The minimum size is outlined in 1.9 - Minimum Pipe Diameter.

All service connections to be made with service saddles at water main.

Multiple corporation stops must have a minimum spacing of 1.0 m.

The curb stop at the end of each service pipe must be located as per SS-W2. Where such locations will conflict with other services, the location may be revised with the approval of the City Engineer.

Each connection of 100 mm or larger shall be installed with tee and isolation gate valve on the service at the water main. The designer may choose to add an additional valve at property line to facilitate testing and tie-in procedures.

Services and curb stops must have a minimum depth of cover of 1.5 m and curb stops must be no deeper than 2.0 m. Valve boxes shall be used for curb stops greater than 50 mm diameter.

24 Alignments and Corridors

On straight roads, water mains should have straight alignments with uniform offsets between intersections.

For curved roads and alignments, where approved by the City Engineer, design joint deflections shall be limited to half the maximum deflection specified by the pipe manufacturer or through the use of 5-degree bends. Pipe alignment to be at a parallel offset with an established road right-of-way or property line.

Metallic marking tape labeled WATERWORKS is to be placed above all pipes at a depth of 0.45 m below finished grade in statutory rights-of-way or irregular alignments.

Water mains on new roads must be located as indicated in the applicable Standard Drawing typical cross-section.

Where a water main crosses private land, right-of-way requirements are as indicated in Section 0.3, General Design Considerations – Utility Rights-of-Way.

Clearance from sewer is as indicated in Section 0.4, General Design Considerations – Utility Separation.

25 Reservoirs

The following reservoir design standards apply to the City of Kelowna Water Utility and are in general agreement with the other four water purveyors in Kelowna. The designer should consult with the applicable water purveyor for specific design details.

1.23.1 Preliminary Design

Reservoir design shall include a preliminary design which is to be approved by the City Engineer before the detail design begins. Preliminary designs should cover the following issues:

- Site layout,
- Design standards,
- Volume,
- Shape,
- Number of cells,
- Geotechnical report on foundation conditions,
- Appearance.

1.23.2 Reservoir Capacity

Reservoir capacity must not be less than the greater of the following:

- One-day average annual consumption for the service area.
- Total Storage Volume = A + B + C

Where:

A = Fire Storage (from Fire Underwriters Survey guide)

B = Equalization Storage (25% of Maximum Day Demand)

C = Emergency Storage 25% of (A + B).

1.23.3 Reservoir Structural Design Codes

Design in accordance with the latest edition of the BC Building Code and one of the following specialty codes:

- ACI 350/350R: Code Requirements for Environmental Engineering Concrete Structures, and Commentary.
- PCA: Circular Concrete Tanks Without Prestressing.
- ACI 350.3/350.3R: Seismic Design of Liquid Containing Concrete Structures, and Commentary.
- AWWA D110: Wire and Strand-Wound Circular Prestressed-Concrete Water Tanks.
- AWWA D115-06 Tendon-Prestressed Concrete Water Tanks.
- AWWA 0100-11 Welded Carbon Steel Tanks for Water Storage.
- AWWA D103: Factory-Coated Bolted Steel Tanks for Water Storage.

1.23.4 Reservoir Design Features

1. Seismic Loading: Design for the following:

- Watertight structure and fully operational mechanical equipment, following a 475 year return period earthquake.
- Repairable damage and no uncontrolled release of water following a 2475-year return period earthquake.

2. Two cells, each containing one-half of total required volume and capable of being drained and filled independently.
3. Reservoir to be below ground, unless approved by the City Engineer.
4. Each cell is to have an access opening and hatch in the roof for cleaning and maintenance with minimum dimension 900 mm x 900 mm. Opening to be located so that the overflow pipe is clearly visible inside the reservoir, when viewed from the opening.
5. For all access hatches, a survey mark inlaid inside showing the geodetic elevation is to be provided.
6. Finished elevation of the top of the hatch when closed to be 0.6 m above the finished elevation of the reservoir roof.
7. Access hatch(es) to have the following:
 - Aluminium 1/4" tread plate
 - Perimeter drain
 - Perimeter sealing gasket
 - Slam lock with aluminium removable sealing plug and opening tool
 - Flush lift handle
 - Gas spring assist cylinder
 - 90-degree hard open arm
 - Flush fitting padlock tang
8. The hatch must be reinforced for 1,465 kg/m² (300 lbs./sq.ft.) complete with hatch alarm.
9. All fasteners for the hatch to be made of 316 stainless steel.
10. Ventilation pipes or openings sized to handle appropriate intake and exhausting volumes of air for filling and drawing the reservoir. Ventilation pipes outlets to be screened.
11. Reservoir floor to slope to drain sump.
12. Drain sump to be a minimum of 1000 mm X 1000 mm X 400 mm, invert of drain pipe to be flush with sump floor, grating to be installed over sump.
13. Sub-drain under floor to collect and drain any leakage (may be connected to overflow pipe provided suitable measures are incorporated to prevent surcharging).
14. Overflow drain to be provided and sized to transmit the maximum pump discharge with all pumps running.
15. A stainless steel interior wall ladder is required from roof access to floor. All ladders to meet WCB regulations, supply attachment points for fall arrest equipment.
16. Top rung of the ladder to be the same elevation as the finished elevation of the reservoir roof.
17. Where public access could be gained to reservoir, install appropriate fall prevention railings.
18. Re-chlorination may be required based on demand forecasts. Chlorine residual analyser required.

19. All pipework within the reservoir to be PVC or fiberglass except overflow fitting which may be stainless steel to AWWA standards.
20. All metal parts within the reservoir including bolts, nuts, screws, anchors, ladders etc. to be 316 stainless steel. All welded stainless steel components located in the reservoir to be appropriately passivated.
21. Reservoir inlet pipe to terminate with a diffuser positioned opposite the reservoir outlet and a distance of $\frac{3}{4}$ the length of the reservoir from the outlet. Diffuser to cover $\frac{3}{4}$ the wall length.
22. Ports in diffuser pipe to be engineered to produce circulation within the reservoir during fill cycle.
23. Diffuser to incorporate removable end caps.
24. Backup high and low level control balls for each cell set at 40% and 95% levels, (not to contain lead or mercury).
25. The reservoir must be cleaned, disinfected and leak tested to AWWA and local authority requirements.
26. Gated black chain link perimeter fencing is required to address security and safety issues.
27. Landscaping acceptable to the City is to be provided including irrigation.
28. In special circumstances, at the request of the City Engineer, vehicle access road to the top of the reservoir roof to be provided.
29. Manuals to be supplied as per Section 0.8.

1.23.5 Reservoir Valve Chamber

Reservoir to incorporate valve chamber containing:

1. Chamber to include all valves associated with the reservoir operations.
2. Design in accordance with seismic codes noted above.
3. Entrance at grade large enough to permit safe removal of largest single piece of equipment.
4. Lifting beams and hoists where necessary to enable removal of equipment or components.
5. Floor drains and drainage system.
6. Separate inlet and outlet piping including check valves to separate inlet and outlet flows.
7. All inlet and outlet piping to incorporate a $\frac{3}{4}$ inch sampling port with isolating ball valve.
8. A 19 mm Schedule 80 PVC sample line with isolating ball valve for each cell terminating in the middle of a cell wall at the 50% level and extending 25% towards the centre of the reservoir.
9. A 50 mm 316 stainless steel schedule 80 pipe with isolating ball valve extending into each cell for connection of cleaning hoses.

10. A 19 mm stainless steel pipe with isolating ball valve extending into each cell connected to a pressure transmitter for level sensing.
11. Minimum 30 amp, 120 VAC electrical service.
12. Heat, light and ventilation to meet WCB requirements and to maintain minimum 5-degree C on coldest day. Insulate interior walls and ceiling as required.
13. All control wiring junction boxes.
14. A PLC control system to current Pump Operations standards.
15. Chlorine residual analyzer.
16. Interior and exterior of all steel piping to be coated to AWWA standards, or use 316 stainless steel.
 - Inlet piping – Mid Blue
 - Outlet piping – Dark Green
 - Drain piping – Gull Grey
 - All other piping – Mid Blue
 - Include flow direction arrows where appropriate.
17. Check valves to show direction of flow with white painted arrows.
18. PLC controlled modulating inlet valve where more than one reservoir serves a single zone.
19. PLC control to City of Kelowna SCADA system, including:
 - Security switches
 - Discharge and suction pressure transmitters
 - Temperature sensor
 - Flowmeter
 - Uninterruptable power supply
 - Radio or hard wire modem
 - External antenna
 - Operator interface panel
20. The modulating inlet valve shall:
 - Have non-contact 0 - 100% valve position indicator with 4-20 mA output.
 - Be hydraulically operated with pressure tank (minimum 40 psi) sized to operate valve for 3 cycles during power failure.
 - Be complete with a hydraulically operated diaphragm actuated globe or angle.
 - Pattern valve of 'Powertrol type'.
 - Pilot system to be protected by single continuous flow 100 micron filter.
 - Space for safe and convenient operating and maintenance access to all valves, piping, equipment and instrumentation.
 - Manuals to be supplied as per Section 0.8.

26 Pump Stations

The following Pump Station design standards apply to the City of Kelowna Water Utility. The designer should consult with the applicable water purveyor for specific design details.

1.24.1 Preliminary Design

Pump station design must include a preliminary design report which is to be approved by the City Engineer before detailed design proceeds. Preliminary designs should include the following issues:

- Location
- Capacity
- Number and type of pumps
- Preliminary piping layout
- Type and appearance of structure
- Foundation conditions
- Maintenance requirements and access
- Energy requirements
- Standby power
- HVAC
- Controls and monitoring

1.24.2 Capacity

Pumping capacity should be designed to suit the particular circumstances. In general, capacity should meet maximum day demand with the largest pump out of service and balancing storage online. If balancing storage is not on line, pumping capacity should meet peak hour demand with the largest pump out of service. Stand-by power should be provided, where sufficient reservoir storage does not exist, to allow the greater of maximum day demand plus fire flow or peak hour demand (MDDD+FF, or PHH) during a power outage.

1.24.3 Design Features

1. Structure, piping and mechanical systems designed in accordance with seismic codes for post-disaster structures.
2. Located above 200-year flood level or 1.0 m above highest recorded flood elevation.
3. Reinforced concrete, blockwork or brick construction, aesthetically pleasing.
4. Access doorways sized so that the largest single piece of equipment may be safely removed and replaced. Lifting hooks or rails with pulley blocks as required.
5. Adequate HVAC with filtered air inlet.
6. Standby power.

7. Adequate lighting.
8. Housekeeping pads for MCC's.
9. Electric motors to be premium efficiency.
10. Motors to have thermal protection.
11. Motors 200 hp and above to have analogue vibration recording and protection.
12. All pilot, air relief discharge to be piped to floor drains to avoid standing water.
13. Air relief valves and pilot lines to be piped to floor drains.
14. Hydraulically operated pump control valves with isolation valves.
15. Flow meter and totalizers.
16. Spring return 'silent' check valves.
17. High pressure and surge relief valves with isolation valves.
18. Suction and discharge pressure gauges for each pump with isolation valves.
19. Mechanical pump seals.
20. Lockable roof hatches for motor and pump removal.
21. Water quality sampling ports.
22. Off road vehicle parking.
23. Landscaping to City Parks Department specifications.
24. Interior and exterior of pipework to be coated to AWWA standards. Exterior colours to be:
 - Inlet piping – Mid Blue
 - Outlet piping – Mid Blue
 - Drain piping – Gull Grey
 - All other piping – Mid Blue
 - Include flow direction arrows where appropriate.
 - Check valves to show direction of flow with white painted arrows
25. Pump system to be PLC controlled and connected to City of Kelowna Pump Operations SCADA system.
26. Control system to include but not limited to:
 - Security switches
 - Discharge and suction pressure transmitters
 - Temperature sensor
 - Uninterruptable power supply
 - Radio or hard wire modem
 - External antenna

- Operator interface panel
 - Power meter without outputs to PLC
 - Phase loss protection
 - 5 spare fuses for all fuse holders
 - Current copy of PLC and MMI program to be left in control enclosure
 - (see Pump Operations Department for current standards).
27. Motors to be 600volt, 3 phase.
 28. Hour meters and ammeters for each pump.
 29. Power factor correction if required by Power Authority.
 30. MCC, breaker boxes, receptacles to be labelled.
 31. Station to be cleaned and dust free.
 32. Separate or isolated room required for electrical.
 33. Noise attenuation to suit the location and local authority.
 34. Manuals to be provided as per Section 0.8.

27 Pressure Reducing Valve (PRV) Stations

The following PRV design standards apply to the City of Kelowna Water Utility. Designer should consult with the applicable water purveyor for specific design details.

PRV station design parameters should be reviewed and approved by the City Engineer before detailed design proceeds. PRVs are to be above ground stations housed in a suitable kiosk. Above ground installation to be located outside of road ROW or in approved location.

1.25.1 Preliminary Design Parameters

- Design Flows: peak hour, maximum day plus fire.
- Continuous, emergency or fire flow operation.
- Location.
- Kiosk details: structure and access, controls and monitoring, HVAC.

1.25.2 Design Features

- PRV to be above ground including electrical kiosk.
- Minimum chamber size: 4 m x 2 m x 2 m (inside dimensions).
- Minimum 30 amp, 120 VAC service.
- External kiosk and antenna.
- Forced air ventilation, heat and light.
- Isolating valves.
- Parallel pressure reducing valves sized for peak hour and maximum day plus fire flows.

- Air release valves.
- Water quality sample points.
- Sump drain to storm.
- Hatch as per Reservoir section.
- Off road vehicle parking.
- Manuals to be provided as per Section 0.8.
- Landscaping.
- Basket strainers upstream of each control valve.
- Upstream and downstream pressure gauges.
- Flowmeter.
- Interior and exterior of pipework coated to AWWA standards, or use stainless steel.
- PLC-controlled with connection to City SCADA system, including:
 - Security switches
 - Discharge and suction pressure transmitters
 - Temperature sensor
 - Flow meter and transmitter
 - Uninterruptible power supply (UPS)
 - Radio or hard wire modem
 - External antenna, height designed for communication connection (min. 6 m)
 - Operator interface panel.

28 Facility Site Requirements

Paved vehicular access must be provided to all reservoirs and pump stations. The minimum standard must be for an emergency access road as shown in the Standard Drawings, with drainage provisions as may be required.

Provision shall be made for vehicle turn-around and crane access.

Provide site grading and landscaping plans that identifies drainage issues, retaining walls and site safety issues.

2. Sanitary Sewers

- 2.1 [General](#)
- 2.2 [Per Capita Flow](#)
- 2.3 [Non-Residential Flows](#)
- 2.4 [Peaking Factor](#)
- 2.5 [Infiltration](#)
- 2.6 [Design Flow](#)
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- 2.17 [Locations and Corridors](#)
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- 2.19 [Force Main](#)
- 2.20 [Noise Control](#)
- 2.21 [On-site Sewage Disposal \(Septic Systems\)](#)
- 2.22 [Low Pressure Sewers](#)

2.1 General

These guidelines are not intended to be a substitute for sound engineering knowledge and experience. Sanitary sewer system designs shall be prepared under the direction of a design professional who has the appropriate experience and is registered with Engineers and Geoscientists British Columbia.

Sanitary sewers are intended to convey wastewater only as specified in the Sanitary Sewer/Storm Drain Regulation Bylaw.

These guidelines apply to City of Kelowna sewage collection system only.

2.2 Per Capita Flow

In absence of sanitary sewer flow data, sanitary sewer design shall be based on an average daily dry weather flow (ADWF) of 300 litres/capita/day, except when used for the analysis of older areas (pre-1980), where a ADWF = 420 litres/capita/day shall be used.

For system design in undeveloped areas, ADWF shall be estimated based on current zoning as follows:

Table 2.2 Flow Values for Undeveloped Residential Areas

Zoning	Population/ Hectare (gross)	Population/Unit
Single Family	24-30	3
Multi-Family Low	65	2
Multi-Family Medium	120 (3 storey)	2
Multi-Family High	320-960 (4-12 storey)	2
Mobile Home	40	2

2.3 Non-Residential Flows

Average dry weather flows (ADWF) for non-residential areas should be based on specific data related to the development. In the absence of such data, use the following flow values which are based on zoning designations (Table 2.3):

Table 2.3 Flow Values for Non-Residential Areas

Land Use	Equivalent Population/Hectare (gross)	ADWF* (L/ha/day)
Commercial	83	25,000
Institutional	83	25,000
Industrial	83	25,000

*ADWF calculated at 300 Litres per day per capita

2.4 Peaking Factor

The peaking factor is the ratio of peak dry weather flow (PDWF) to the average dry weather flow (ADWF). Where possible, the peaking factor should be based on locally recorded flow data from similar developments. It is recommended that if possible residential equivalents not be used but that each customer type calculates peak flows independently. When using hydraulic modelling software it is recommended that diurnal patterns be used that reflect varying time of day flows from each customer class. In the absence of such data, the peaking factor is to be calculated using the design residential population and non-residential equivalent population, with the formula indicated below:

The ADWF is multiplied by the Peaking Factor to determine PDWF. The Peaking factor is calculated as follows:

$$\text{Peaking Factor} = f \times \left(1 + \frac{14}{4 + \sqrt{P}} \right)$$

where: P = Population in Thousands

f = Reduction factor, applied as follows:

- New residential areas = 0.75
- Old residential areas = 0.85
- Commercial and Industrial area = 1.00

2.5 Infiltration

Design flow should include an infiltration allowance to cover groundwater infiltration and system inflows. For urban, suburban or commercial areas, the allowance should be based on the gross tributary area and the following:

- New system with pipes above groundwater table: 0.06 L/s/ha (5,184 L/d/ha)
- Old system (pre-1980) and/or pipes below groundwater table: 0.12 L/s/ha (10,368 L/d/ha)

The above values are based on systems where roof leaders and foundation drains are not connected to the sanitary sewer.

For older systems it is recommended that the above value be confirmed with flow monitoring since, in some systems, this value can be substantially higher.

For low density areas with large lots (>90 m frontage), or spaces between developed areas, the infiltration allowance should be based on the total sewer system pipe sizes and lengths, including sewer mains, service connections and building sewers, and the following:

- New system with pipes above groundwater table: 0.45 L/mm dia./100m length/hour
- Old system (pre-1980) and/or pipes below groundwater table: 1.0 L/mm dia./100m length/hour

2.6 Design Flow

Design flow $Q = \text{PWWF} = (\text{population and equivalent}) \times (\text{per capita flow}) \times (\text{peaking factor}) + (\text{infiltration allowance})$.

2.7 Pipe Flow Formulas

For Gravity Sewers use Manning's Formula:
$$Q = \frac{AR^{0.667}S^{0.5}}{n}$$

Where: Q = Design flow in m^3/s
 A = Cross sectional area in m^2
 R = Hydraulic radius (area/wetted perimeter) in m
 n = Roughness coefficient, where:
 $n_{\text{concrete}} = 0.013$
 $n_{\text{PVC}} = 0.011$

Pipes shall be designed so that the sewer flow does not exceed $d/D=0.67$ for pipes 250mm diameter and less, or $d/D=0.75$ for pipes greater than 250mm diameter. (d =flow depth and D =pipe diameter).

For Sewage Force Mains use Hazen-Williams formula:
$$Q = \frac{CD^{2.63}S^{0.54}}{278,780}$$

Where: Q = Rate of flow in L/s
 D = Internal pipe dia. in mm
 S = Slope of hydraulic grade line in m/m
 C = Friction coefficient = 120 for all pipe

2.8 Flow Velocities

Minimum design velocities:

- Gravity sewers: 0.60 m/s
- Force mains: 0.75 m/s

Where steep grades result in velocities exceeding 6.0 m/s , sewer design must consider measures to prevent pipe and manhole erosion, movement and the effects of dynamic loading. Pipe anchors shall be installed on steeper grades in accordance with MMCD standard drawings.

2.9 Alignment

Except as indicated for Curved Sewers (Section 2.12), horizontal and vertical alignments should be straight lines between manholes for gravity sewers, and between defined deflection points for force mains.

Force main line and grade requirements are as indicated for water mains. Air release valves are required at high points.

2.10 Minimum Pipe Diameter

- Residential: 200 mm except for the upstream section where future extension is not possible, in which case 150 mm is acceptable provided it has a grade of 1% or greater.
- Commercial and Industrial: 250 mm except for the upstream section where future extension is not possible, in which case 200 mm is acceptable provided it has a grade of 0.6% or greater.
- Service connections: 100 mm
- Sewage force mains: 100 mm.

Gravity sewer mains shall be designed so that the sewer flow does not exceed $d/D = 0.67$ for pipe diameters of 250 mm and less, or $d/D = 0.75$ for pipe diameters greater than 250 mm. (where d =flow depth and D =pipe diameter).

2.11 Minimum Grade

Minimum grades of gravity sewers are as required to obtain the minimum velocity of 0.60 m/s. If the calculated design flow is not expected to produce a velocity of at least 0.6 m/sec., then the minimum grade shall be calculated on the basis of the pipe flowing 35% full at a theoretical velocity of 0.6 m/sec.

Force main grades are as indicated for Water section of these design standards.

2.12 Curved Sewers

Where permitted by the City Engineer, horizontal and vertical curves may be formed using pipe joint deflections as follows (no deflection along the pipe barrel permitted):

- Minimum radius = 60 m.
- Constant radius throughout curve and constant offset to road centreline where possible.
- Joint deflection not to exceed 75% of maximum recommended by pipe manufacturer.
- Minimum design velocity = 0.9 m/s.
- Only one horizontal and/or vertical curve allowed between manholes.
- Curve locations to be accurately recorded on record drawings.

2.13 Depth

Sewers should be of sufficient depth to:

- Permit gravity service connections to basements on both sides of the road.

- The minimum depth of the sewer main (from the surface of the road or ground to the top of pipe) is normally 2.0 m.
- Prevent freezing. Minimum depth is 1.2m (measured from the surface to the top of pipe).
- Allow for future extension(s) to properly service all of the upstream tributary lands for ultimate development.
- Clear other underground utilities.
- Prevent damage from surface loading.
- Maximum cover depth: 4.5 m, except under special circumstances and with the City Engineer's approval. Pump services shall be used on low side where maximum cover would be exceeded.

2.14 Manholes

2.14.1 Manholes are required at the following locations:

- Every change of pipe size.
- Every change in grade, except as indicated in the Curved Sewers section.
- Every change in direction, except as indicated in the Curved Sewers section.
- Upstream and downstream end of curvilinear sewer mains.
- Every pipe intersection except for 100 mm and 150 mm service connections (see Section 2.16).
- Upstream end of every sewer line.
- Every future pipe intersection.
- All terminal ends, except as noted in section 2.14.3.
- 150 m maximum spacing.

Sanitary manhole rim elevation shall not be located in a low point that may be subject to ponding or storm water infiltration and shall be designed to be:

- Above the adjacent storm manhole rim and catch basin elevations.
- Above the surrounding ground elevation when the manhole is located off road to prevent inflow from ponding.

2.14.2 Hydraulic Details

Crown elevations of inlet sewers not lower than crown elevation of outlet sewer. When connecting a collector sewer main to a trunk sewer 300 mm or greater, the invert of the collector main must not connect lower than 0.75D ($\frac{3}{4}$ of the pipe diameter).

Minimum drop in invert elevations across manholes:

- Straight run: 10 mm drop
- Deflections up to 45-degrees: 25 mm drop
- Deflections 45 to 90-degrees: 50 mm drop.

Drop manhole and ramp structures should be avoided where possible by steepening inlet sewers. Where necessary, provide drop structures as follows (table 2.14):

Table 2.14 Drop Structures

Invert Difference	Structure
Up to 0.45 m	Inside Ramp
0.45 to 0.90 m	Outside Ramp
Greater than 0.90 m	Outside Drop*
*Inside drop may be used if specifically approved by the City Engineer.	

Drop manholes and outside ramps must be installed in accordance with standard drawings.

The maximum deflection angle created in a junction is 90°.

Force main discharges should be directed into the receiving manhole outflow pipe. Manhole benching should be extended a minimum 200 mm above the force main crown. If a manhole drop cannot be avoided, an inside drop pipe is required as approved by City Engineer.

2.14.3 Temporary Clean-Outs

Temporary clean-outs may be provided at terminal sections of a main provided that all of the following conditions are met:

- Future extension of the main is proposed or anticipated within 3-years.
- The length of sewer to the downstream manhole does not exceed 45.0 m.
- The depth of the pipe does not exceed 2.0 m at the terminal point.

2.15 Odour Control

Odour control shall be considered in all sanitary sewer systems designs. Of particular importance are areas where sewage has the potential to go septic. This typically occurs within pump station wet wells or sanitary force mains where sewage age exceeds 4 hours. Once the sewage has gone septic odours can be released not only from the pump station but also from the air release valves on sanitary force

mains and the discharge manhole. In this situation odour gasses can be released and cause a significant public nuisance. Hydrogen sulphide is also toxic and explosive and can pose a risk to human health.

By properly designing a sewer system, odours can be reduced and where they can't be avoided technologies exist to reduce or eliminate odour and dangerous gases.

The following criteria must be met in all sanitary sewer systems

- Dissolved sulphide maximum limit at any point in the system is to be 0.5 mg/l.
- Odour Criteria:
 - At 10 m from any gravity main, force main, manhole and lift station or other sewer facility (summer conditions, winds between 2-10 km/h), 1.0 odour units.
 - Where sewer facilities are close to houses, parks or walkways, 0.0 odour units.
- Analysis for odour and sulphides may be required.
- Odour Control provision shall be designed to accommodate both at 25% buildout and at 100% buildout.
- All lift station designs to include odour control or the provision for future odour control facilities.

When selecting the appropriate odour control technologies, the designer shall consider operating variables such as flow rates, power and consumables. It should be recognized that estimating the pre-treatment hydrogen sulfide gas concentrations is critical in evaluating the various technologies. All Odour Control treatment designs to be approved by the City Engineer.

2.16 Service Connections

Every legal lot and each unit of a residential duplex shall be provided with a separate service connection.

Lots are allowed one service connection per property. In special circumstances where the servicing of all buildings on existing Industrial or Commercial properties is not feasible, two services may be permitted if authorized by the City Engineer.

Service connections shall not be extended at an angle that exceeds 45° from perpendicular to the main, and in no case shall a service connection be placed so that it extends in front of any property other than the one being serviced.

Unless otherwise approved by the City Engineer, connections are to service all plumbing by gravity. Building elevations should be established accordingly. Pumped connections may be permitted if approved by the City Engineer prior to sewer design. Pumped connections shall be considered as an option to eliminate mains in rear yard rights-of-way.

2.16.1 Size

- Pipe size is to accommodate peak design flow.
- Minimum pipe size is 100 mm diameter for residential services and 150 mm for all other services.

2.16.2 Location and Depth

Connections to large lots are to be located at the lower portion of each lot. For urban developments, locate connections in accordance with standard drawings. Service connections must be installed at least 0.5 m horizontally from the water service and a minimum of 1.5 m from any side lot line.

Service connections shall not be extended at an angle that exceeds 45° from perpendicular to the main, and in no case shall a service connection be placed so that it extends in front of any property other than the one being serviced.

The minimum depth of a service at the property line must be 1.5 m provided that gravity service to the Minimum Building Elevation is available.

2.16.3 Grade

Minimum grade from property line to sewer main:

- 100 mm diameter pipe: 2.0%
- 150 mm diameter pipe: 1.0%
- Larger sizes: Grade based on minimum velocity of 0.75 m/s.

2.16.4 Details

Use standard wye fittings for connections to new mains. For connections to existing mains, use wye saddles or, where approved by the City Engineer, insertable tees may be used. The service connection centreline must not be below the sewer main centreline.

Service connections may be permitted into manholes provided:

- The connection is not oriented against the flow in the main.
- The connection enters the manhole so the service invert is no lower than the sewer main crown.
- Manhole hydraulic requirements are met.

Inspection chambers (IC) are required for all service connections unless the service is less than 2.5 m long and ties into a manhole. Service boxes are to be installed on every inspection chamber.

Inspection manholes are required on all industrial connections. Inspection manholes will be required for commercial connections at the discretion of the City Engineer. Inspection manholes shall be installed on private property as close to property line as practical to allow for access by the City.

Manholes are required at the main on service connections in accordance with standard drawing.

The maximum length of any service connection is 30 m. Connections exceeding 30 m in length will be treated as mains.

2.17 Locations and Corridors

Sanitary sewers to be located within roadways, preferably along the centerline, as shown in the applicable standard road cross-section drawings. Manhole covers to be located outside of wheel path.

For curved roads and alignments, where approved by the City Engineer, pipe alignment to be at a parallel offset with an established road right-of-way or property line.

Servicing from roadways is required unless a depth of greater than 4.5 m would be required to provide gravity service. Rear yard sewers are to be avoided, and advance approval is required from the City Engineer.

Where the main may exceed 4.5 m depth of cover to provide a gravity service, the City Engineer may permit a design based on sewer pumps. Ideally, main floors should be designed for gravity service.

Where a sewer crosses private land, right-of-way requirements are as indicated in Section 0.3 - Utility Rights-of-Way.

Clearance from water mains as detailed in General Design Considerations Section 0.4.

Common trench with storm sewer per General Design Considerations Section 0.4, may be approved at the discretion of the City Engineer.

2.18 Lift Stations

The use of sanitary lift stations is to be discouraged. Any proposed use of lift stations must receive prior approval from the City Engineer. Sanitary lift stations should normally be located within a right-of-way outside the required road dedication.

This section covers both dry well and submersible sewage lift stations. Larger capacity sewage lift stations or lift stations with special design or siting requirements may require additional assessment

and review of criteria.

Preliminary design must be approved by the City Engineer before detailed design proceeds.

2.18.1 Preliminary Design Requirements

System layout: Select location(s) to minimize the number of sewage lift stations and avoid lift stations wherever practical.

Capacity: The lift station must be designed to handle the ultimate flows of the designated catchment. Design must consider short, intermediate and long-term future flows.

Location and Layout: The location and layout of a lift station must include an assessment of the following basic design considerations:

- Type of station and impact on neighbours.
- Construction dewatering requirements.
- Access for construction.
- Access for maintenance.
- Aesthetics, noise, odour control and landscaping requirements.
- Security against vandalism and theft.
- Flood elevations. Station uplift design must be based on maximum load level.
- Proximity of receiving sewers, water mains, and adequate power supply.
- Minimizing energy requirements.
- Standby power and its compatibility.
- Soils. Geotechnical investigations must be undertaken prior to site approval.
- Convenience of operation and maintenance.
- Safety for operators and public.
- Capital and operation and maintenance costs.
- Radio Path assessment on existing and proposed building line of sight.
- Off street Parking (5 m x 7 m) shall be provided for pump maintenance.
- Fenced perimeter with 1.8 m high black chain link fencing. Fencing to MMCD standards.
- Above ground valve chamber with no ladder or platform requirement for maintenance access.

2.18.2 Design Features

Lift stations should be designed with a minimum of two pumps, each capable of handling the maximum flow condition. A mixer should be provided, or one pump equipped with an automatic flush valve.

Where the design flow exceeds the capacity of a single, commonly available pump, use three or more pumps with capacities such that there is always one pump available for standby.

(1) Pump requirements:

- Capable of passing solids up to 75 mm in size.
- Equipped with appropriately rated stainless steel chain and connecting rings.
- Equipped with hour meters.
- Easily removed for maintenance.
- Maximum motor speed: 1750 RPM.
- Explosion proof.
- Operate on a 347/600 volt electrical source (pump motors between 5 hp and 75 hp (max) and to be 600 volt 3 phase type).
- Able to operate alternately and independently of each other.
- Able to meet maximum flow condition with one pump in failure mode.
- Designed so that each motor does not cycle more than 4 times in one hour under normal operating conditions. For example, in a duplex pump station that is designed to alternate the pump starts, each motor can have a maximum of 4 starts in an hour which could result in a total of 8 motor starts per hour for this station.
- All pumps must be factory tested prior to installation.
- Wet well storage shall be sized assuming pump is fully submersed and will accommodate design flow with no storage in the pipe network.
- All internal piping and fittings shall be 316 stainless steel (Victaulic style) as per Approved Products List.
- Pump start water level to be set above the top of the pump casing to prevent buildup on pump and reduce level monitoring issues.

(2) Motor cables, power cables, etc., must be continuous from within the pump station to within the kiosk unless an adequate exterior pull pit and junction box is installed.

(3) Levels to be controlled by ultrasonic level transmitter with emergency high and low level

balls. A radar level transmitter is required when lift station service is in an area that produces large amounts of "foam" or "steam" e.g. a laundry facility. Level transmitters to be accessible at the top of the wet well to be serviced without entering into the lift station.

- (4) All auxiliary equipment and control panels must be mounted in a suitable kiosk adjacent to the station. The kiosk must be located a minimum of 3.0 m from the station lid.
- (5) The control kiosk must be designed to contain all control and telemetry equipment on the front panel and all power equipment on the rear panel.
- (6) Check valves must be ball lift check valves. All valving to be installed in an above ground kiosk.
- (7) All stations require an explosion-proof exhaust fan which can be activated by manual switch, and which meets WCB requirements for ventilation in a confined space.
- (8) The entrances to all stations must be waterproof and be provided with a suitable lock. The access must be a minimum 900 mm x 900 mm in size. The access hatch shall have:
 - An aluminum ¼" tread plate
 - A perimeter drain
 - A perimeter sealing gasket
 - A slam lock with an aluminum removable sealing plug and opening tool
 - A flush lift handle
 - A gas spring assist cylinder
 - A 90-degree hold open arm
 - A flush fitting padlock tang.

The hatch must be reinforced for 1465 kgs/m² (300 lbs./sq.ft.). All fasteners to be made of 316 stainless steel.

The entrance must be above ground level where feasible but, in no case, more than 300 mm above the ground.

- (9) All wiring must be explosion-proof, Class 1, Division 2, and electrical design and installation is subject to the acceptance of the Provincial Safety Inspector. Metal stations must be protected by impressed current cathodic protection.
- (11) All stations must provide an automatic generator for standby power in case of power failure. Provision for a telemetry system must be included for connection into the Municipality's Telemetry System. For small lift stations with an ultimate capacity less than

100 units, emergency storage may be considered in place of standby power; emergency storage is to be based on 8 hours of average day flows.

- (12) All equipment must be CSA approved and have at least a one year guarantee for parts and labour.
- (13) Designer is to provide three copies of Operating and Maintenance Manuals (see Section 0.8).
- (14) Wet well to have above ground valve chamber that houses the ball check and isolation plug valves for each pump as well as the air relief valve and flow meter. Valve chamber to have at a minimum 50 mm of insulation, 1000W intrinsically safe baseboard heater, door seals, floor drain back to the wet well with p-trap and the air relief drain ports piped to the Valve Chamber floor drain. A plug valve is required on the influent line and on each pump discharge. The valves must be outside the station and be complete with square operating nut and nelson box. Gear box on plug valves in the ground to be designed for submersion.

Mixer to be provided only when required for the purposes of odour control (no automatic flush valves).
- (15) If a lift station is authorized, by the City Engineer, to be constructed in an area that may be subject to vehicle loads, the roof and cover of the pump station should be designed to withstand a loading of H-20 (highways standard). Roof design to also allow for fall arrest assembly on the roof (2X's the max arresting force, typically 1800 lbs).
- (16) Provision(s) must be made for standby pumping from an external source. An adaptor flange ("Kamlock") complete with a quick coupling and lockable cap will be required.
- (17) The area around the station and all associated equipment or building must be asphalted. The size of the area to be determined by the requirements for maintenance.
- (18) Stations to be fiberglass unless otherwise approved by the City Engineer. The surfaces of all steel components and fiberglass stations must receive at least two coats of two component white epoxy enamel. Concrete wet wells are discouraged but where approved, must be designed and constructed to prevent sulphide corrosion, and the concrete surface must be coated with at least 2 coats of blue epoxy and then an additional 2 coats of white epoxy. All steel piping and components to be 316 stainless steel.
- (19) The wet well bottom must be sloped to direct all solids into the pump suction. The influent line must be located tangent to the wet well to encourage scouring of the wet well.
- (20) The station shall be complete with an Uninterruptable Power Supply (UPS) to serve all alarms and controls.

- (21) Separate starter enclosures must be provided for each pump.
- (22) PLC control to be based on City of Kelowna standards.
- (23) Station communication to be provided via radio transmission compliant with the City's telemetry system, and an antenna must be installed on a suitable mast or pole to ensure reliable transmission.
- (24) An hour meter must be built into the panel for each pump.
- (25) An amp meter must be provided for each pump.
- (26) Minimum storage between the high level alarm and the start of overflow under the more critical of:
 - Minimum 1 hour in wet well at average wet weather flow.
 - Minimum 1 hour in wet well and influent pipes at peak wet weather flow.

Ensure operating level is above the top of the pumps to keep the pumps submerged (Minimum 1 m separation between the inlet pipe invert and pump stop level).

- (27) Station to have a magnetic flow meter located in above ground valve chamber.
- (28) Station to allow removal of pumps using hoist truck with 1.8 m (6') boom.
- (29) Perimeter fencing is to be provided. The fence must be made of black chain link and installed with privacy slats. Fence to be minimum 1.8 m high with minimum 5 m wide opening for vac truck access.
- (30) Landscaping, acceptable to the City, is to be provided including irrigation.
- (31) Noise control may be required when criteria in Section 2.16 is exceeded.
- (32) Odour control may be required when criteria in Section 2.17 is exceeded.
- (33) Minimum barrel size must be 2440 mm (8') in diameter.

2.19 Force Main

As part of the lift station design, the following criteria must be noted in the design of force main systems: Design computations for force mains must be made using a 'C' factor of 120 (for PVC pipe)

and then re-calculating the system curve using a 'C' factor of 145 to ensure adequate motor horsepower and pump characteristics. Show pump and system curves on design drawings.

2.19.1 Velocity

At the lowest pump delivery rate anticipated to occur at least once per day, a minimum cleansing velocity of 0.75 m/sec should be maintained. Maximum velocity should not exceed 4.0 m/s.

2.19.2 Air Relief Valve

An automatic air relief valve must be placed at high points in the force main to prevent air locking when the difference in elevation between the invert of the summit and the invert of the valley is greater than the diameter of the pipe. The air relief valve must be located in a chamber, complete with adequate and environmentally safe drainage and odour control, unless a suitable injected odour control agent is used at the Lift Station. Air valve must be vented and drained into the gravity sanitary sewer system at a manhole, where possible.

2.19.3 Termination

Force mains should enter the gravity sewer system so that the force main invert is not more than 200 mm above the crown of the pipe in the receiving manhole. A smooth, turbulent free transition must be incorporated. If the receiving manhole design does not allow this, then a manhole drop structure in accordance with the standard drawings is required.

2.19.4 Size

The minimum size for force mains is 100 mm diameter.

2.19.5 Materials

Force mains must generally meet the standards specified for water mains and in accordance with Schedule 5, however there are specific requirements for force mains that may supersede water main standards, as follows:

- Force main pipe must be identifiably different than water main pipe. Refer to supplemental specifications 5.1 Section 33 34 01S.
- Valves used on force mains, pigging ports or cleanouts shall be lubricated full port plug valves size on size sufficient for long term use in a corrosive environment. Plug valve gear boxes installed in the ground must be designed for submersion conditions.

2.19.6 Loads and Transient Pressures

All force mains must be designed to prevent damage from superimposed loads. Must also be designed to prevent damage from water hammer or column separation phenomena. Transient surge and cyclic surge analysis must provide at least a 75-year life of the pipe.

2.19.7 Corrosion and Odour

Corrosion and odour control is required when limited daytime flows, or long force main lengths cause the pumped sewage to remain in the force main for longer than 45 minutes.

2.19.8 Pigging Port

A "size on size" pigging port that is convenient for the City Operations to use and maintain must be incorporated in the force main outside of the Lift Station.

2.20 Noise Control

Noise levels for facilities must not exceed 65 dB at property line or 20 m away whichever is closer.

2.21 On-site Sewage Disposal (Septic systems)

On-site sewage disposal systems will only be considered for properties that are:

- Not near or adjacent to the City's sanitary sewer system, and
- Greater than 1 ha in size.

Where permitted, site conditions and on-site sewage disposal systems shall meet the BC Public Health Act "Sewerage System Regulation" and Ministry of Health Special Conditions for placing septic systems with Environmental Control Zones. The City Engineer' approval is required for on-site sewage disposal systems.

2.22 Low Pressure Sewers

Low pressure sanitary sewer systems servicing a group of properties is discouraged and requires approval from the City Engineer. Preliminary design must be approved by the City Engineer before detailed design proceeds.

BL8847 replaced Part 3 Drainage

BL11913 replaced Part 3 Drainage

3 Stormwater Management

- 3.1 [General](#)
- 3.2 [Stormwater Flow Control](#)
- 3.3 [On-Site Stormwater Management and Practice](#)
- 3.4 [Runoff Analysis](#)
- 3.5 [Site and Lot Grading](#)
- 3.6 [Minimum Building Elevations \(MBE\)](#)
- 3.7 [Rational Method](#)
- 3.8 [Hydrograph Method](#)
- 3.9 [Minor System Design](#)
- 3.10 [Major System Design](#)
- 3.11 [Runoff Controls](#)
- 3.12 [Outlet Controls](#)
- 3.13 [Drainage Pump Stations](#)
- 3.14 [Erosion and Sediment Control \(ESC\)](#)

3.1 General

The City stormwater system integrates surface water flows collected through the City's infrastructure and the natural watercourses that flow into Okanagan Lake. Proper integrated stormwater management practice mitigates impacts with the goal of maintaining Okanagan Lake as a high quality water source, with an abundant water supply, and with a balanced ecosystem. While urban, agricultural and natural areas all benefit from Okanagan Lake, drainage impacts from our systems must be mitigated, as well as be resilient to flood hazard and a changing climate.

The presence of an existing stormwater management facility does not imply that there is adequate capacity to receive the design flow, nor does it imply the facility is necessarily acceptable to the City. Where required, stormwater facilities must be upgraded to accommodate the appropriate flow as specified in this standard.

3.1.1 Outcomes

With respect to stormwater, the City's goals are to:

- a) Improve and protect water quality from creek flows, outfalls and groundwater entering Okanagan Lake.
- b) Reduce the risk of health hazard, life, and damage to property and infrastructure from flooding, and provide strategies to attenuate peak flows and volumes.
- c) Preserve and protect aquatic and riparian habitat and provide opportunity for restoration.

- d) Minimize risks to the Okanagan Lake drinking water source.
- e) Increase the resiliency of our watersheds to climate change impacts.

This stormwater management standard applies the latest Best Management Practices (BMP) and processes in use in British Columbia. New systems and development within the City are to use the practices described within this Section as a *minimum* standard.

All flows must be routed through sewer pipe, ditching, water courses, riparian areas, or road allowances with the required capacity and right of way access for operation and maintenance. The City requires that major system flows must be safely routed downstream to an adequately sized municipal drain or natural watercourse without impacting private property.

3.1.2 Regulations

Stormwater management designs must conform to this standard, City of Kelowna bylaws, regulations and policies; in addition to federal and provincial statutes where applicable. These include but are not limited to the following: Supplementary Design Criteria

- Existing Master Drainage Plans,
- Local Government Act
- Fisheries Act of BC
- Water Sustainability Act
- BC Water Act
- Navigable Waters Protection Act
- Canada Wildlife Act
- Migratory Birds Convention Act
- Dike Maintenance Act
- Standards and Best Practices for Instream Works (Canada/BC)
- Land Development Guidelines for the Protection of Aquatic Habitat (Canada/BC)
- Urban Runoff Quality Control Guidelines for British Columbia
- National Guide to Sustainable Municipal Infrastructure (Canada)
- Canadian Dam Association Dam Safety Guidelines

3.1.3 Climate Change

The City accepts that climate patterns are changing, and that its customers are impacted by creek flooding, lake rises, temperature fluctuations and fire. The design standards for infrastructure outlined in this bylaw are to be considered a minimum expectation. The City requires that design professionals consider impacts of climate change, through potential changing weather patterns or water levels when implementing a design; particularly in components where critical and long term

design decisions are being made, or in areas where the consequence of failure is high.

To account for a changing climate, the capacity of storm works will include an additional 15 percent (15%) upward adjustment, and applied to the rainfall intensity curve stage (IDF) in Section 3.7.2. This is consistent with recommendations in EGBC (2018): Legislated Flood Assessments in a Changing Climate in BC.

The design professional will be required to consider debris flow and flow management as a result of higher peak flows.

On larger projects, basin characteristics are required elements of the Stormwater Management Plan (See Section 3.2.1). Developers will need to anticipate this form of analysis as part of their overall cost strategy.

3.1.4 Hillside Areas

Hillside areas or areas of poor infiltration conditions have been identified by the City in Drawing **SS-S58**.

- a) For development in Hillside Areas, the City focus is on safe conveyance of water. Roof or site drainage must discharge directly to the storm system. This focus is to not allow infiltration to ground except for foundation drainage. Where storm drains are not available or not considered feasible, minor system designs (see 3.2.a below) will require a hydrogeological review provided by a qualified Professional (P.Eng. or P.Geo.) to ensure that site infiltration is possible while not exceeding pre-development conditions, not impacting slope stability or off-site seepage, or not directly impacting downhill properties. The terms of reference of the review must be confirmed by the City Engineer and approved as a condition for obtaining a Development Permit.
- b) For new development where Groundwater Recharge is designated **Not Suited**, the City will not permit minor systems (see Item 3.2a) to infiltrate to ground.

3.2 Stormwater Flow Control

The City's Stormwater Management system consists of three main components:

- a) **The Minor System** consists of sewer pipes, gutters, catch basins, driveway culverts, open channels, watercourses and storm water management BMPs designed to capture, convey, treat or modify flows up to a 5-year return design event as directed by the City.
- b) **The Major System** consists of surface flood paths, roadways, roadway culverts, channels and storm water management facilities designed to capture, convey, treat or modify larger flows up to a 100-year return design event. A piped minor system may be enlarged or supplemented to accommodate major flows. Major roads and arterials, bridges and creek protection armouring are to be designed for the 1 in 200 year event. This is discussed further in Section 3.10.
- c) **The Natural System** consists of all natural lakes, rivers, creeks, streams and ephemeral drains that flow naturally downstream ultimately to Okanagan Lake. Natural system capacity and water quality

can be impacted negatively by incoming Minor or Major systems.

3.2.1 Stormwater Management Plan

Stormwater Management Plans are required for all municipal development. A plan should include the following:

- a) Tributary areas in the catchment which identify existing and potential land uses or current development.
- b) References to applicable Area Stormwater Drainage Plans.
- c) Details indicating how the proposed site relates to the Master Plan and its recommendations. Contours at 0.5 m elevation intervals.
- d) Conceptual lot grading patterns.
- e) Existing watercourses, including environmental classifications and/ or fish presence information, if available.
- f) Layouts of existing and proposed drainage systems.
- g) Major flow paths to a municipal drain or natural watercourse without impacting private property.
- h) Proposed control features to meet the water quantity and quality targets identified in the applicable Master Plan
- i) Locations, sizes, design flows, volumes, and capacities of all existing and proposed works.
- j) Capacity assessment of receiving downstream works, or reference to the applicable Master Plan demonstrating adequate capacity. The City will provide the required stormwater area plans upon request.
- k) Minor and Major hydraulic grade line elevations on profiles for all proposed works.
- l) Proposed service connection locations and their associated minimum building elevations (MBE). Pre and post development flows both entering and leaving the subject lands.
 - i. Pre development is defined as the natural condition prior to any development changes, including those resulting from past development activities.
- m) The City may exempt plan requirements for development in rural or agricultural areas upon request or determination by the City Engineer.

3.3 On-Site Stormwater Management and Practice

3.3.1 Storm Effluent Limitations to City Storm System

- a) For structures designed or constructed above the proven high groundwater table, intermittent stormwater pumping will be permissible to the City stormwater system where approved by the City Engineer. All operations and testing must be consistent with the

requirements in Sanitary Sewer/Storm Drain Regulation Bylaw 6618.

- b) Where structures are designed or constructed below the proven high groundwater table, permanent groundwater pumping will not be permitted to discharge to the storm system. The City will approve designs that include provisions for eliminating groundwater penetration into the structure, while addressing buoyancy concerns. These design aspects must be reviewed and approved by the City Engineer.
- c) Refer to the latest BC Building code for drainage discharge requirements in parkades.

3.3.2 Water Quality

Whether water is routed through creeks, pipelines or infiltration into ground, the City will require consideration for treatment, emergency management and maintenance of the stormwater infrastructure and water quality. Stormwater designs on private property must meet or exceed minimum water quality guidelines prior to entering the City storm system. Water quality for a minor system flow (50% of the 1 in 2-year) must meet minimum BC Ministry of Environment Recreational Water Quality Guidelines and as per Sanitary Sewer/Storm Drain Regulation Bylaw 6618 .

3.3.3 Construction Sites

The City storm system can be used for temporary site water management provided the water quality exiting the property meets BC Ministry of Environment Recreational Water Quality Guidelines. This temporary use must be approved by the City prior to issuance of the Development Permit and/or Building Permit, following a confirmation of capacity within the downstream system, and adequacy of the quality of storm effluent. There must be no discharge to the sanitary sewer system.

3.3.4 High Density Residential, Commercial and Industrial Storm Systems

- a) A control manhole is to be installed within 3 metres of the property line, and downstream of any water quality enhancement system. The manhole will include provision for isolating runoff into the City Storm system.
- b) The City requires access to the structure in an emergency and inspection. An SROW is required. Provisions must be considered for response to emergency toxic spills on site. Any costs associated with emergency response are the responsibility of the property owner.
- c) Water quality enhancement systems such as oil/grit separators, fuel/water separator (where required), naturalized storm ponds or other approved systems are the responsibility of the site owner, and must be maintained on a regular basis. The City can request regular maintenance records.
- d) Minor system flows must meet water quality guidelines described above prior to discharging to a creek or city storm system.
- e) On industrial sites where perforated storm systems or dry wells are used, the design must include provisions to manage emergency spills on site and minimize groundwater impacts.

3.4 Runoff Analysis

Storm drainage design should be carried out using one or both of the following methods. Calculations are to be submitted with designs.

- a) **Rational Method:** To be used only for hydrologically simple and uniform areas with contributing area less than 10 Ha.
- b) **Hydrograph Method:** Applicable for all larger areas or more hydrologically complex catchments, or where stormwater management systems require more than basic conveyances. Use SWMM based models or approved equivalent to analyze these processes. Each model must include a level of complexity dependent on the watershed and the hydrologic processes that need to be considered (e.g., detention, groundwater recharge and infiltration, evapotranspiration, continuous simulation, etc.).

For all modelling, use the rainfall Intensity Duration Frequency (IDF) curves found in standard drawing **SS-S56**. Both historical data as well as climate change information must be incorporated into the runoff analysis.

3.5 Site and Lot Grading

Grading is to comply with the BC Building Code and the following:

- a) Swales and site drainage must be constructed to prevent ponding within lots, with runoff routed, where possible, to storm services in public streets or other appropriate stormwater management system for the site.
- b) Grade lots to drain to an approved City drainage system or roadway. Use 1% minimum grade. Grading directly to a natural drainage path must include adequate erosion control and water quality improvement measures.
- c) Avoid drainage across adjacent lots. Where cross-lot drainage is unavoidable, provide adequate measures such as channelling, swales, inlets or piped connections to direct flow appropriately. A statutory right of way in favour of the City or private easement is required for unobstructed access.
- d) Positive drainage is required for buildings and foundations.
- e) Set building elevations above the hydraulic grade line (HGL) of the major drainage system as per Minimum Building Elevations (MBE) guidelines below.

3.6 Minimum Building Elevations (MBE)

The MBE applies to the elevation of the lowest floor slab in a building or the underside of the floor joists where the lowest floor is constructed over a crawl space. Crawl space is defined as the space between a floor and the underlying ground having a maximum height of 1.2 m to the underside of the joists and not used for the storage of goods or equipment damageable by flood waters.

The MBE is to be at least 0.60 m above the storm sewer service connection invert and 0.30 m above the major drainage system hydraulic grade line (HGL), whichever governs except where permissible on Hillside development where:

- foundation drains are disconnected from the storm main; or
- intermittent foundation pumping has backflow prevention.

For developments within close proximity to the Okanagan Lake shoreline, the MBE is elevation 343.66m. Further consideration shall be given to wind and wave action when setting the required MBE.

For sites near a watercourse where a floodplain elevation has been established through flood mapping, the MBE is to be a minimum of 300mm above the 200-year return period peak flood elevation or as per City of Kelowna Mill Creek Flood Plain Bylaw No. 10248. Where a flood elevation has not been established, setbacks are to be as per the Provincial guidelines or 1.5 metres above the natural boundary of any watercourse, lake, marsh or pond.

3.7 Rational Method

The Rational Method for calculation of peak flows is as follows:

$$Q = R A I N$$

Where:

Q = Peak flow in cubic metres per second (m³/s)

R = Runoff Coefficient (C) x Adjustment Factor (C_{AF5})

A = Area of catchment in hectares (ha)

I = Intensity of rainfall (mm/hr)

N = 1/360

Factors for use in the Rational Formula are indicated below.

3.7.1 Runoff Coefficients (C)

The following runoff coefficients are for use with the Rational Formula. These coefficients are for general application only. Design values are subject to verification by the designer and approval by the City. Higher values may be applicable in those areas which experience rainfall during the winter when the ground is frozen.

Table 3.7.1 Runoff Coefficients (C)

Land Use	Percent Impervious	C	
		Minor Storm (1:5 year)	Major Storm (1:100 Year)
Residential			
• Suburban Residential (Lots>0.4 ha)	20%	0.35	0.40
• Low Density (Single Family)	40%	0.50	0.55
• Medium (Multi-Units Detached)	65%	0.60	0.65
• High Density (Multi-Units Attached)	90%	0.85	0.90
Commercial	90%	0.85	0.90
Industrial	90%	0.85	0.90
Institutional (e.g. Schools)	80%	0.75	0.80
Parks/Grasslands	20%	0.20	0.30
Cultivated Fields	30%	0.30	0.40

Runoff Coefficient Adjustment Factor (C_{AF})

An adjustment factor is to be applied to the runoff coefficient to reflect variations in soil permeability and slope.

Table 3.7.2 Runoff Coefficient - Soil Adjustment Factor (C_{AF})

Soil type and Slope	C_{AF}
Sandy soil with flat slope (up to 5%)	0.9
Sandy soil with steep slope (over 5%)	1.0
Clayey soil with flat slope (up to 5%)	1.0
Clayey soil with steep slope (over 5%)	1.1
Rock	1.1

Note: The above runoff coefficient adjustment factors are subject to verification by the designer. The product of C and C_{AF} can not exceed 1.0.

3.7.2 Rainfall Intensity (I)

Rainfall intensity for use in the Rational Method should be determined using the rainfall IDF curve in standard drawing **SS-S56** for the City of Kelowna. This curve was developed from the Atmospheric Environment Service recording station located at the Kelowna international Airport. To account for climate change, as noted in Section 3.1.3, a **15 percent increase (15%)** will be applied to the intensity derived from the IDF curve. The duration is equal to the Time of Concentration (T_c), as calculated below.

Time of Concentration (T_c)

The time of concentration is the time required for runoff to route from the most remote part of the catchment area under consideration to the design outlet node. The time of concentration can be calculated using the following formula:

$$T_c = T_i + T_t$$

Where:

T_c = time of concentration (minutes)

T_i = inlet or overland flow time (minutes)

T_t = travel time in sewers, ditches, channels or watercourses (minutes).

Inlet or Overland Flow Time (T_i)

Typical inlet times for urban areas, assuming BMP's are not applied, are as follows:

- | | |
|--|------------|
| a) Single Family Lot | 10 minutes |
| b) Multi-Family Lot | 8 minutes |
| c) Commercial/Industrial/Institutional | 5 minutes |

For relatively flat areas, the inlet time for larger areas can be calculated using the "Airport Method" as follows:

$$T_i = \frac{3.26 (1.1 - C) L^{0.5}}{S^{0.33}}$$

Where:

T_i = inlet time (minutes)

C = runoff coefficient (See above)

L = travel distance (Maximum length = 300 m)

S = slope of travel path (%)

Travel Time

The travel time for routing in sewers, ditches, channels or watercourses can be estimated using

the Modified Manning formula:

$$T_t = \frac{L n}{60 R^{0.667} S^{0.5}}$$

Where:

T_t = travel time (minutes)

L = length of flow path (m)

n = Manning roughness coefficient:

0.050 Natural channels

0.030 Excavated ditches

0.013 Pipe and concrete lined channels.

R = Hydraulic radius = Area/Wetted Perimeter (m)

S = slope (m/m)

3.7.3 Design Summary Sheet

All design calculations are to be tabulated and shown on the design drawings, or in a report and summarized on design drawings.

3.8 Hydrograph Method

Analysis using the Hydrograph Method requires computer modeling capable of analyzing the hydrologic characteristics of the watershed and generating runoff hydrographs.

For City applications, SWMM based models are appropriate. The City of Kelowna must be consulted before selecting a more specialized software program.

3.8.1 Modelling Procedures

Modelling results are to be calibrated using observed historical rainfall and flow data from the design watershed. Sensitivity of the model predictions to variations of key parameters should be tested and the findings used to develop a realistic and conservative model.

At a minimum, post-development hydrographs are to be generated at key points of the drainage system for a 5-year and 100 year design storm with durations of 1, 2, 6, 12, and 24 hours for each development condition. A different range of storm durations may be appropriate, subject to City approval. This will identify the critical storm event to be used in designing the system component. Note that the storm durations that generate the critical peak flow may be different from the durations that generate the critical storage volume.

Systems with a number of interconnected ponds or with restricted outlet flow capacity may require a more detailed analysis for sequential storm events or modelling with a continuous rainfall record.

Detailed designs should include hydraulic grade lines (HGLs) of the minor and major systems plotted on profiles of the minor system components and compared with MBE to demonstrate flood protection.

3.8.2 Submission of Modelling Results

Modelling results are to be submitted to the City in a report or drawing containing at least the following information:

- a) Stormwater Control Plan as defined in Section 3.2,
- b) Name and version of modelling program(s)
- c) Parameters and simulation assumptions.
- d) Design precipitation details.
- e) Pre-development and post-development hydrographs.

3.9 Minor System Design

The minor system includes all drainage works that collect, convey, detain, divert and intercept design storm runoff. The minor design event must be the 5-year design storm.

3.9.1 Pipe and Channel Capacity

Use Manning's formula.

$$Q = \frac{A R^{0.667} S^{0.5}}{n}$$

Where:

A = Cross sectional area in m²

R = Hydraulic radius (area/wetted perimeter) in m

S = Slope of hydraulic grade line in m/m

n = Roughness coefficient:

0.013 for all smooth pipes.

0.024 for corrugated pipes and culverts.

3.9.2 Flow Velocities

a) Pipes/Culvert Flow

- i. Minimum design velocity for pipes flowing full or half full: 0.60 m/s.
- ii. Where grades are greater than 10%, measures are required to prevent pipe erosion and movement such as control structures and/or tie-backs and anchor blocks.
- iii. Where a storm sewer discharges into a watercourse, provide riprap bank protection and, if necessary, energy dissipation facilities. Avoid discharge perpendicular to stream flow.

b) Conveyance channels must be armoured and sized for a 1:100-year event. For riprap design chart see standard drawing **SS-S57**.

c) Road Ditches

- i. Maximum road ditch velocity is 0.5 m/s without armouring.
- ii. Ditch Inlets - Ditch inlets to storm sewers must include wing wall structures, safety grillage for large pipes (>600 mm diameter), debris screens and sedimentation basins.

3.9.3 Alignment

Except as indicated for Curved Sewers, horizontal and vertical alignments are to be straight lines between manholes.

3.9.4 Minimum Pipe Diameter

• Storm Sewers	250 mm
• Culverts crossing roads	450 mm
• Culverts crossing driveways	300 mm
• Catch Basin Leads	200 mm
• Double Catch Basin Leads	250 mm

Downstream pipe sizes are not to be reduced unless the downstream pipe is 600 mm diameter or larger and increased grade provides adequate capacity. Detailed hydraulic analysis is required. The maximum reduction is one standard pipe size.

3.9.5 Minimum Grade

Minimum grades of storm sewers are as required to obtain the minimum velocity of 0.6 m/s at design flow except for catch basin leads and service connections, for which minimum grades are as indicated in Section 3.9.12, Service Connections.

3.9.6 Curved Sewers

Where permitted by the City, horizontal and vertical curves may be formed using pipe joint deflections as follows:

- a) The radius of the curve is to be no less than the recommended manufacturer's minimum radius of curvature at a constant radius.
- b) Horizontal curves must be parallel to the centre line of road at a constant offset.
- c) Only one horizontal curve is permitted between manholes, unless the mainline is installed and appropriately anchored outside the road on a steep hill slope requiring multiple vertical curves.
- d) Where the pipe curve does not have a consistent offset from a road centre line, the offsets must be properly referenced on Record Drawings.
- e) Subject to City Engineer approval, curved storm sewer systems larger than 600 mm diameter may include deflections formed by mitred bends to a maximum mitre of 45°.

3.9.7 Depth

The minimum depth of the sewer must be sufficient to provide all service connection piping with a minimum cover of 1.2m to the top of the service, anywhere within the finished right-of-way. In no instance shall the cover over the crown of the sewer main be less than 1.2m when installed in travelled areas. The depth of course can be reduced to 1.0m when installed outside of travelled areas.

- a) The maximum depth of cover must be 4.5m, except under special circumstances and with permission of the City Engineer.
- b) For catch basin leads, the minimum depth of cover is 0.90m.

3.9.8 Pipe Joints

All pipe joints are to be watertight.

3.9.9 Perforated Storm Pipe

- a) The City will only consider the installation of perforated storm sewers and/or dry wells to discharge water back to the ground where soil conditions, slope and water table elevation are suitable. The perforated pipe system design must be designed to provide surcharge conditions.
- b) Perforated pipes can only be installed in areas of the City described as "Possibly Suited" in the Groundwater Recharge Suitability Map in Standard Drawing **SS-S58** and confirmed by a hydro-geotechnical site investigation.

3.9.10 Manholes

- a) Manholes are required at:
 - i. Every 150m or less.
 - ii. Every change of pipe size.
 - iii. Every change in grade, except on curvilinear pipe alignments.
 - iv. Every change in direction, except on curvilinear pipe alignments.
 - v. All terminal sections.
 - vi. Every sewer main intersection.
- b) Placement of manholes in existing or future wheel paths must be avoided.
- c) Manhole sizes must be in accordance with the Standard Drawings: Manhole connection details as per MMCD S3 & S4, or City of Kelowna supplemental standard drawing **SS-S1a**.
- d) Hydraulics: Crown elevations of inlet sewers not lower than crown elevation of outlet sewer. When connecting a collector sewer main to a trunk sewer 300 mm or greater, the invert of the collector main must not connect lower than 0.75D ($\frac{3}{4}$ of the pipe diameter).
- e) Minimum drop in invert elevations across manholes:
 - i. Straight run: 10 mm drop
 - ii. Deflections up to 45 degrees: 25 mm drop
 - iii. Deflections 45 to 90 degrees: 50 mm drop
- f) Drop manhole and ramp structures should be avoided where possible by steepening inlet sewers. Where necessary, provide drop structures as follows (table 3.9.10):

Table 3.9.10 Drop Structures

Invert Difference	Structure
Up to 0.45m	Inside Ramp
0.45 to 0.90 m	Outside Ramp
Greater than 0.90 m	Outside Drop*

*Inside drop may be used if specifically approved by the City Engineer.

- g) Drop manholes and outside ramps must be installed in accordance with standard drawings.
- h) Hydraulic losses are to be calculated for manholes with significant change of grade or alignment. For high velocity flows, particularly for pipes 600 mm or larger, detailed analysis is required using the Froude number, or utilizing appropriate computer models. The Manning's equation should not be relied on for pipe slopes above 10%. For low to moderate

velocities and smaller pipes, use the following formula:

$$H_L = k v^2 / 2g$$

Where:

H_L = head loss (m)

v = flow velocity entering junction (m/s)

g = gravitational acceleration (9.81 m/s²)

k = head loss coefficient (1.0 for channelled 90° bends and tees, to 1.5 without channelized benching)

Where benching is used, the minimum drops listed above are applicable for velocities below 1 m/s. Where flows exceed 1 m/s, H_L should be specifically computed and used as the drop across the junction.

3.9.11 Catch Basins

- a) Catch basins are required at regular intervals along roadways, at intersections and at low points to:
 - i. Prevent overflows to driveways, boulevards, sidewalks and private property.
 - ii. Avoid interference with crosswalks.
 - iii. Avoid low points in curb returns at intersections.
- b) Catch basin leads are minimum 200 mm diameter.
- c) Minimum grade of a catch basin lead is 1%.
 - i. Catch basin leads require a 0.9 m minimum cover. If 0.9 m is not available, design to protect from freezing and traffic loads; design calculations must be provided.
- d) Spacing is to provide sufficient inlet capacity to collect the entire minor flow or major flow, where required, into the sewer system.
- e) Local suppliers are required to provide rating curves for available catch basin grates. As a general rule, space catch basins to drain maximum impervious areas of:
 - i. 500 m² on roads with grades up to 4%,
 - ii. 400 m² on roads with grades greater than 4% at 100 m maximum.
- f) Lawn basins are required on boulevards and private properties where necessary to prevent ponding or flooding of sidewalks, boulevards, driveways, buildings and yards.
- g) Double or twinned catch basins must not be connected directly together, rather one basin will be wyed into the lead of the other. Maximum lead length to the mainline must be 30 meters and be minimum 250mm diameter. Each CB will have a trapping hood (standard drawing **SS-S54**).
- h) Double or twinned catch basins are to be provided at all sag points or sump locations as a minimum. Inlet calculations are required where the major storm needs to be accommodated,

such as downhill cul-de-sacs or where there is potential for excessive ponding or overflow onto private property.

- i) Oversized grates and/or secondary emergency inlets must be considered where leaves and/or debris collection is anticipated.

3.9.12 Service Connections

Service connections to the City storm system are required for all multi-family, commercial, industrial and institutional land uses.

Single Family Residential service connections to the City Storm system are required in instances where site conditions do not provide for safe infiltration or dispersal of storm water on site. The safe use of infiltration is to be confirmed by a qualified Professional.

a) Service connection requirements:

- i. The minimum storm service diameter for any property is 150mm.
- ii. Inspection chambers (ICs) are required to be installed as per **SS-S7** and **SS-S9**. Where this is not possible, identify offset on the record drawings and service card. An IC is not required on residential connections where the service is less than 2.5 m long and connected directly into a manhole.
- iii. Refer to Drawing **SS-S50** for all service connection requirements to a storm mainline.
- iv. All storm services 200 mm and larger require a manhole either on the storm mainline or on the storm service at the property line. The service manhole must be offset from the property line a sufficient distance to ensure replacement will not impact private property.
- v. Flow control manholes are to be installed on the private side of the property line as per Drawing **SS-S55**.
- vi. Service connections are permitted into manholes as per Drawing **SS-S1a**.
- vii. Depth to be minimum 1.2 m.
- viii. Minimum grade from property line to storm sewer main is 2%.
- ix. Wye fittings are preferred for service connections into proposed City storm sewers. Insertable tees are permitted into 250mm or larger existing mains.

b) Roof Leaders (drains):

- i. Where permissible and not in Hillside Areas, roof water is expected to be contained on site as part of best management practices to meet requirements for pre-development storm rate. Acceptable best management practices include splash-pad onto green space, rain harvesting systems or appropriately sized rock pits where soil infiltration parameters permit.
- ii. Roof leaders are not permitted to be directed to any infiltration device or soak away

pit near to or part of an engineered retaining wall or reinforced earth structure.

- iii. Roof leaders or inlets from downward sloping driveways in Hillside Areas must be connected to the City storm sewer.

c) Perimeters Drains

- i. Perimeter drains for buildings are required as per the British Columbia Building Code.
- ii. Discharge may be to the surface or a soak away pit.
- iii. Foundation perimeter drains are not permitted to be directed to any infiltration device or soak away pit that impacts an engineered retaining wall or reinforced earth structure.
- iv. Foundation perimeter drains can be routed by gravity through a storm service to the storm sewer provided that:
 - the elevation of the basement/crawlspace floor is at least 600 mm above the MBE (Section 3.6), or
 - 600 mm above the anticipated or known high ground water table, or
 - 600 mm above the 100 year hydraulic grade line within the sewer main at that point, whichever is higher.
- v. Where a sump pump is required, a backflow prevention device must be installed as part of the mechanical configuration to prevent backflow into a basement from the City Storm sewer.
- vi. As per Section 3.3.1, permanent groundwater pumping is not permitted to City storm sewers.

3.9.13 Perforated Sub-Drains

Perforated subsurface drainage systems designed for the purpose of permanent groundwater level reduction are not permitted to be connected to the City Storm sewer system.

3.9.14 Locations and Corridors

Wherever possible, storm sewers and service connections should be located within the public road right of way. Side or rear yard easements should be avoided where possible. Where it can't be avoided, statutory right-of-ways will be required for permanent City access.

3.10 Major System Design

The major drainage system includes all drainage pathways that convey, detain and/or intercept flows in excess of the capacity of the minor system. Its primary purpose is to provide flood protection for the 1:100 year return event. The major system generally includes surface flow paths such as ditches, swales, sewers, roadways, plus roadway culverts and watercourses.

3.10.1 Surface Flow Routing

All surface flows should have specially designed routes that are preserved and protected by right-of-ways and are accessible for maintenance. Design criteria include:

- a) HGL is to be at least 600 mm below the MBE of adjacent buildings.
- b) Maximum flow depth on roadways: 300 mm. Boulevards and intersecting driveway profiles will need to be set such that roadway surface flows are contained within the public right-of-way.
- c) One lane, or a 3.5 m width at the crown of each roadway, is to be free from flooding.
- d) Where a roadway is used as a major flow path, the road grades are to be designed to accommodate and control the flow at intersections.
- e) Flood routing is not permitted on to private property except in engineered flow channels or sewers protected in a statutory right-of-way.
- f) Overflow routes are required at all sags and low points in roadways and other surface flow routes.
- g) Major flood routes are required to exit down-slope in cul-de-sacs with Statutory Rights of Way established.

3.10.2 Surface Flow Capacity

Flow capacity of road surfaces and swales can be calculated using the Manning formula, presented in Section 3.9.2, Time of Concentration. Typical values of the Manning Roughness Coefficient "n" are:

- a) 0.018 for paved roadway
- b) 0.03 for grassed boulevards and swales
- c) 0.04 to 0.10 for irregular or treed channels.

Design detail is to include consideration of flow velocities and the potential requirement for erosion control measures. Ditches should be designed using a low n-value to determine velocity and provide the basis for stable channel design and a high n-value to determine ditch capacity and free board to prevent flooding or submergence of adjacent roadway subgrades.

3.10.3 Piped System

As noted in Section 3.2.1, the minor drainage system may be enlarged or supplemented to accommodate major flows in special circumstances. Modifications to the design criteria must be included in Stormwater Management Plan. Design considerations include:

- a) Provision of adequate inlets to accommodate major flows. Capacity calculations are to be provided in the Stormwater Management Plan.

- b) The requirement for surface overflow routes at potential surface ponding locations.
- c) Flow depth and velocity.
- d) Where applicable, design in accordance with minor drainage system guidelines.

3.10.4 Culverts and Bridges

The following service levels are to be used for design:

Road Class	Design Flood Frequency for Bridges and Culverts
Arterial and Collector	1:200 Year Flood
Local	1:100 Year Flood + provision for overflow if on major channel

The fishery value (aquatic classification) of the watercourse will establish the design requirements for the crossing. Particular designs will apply if fish passage is needed. Approvals are required under the BC Water Act and the Federal Fisheries Act, and may be required under the federal Navigable Waters Protection Act.

Culvert design is to be in accordance with the procedures outlined in an applicable design manual including but not limited to:

- a) American Concrete Pipe Association - Concrete Pipe Design Manual
- b) Corrugated Steel Pipe Institute - Handbook of Steel Drainage and Highway Construction Products.
- c) Standards and Best Practices for In-stream Works - Culverts, Province of British Columbia and DFO.

Inlet and outlet protection is required for all major system culverts. Design considerations are to include inlet control and outlet control conditions, energy dissipation and erosion control measures.

The City requires all municipal channel culverts 500mm or greater to be constructed with headwalls, end-walls and safety grillage as per Standard Drawings.

3.10.5 Watercourses

Natural watercourses are integral components of both the major drainage system and the ecological system. Riparian areas are to be preserved and/or enhanced to sustain habitat for aquatic and other wildlife as well as convey storm runoff.

Increases in peak storm flows and volumes to major watercourses and receiving waters shall be minimized. Consideration must be given to fish bearing streams and to streams presently at capacity.

Designers must consider all federal, provincial and municipal laws, regulations and guidelines noted above, and must obtain comments and approvals from the appropriate agencies.

Runoff Controls

Runoff controls are required to meet the objectives indicated previously. The controls may include:

3.10.6 Detention Storage

Detention storage is used to capture and store water on site to assure that storm releases are limited to the pre-development release rate for a 1 in 5 year storm. Drainage Basin Plans are available upon request to the City Engineer.

As a guideline, detention storage is not required on any lands west of Richter Street between Bernard Avenue to the north and Wardlaw Avenue to the South unless approved by the City Engineer. Where peak flow rates or volumes are increased and will cause detrimental impacts, provisions for downstream improvements must be provided in order to mitigate the impacts.

Detention storage options and design guidelines include the following:

3.10.7 Parking Lot Storage

- a) Requires detailed lot grading design to ensure proper drainage, pedestrian safety and convenience, and major flow paths .
- b) Maximum ponding depth: 300 mm outside vehicle stalls, 150 mm within vehicle stalls, however, also with consideration to frequency of ponding and impact to users of the parking lot.

3.10.8 Underground Storage

- a) Facilities include tanks and oversized pipes, with outlet controls.
- b) Tanks, fencing and graded slopes to be constructed off-line and on-site.
- c) Cross sections and inlet and outlet locations should be designed to minimize maintenance requirements.
- d) Structural design to accommodate traffic loads and groundwater pressure.
- e) Maintenance access provisions required.

3.10.9 Dry Detention Ponds

- a) Intended to provide storage only during severe storm events.
- b) May be on-line or off-line, although off-line is preferred. Fencing and graded slopes required.
- c) May accommodate active recreational uses.
- d) Overflow elevations to be coordinated with MBEs.
- e) Emergency overflow spillway to be constructed for 1:100yr storm event.
- f) Design details, other than discharge rates should be in accordance with current technologies as outlined in Land Development Guidelines for Protection of Aquatic Habitat (Canada/BC).
- g) Provide warning signage indicating facility is a stormwater detention structure subject to flooding or rapid water level changes. Signs to be posted at all public access points or road frontages.

3.10.10 Wet Detention Ponds

- a) Intention is to provide on-line detention storage and maintain a permanent minimum water levels.
- b) Catchment area must be large enough to provide sufficient base flow to ensure wet storage and is sustained without becoming stagnant (based on local hydrologic characteristics).
- c) Generally located off-site, and must include fencing and graded slopes on-site.
- d) Can provide a public amenity within a passive park.
- e) Overflow elevations to be coordinated with MBEs.
- f) Design details, other than discharge rates, should be in accordance with current technologies as outlined in Land Development Guidelines for the Protection of Aquatic Habitat (Canada/BC), and related documents.
- g) Provide warning signage indicating facility is a stormwater detention structure subject to flooding or rapid water level changes. Signs to be posted at all public access points or road frontages.

3.10.11 Subsurface Disposal / Infiltration Systems

- a) These systems are intended to promote stormwater retention and groundwater recharge.
- b) Suitable for high permeability soils with low groundwater elevation. Geotechnical investigation is required.
- c) Design details should be in accordance with current technologies as outlined in Infiltration systems guidelines in Land Development Guidelines for the Protection of Aquatic habitat (Canada/BC), and related documents.

- d) Stormwater infiltration basins planned for Hillside Areas must be designed by a qualified Professional with experience in hydrogeology. The design must be reviewed and confirmed by the City Engineer. See Section 3.1.4.

3.11 Outlet Controls

Outlet controls for storage facilities may be designed using the standard orifice and weir equations:

Orifice Equation:

$$Q = C A (2 g h)^{0.5}$$

Where:

Q = release rate (m³/s)

C = orifice coefficient (0.62 for sharp or square edge, 0.85 for rounded edge)

A = area of orifice (m²)

g = gravitational acceleration (9.81 m/s²)

h = net head on orifice (m)

Weir Equation:

$$Q = CLH^{1.5}$$

Where:

Q = release rate (m³/s)

C = weir coefficient

L = effective length of weir crest (m)

H = net head on weir crest (m)

Larger storage facilities are to include provisions for discharges at rates greater than the design release rate (i.e., major storm event and emergency conditions). Rapid drawdown of the water level may be necessary for emergency purposes or to restore the available storage to accommodate subsequent storm events. Simple reducers are permitted on smaller facilities.

Orifices shall be fixed and designed to pre-development outflow rate. Adjustable mechanisms such as slide gates or removable orifice plates are not permitted unless approved by the City Engineer.

Design of inlet and outlet structures is to include consideration of energy dissipation and erosion control. Safety grates are required over all inlet and outlet openings larger than 500 mm diameter. Locks for access hatches are required.

The following is an introductory list of some runoff controls focused on water quality treatment.

- a) Bio-filtration Swales and Constructed Wetlands
- b) Intended to provide bio-filtration and sediment removal.
- c) May be designed to provide on-line detention storage as well as quality treatment.

- d) May be located on-site or off-site.
- e) Qualified professional required for design.
- f) Design requires consideration of climatic conditions.

3.11.1 Oil and Grit Separators

Oil and Grit Separators are required:

- a) On site with parking for 50 or more vehicles (does not apply to parkades).
- b) On all industrial zoned properties, unless it can be proven that there is no risk of storm water contamination.
- c) Supplier design details are required.

Design criteria for Oil and Grit Separators must include:

- a) Devices must have a current Canadian Environmental Technology Verification (ETV) or ISO 14034 ETV verification.
- b) A target Total Suspended Solids removal of 60% of the ETV Particle Size Distribution.
- c) Performance predictions for all proposed units.
- d) A maintenance plan and commitment from all Owners. This will be included in the business license renewal.
- e) A location on-site, including a Statutory Right of Way or covenant on title should the City need to inspect the unit.

3.11.2 Oil/Water Separators

- a) Required for gas stations, vehicle service areas and storage areas for highway vehicles and construction equipment.
- b) Design details in accordance with current technologies as outlined in Urban Runoff Quality Control Guidelines for British Columbia.

3.12 Drainage Pump Stations

Drainage pump stations are not commonly used in the City. Where drainage pumping is required, the designer must review the design concept and proposed guidelines with the City, submit a pre-design report and obtain approval of the City before proceeding with design. At a minimum, the pre-design report should include the following:

- a) Delineated catchment area map
- b) Estimated flows and HGL
- c) Pump station location

- d) Connection to existing infrastructure.

3.13 Erosion and Sediment Control (ESC)

All construction projects in the City require an Erosion and Sediment Control (ESC) Plan approved by the City. Storm water runoff from construction sites commonly contains significantly higher contaminant concentrations than storm water from developed sites. Poor construction practices and lack of attention to detail are contributors to sediment transport, in turn impacting both downstream infrastructure, aquatic habitats and Okanagan Lake.

Erosion and Sediment Control will be managed as a separate process with a cost identified as a separate line item in the development planning process

The following policies will be administered:

- a) No Person may cause, or permit another Person to cause, sediment or sediment-laden water to discharge into the storm system, with concentrations greater than 75 milligrams per litre (ppm) of total suspended solids (TSS). A sample measuring greater than 60 nephelometric turbidity units (NTU) will be the trigger point where the sample must also be sent to the lab for analysis.
- b) A Security Deposit for ESC Works equal to 3% of the Consulting Engineer's opinion of probable costs of civil earthworks and infrastructure will be added to the Servicing Agreement.
 - i. The Security Deposit submitted is to secure the full and proper compliance with the provisions of the By-law. In the event, that the Owner, Developer, or Person Responsible has not complied with the provisions of this By-law, the necessary funds from the security deposit may be drawn down, at the City's option, and the money used either by the City or its agents to protect the storm system from sediment or sediment-laden water in adherence with the terms and conditions of this By-law. Notwithstanding, the City is under no obligation to initiate or complete remedial works in or under the Land.
 - ii. If the amount of the security deposit is insufficient for the City to complete the ESC Facilities, the Owner and Developer jointly and severally will pay any deficiency to the City on demand.
- c) The Owner must retain a Qualified Professional (P.Eng, RPBio, P.Ag, ASCT, CPESC, CISEC or CESCL) responsible for inspecting and monitoring the ESC Facilities weekly and after any rain event which exceeds the intensity of 25mm of total rainfall depth in a 24-hour period. All records and data must be made available to the City upon request. Should a site be determined to be non-compliant, the Professional will be responsible for submitting notification and presenting a remediation plan to the City within two days of the event.
- d) The ESC will include a construction plan and site management plan ESC features must be installed before any clearing, excavation, or soils mobilization takes place.
- e) The fundamental approaches to effective ESC include:
 - i. reduce clearing and grading and preserve natural vegetation as much as possible;
 - ii. phase construction to limit soil exposure at any one time, particularly in wet seasons;
 - iii. stabilize exposed soils as quickly as possible, whether temporary or permanent;
 - iv. protect slopes and cuts;

- v. prepare the site to limit soil tracked off-site by haul vehicles;
- vi. sweep off-site streets when dirt is tracked;
- vii. filter runoff water before it leaves the site;
- viii. install filters or barriers to protect downstream drains and inlets;
- ix. adjust ESC plan to suit changing weather and construction phasing;
- x. assess ESC practices after rain event; and
- xi. maintain the works throughout construction.

Ideally, practices and features are put in place to prevent erosion from occurring in the first place, but realistically some degree of erosion and sediment transport will occur. When it does, other practices and features are to intercept and capture the sediment before reaching vulnerable areas. As such, the following sub-sections introduce ESC practices in two core categories; erosion control and sediment control.

3.13.1 Erosion Control

Rainfall and wind can aggressively displace and transport soil, although rainfall tends to be the more damaging in BC climates. The soil composition has a significant bearing on its erosion potential. The first line of defense is to either maintain or provide protective cover to the soil. Ideally, natural vegetative cover is maintained for areas that do not need to be disturbed. Where soils do need to be exposed or stockpiled, temporary covers should be applied when rainfall events are imminent.

For exposed site areas, straw mulch is the most common form and can be effective with low cost. However, it is commonly not applied thick enough or replenished frequently enough. It is important that a uniform blanket be provided and refreshed as the straw decays or is displaced. For the most part, bare soil should not be visible.

For steeper slopes, or for areas exposed and inactive for considerable time, manufactured erosion control blankets may be most appropriate. There are many products available and local suppliers should be consulted for the selection of the appropriate one. While they have a higher purchase cost, with proper selection and installation they will provide longer and more effective service with far less maintenance than straw mulch.

For soil stockpiles, poly tarps should be applied when the stockpile is inactive, including short overnight periods if there is any threat of precipitation. If inactive for considerable time, other measures such as temporary seeding, mulching, or matting may be considered.

Once disturbance to an area is complete, permanent cover practices should be established as soon as possible. Top dressing the area with topsoil having high organic content in itself can be a significant benefit; a minimum of 100 mm should be applied for purposes of erosion control. Greater depth is often required to meet landscape growing medium and hydrologic management needs. Sodding, broadcast seeding, hydro-seeding, and drill seeding are acceptable methods to re-establish a blanket of vegetative.

Aside from maintaining good quality ground cover, there are a number of other techniques that can be applied as erosion control, including the following, but not necessarily limited to those below. They should be selected based upon the specific conditions and requirements of the site.

Construction of stable haul roads for transport vehicles coming and going from the site is required.

At a minimum, haul roads include 200 mm of a coarse granular running surface, but strong consideration for underlying filter fabric, and potentially geogrid reinforcing in weak soils, should be given;

- a) Intercept trenches on the upstream edges of the working area to redirect runoff;
- b) Terracing steeper slopes;
- c) Scarifying the soil surface;
- d) Bio-engineered protection of very steep slopes;
- e) Rip-rap with appropriate underlying filter.

3.13.2 Sediment Control

Silt fences can be an effective barrier to contain soil, but are not an effective filter of sediment laden runoff. Their permeability is insufficient to allow water to pass through, and therefore more commonly act as a dam which is then often undermined or circumvented by the flow of water. When used appropriately as a soil containment barrier, they must be sufficiently installed and maintained. Design criteria include: stakes should be > 7.5cm in diameter and > 1.5m long and driven > 40cm into the ground; stakes should be < 2.4m apart unless wire backing is used; and bottom should be buried in a trench > 20cm.

- a) Storm drains and catch basins potentially receiving site runoff are to be protected with filters.
- b) Straw bales and gravel berms are to be used within flow paths to slow water and promote trapping of coarse sediment. Note that these are less effective for fine sediment.
- c) Dust control is required at all times.
- d) Soil transport from vehicles coming and going from the site must be controlled. Where a wheel wash facility is constructed, wash water must be appropriately contained and treated prior to release off-site.
- e) Sediment ponds (or basins) are generally applied to larger construction sites (> 2 hectares) to settle suspended sediments larger than 0.02mm. The outlet should consist of a perforated riser pipe with a gravel jacket. Internal gravel baffles are to be installed to create individual cells to reduce velocities and prevent short circuiting of flow to the outlet. As a design guideline, ponds should be sized to accommodate 125 m³/ha of site area. Of this volume, at least 20% should be dedicated to a forebay. The remainder, as a permanent pool, should measure 1.3-1.8m in average depth, and not exceed 2.4m.
- f) Sediment traps are similar to sediment ponds, but designed for small sites. Generally fed by swales, these facilities are located on the low-side of the site to receive site runoff water and allow settling of solids before discharge off-site.

4 DESIGN STANDARDS HIGHWAY

BL10696 amended the following:

- 4.1 [General](#)
- 4.2 [Road Classification](#)
- 4.3 [Vertical Alignment](#)
- 4.4 [Horizontal Alignment](#)
- 4.5 [Road Cross-Section](#)
- 4.6 [Curb and Gutter, Sidewalks and Bikepaths](#)
- 4.7 [Appurtenances](#)
- 4.8 [Pavement Structure](#)
- 4.8.1 [Subgrade Preparation](#)
- 4.8.2 [New Pavement Design](#)
- 4.8.3 [Design of Overlays for Existing Pavements](#)

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4.1 General

All highways (roads, lanes, Active Transportation Corridors) within the City of Kelowna shall be designed with good engineering judgement, in accordance with the recommended practice as outlined in the most current editions of the following design guidelines, unless specifically addressed by City Bylaw or policy:

- Transportation Association of Canada – Geometric Design Guide for Canadian Roads;
- Transportation Association of Canada – Manual of Uniform Traffic Control Devices for Canada;
- Other applicable Transportation Association of Canada best practice design guides, such as but not limited to, the Canadian Roundabout Design Guide, the Canadian Guide to Traffic Calming, Pedestrian Crossing Control Guide and Bikeway Traffic Control Guidelines for Canada;
- Master Municipal Construction Documents Association – Design Guidelines;
- British Columbia Active Transportation Design Guide, and
- BC Transit Infrastructure Design Guidelines

Developments may require Frontage Roads, double Frontage lots, deep lots with rear service Lanes, or such other treatment as may be necessary in the public interest for the adequate protection of residential properties and to afford separation of through and local traffic.

In reviewing engineering plans, the Approving Officer or Building Inspector must consider the sufficiency and suitability of the proposed Road system, the arrangement, width, grade and location of all Roads in relation to existing and planned Roads, to topographical features, to public convenience and safety, and to the proposed uses of the land to be served by such Roads.

The arrangement of Highways in a Subdivision must either:

- (a) provide for the continuation or appropriate projection of existing Roads in surrounding areas; or
- (b) where topographic or other conditions make continuation or projection of existing Roads impractical, provide an adequate and suitable Highway system having regard to the uses of the land to be served.

The dimensions, locations and standard of all Roads in a proposed Subdivision must conform substantially to any applicable community plan.

Local residential Roads must be aligned so that their use by through traffic will be discouraged.

Cul-de-sac Roads, designed to be permanent, must be provided at the closed end with an area designed to permit safe and adequate space for the turning of motorvehicles.

Walkways must be provided where they are deemed desirable to provide access through the Subdivision to schools, playgrounds, shopping centres, transit, beaches and other community facilities or for proper circulation of pedestrian traffic.

Jogs in Highway alignment at intersections may be allowed provided that the distance between centre lines is sufficient to maintain traffic safety.

Intersections are to be designed and located within a range of angles between 70° and 110°.

To reduce vehicular delays and for safety considerations, modern roundabouts must be considered as the first option for intersection designs where all way stop control or traffic signals are warranted by traffic analysis.

In the design of all street intersections, including those with lanes and walkways, the Consulting Engineer must give consideration to providing adequate sight and stopping distances for conflicting traffic streams involving pedestrians, bicycles and/or vehicles. The City of Kelowna Traffic Regulation Bylaw No. 8120 prohibits sight

obstruction greater than 1 m in height within 8 m of intersections.

If reversed curves are required in a Highway alignment, the City Engineer may require that they be separated by means of tangents of sufficient length.

Where angular deflections occur in a Highway alignment, the City Engineer may require that the angle be replaced by a curve of suitable radius.

Designs for significant work to a major collector or arterial road identified on the Major Road Network and Road Classification Plan, must undertake an independent Road Safety Audit.

Road name signs and traffic signs required as a result of constructing or improving Roads must be provided by the City of Kelowna at the expense of the Owner.

Transit bays must be provided where required by the City Engineer.

4.2 Road Classification

The roadway classification applicable to the Road under consideration will be determined from Table 1. Where topographical or other conditions make continuation or projection of an existing street impractical, the City Engineer will review the Developer's proposal and may approve the alternative.

NOTE: All vertical and horizontal alignment elements will be designed utilizing information from Tables 1 and 2 and in accordance with:

1. Transportation Association of Canada - Geometric Design Guide for Canadian Roads, 2017 Edition.

Highway

TABLE 1 – ROADWAY CLASSIFICATION

Road Class/R.O.W. Improvements	Road Allowance Width (min.)	Surface Width (min.)	Curb Type	Standard (Dwg. No.)
<u>LANES</u> Residential and Emergency and Private Access Roads Commercial	6.0 7.6	6.0 7.6	N/A N/A	SS-R2 SS-R2
<u>LOCAL STREET</u> Class -1, 2 Lane - ULU - RLU Class -2, 2 Lane - ULU - RLU	18 18 15 15	10.3 7.0 9.1 7.0	Rollover N/A Rollover N/A	SS-R3 SS-R3 SS-R4 SS-R4
<u>COLLECTOR STREETS</u> Class -1, 2 Lane - UCU – - RCU – Class -1, 2 Lane - UCU – with BikeLanes - RCU - with BikeLanes Class -2, 2 Lane - UCU – • RCU –	20 20 22 22 18 18	13.1 10.0 14.5 10.0 11.3 10.0	Barrier N/A Barrier N/A Rollover N/A	SS-R5 SS-R6 SS-R7
<u>ARTERIAL STREETS</u> Class -1, 4 (6) Lane - UAD - Parkway Class -1, 4 Lane (Ult.) - UAD - Parkway Class -1, 2 Lane (Stage I) - UAD - Parkway Class -1, 2(4) Lane - RAD - Class -2, 4 Lane - UAD - Residential Class -2, 3 Lane (one way) - UAU – Residential Class -2, 2 Lane - RAU - Residential Class -3, 4 Lane - UAU - TwnCntre Class -3, 3 Lane (one way) - UAU - TwnCntre	35 30 30 30 30 20 20 28 25	21.5 21.5 21.5 20.6 20.9 12.3 10.3 20.9 17.7	Barrier Barrier Barrier N/A Barrier Barrier N/A Barrier Barrier	SS-R8 SS-R9 SS-R10 SS-R11 SS-R12 SS-R13 SS-R14 SS-R15

Note the following definitions:

ULU - Urban/Local/Undivided	RCU - Rural/Collector/Undivided
RLU - Rural/Local/Undivided	UAU - Urban/Arterial/Undivided
UCU - Urban/Collector/Undivided	UAD - Urban/Arterial/Divided
RAU - Rural/Arterial/Undivided	RAD - Rural/Arterial/Divided

Surface Width - on urban section, this measures from face of curb to face of curb
- on rural section, it measures from the edge of asphalt to edge of asphalt.

4.3 Vertical Alignment

The vertical alignment of roads must be set so the grades of driveway to adjacent properties will conform to MMCD Drawing C7. Where it is impractical to meet this criteria, the City Engineer may approve the use of private access roads.

The minimum and maximum road centreline grades allowed on various classes of roads must be as per Table 2.

TABLE 2 - GEOMETRIC STANDARDS

Facility Classification	Design Speed (km/h) (min.)	% Super. Elevation (max.)	Radius (metres) (min.)	% Grade		K-Value (min.)			Sight Distance (min.)	
				Min.	Max.	Crest	Sag		Stopping (metres)	Decision (metres)
							No Illum.	Illum.		
Walkway				1.0	15					
Emergency Access	30		12	1.0	15		2			
Driveway Single Fam.				1.0	15					
Driveway Multi-Fam.	30			1.0	12					
Rear Laneway See Notes Below	40	*I.C.	18	1.0	12 (10)	4	7	4	45	110 - 160
Local Roadway See Notes Below	50	*N.C.	100	0.5	12 (10)	7	11	6	65	140 - 190
Collector Roadway See Notes Below	50	6 (4)	115 (500)	0.5	10 (8)	7	11	6	65	140 - 190
Arterial Roadway See Notes Below	70	6 (4)	190 (1,000)	0.5	8 (6)	22	25	15	110	200 - 270

Notes: 6% super-elevation only permitted on collector roads in segments without intersecting roads or private access.

Notes: Through roads at an intersection are governed by the numbers shown in brackets, with the reduced grades on each side of the intersection for a distance equivalent to the "stopping sight distance".

*Inverted Crowns (I.C.) and Normal Crowns (N.C.) shall be built with 2% crossfall.

At road intersections, the minor road and/or cul-de-sac must be constructed with an approach grade of not greater than 3% for a distance of not less than 15 m from the adjacent edge of asphalt of the major road.

The draining grade around the outside curb of a cul-de-sac must be not less than 0.50% and not greater than 5.00%. Longitudinal gradients of cul-de-sac bulbs shall not exceed 5.00%.

When a cul-de-sac is at the bottom of a hill, the longitudinal gradient of the first 50m of roadway uphill from the cul-de-sac bulb shall not exceed 5.00%. The maximum longitudinal gradient for the rest of the hill shall not exceed 8.00%.

When a cul-de-sac is at the top of a hill, the longitudinal gradient for the roadway downhill from the cul-de-sac must not exceed 12.00%.

All changes in gradient over 1.00% on arterial and collector Roads and over 2.00% on all other road classifications must be connected by vertical curves. Vertical curves must be designed in accordance with the latest edition of the Geometric Design Guide for Canadian Roads as published by the Transportation Association of Canada.

Standard cross slopes (normal crown) must be 2.00% on all road classifications unless specified otherwise by the City Engineer. Design road elevations must give due consideration to flood-proofing requirements of adjacent properties. Full road crossfall (reverse crown) may be considered in special circumstances, as a means of more closely matching property grade adversity on either side of the highway.

The length of a transition from a normal cross-sectioned road to a section of road where there is super-elevation or crossfall must, in no case, be less than 70 m for a 50 kmh designed road or 110 m for a 70 kmh designed road. In selecting the length of the transition, care and consideration must be given to draining all of the pavement. Typically, if no horizontal spiral curve is used, 60% of the super-elevation is introduced prior to the beginning of the curve, and the balance is developed in the curve.

Gutter elevations on curb returns and cul-de-sacs must be shown on the drawings at the beginning, one-quarter points and end of curb returns and at 7.50 m intervals around cul-de-sacs.

4.4 Horizontal Alignment

The horizontal centreline alignment of the road will be located on the centreline of the right-of-way, unless approved otherwise by the City Engineer. Typical locations of works and utilities in Roads are shown on Standard Drawings.

Centreline chainage stations must be fully referenced and dimensioned from property lines.

Minimum radius of curve and maximum super-elevation normally allowed are shown in Table 2 (Geometric Standards). The Minimum radius of curb return at intersections must be 7.50 m. Transitions in road widths, tapers, etc., must be formed with smooth curves and tangents, including no less than 30:1 for

50 km/h design speeds and preferably 40:1 tapers.

A horizontal curve must be fully described showing internal angle, radius, tangent length and arc.

Curb returns located on roads within industrial and commercial districts may require a larger radius to facilitate truck traffic and bus traffic, and will be as specified by the City Engineer.

When a new road with curbs intersects an existing road without curbs, only half the curb returns must be constructed unless the road design for the uncurbed road is available and will allow construction of the full curb returns. Full curb returns must be constructed at the intersection of two curbed roads.

A cul-de-sac, turn-around, or a second point of access is required at the terminus of roads longer than 90m.

4.5 Road Cross-Section

The standard Road cross-section shall be as detailed in Table 1. Measurement for roadway width shall be measured from face of curb, or edge of asphalt, to centreline of paint line.

Note that the objectives of the standard road cross-sections as detailed in Table 1 and the Standard Drawings are the clear and intended goals on all roadways within the City of Kelowna. It is recognized, however, that ambient conditions may require variance from these standards in existing and substantially "built-up" areas, where provisions to accommodate the required roadway modification may not have been anticipated. A variance to these standards may be considered by the City Engineer.

For the design of local and collector roads with on-street parking, curb extensions shall be considered at intersections and at pedestrian crossings.

For road designs in rock cut sections, a rockfall catchment area sized by a qualified Geotechnical Engineer (minimum 3.0m wide), is required. The rockfall catchment area is defined as the area between the edge of the highway pavement (or back of sidewalk if present) and the base of the rock slope. This structure has the function of preventing fallen rock from reaching the highway (or sidewalk) surface and intercepts seepage water from the rock cut.

For all urban roads in cut sections greater than 1 m, a 100 mm perforated subdrain located 600 mm deep (minimum dimensions), is required behind the sidewalk or curb. The sub-drain shall connect to the nearest catchbasin with a long radius bend and include an inspection chamber with service box at the top end.

4.6 Curb and Gutter, Sidewalks and Bike Lanes

The standards for curbs, gutters, sidewalks and bike lanes shall be as detailed in Table 1 and in the MMCD standard drawings and City of Kelowna supplemental drawings to the MMCD.

Each property shall only have one (1) driveway access per road frontage. Upon demonstrated need and approval from the City Engineer, more than one (1) driveway access may be granted to service stations, major commercial and other developments. Where a lot abuts a lane or road of different classification, the driveway shall be located to access the lane or road of the lower classification.

Residential driveway access onto an arterial or Class 1 collector road, is not permitted unless alternate access is impossible. Wherever physically possible, alternate local road or lane access shall be dedicated to preclude residential driveways accessing directly onto major roads.

Residential driveway accesses serving corner lots shall be a minimum of 7 m from the lot corner nearest the intersection. All residential driveway accesses shall have a minimum width of 4 m and a maximum width of 6 m.

Driveway accesses to commercial and industrial corner lots shall be a minimum of 15 m from the property line of the adjoining road. The maximum width of a driveway to a commercial or industrial property having only one access shall be 11 m. The maximum width of each driveway to a commercial or industrial property having more than one access shall be 9 m. A variance to these standards may be considered by the City Engineer.

At the discretion of the City Engineer, access to large parking areas shall be by curb returns rather than a driveway letdown. The City Engineer may require deceleration and acceleration lanes for access off major roads for safety reasons and to minimize disruption to traffic flows. Design of such access shall follow the recommendations in the Ministry of Transportation & Highways, Highway Engineering Branch "Design Manual".

Wheelchair ramps must be provided at all intersections as an integral part of the sidewalk.

4.7 Appurtenances

All proposed traffic islands, retaining walls, guard-rails, and permanent barricades must be designed in keeping with good engineering practices.

Traffic control devices shall be designed and installed in accordance with applicable and current City of Kelowna requirements.

For all utility poles and tie-downs which require re-locating prior to road construction, the utility must confirm the feasibility of their re-location prior to design completion.

4.8 Pavement Structure

4.8.1 Subgrade Preparation

Subgrade preparation shall be considered integral for construction of new roads.

Frost Susceptible Soils (ML): The susceptibility of soils to frost heave is commonly classified using the US Corp of Army Engineers four categories, as shown in Table 15.2 of the "Canadian Foundation Engineering Manual", 3rd edition, 1992. All geotechnical reports shall address the frost susceptibility of the subgrade soil.

Swelling Soils (CH): Pockets of soils known to change volume with variation of moisture content are known to exist in several locations within the limits of the City of Kelowna. These soils are typically identified as high plastic clays (CH) using the Unified Soil Classification System and Atterberg Limits index test (ASTM D4318). Where these soils are encountered as subgrade, special subgrade preparation considerations are required, as outlined below.

Scarification should render the subgrade to cohesive pieces of a maximum size of 20 mm to allow adequate moisture conditioning of the soil. The soil should be moisture conditioned to achieve a homogeneous moisture content between 0 and 3% over optimum. Following moisture conditioning, the subgrade soil should be compacted to a minimum of 95% of Modified Proctor density, as determined by ASTM D1557. The subgrade should be covered with granular sub-base as soon as practical to minimize the variation of the moisture content in the subgrade. The contractor should be aware that additional moisture condition and compaction may be required, at the contractor's expense, should the moisture content be allowed to vary significantly from optimum prior to placing the sub-base.

4.8.2 New Pavement Design

Designers of pavement structures shall consider four primary factors in undertaking a specific design. These are:

- Subgrade support quality (geotechnical report)
- Design life (20 years)
- Traffic loading (expressed in ESALs)
- Climate

New pavement structures shall be designed in accordance with the methodologies presented in "AASHTO Guide for Design of Pavement Structures", 1993. The pavement structure shall be designed for a twenty (20) year design life.

The AASHTO design method is based on a Structural Number (SN) for the entire pavement structure (i.e. hot mix asphalt, granular base and granular sub-base). The method incorporates the subgrade strength expressed as the Subgrade Resilient Modulus (Mr), and design loading (ESALs). Each component of the pavement structure is assigned a layer coefficient.

Subgrade strength is frequently characterized utilizing the California Bearing Ratio (CBR) test procedure (ASTM D1883). This test should be performed on soaked subgrade soil specimens compacted to 95% of Modified Proctor density as determined by ASTM D1557. The Resilient Modulus may be approximated from the soaked CBR test values using the following relationships:

$$\begin{aligned} \text{Mr (MPa)} &= 10.3 \text{ CBR, or} \\ \text{Mr (psi)} &= 1500 \text{ CBR} \end{aligned}$$

The soaked CBR properties of subgrade soil should be determined at a frequency of at least one test per every 150 lineal metres, or a portion thereof, and for each major soil type encountered. Where more than one test is required, the tests should be evenly spaced.

The required SN for the pavement structure is the sum of the product of the layer coefficient, the component thickness, and a drainage coefficient for each component:

$$\text{eq'n (1) SN} = a_{ac}D_{ac} + a_bD_bM_b + a_{sb}D_{sb}M_{sb}$$

where:

SN	=	Structural Number for pavement structure
a_{ac}	=	layer coefficient for hot mix asphalt (0.4)
a_b	=	layer coefficient for granular base (0.14)
a_{sb}	=	layer coefficient for granular sub-base (0.10)
D_a	=	Thickness of hot mix asphalt (mm)
D_b	=	Thickness of granular base (mm)
D_s	=	Thickness of granular sub-base (mm)
M_b & M_{sb}	=	layer drainage coefficient (1.0 for Kelowna)

Road classifications, design traffic values and minimum depths of hot mix asphalt and granular base components of the total pavement structure are defined in Table 3.

Table 3 - Minimum Asphalt & Granular Base Depth vs Design Traffic

Road Classification	Design Traffic (ESALs) ⁽¹⁾	Minimum Depth of Hot Mix Asphalt	Minimum Depth of Granular Base
Walkways	n/a	50	75
Local, Lanes & Access Roads	2.8×10^4 (28,000)	50	75
Collector	2.8×10^5 (280,000)	100	75
Arterial ⁽²⁾	1.0×10^6 (1,000,000)	100	75

Notes:

- (1) See Part 1 – Chapter 1 of AASHTO for definition of an Equivalent Single Axle Load (ESAL).
- (2) Special design reviews may be requested by the City Engineer.

Standard pavement structures, including required SN values, are provided on Table 4 for three strengths of subgrade. The standard pavement structures incorporate the minimum depths of hot mix asphalt and granular base shown in Table 3.

Table 4 - Standard Pavement Structures

Street Classification	Structure Component	Thickness in mm for Soaked CBR ⁽¹⁾ of		
		3.0 ⁽⁴⁾ CBR ₅	5.0 CBR ₁₀	CBR ₁₀
Walkways	Asphalt - Surface Course	50	50	50
	Granular Base	75	75	75
	Granular Sub-base ⁽³⁾	150	150	150
	Required SN Value	n/a	n/a	n/a
Local, Lanes & Access Roads	Asphalt - Surface Course	50	50	50
	Granular Base	75	75	110 ⁽²⁾
	Granular Sub-base ⁽³⁾	275	165	0
	Required SN Value	58	47	35
Collector	Asphalt - Surface Course	40	40	40
	Asphalt - Base Course	60	60	60
	Granular Base	75	75	100 ⁽²⁾
	Granular Sub-base	335	185 ⁽³⁾	0
	Required SN Value	84	69	53
Arterial	Asphalt - Surface Course	40	40	40
	Asphalt - Base Course	60	60	60
	Granular Base	75	75	75
	Granular Sub-base	535	355	155 ⁽³⁾
	Required SN Value	104	86	66

Notes:

- (1) Soaked CBR value shall be at 95% of Modified Proctor maximum dry density and optimum moisture content, as determined by ASTM D1557.
- (2) Placement of equivalent sub-base layer is not practical and shall be replaced with additional granular base.
- (3) Maximum aggregate size of sub-base material to be no more than 50% of total depth of sub-base.
- (4) Where the top 1 m of subgrade has a soaked CBR value of less than 3, then the subgrade strength should be supplemented with an additional thickness of granular sub-base material in order to achieve a soaked CBR value of 3 or greater. The thickness of the supplemental sub-base and the corresponding composite CBR value for the top 1 m of composite subgrade can be determined by the following formula:

$$\text{CBR Composite} = ((t_{ssb} \times \text{CBR}_{ssb}^{0.33} + (100 - t_{ssb}) \times \text{CBR}_{sg}^{0.33}) / 100)^3$$

Where CBR Composite is 3 or greater.

t_{ssb} = thickness of supplemental sub-base (cm). CBR_{ssb} = CBR value of supplemental sub-base. CBR_{sg} = CBR value of subgrade soil.

Design pavement structure to be placed on a prepared subgrade or adequately compacted fill embankment. Refer to Section 4.8.1 and 02226 of the MMCD.

Granular base and granular sub-base to have a minimum soaked CBR value of 80 and 20, respectively (refer to City Supplemental So2226).

For design purposes, the maximum subgrade soaked CBR value shall not exceed 10.

Required physical properties for granular base and granular sub-base are given in Schedule 5, Section So2226.

Staged construction may be considered by the City Engineer when a road is to be constructed and to be widened at a later date.

Table 4 provides standard pavement structures for roads constructed on only three strengths of subgrade. Alternate pavement structures may be designed based on the SN determined using Figure 1. For example, for a Collector Road with soaked subgrade CBR value of 4, then the corresponding pavement structure requires a SN of 75. Using eq'n (1), and the specified layer coefficients, a suitable pavement structure alternative may be determined as shown on Table 5:

Table 5 - Example Pavement Structure

Pavement Structure Component	Thickness, D (mm)	Layer Coefficient, a	SN
Hot Mix Asphalt	100	0.40	40
Granular Base	100	0.14	14
Granular Sub-base	210	0.10	21
Total SN			75

Note that the minimum depths of hot mix asphalt and granular base shown on Table 3, and the required SN have been met.

The curves shown on Figure 1 are derived from the methodologies presented in AASHTO. A description of all variables used to derive the curves is presented in the MoT Technical Circular T - 9/95, "Pavement Design Standards".

5 ASHTO Structural Number (SN) Values
for Kelowna Street Classifications
as a Function of Soaked Subgrade CBR Value

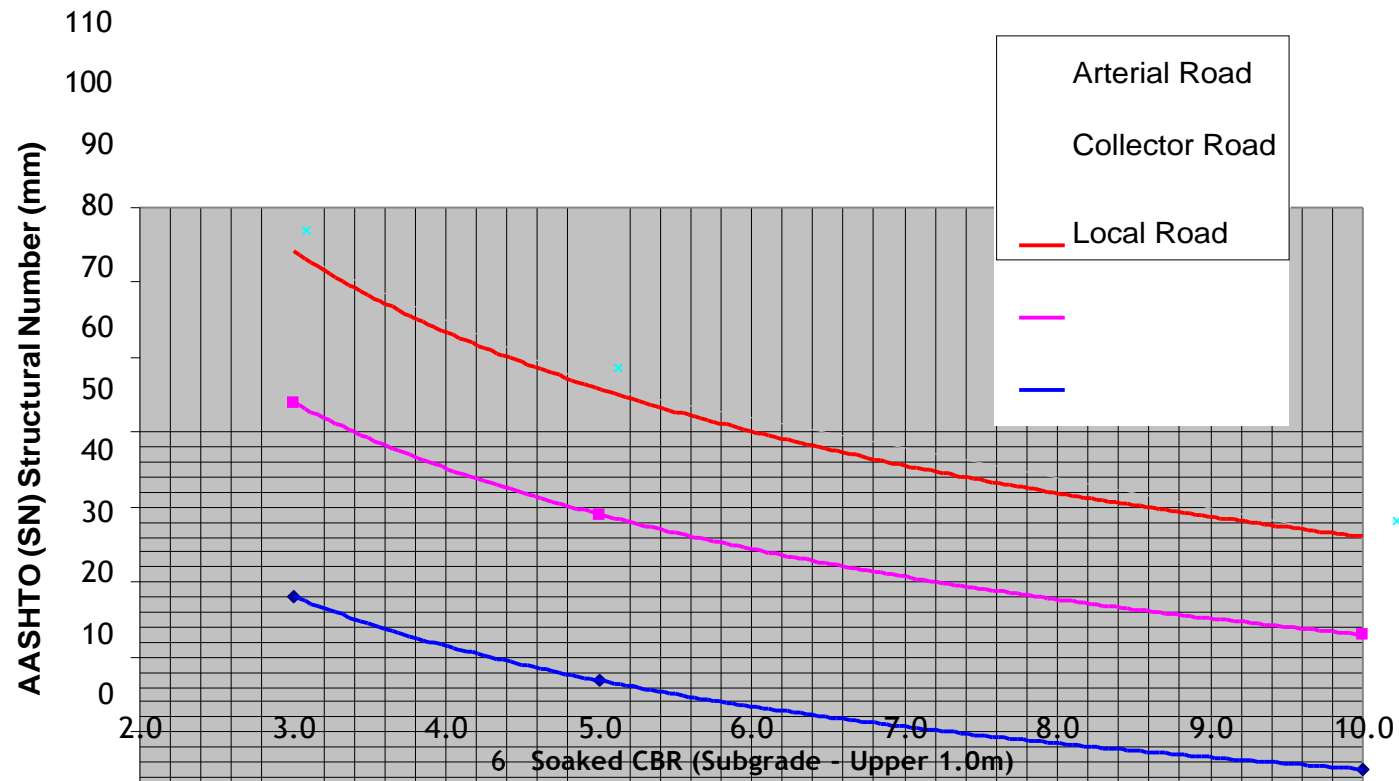


FIGURE 1

4.8.3 Design of Overlays for Existing Pavements

Overlay designs for existing pavements are to be performed in accordance with "Technical Publication No. 12" published by the Roads & Transportation Association of Canada. The design criteria for overlays are based on limiting Benkelman Beam deflections as follows in Table 6:

Table 6 - Benkelman Beam Criteria for Overlays

Road Classification	Maximum Deflection (mm)
Arterial Roads	1.00
Collector Roads	1.25
All Other Road Classifications	1.50

- Notes:
- (1) The design Benkelman Beam rebound ($x + 2\sigma$) should be determined on the basis of at least 10 uniformly spaced readings per two-lane kilometre (one half in each lane).
 - (2) The summary rebound statistic for a pavement section should be seasonally adjusted to the spring peak rebound value.

5 Roadway Lighting

- 5.1 [General](#)
- 5.2 [Codes, Rules, Standards and Permits](#)
- 5.3 [Roadway and Pedestrian Criteria](#)
- 5.4 [Light Measurements](#)
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5.1 General

Street Lighting (also referred to as Roadway Lighting) generally refers to lighting of streets and roadways including sidewalk, crosswalks, intersection, roundabouts, walkway and tunnels. The principal purpose of street lighting is to enhance visibility at night. For a pedestrian, street lighting improves visibility of the surroundings and the sidewalk, while for the driver of a motor vehicle it increases visibility resulting in more time to stop or to maneuver around an obstruction. Good lighting has been shown to significantly reduce night-time collisions specifically on urban streets, urban and rural intersections, roundabouts and mid-block crosswalks.

This bylaw is intended to provide some basic lighting and electrical criteria and guidelines to aid in the design of street lighting. Further information should be obtained from the most current edition of the Transportation Association of Canada (TAC) Guide for the Design of Roadway Lighting. Those undertaking street lighting design must be knowledgeable of all parts of the TAC guide.

These design guidelines are not intended to be a substitute for sound engineering knowledge, experience in street lighting design and the Canadian Electrical Code. Roadway lighting designs should be prepared under the direction of a design professional registered with Engineers and Geoscientists of British Columbia (EGBC).

5.2 Codes, Rules, Standards and Permits

Street lighting shall be designed to meet the required levels of illumination and uniformity at the lowest

annual cost to the City. Streetlight materials selected must be based on minimizing energy demand, long term annual costs, including replacement costs and maximize service life. Street lighting systems shall be designed in general conformance with the following.

5.2.1 Codes Rules and Regulations

- Canadian Electrical Code, latest edition, and bulletins issued by Electrical Safety Branch of the Province of British Columbia.
- AASHTO Standard Specification for Structural Supports for Highway Signs, Luminaires and Traffic Signals or CAN/CSA-S6-00 Canadian Highway Bridge Design Code,
- WorksafeBC,
- Canadian Standards Association (CSA),
- Local Power Utility Company regulations,
- Regulations issued by municipal, provincial and federal Authorities.

5.2.2 Standards and Guidelines

- TAC-Guide for the Design of Roadway Lighting,
- Canadian Standards Association (CSA),
- Local Power Utility Company regulations,
- MMCD Standard Specifications and Drawings, plus Supplementary Specification Drawings,
- Approved Products List 266 and Council Policy 265.
- IESNA RP8 (current revision)

5.2.3 Permits

- Electrical Permits as required by provincial or municipal inspection authorities

5.3 Roadway and Pedestrian Criteria

Street lighting illumination levels are defined by the road classification and the pedestrian activity level on the sidewalk adjacent to the roadway..

Street classifications are defined as follows:

- Arterial: Serves a continuous route primarily for inter-community through-traffic.
- Collector: Performs the dual function for traffic of land access and movement between arterial and local streets.
- Local: Provide direct land access and is not intended to carry through traffic.

Night-time pedestrian activity levels on sidewalks and in crosswalks are defined as follows.

- High: Areas with significant numbers of pedestrians expected to be on the sidewalks or crossing the streets during darkness.
- Medium: Areas where lesser numbers of pedestrians utilize the streets at night, Typical are downtown office areas, blocks with libraries, apartments, neighbourhood shopping, industrial, parks, and streets with transit lines.
- Low: Areas with very low volumes of night pedestrian usage. These can occur in any of the cited roadway classifications but may be typified by suburban single family streets. Very low density residential developments, and rural or semi-rural areas.

The choice of the appropriate pedestrian activity level for a street should be based on engineering judgement. If needed, one-hour pedestrian counts can be taken during the first hour of darkness on selected days, to estimate average pedestrian traffic counts. A section of typical land use can be sampled by counting one or two representative blocks, or a single block of unusual characteristics can be counted, perhaps at a different hour, such as discharge from a major event. Recommended pedestrian activity levels are defined as follows:

- Low- 10 or fewer
- Medium – 11 -99
- High – 100 or more

These volumes represent the total number of pedestrians walking in both directions in a typical block or 200-meter section. Additional definitions are as follows:

- Sidewalk: Pedestrian movement adjacent to the street
- Walkway: Pedestrian movement away from the street
- Crosswalk: Marked pedestrian access across a street
- Bikeway: Marked area between the sidewalk and street. From a lighting perspective a bikeway shall be considered part of the street and street lighting levels shall therefore apply to the street and bikeway.

5.4 Light Measurements

5.4.1 Illuminance

When lighting is incident upon a surface, it creates “illuminance” on that surface. Illuminance is a measure of the light landing on a defined area; therefore, the more lumens on a given surface area, the greater the level of illuminance. The illuminance method of design is used for lighting sidewalks, crosswalks, intersection and roundabouts and curved streets. Illuminance can be calculated using two methods: vertical or horizontal.

5.4.2 Luminance

Luminance is the concentration of light (intensity) reflected towards the eyes per unit area of surface. As road surfaces do not reflect light uniformly, reflectance varies depending on the angle of the incident light in both the vertical and horizontal plane, and, on the angle that the driver views the pavement. For a Luminance calculation the driver’s viewing angle is fixed at one degree below the horizontal and an observer distance of approximately 83m. The luminance design method is suitable for straight sections of a street and tunnels.

5.4.3 Veiling Luminance

Veiling luminance (also referred to as disability glare) may be numerically evaluated. Because of contrast reduction by disability glare, visibility is decreased. Increasing the luminance level will counteract this effect by reducing the eye’s contrast sensitivity. As glare limits our visibility, veiling luminance is an important consideration.

The effect of veiling luminance on visibility reduction is dependent upon the average lighting level, or average luminance level, of the pavement.

5.5 Variable Lighting Criteria

5.5.1 Light Sources and Luminaries

Light sources shall be LED and selected from the City of Kelowna Approved Products List, which is subject to change from time to time. The list is based on a review of energy efficiency and cost/benefit of installation and ongoing operation. The City is sensitive to light pollution and selects luminaires that are night sky friendly, meaning that they minimize glare while reducing light trespass and skyglow.

5.5.2 Light Loss Factor (LLF)

A Light Loss Factor of 0.8 is to be applied.

5.6 Street Lighting

Street lighting levels for various street types and night-time pedestrian activity levels are defined in the the Transportation Association of Canada Guide for the Design of Roadway Lighting.

Luminance calculations should be used for straight sections of roadway but are not practical on curved and steep grade roadways. Lighting for curved sections (less than 600m radius) and steep grades (6% or greater) should be calculated using horizontal illuminance values.

Use R2/R3 pavement classification for typical asphalt streets, For a definition of other pavement classification refer to the Transportation Association of Canada Guide for the Design of Roadway Lighting.

5.7 Sidewalk Lighting

Sidewalk lighting levels for various pedestrian activity levels are defined in the Transportation Association of Canada Guide for Design of Roadway Lighting. Refer to TAC guide for grid set-up and spacing.

5.8 Intersection Lighting

Intersection lighting levels for various street types and pedestrian activity level are defined in the intersection Horizontal Illuminance Table found in the Transportation Association of Canada Guide for Design of Roadway Lighting.

5.9 Crosswalk Lighting

Visibility of crosswalk users can be best achieved by placing poles in advance of the cross walk to create high levels of vertical illumination thus improving driver visibility of pedestrians. This is covered in more detail in the Transportation Association of Canada Guide of the Design of Roadway lighting.

This is primarily aimed at mid-block crosswalks and crosswalks at free turn lanes where island are present. It is doubtful crosswalk levels will be achieved for the main road crossings at signalized intersections; however, by placing the first lighting pole on the approach roads (away from the intersection) within one pole mounting height from the crosswalk, partial vertical Illumination levels can be achieved at the crosswalk. Refer to the Transportation Association of Canada Guide of the Design of Roadway lighting.

5.10 Walkways

Walkways between roadways where the roadway is lit at either end and there is a straight line of sight will not have additional lighting added.

5.11 Roundabout Lighting

Roundabouts have more complex visibility consideration than typical intersections. Key design consideration in lighting roundabouts include the following;

- The effectiveness of motor headlights is limited in a roundabout due to the constrained curve radius, making the street lighting system a necessity to aid in the night time visibility of obstructions, hazards and pedestrians in crosswalks.
- Where there is no lighting on the approach streets, lighting should be added on the approaches for a distance of approximately 80m in advance of the roundabout crosswalk.

Lighting for a roundabout street surface shall meet or exceed the levels for an intersection. Crosswalks shall meet vertical lighting levels listed for crosswalks. For further information on Roundabout Lighting refer to the Transportation Association of Canada Guide for the Design of Roadway Lighting or IESNA RP8-18.

5.12 Tunnel Lighting

Lighting for streets and sidewalks in tunnels less than 25m in length shall meet the lighting levels required for the approached street and sidewalk. Lighting may be required in daytime depending on the amount of daylight penetration. Lighting for tunnels over 25m in length are covered in the IESNA RP-8-18..

5.13 Poles

Pole types and heights are to be as specified in the Approved Products List

Where poles are mounted on top of service bases they shall be supplied 0.9m shorter. For rural roads, if approved by the City and the power company, light may be installed on the power poles.

Poles shall be located at the outer edges behind curb and gutter or edge of pavement, or in special circumstances, in the median of the street. The exact offset of the pole (behind curb, edge of pavement or sidewalk) is typically defined via standard local authority road cross-section drawings which show all utilities and equipment locations for various road types. Where standard cross sections are not available then poles and foundations shall be located to:

- Provide at least 0.3m clearance from the back of curb of roadway

- Maintained wheelchair access on sidewalk
- Not to be in conflict with other utilities or overhead power lines as defined in CSA standards and by the local utility.
- Poles shall be located within 0.6 meters of the property corners and shall not conflict with driveways, underground services and fire hydrants

In areas where speed is over 60km/hr with no curb and gutter clear zones shall be considered in accordance with the Transportation Association of Canada Geometric Design Guide for Canadian Roads. Pole Spacing patterns include staggered, opposite and one side arrangements, depending on the roadway classification, road geometrics and lighting level design criteria.

5.14 Pole Foundations

The MMCD Standard Specifications and Drawings define typical bases to support standard lighting poles. The designer is responsible for determining the suitability of these standard foundations for the given soil conditions. Where soil conditions are in question a geotechnical engineer should be consulted to define the suitability of the base. Where foundations are not suitable, custom foundations will be required.

5.15 Luminares

Refer to City of Kelowna Approved Products List.

5.16 Power Supply and Distribution

The designer shall confirm voltage and locations of suitable power sources for the proposed lighting system. Roadway lighting systems shall be serviced from a 120/240-volt single phase 3 wire system. Power is generally supplied by the utility through an unmetered service when servicing only street lights, however, in some instances the utility power provider may require a metered service. Metering requirements must be confirmed with local utility provider. Where tree lights and pole receptacles are included, the utility company may require a metered service. Power will be controlled from an approved service disconnect point allowing electrical isolation for de-energized work. If an installation calls for multiple streetlights the system should be designed to minimize the number of service disconnects required.

The lighting system shall be fed via a service base which shall contain panel boards, breakers, lighting contactor(s) and photocell bypass switch as per MMCD Standard Specifications and Drawings. The lighting shall be controlled by a single photocell located on a luminaire nearest the service panel.

Power distribution requirements include;

- Wiring to be installed in minimum 50mm Rigid PVC conduit
- Wiring to be stranded copper with RW90 insulation.
- Wiring to be Colour coded per Canadian Electrical Code.
- Conduit burial depth as specified in the Canadian Electrical Code.
- Conduit alignments shall be designed to avoid tree roots.

5.17 Design

5.17.1 Lighting

Lighting design requires a computer lighting design software such as AGI32 or Visual Roadway Tool and lighting supplier photometric files in IESNA format. Typically, luminaire photometric files are based on a reference lamp which can vary from the actual lamp used in the test, provided it is similar. This is referred to as “relative” photometry. LED photometric files must be “absolute” which means the photometric file must be for the exact luminaire being tested.

5.17.2 Decorative Lighting

Where decorative street lighting is required to enhance the streetscape it will be limited to the palette specified in the Approved Products List.

When installed in front of a property luminaires will be supplied with house side shields as standard.

5.17.3 Electrical

Design requirements include:

- Meet all requirements of the Canadian Electrical Code (CEC), latest edition, and bulletins issued by Electrical Safety Branch of the Province of British Columbia.
- Maximum voltage drop from branch circuits: 3%
- Provisions for future expansion.
- Conductor sizes: maximum #6 RW90, minimum #10 RW90 for branch circuits
- For branch circuits the load not to exceed 80% of the breaker rating (as per CEC).
- Accommodation of loads for pole receptacles, if applicable
- Junction boxes to conform to City of Kelowna standard drawings.
- All empty conduits shall have a 6mm nylon pull string installed and the ends capped.
- Traffic signal interconnection / communication conduit design shall be common trenched with the street lighting conduit system

5.17.4 Drawing Requirements

Lighting design drawings shall show all civil drawing information such as curbs, sidewalks, property lines, all physical features that may impact the lighting design, as well as the lighting poles, service/control equipment and wiring. Lighting drawings shall fully describe the proposed installation and all related existing lighting and electrical information. The detailed information required on the drawings shall include, but not be limited to the following:

- Site plan drawings at a scale of 1:500 showing poles locations, conduit and service equipment. For beautification type projects, which have more electrical features such as pedestrian scale lighting and pole/tree receptacles, site plan drawing at a scale of 1:250 may be required. Poles and service equipment shall all be located by station and offset. Conduit shall be located by offset from edge of pavement or face of curb and gutter:
- Legend and notes:

- Completed Lighting Design Criteria Figure 6.6 for each road, walkway, intersection or roundabout:
- List specific product such as luminaires, pole anchor bolts and related hardware, junction boxes and service panels by manufacturer, make and model number.
- Drawings shall include sufficient street name and land or block location information to identify particular sections of road referenced in the lighting design summaries.

All lighting drawings shall be signed and sealed by a professional Engineer registered with the EGBC. Design drawings shall be submitted for approval along with signed and sealed computer lighting calculations.

The electrical systems must be installed in accordance with the requirements of the appropriate utility company.

Where overhead distribution is permitted, pole and anchor locations must be approved by both the City Engineer and the appropriate utility company. Care must be taken to avoid aerial trespass.

Plans and agreements for rights of way for anchors, pad-mounted transformers, etc., must be provided and registered by the Developer.

The City's requirements for allowing overhead or underground wires is as follows:

- a) In all Town Center and Village Center areas as identified by the Official Community Plan all wires shall be buried and installed in conduits.
- b) All streets and highways that are created as a result of new development shall have all wires buried underground.
- c) Outside of these areas where existing overhead wires parallel the existing road the developer shall have the option to bury or to leave overhead the wires.
- d) On roadways identified in the City's 20 Year Servicing Plan for upgrade and urbanization, all service wires crossing the roadway must be buried.

6 Traffic Signals

- 6.1 [General](#)
- 6.2 [Standardization](#)
- 6.3 [Codes, Rules, Standards and Permits](#)
- 6.4 [Signal Heads](#)
- 6.5 [Pole Placement and Wiring](#)
- 6.6 [Left Turn Phasing](#)
- 6.7 [Advanced Warning Flashers](#)
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- 6.10 [Control Types](#)
- 6.11 [Detection Methods](#)
- 6.12 [Signal Timing Plans](#)
- 6.13 [Signal Coordination](#)
- 6.14 [Pedestrian Controlled Signals](#)
- 6.15 [Poles and Foundations](#)
- 6.16 [Controller Cabinets](#)
- 6.17 [Traffic Controller Equipment](#)
- 6.18 [Power Supply and Distribution](#)
- 6.19 [Uninterruptable Power Supplies \(UPS's\)](#)
- 6.20 [Signs](#)
- 6.21 [Drawing Requirements](#)

6.1 General

The purpose of these design standards is to establish the traffic signal design standards used for all projects undertaken within the City of Kelowna.

These guidelines are not intended to be a substitute for sound engineering knowledge and experience. Traffic signal designs are highly specialized therefore all designs are to be prepared under the direction of a design professional who has a minimum of five years of traffic signals experience.

Lighting requirements for intersections are defined in the City of Kelowna Roadway Lighting Bylaw.

6.2 Standardization

Traffic signal details are standardized throughout British Columbia to avoid potential confusion of the travelling public, both local and visiting and are defined in the BC Motor Vehicle Act.

6.3 Codes, Rules, Standards and Permits

Traffic signal systems are to be designed in general conformance with the following:

6.3.1 Codes, Rules and Regulations

- Canadian Electrical Code, latest editions, and bulletins issued by Electrical Safety Branch of the Province of British Columbia.
- AASHTO Standard Specification for Structural Supports for Highway Signs, Luminaires and Traffic Signals or CAN/CSA-S6-00 Canadian Highway Bridge Design Code,
- WorkSafeBC,
- Local power utility regulations,
- Regulations and policies issued by municipal, provincial and federal authorities.

6.3.2 Standards

- Canadian Standards Association (CSA),
- Local power utility standards,
- MMCD Standard Specifications and Drawings, plus City Supplementary Specifications and Drawings.
- BC Ministry of Transportation Electrical and Traffic Engineering Manual
- Institute of Transportation Engineers (ITE)
- National Electrical Manufacturers Association (NEMA) - Traffic Controller Assemblies
- Canadian Manual of Uniform Traffic Control Devices (MUTCD)
- British Columbia Pedestrian Crossing Control Manual.
- City of Kelowna approved products list.

6.3.3 Permits

- Electrical permits as required by provincial or municipal inspection authorities
- Right-of-way and utility crossing permits for crossings of electrical transmission lines, railways, highways and regional, provincial and federally regulated pipelines.

6.4 Signal Heads

Signals should be mounted on vertical posts or horizontal mast arms

General locations of signal heads are as follows:

- Primary: Mounted over the roadway which a vehicle is travelling upon. (refer to MUTCD for mounting)
- Secondary: Mounted to the left of the roadway which a vehicle is travelling upon (Refer to MUTCD and City Supplemental Specification drawings for mounting)
- Auxiliary: Mounted at any other location to enhance visibility. (Refer to MUTCD and City Supplemental Specification drawings for mounting)
- Pedestrian: Mounted on the far side of the intersection in line with the painted crosswalk. (refer to MUTCD and City Supplemental Specification drawings for mounting)
- Bicycle: Mounted in a location clearly visible to an approaching cyclist. Used in special circumstances and in consultation with the City.

Each signalized vehicle movement (phase) at an intersection requires a minimum of one primary and one secondary signal head. Additional signal heads may be required if visibility is a concern.

Signal visibility distance is defined as the distance in advance of the stop line from which a signal must be continuously visible for approach speeds varying between 40 and 80 km/h. Refer to Canadian Manual of Uniform Traffic Control Devices (MUTCDC).

Visibility of a signal head is influenced by three factors:

- Vertical, horizontal and longitudinal position of the signal head.
- Height of driver's eye
- Windshield area

Lateral vision is considered to be excellent within 5° degrees of either side of the centerline of the eye position (10° cone) and adequate within 20° (40° cone). Horizontal signal position should therefore be as follows:

- Primary heads within the 10° cone
- Secondary heads within the 40° cone.

Vertical vision is limited by the top of the windshield. Signal heads should be placed within a 15° vertical sight line. Overhead signals should be located a minimum of 15 m beyond the stop line. Refer to Canadian Manual of Uniform Traffic Control Devices (MUTCDC) for additional details.

Drivers of vehicles following high vehicles must be able to see at least one signal head upon reaching the dilemma point. The dilemma point is defined as the location where a driver's visibility of the signal indication goes from green to yellow and driver must decide either to bring the vehicle to a safe stop or proceed through and clear the intersection prior to the start of the conflicting green.

Major factors to consider in assessing signal head visibility are road geometry, design speed, spacing between vehicles, and the horizontal and vertical signal head locations.

Signal heads need to stand out from the surroundings in order to prevent confusion due to distractions. Primary signal heads should have backboards. Backboards are optional for secondary and auxiliary heads. Backboards should be yellow with a reflective surface. A 75mm fluorescent yellow retro-reflective tape border (ASTM Type 9 sheeting) on the outside edge of the entire backboard shall be installed.

Signal head materials will be yellow polycarbonate for primary heads and green polycarbonate for secondary and pedestrian signal heads.

Signal head sizes are to be as indicated in Figure 6.4.1 below.

Figure 6.4.1 Signal Head Sizes

SIGNAL HEAD TYPE	AREA CLASSIFICATION LENS SIZE AND SHAPE
Primary	300 mm round
Secondary and	300 mm round
Auxiliary	300 mm round
Bike	300 mm round (bike symbol)
Pedestrian	Combination walk/don't walk indication 300mm square (12" x 12") or Combination walk/don't walk indication with countdown timer 450mm x 406mm (18" x 16")

Combination walk/don't walk heads to be installed where there is a high volume of young children or the elderly crossing and on all roadways with two lanes or more in each direction.

All signal displays shall be LED and ITE approved. Tunnel visors are required on all signal heads.

Figure 6.4.2 Signal Head Placement

STRAIGHT THROUGH LANES		
No. of Lanes	No. of Primary Heads	Placement of Primary Heads
One	One	Centered over through lane
Two	Two	Centered over each through lane
Three	Three	Centered over each through lane
LEFT TURN LANES		
Protected/Permissive	4 Sections with Flashing Green Arrow and Steady Yellow Arrow	Centered over left-most through lane
Protected – Single Left Turn Lane	3 Section with Steady Green Arrow	Centered on the left turn lane, either post mounted in median or mast-arm mounted
Protected – Dual Left Turn Lanes	3 Sections with Steady Green Arrow	Centered on the left turn lane, either post mounted in median or mast-arm mounted

6.5 Pole Placement and Wiring

6.5.1 Pole placement

Signal poles should be placed between 1m and 3m from the face of curb or edge of pavement, preferably behind the sidewalk. Pole arms should be oriented at 90° to the centerline of the road, except where the intersection is skewed. When laying out a skewed intersection, ensure the arms do not block the view of the signal heads for other approaches.

Other key considerations for pole placement are:

- Ease of access to pushbutton for pedestrians, handicapped and the visually impaired in accordance with the TAC - Guidelines for Understanding, Use and Implementation of Accessible Pedestrian Signals.
- Maintaining 1.2m wheelchair access around poles and from pushbuttons to wheelchair ramps.
- Minimizing the number of poles required.
- Locating poles outside vehicle turning radii to avoid damage.
- Underground and overhead utility conflicts.

- For optimum visibility of vehicle, bicycle and pedestrian heads

6.5.2 Conduit

- Conduit should be installed parallel or perpendicular to the roadway and routed to run in a direct line between poles and junction boxes. Skewed road crossings are to be avoided.
- Conduits shall be installed by qualified personnel and certified with the BC Technical Safety Authority as an underground raceway installer (UR)
- Ninety-degree bends are to be kept to a minimum and not exceed the maximum as per the Canadian Electrical Code. If this is not possible an additional junction box shall be installed.
- All conduit will be RPVC.
- For each road crossing two 75mm and two 50mm diameter conduits shall be run.
- Communications conduit shall be 75mm in diameter.
- Shall be installed to conform to the Canadian Electrical Code.
- All empty conduits will have a pull string installed and be capped.

6.5.3 Junction Boxes

Will be installed:

- At each pole and controller for splicing and have bonding installed, as per Supplementary Specification Drawings.
- Concrete junction boxes will have a galvanized lid marked with "KELTS" for traffic signals and "COMM" for communication conduits, as per Supplementary Specification Drawings.

6.5.4 Conductors

For signal control:

- Stranded, multi conductor, IMSA cable will be used to connect the controller cabinet to each of the junction boxes on the corner nearest to the traffic signal pole. The wire will run continuous with no splices between the controller and the destination junction box.
- Single conductor stranded #14 RWgo will be installed from the junction boxes to poles. The wire will run continuous with no splices between the junction box and the signal head.
- Signal wiring to be spliced in junction boxes only.
- Streetlight wiring will have an in-line fuse installed in pole hand-hole and be of the type

noted in the approved products list.

- All conductors to be bundled and marked as per the City color coding

6.6 Left Turn Phasing

Left turn phasing options are numbered as follow in the NEMA convention: Phase 1 for SBLT, 3 for WBLT, 5 for NBLT and 7 for EBLT. This is in conjunction with straight through phasing as follows: Phase 2 for northbound, 4 for eastbound, 6 for southbound and 8 for westbound.

Left turn phasing options are as follows:

- **Permissive** - Green ball display. A Permissive left turn has no signal indication other than a green ball, which permits a vehicle to turn left when there is a gap in the opposing traffic.
- **Protected** - Green arrow display. A Protected left turn presents a continuous green arrow indication while all opposing traffic is held by a red ball. A Protected Left Turn is always terminated with a yellow ball.

Protected left turns are typically used in the following circumstances: Dual left turn lane.

- Limited sight distance to oncoming vehicle.
- High pedestrian volumes.
- High speeds.
- High collisions.
- Left turn phase is in a lead-lag operation.
- Split phasing.
- When crossing more than 2 lanes of traffic.
- **Protected/Permissive** - Yellow/Flashing Green arrow display. A Protected/Permissive left turn presents a flashing green arrow and yellow arrow followed by a green ball. During the flashing phase (advanced movement), opposing through traffic is held by a red ball. After the left turn phase has timed out, left turn traffic is presented with a green ball permitting the movement when safe. The protected green arrow is always terminated with a non-flashing yellow arrow indication.

Protected/Permissive left turns are appropriate in cases where:

- Single left turn lane.

- Good sight distance to oncoming vehicles.
- Volumes warrant it.
- Low collisions probability.

Care should be taken when considering a left turn phase, as it can impact the intersection level of service by increasing the total cycle length.

6.7 Advanced Warning Flashers

Advanced warning flashers (AWF) should be used where sight distance and grade to an intersection is less than optimal, or where design speed of the road is sufficiently high to justify warning motorists of signal status. Follow Ministry of Transportation and Infrastructure Electrical and Traffic Engineering Design Guidelines for the design and placement of Advance Warning Flasher Signs.

Where AWF are required a back up power supply (UPS) will be installed.

6.8 Signal Pre-emption

Consult with the City to determine if pre-emption equipment is required at the intersection. The City shall supply and install all equipment, other than the cable, which the City will supply to the contractor for installation.

6.9 Audible Pedestrian Signals

Where required by the City, use audible pedestrian signals to assist visually impaired pedestrians.

The City will supply all equipment. The contractor will install the wiring and pushbutton units and the City will install the cabinet equipment.

6.10 Control Types

Traffic signals will be designed to be fully actuated, meaning they require traffic detectors for all phases. Fully actuated controls allow for the maximum flexibility of signal control.

6.11 Detection Methods

Traffic detection for signal actuation is typically accomplished through one of the following methods:

- Vehicle detector loops (induction). - If detector loops being installed, they must be of the preformed type, as per approved products list, and laid in the crush under the asphalt layers.
- Image sensor (video detector system). City will supply and install equipment. City will supply the wire to the contractor for installation.

Other methods are available and will be at the discretion of the City as to the choice of system used.

6.12 Signal Timing Plans

The City will create and or approve signal timing plans.

6.13 Signal Coordination

The City will create and or approve signal coordination plans.

6.14 Pedestrian Controlled Signals

There are two styles of pedestrian controlled signals, a traffic signal with a green-yellow-red indication, and a special crosswalk signal. The requirement for a pedestrian signal and the type of signal to be installed will be established by the City and should be supported by warrants as indicated in the BC Pedestrian Crossing Control Manual.

- a) **Pedestrian signals** serve pedestrian traffic only and are generally placed in areas of high pedestrian traffic or in school zones.

A full pedestrian signal has heads placed on the main road only. Cross street traffic is controlled by signage. When not activated, the signal presents a flashing green ball indication to drivers. When the signal is activated by a pedestrian, the flashing green ball indication becomes a steady green ball, followed by a yellow and then red ball. Pedestrian heads provide the Walk/Don't Walk indications to the pedestrian.

Pedestrian signals as above will have vehicle detection installed on the main street. This will allow the signal to extend the green time during periods of heavy traffic, to ensure more efficient flow.

- b) **Special Crosswalk Signals** consist of signage and pedestrian controlled lighting designed to draw driver attention to the crosswalk.

See TAC guidelines for pedestrian crosswalks and City supplemental drawings to match the crosswalk with the road type.

See approved products list for the type of controller to be installed.

Where a suitable power source is not available or is costly to deliver to the site, solar powered crosswalks can be considered.

6.15 Poles and Foundations

The MMCD Standard Specifications and Drawings define typical signal poles. Traffic signal poles shall be designed to accommodate the weight of the arms and the items mounted on the poles, as well as wind and ice loading, arm length, anchor bolt size and concrete base size.

The MMCD Standard Specifications and Drawings define typical bases to be used with standard signal poles. The designer is responsible for determining the suitability of these standard foundations for the given soil conditions. Where soils are in question a geotechnical engineer should be consulted to define the suitability of the foundations for the given soil conditions. Where foundations are not suitable, custom foundations will be required.

Refer to the City supplemental drawings for any additional information.

When selecting pole location identify and avoid possible utility conflicts. If installing close to a tree, the base should be outside of the drip line

The identification numbering of bases/poles for traffic signals on plans will start at one and increase in a clockwise direction starting at the base/pole nearest to traffic controller location

6.16 Controller Cabinets

The City shall supply and install controller cabinets.

Cabinets should be located entirely within the road right-of-way, including the concrete pad and door swing. Location should be safe and reasonably protected from motor vehicle damage, with access door on the side away from the sidewalk where possible and the signals visible from the access.

The cabinet will have a concrete pad allowing a safe platform while accessing and working in and around. See City supplemental drawings.

Adequate working space from other equipment and structures will be provided as per the Canadian Electrical Code.

6.17 Traffic Controller Equipment

The City shall supply and install all controller equipment.

6.18 Power Supply and Distribution

A metered power supply is required from the electrical utility. The designer shall confirm voltage and locations of suitable power sources for the proposed signal system. Signals systems are serviced from a 120/240 volt single phase 3 wire system.

Refer to City supplemental drawings for installation of meter and service panel.

Grounding shall be as per MMCD Standard Specifications and Drawings.

Contractor to consult with local power authority of any special installation requirements and service location.

6.19 Uninterruptable Power Supplies (UPS's)

The City shall supply and install UPS equipment

6.20 Signs

Overhead street name signs shall be installed on signal pole arms. Signs to be banded with manufactured wind dampening sign brackets. Signs shall be blue background with 215mm high white clear-vue font (alternate colours may be required by the local jurisdiction). Sign sheeting shall be ASTM Type 9. Other signs mounted on signal poles may include turn restriction signs, lane use signs, one-way signs, etc. as required by the BC Motor Vehicle Act and defined in the MUTCDC.

6.21 Drawing Requirements

Signal design drawings shall show all civil drawing information such as curbs, sidewalks, property lines, utilities, pavement markings, all physical features that may impact the signal design, as well as the signal and lighting poles, detector loops, service/control equipment and wiring. Signal drawings shall fully describe the proposed installation and all electrical and lighting information. The detailed information required on the drawings shall include, but not be limited to the following:

Plan/profiles or underground drawings.

- Scale is 1:200.
- The plan will have the north arrow oriented at 0 degrees.

- Existing and proposed civil information including roadway, sidewalks, letdowns, underground utilities, signing and road markings
- The designed signal including pole locations, controller, conduits, power and communications junction boxes, wiring/cabling, point of electric service.
- Poles and service equipment shall be located by station and offset. Conduit shall be located by offset from edge of pavement or curb and gutter;
- General notes
- Existing signal equipment to be retained and/or removed
- City colour code chart.)
- Pole coordinate table
- Signal display schematic
- Signal phasing diagram
- Intersection illuminance table
- Loop detector coordinate table (if applicable)
- Image sensor table (if applicable)
- References to Supplementary Standard Drawings

Plan view or Elevation

- Scale 1:75
- Elevation and description for each signal pole including corresponding concrete base type, signal displays, luminaire, push buttons, signs and image sensor (if applicable)
- Pre-approved product list for applicable equipment to be supplied
- Reference to Supplementary Standard Drawings

All signal drawings shall be signed and sealed by a Professional Engineer.

Design drawings shall be submitted for approval by the City.

7 Landscape and Irrigation

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7A Landscape and Irrigation Water Conservation

7A.1 General

7A.1.1 Application

For purposes of this bylaw, an automatic irrigation system means any outdoor watering device that includes a timeclock, connected valves opened by the timeclock, and underground distribution pipe to water outlets used for watering plant materials.

These landscape standards and specifications shall apply:

- (a) To all landscape areas within highway limits in the City of Kelowna including: medians, soft landscape areas between the curbs and the highway limits, and plantings in urban plaza and sidewalk areas.
- (b) To new construction and rehabilitated landscapes for City projects including all utilities and facilities for water, sanitary sewer, drainage, electrical and communication Works and Services infrastructure.

The following exemptions to the requirements of Section 6 apply:

- (a) Projects where the sum of all new or renovated landscape areas does not exceed 100 square metres in area are exempt from the requirement for landscape and irrigation plan and detail submittals set out in these requirements.

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- (b) Projects without an automatic irrigation system are exempt from the irrigation system design guidelines, but the landscape, grading and soil management requirements and related drawing submittals other than irrigation drawings still apply;

Landscape and irrigation shall be designed, installed and operated to meet the requirements of the City of Kelowna Water Regulation Bylaw No. 10480, including the requirement to not exceed the Landscape Water Budget for landscape areas of the project and to calculate the Estimated Landscape Water Use.

The standards specified herein reflect the City's minimum expectations and are intended for most applications. These standards may be enhanced or revised by the City or the Owner at the discretion of the City Engineer where the Works and Services are intended for large, complex, unusual and innovative applications and provided they meet the intent and objectives of the requirements herein.

7A.1.2 Qualifications

The Owner, at their expense, shall retain as a Qualified Professional a Landscape Architect registered with the British Columbia Society of Landscape Architects (BCSLA) to design, inspect and certify all landscape Works and Services covered by this section.

The Owner, at their expense, shall retain as a Qualified Professional a Certified Irrigation Designer registered with the Irrigation Industry Association of British Columbia (IIABC) to design, inspect and certify all irrigation Works and Services covered by this section.

With proper qualifications from both BCSLA and IIABC, one individual may serve as both the Landscape Architect and Certified Irrigation Designer.

For the Works and Services covered by this section the Landscape Architect(s) and/or Certified Irrigation Designer(s) shall have the powers and responsibilities prescribed elsewhere in this bylaw to the Contract Administrator.

7A.2 Water Conservation Requirements and Report

All subject applications shall include a Landscape Water Conservation Report – either as a set of drawings or a bound report - that defines how the development will meet the design requirements for water conservation. The report shall meet the requirements of the City prior to "Issued for Construction" Documents or Building Permits under this bylaw. The Landscape Water Conservation Report shall:

- (a) Include the calculations for the proposed landscape area of Landscape Water Budget and Estimated Landscape Water Use in the format as required by the City of Kelowna (equivalent to Schedule C in the City of Kelowna Water Use Bylaw No. 10480).
- (b) Indicate by drawings, notes, specifications and if necessary other written materials how the application complies with or varies from the Design Criteria 6A.2.1 and 6A.2.2 below.
- (c) The City may, at its discretion, accept the information in two stages: Stage One requires the report and a conceptual landscape drawing with corresponding hydrozone and Landscape Water Conservation Report – and may be submitted at the Preliminary Layout Review or Application

for Subdivision Approval stage for Subdivision Projects, or Building Permit application stage for Works and Services in Development Projects. Stage Two requires detailed landscape and irrigation drawings and specifications, and update to the report and calculations, to be generally consistent with and substituting for the earlier design concept submission – Stage Two must be submitted and approved prior to City Engineer’s ‘Issued for Construction’ documents in both Subdivision and Building Permit processes.

7A.2.1 Landscape Design

The Applicant shall appoint a Qualified Professional to create and submit a Landscape Plan and supervise installation to produce a landscape installation that:

- (a) Groups planting areas into ‘hydrozones’ of high, medium and low or unirrigated/unwatered areas. Submit a plan diagram and table showing the extent and area of hydrozones in the project.
- (b) Shows appropriate use of plant material with similar water demand within hydrozones.
- (c) Maximizes the percentage of landscape area that is unirrigated/unwatered area, commensurate with landscape aesthetics and plant survival e.g. using pervious paving, unplanted stone or organic mulch, pervious deck (strive for a minimum of 25% of the total landscape area).
- (d) Maximizes retention or replanting of vegetation with low water-use requirements after the establishment period e.g. existing native vegetation to remain, wildflower meadow, rough grass, xeriscape plant species (strive for a minimum of 25% of the total landscape area).
- (e) Designs to minimize mown turf areas that are high water use areas (strive for 25% of total landscape area, and consider a maximum of 50% of the total landscape area) – substitute with areas of lower water use treatments.
- (f) Provides mulch cover to shrub and groundcover areas, to reduce evaporation from soil.
- (g) Uses recirculated water systems for any water features such as pools and fountains.
- (h) Ensures landscape installation standards including growing medium depth and quality to meet the requirements of this bylaw. A submitted soils report or notes on the plans shall indicate proposed growing medium depth, amendments, and shall refer to appropriate sections of the reference or supplementary specifications, or the qualified professional shall supply a custom specification of similar detail.
- (i) Includes the following written declarations signed by a licensed Landscape Architect qualified by the British Columbia Society of Landscape Architects (BCSLA):
 - At the time of application: “This landscape plan is subject to and complies with the Landscape Water Conservation Design requirements of the City of Kelowna for the efficient use of water”.

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- At the time of substantial performance of the construction: "This landscape installation complies substantially with the submitted water conservation and landscape plans, specifications and reports."

7A.2.2 Irrigation Design

If irrigation is to be installed, the Applicant shall appoint a Qualified Professional to create and submit an Irrigation Plan and supervise installation to produce an irrigation system that:

- Groups irrigation circuits/ zones into 'hydrozones' of high, medium and low or unirrigated areas consistent with the landscape planting plan.
- Uses reclaimed or recycled water or rainwater capture from roofs or rain barrels for outdoor water use when such is available, as a substitute for use of potable water.
- Minimizes use of high-volume spray heads, and employs drip or low volume irrigation where practical to meet the watering needs of hydrozones.
- Uses surface or subsurface drip irrigation or low volume irrigation technology to water long, narrow or irregularly shaped areas including turf areas less than 2.4m in width.
- Keeps drip, spray and rotor heads (different precipitation rates) on different irrigation circuits.
- Designs with irrigation head-to-head coverage in accordance with manufacturer's specifications.
- Ensures matched precipitation rates on each irrigation circuit.
- Minimizes the elevation change in each irrigation circuit – and where required provides pressure compensating devices to minimize pressure variations or check valves to stop low head drainage.
- Ensures irrigation mainlines are proved leak-free with hydrostatic tests, as a part of the construction quality assurance review. Re-test irrigation mainlines after major repair or nearby excavation work.
- Provides pressure regulating devices to ensure irrigation outlets are operating at the manufacturer's optimum pressure range.
- Designs head placement and type, and adjusts head radius, arc and alignment to avoid overspray of paved surfaces or buildings.
- If irrigating slopes greater than 25%, designs an irrigation system with a precipitation rate not greater than 20mm/hour.
- Provides automatic shut off devices that shut off the system in cases of pipe leak or breakage, and that shut off the system when rain is present.
- Installs - and programs to minimize water use – one or more 'Smart Controllers' with water-conserving functions. Acceptable Smart Controllers are identified in the City of Kelowna Water Regulation Bylaw 10480. Includes a written Irrigation Schedule or equivalent instructions for operation of the Smart Controller, with a copy stored with the controller cabinet, that adjusts the amount of applied water scheduled to be applied on a daily basis – schedule different run-times as weather changes, by using the weather-sensitive features of a Smart Controller. In cases where manual irrigation

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- (o) program adjustment is temporarily required, adjust water programming at least once per month to recognize that highest water need is in July and lower water needs exist in other months of the growing season.
- (p) Ensures irrigation design and installation standards including adjustments and scheduling meet the requirements of the Supplementary Specifications in , Schedule 5 Construction Standards, or a custom or alternate irrigation specification at a similar level of detail provided by the Qualified Professional.
- (q) Includes the following written declarations signed by a Certified Irrigation Designer qualified by the Irrigation Industry Association of BC (IIABC):
- At the time of application: "This irrigation plan is subject to and complies with the Irrigation Water Conservation Design requirements of the City of Kelowna for the efficient use of water."
 - At the time of substantial performance of the construction: "This irrigation installation complies substantially with the submitted water conservation and irrigation plans, specifications and reports".

7B Landscape**7B.1 General****7B.1.1 General Landscape Requirements**

The general design and construction of the landscape shall be in accordance with the standards set out in this section.

Street Tree plantings shall be required on streets and highways in all subdivisions where new roads (including cul-de-sacs) or road extensions are required.

All soft Boulevard and Median Areas within the highway limits shall be landscaped to the standards of *Section 6B.2 Boulevard* and *Section 6B.3 Medians*.

Rough grass or wildflower mixture may be used on all or part of boulevards visually backed by areas of woodland or rural appearance - subject to the approval of the City Engineer.

The Landscape Maintenance Period for landscape establishment shall be one year from the date of Substantial Performance of the landscape components of the work. All landscape areas shall be provided establishment maintenance which shall include irrigation maintenance and watering, mowing, weeding, pruning and supplemental fertilization until the end of the Landscape Maintenance Period. The Landscape Maintenance Period shall continue until a Certificate of Acceptance of all Landscape Works and Services is issued by the City upon the expiration of the Landscape Maintenance Period.

Plants or other materials that fail in the Landscape Maintenance Period shall be replaced at no cost to the City. Replacement trees shall be guaranteed for a further year after planting, with maintenance and replacements repeated until trees are provided that are acceptable to the City at the end of the Landscape Maintenance Period.

The use of Naturescape or similar wildlife habitat principles in landscape development is encouraged. Refer to Naturescape Kit Southern Interior, available from Naturescape British Columbia.

Site and planting design shall co-ordinate with watering 'hydrozones' and irrigation plans in accordance with *Sub-Section 6C – Irrigation*.

All landscape and irrigation products, installation and operations shall be completed in accordance with the requirements of Schedule 5 of this Bylaw.

7B.1.2 Landscape Plan Requirements for Works and Services

For landscape Works and Services that will be owned by the City of Kelowna, the Owner's Qualified Professional is required to submit the following plans, gain City 'Issued for Construction' documents, and certify construction quality assurance. Landscape plan and design submittals required are:

- (a) Landscape Plan
- (b) Landscape Grading Plan
- (c) Landscape Water Conservation Report as required by the Water Regulation Bylaw.

The following information shall be shown on the Landscape Plan:

- (a) property lines and easements.
- (b) buildings, edge of pavement, curb lines and curbs, sidewalks, lighting fixture locations, surface utilities and related service boxes or other elements that would affect the landscape and street tree location.
- (c) Location of all existing vegetation to remain.
- (d) Location of retaining walls and existing or proposed slopes that exceed 3:1 vertical.
- (e) Location of all proposed trees, shrubs, ground cover and lawn areas.
- (f) Indication of which areas will be seeded grass vs sodded lawn.
- (g) Plant list showing botanical name, common name, size at planting, quantity, typical spacing, and root zone volume of supplied growing medium for trees.
- (h) Location of all proposed trees, shrubs, ground cover and lawn areas.
- (i) Hydrozone information table for the project.
- (j) Planting hydrozones – delineate and label each hydrozone by number, letter or other method and identify each area of similar water requirement e.g. high, medium, low, or no supplemental water after establishment. Hydrozones may be shown on a separate drawing if required for clarity.
- (k) Water features, if applicable.
- (l) Type of mulch and application depth.
- (m) Growing medium depths for each planting type.

The following information shall be shown on the Landscape Grading Plan.

- (a) Spot elevations of top and bottom of retaining walls and at top and bottom of any slopes exceeding 3:1
- (b) Drainage patterns by slope arrow and percent slope. Drain inlets or culvert inlet elevations.
- (c) Finished floor elevations if applicable.
- (d) General shaping of finished grades by a combination of proposed contour, spot elevations and slope arrows for landscape areas that are bermed, dished, or that have noteworthy grading constraints or design intents.
- (e) Stormwater retention or infiltration facilities if applicable.
- (f) Rain harvesting or catchment technologies if applicable.

The general requirements used by the City for review of the Landscape and Grading Plan is specific to the site and use thereof. The landscape design shall:

- (a) respond functionally and aesthetically to existing and proposed land uses, utilities, terrain and flood patterns, drainage facilities, roads, driveways, cycle, transit and pedestrian facilities;
- (b) promote accessibility as it relates to pedestrians, cyclists and people with limited physical or visual abilities
- (c) consider appearance of the proposed plant material and site landscape, including appropriateness, aesthetics, visual screening, sight lines and functionality
- (d) provide access for maintenance equipment and personnel;
- (e) allow for cost effective maintenance methods and practices;

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- (f) provide access to park, recreation or environmental opportunities;
 - (g) incorporate protection of existing trees where feasible;
 - (h) consider protection of the natural environment and restoration or enhancement of natural habitat;
 - (i) coordinate with engineering site drainage, water levels, ponding and overland flow;
 - (j) consider design features that minimize the opportunity for crime and undesirable behavior;
 - (k) provide for weed control;
 - (l) coordinate with sediment and erosion control practices;
 - (m) follow fire hazard reduction principles.

The completed Landscape and Grading Plan(s) shall be considered part of the package that forms the "issued for Construction" documents.

7B.1.3 Landscape Construction

Prior to the start of construction the Owner shall provide the City with a schedule of construction of the landscape and irrigation Works and Services and Related Work. In addition, the Owner shall provide the City with the name and contact information for the Consulting Landscape Architect and Engineer, Certified Irrigation Designer, the general Contractor and the Landscape Contractor of the site, as well as the designated Contract Administrator for each of the Landscape and Irrigation works.

Proposed changes to the landscaping from that shown on the "Issued for Construction" Landscape Drawings or related documents shall be submitted to the City for review and approval at least five (5) working days prior to anticipated construction of the change. Submission of a proposed change in no way implies or suggests approval of the proposed change by the City.

Changes to the landscaping performed without approval from the City will not be accepted at the time of Substantial Performance or Total Performance. Changes to the landscaping performed without approval from the City will be corrected by the Owner at the Owner's expense or the cost of making the corrections will be held back by the City upon release of the Performance Bond.

7B.2 Boulevard Landscape

Unless specified otherwise herein boulevards shall be vegetated with sodded lawn or densely planted groundcover. Rough grass and/or wildflower seeding may be used on boulevards and side slopes that are visually backing onto natural or rural areas, or for temporary boulevard treatments, subject to the approval of the City Engineer.

For the boulevards of arterial and collector roads within Urban and Village Centre DP areas, the treatment shall be as per the streetscape improvement plan for that area.

For boulevards adjacent to commercial property and locations outside Urban/Village Centre DP areas, or where no plan is in place, the boulevard treatment shall generally be turf or hard-surfaced, and shall include street trees and irrigation. Acceptable hard surface materials for the boulevard may include:

- (a) unit pavers
- (b) exposed aggregate concrete;
- (c) stamped and coloured concrete;

- (d) irrigated turf; or
- (e) xeriscape or dryland landscaping

For boulevards where the land use of the adjacent property is industrial, institutional or multi-family the boulevard treatment shall generally be street trees and turf or dryland landscaping, serviced and maintained by the Owner of the parcel with the boulevard frontage.

For boulevards where the land use of the adjacent property is one, two or four-family residential or park, and where the boulevard is accessible for maintenance mowing and watering from the adjacent property, the boulevard treatment shall generally be street trees and turf,

For boulevards where it is unlikely that the adjacent property owner will be able to adequately maintain the boulevard, the boulevard treatment shall generally be hard surfaced and may include street trees. Acceptable boulevard materials in these cases may include:

- (a) unit pavers; or
- (b) exposed aggregate concrete

7B.3 Median Landscape

The landscaping of medians shall be designed and constructed generally as follows:

- (a) for Highway 97 and Highway 33 - with sloped aprons of concrete unit pavers with irrigated street trees and irrigated landscaping;
- (b) in Urban Centre and Village Centre DP Areas - except as described above or per the approved streetscape improvement plan for that area, with sloped aprons of concrete unit pavers and irrigated street trees; or
- (c) elsewhere - with sloped aprons of exposed aggregate concrete, concrete unit pavers or stamped and coloured concrete and irrigated street trees..

The landscaping of roundabouts and cul-de-sac islands shall have a hard surface material or landscaping with low shrubs or groundcovers, and should feature:

- (a) a single specimen tree;
- (b) a group of like trees; or
- (c) public art if the roundabout or cul-de-sac is in an Urban or Village Centre. The selection, design and placement of public art shall be made in cooperation with the Public Art Committee.

Lighting of trees or public art in a median shall be provided as required by the Parks Division or the Public Art Committee.

7B.4 Utilities Coordination with Planning

Underground utilities shall be aligned and buried to provide a continuous 1.0m deep utility-free trench beneath tree planting locations.

Planting and paving design shall be co-coordinated with the design and construction of surface utility boxes, such that boxes fall entirely within either a paved surface or entirely within a planted surface but

not partly in paving and partly in planting and that grades and alignment of boxes match the final design and construction of all elements to create a co-coordinated and orderly appearance, free of trips and hazards.

7B.5 Plant Material

7B.5.1 Urban Trees in Pavement

Select urban trees in pavement in accordance with Section 7B.5.6.

Select and site urban trees in pavement to eliminate long term above-ground and below ground conflicts with utilities, buildings and structures, and pedestrian and vehicular traffic.

7B.5.2 Planting Details and Procedures

Landscape Drawings shall specify the appropriate planting detail standard from the City of Kelowna Standard Details.

All planting shall meet the City of Kelowna Specifications in Schedule 5.

7B.5.3 Planting Provisions in Single Family Subdivisions

Street trees and landscape finish of the public highway fronting occupied homes shall be completed no later than the date that 85% of the homes in a single family development are completed and occupied. Earlier completion dates are encouraged provided that landscape maintenance and repair is provided at no cost to the City until such time as units are occupied.

Planting of street trees in the hot dry summer period of June, July and August is discouraged, due to the risk of failure of the planting caused by heat and drought.

Minimum number of boulevard trees shall be calculated as follows:

- (a) Medium Trees ($\pm 10 - 20\text{m}$ ht. at maturity) Greater of 1 per lot or 15m.
- (b) Small Trees (Under 10m ht. at maturity) Greater of 1 per lot or 10m.
- (c) Plantings of trees closer than 6m on centre shall require the written concurrence of the City Engineer.
- (d) Locate trees fronting on single family lots in locations that avoid all utility service alignments and driveways. Generally this will lead to tree placement in the half of the lot frontage away from the driveway side, and not at either the lot centerline or at a lot line.

7B.5.4 Plant Material Selection

7B.5.4.1 Plant Materials:

- (a) Plants shall have the ability to withstand adverse conditions such as airborne pollutants, maximum sun exposure and reflected heat from pavements, high winds and abrasive forces, occasional snow loading and exposure to salt from road clearing operations, and limited root zone soil volumes.

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- (b) Plant hardiness requirements vary by elevation. Plants shall be hardy to Canadian Plant Hardiness Zone 5A to 1A as site conditions dictate.
 - (c) Plants shall be capable of reduced water demand following a one year establishment period.
 - (d) Plants shall have relatively low maintenance attributes including: fine to medium leaf size and canopy density; non-fruit bearing or having only berry-sized non-staining and non-toxic fruits; low susceptibility to disfiguring or fatal diseases and infestations; infrequent demands for pruning, fertilizing and other cultural requirements.
 - (e) Plants shall be of appropriate size and form at maturity to meet criteria in Section 6B.5.6 *Street Tree Selections and Soil volumes*.

7B.5.4.2 Lawns/Fine Grass, Rough Grass and Wildflowers:

- (a) Sod shall be used on all lawn/fine grass areas. Seeding, as an alternate, shall require approval of the City Engineer.
- (b) Rough grass and wildflower areas shall be seeded. Seeding method shall be noted on drawings.
- (c) Areas to be seeded with grades greater than 3:1 and/or highly erodible soils shall be hydroseeded with a nurse crop seed mix, a hydraulically applied erosion control mulch, or erosion control blanket. Erosion control method to be noted on drawings.

7B.5.4.3 Trees

- (a) Boulevard or 'street' trees shall be of a single species/cultivar on either side of the street within a given block. Median tree species may vary.
- (b) Street tree species shall vary between intersecting streets. Street tree selection will be made with consideration of maintaining a diverse and varied street tree distribution across a neighbourhood to minimize disease risks.
- (c) All street trees shall have:
 - i. A compact or upward branching structure.
 - ii. Ability to withstand pruning for pedestrian, vehicle and/or building clearance without compromise to tree health or form.
 - iii. Absence of species/varietal characteristics of structural weakness, susceptibility to wind damage, or thin, easily damaged bark.

7B.5.5 Street Tree Size, Spacing and Location

Trees shall be minimum 5 cm caliper measured at 300mm above the rootball at the time of planting, and of uniform size if planted in a boulevard row.

Tree branch clearance requirements are 5m over the traveled portion of road and 2.25m over the sidewalk.

7B.5.6 Street Tree Selections and Soil Volumes

Refer to City of Kelowna website for requirements for tree species selections:
<http://www.kelowna.ca/CM/Page292.aspx>

Trees for directly under Hydro lines

- (a) Minimum allowable soil volume per tree is 4 cu.m. with 1m depth pit.
- (b) Mature height not greater than 7.62m.

Trees for beside hydro lines

- (a) Minimum lateral distance from nearest line 2.75m.
- (b) Minimum allowable soil volume per tree is 4 cu.m. with 1m depth pit.
- (c) Mature spread not greater than 5m.

Trees for limited available soil volume

- (a) Minimum allowable soil volume per tree is 4 cu.m. with 1m depth pit.
- (b) Mature height not greater than 10m.

Trees for available soil volumes of 9 cu. m. or greater

- (a) 1m pit depth
- (b) Mature height not greater than 20m.

Trees for a wide boulevard or wide median use only

- (a) Minimum available root zone of 20 cu. m. per tree
- (b) Minimum boulevard or median width of 3.5m

7B.5.7 -Setbacks for Trees

Minimum setbacks for trees to objects in new developments shall be as follows:

Underground street light conduit or irrigation main	0.6m
Other underground utilities	3.0m
Lamp standards	6.0m
Steel and wooden utility poles	3.0m
Driveways	1.5m
Catch basins	1.5m
Manholes, valve boxes, services	3.0m
Sewer service boxes	3.0m
Fire hydrants	2.0m
Road intersection	7.0m

Curb face (see SS-L3 for Root Barriers required)	0.5m
Sidewalk	0.85m
Curb face and sidewalk with root barrier	0.60m
Buildings - fastigate (columnar) tree	2.0m
Buildings - regular crown tree	3.0-5.0m

The City Engineer may consider custom setbacks where trees are being installed in existing streets with established utilities.

7B.6Landscape Maintenance Schedule

The Owner's qualified professional shall submit a maintenance schedule with the Certificate of Substantial Performance. It shall include timing and arrangements for:

- (a) Routine inspection
- (b) Aerating and dethatching turf areas
- (c) Replenishing mulch
- (d) Fertilizing
- (e) Pruning
- (f) Weeding

The project applicant is encouraged to implement sustainable or environmentally-friendly practices for overall landscape maintenance.

7C Irrigation**7C.1 General Irrigation Requirements**

- (a) A complete and working automatic irrigation system shall be provided for all landscaped areas within a high, medium or low hydrozone of a Highway, utility parcel or utility facility. Temporary watering provisions shall also be made for planted areas of a 'non-irrigated' hydrozone – to allow for watering through a maximum 1 year establishment period or in severe drought.
- (b) Boulevard trees, shrubs and ground covers shall be watered from an automatic irrigation system.
- (c) Urban trees in pavement shall be irrigated with an automatic irrigation system that may include bubblers or drip elements.
- (d) Sleeves shall be provided under sidewalks and driveways, and to medians / islands, as required for installation and maintenance of the irrigation system without removing surface paving.
- (e) Provide a flow sensor and master valve, both connected to the controller, that will stop flow to the system or irrigation circuit in cases of an irrigation water leak. Provide an isolation gate valve upstream of all automatic sprinkler valves.
- (f) Design to water plant materials with different watering requirements (e.g. grass vs. shrub areas and high vs medium vs low water use shrub areas) on different valve circuits.
- (g) Where surface sprinklers are used, ensure unobstructed sprinkler coverage to tree bases from at least two sides.
- (h) Every drip system shall be designed with a filter, pressure regulator, flush valve and air relief valve. The drip component manufacturer's instructions for installation and maintenance shall be included in the project specifications.
- (i) The Irrigation System shall perform to within 15% of the targeted application efficiency standards for irrigation systems, as determined by the Irrigation Association and the Irrigation Industry Association of British Columbia, as follows:
 - i. Spray Zones: 75% or higher;
 - ii. Rotor Zones: 80% or higher;
 - iii. Microjet Irrigation Zones: 85% or higher.
 - iv. Drip Irrigation Zones: 90% or higher.
- (j) Sprays and rotors shall be designed with head to head coverage to meet the application efficiency standards.
- (k) It is the responsibility of the Certified Irrigation Designer to identify to the Owner and to the City of Kelowna any landscape impediments, existing or planned, that will impede reaching the targeted efficiencies. At the discretion of the City of Kelowna, irrigation system design audits may be performed to ensure design efficiency has been met.

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- (l) The Irrigation System shall be designed with minimal pressure losses where possible. Pressure losses between any two sprinklers on the same zone shall be less than 10%.
- (m) Pipes shall be sized to allow for a maximum flow of 1.5m/sec.
- (n) The Irrigation System shall be sized and designed to 80% of Point of Connection available flow and pressure; allowing for 20% growth of system or 20% reduction in operating pressure while retaining targeted operational efficiencies.
- (o) Locate Point of Connection or Pedestal to meet the following requirements:
- i. No Pedestal or Point of Connection locations will be permitted with medians without the explicit written consent of the City of Kelowna.
 - ii. No Pedestal location shall be subject to application of irrigation watering.
 - iii. No Point of Connections shall be placed within a sidewalk without the explicit written consent of the City of Kelowna.
- (p) The irrigation design shall include voltage loss calculations to the electrical control valve furthest from the controller. The drawings are to include:
- i. A chart comparing the actual voltage drop to the allowable voltage drop on common and zone signal wires;
 - ii. Voltage loss shall not exceed the maximum voltage loss as specified by the manufacturer of the irrigation controller;
 - iii. Indicate wire locations, wire gauge required, spare wires and necessary splice box locations on the Contract Drawing.
- (q) Install one spare control wire for every five (5) electric control valves connected to the controller;
- (r) Install one spare common wire for every ten (10) electric control valves connected to the controller.
- (s) Irrigation sleeves shall be installed to route irrigation lines under hard surfaces and features. Non-metallic CSA approved electrical conduit shall be installed adjacent to irrigation sleeves.
- (t) Electric control valves used in the design of the Irrigation System are to remain consistent in size and manufacturer, where possible. Renovations or additions to the Irrigation System shall use the same manufacturer, model and size that exist on site. It is permissible to use an electric control valve from a different manufacturer for specialized applications. In general:
- i. Electric control valves must be sized to the design flow;
 - ii. Drip and Micro irrigation zones must include filtration and pressure regulation to manufacturers' specifications. Drip and Micro zones must have an isolation valve prior to zone valve for maintenance of filtration.
 - iii. Unless it has deemed not possible, valves are to be located on the periphery of green spaces and where available, within planting beds.
 - iv. Design approval will be required to insert valve locations within hardscape surfaces.

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- (u) Sprinklers used in the design of the Irrigation System are to remain consistent in size, nozzling and manufacturer. Renovations or additions to the existing Irrigation System shall use the same manufacturer, model and size that exist on site. Sprinkler choice is based upon:
 - i. Available operating pressure at the base of the sprinkler;
 - ii. Desired radius;
 - iii. Type of landscape/plant material to be irrigated.
 - iv. Preference will be given to sprinklers incorporating pressure compensating devices.
 - v. Preference will be given to sprinklers incorporating check valves to reduce low head drainage.
 - (v) Sprinkler arcs, radius and alignment are to be designed and capable of adjustment to minimize overspray onto adjacent surfaces outside of landscape areas.
 - (w) Drip line and emitters must incorporate technology to limit root intrusion.
 - (x) Specify all irrigation components from a coordinated manufacturer's line listed in the Subdivision, Development & Servicing Approved Products List Policy 266.
 - (y) All irrigation products, installation and operations shall be completed in accordance with the requirements of Schedule 5.
 - (z) The Landscape Maintenance Period for landscape establishment shall be one year from the date of Substantial Performance of the landscape components of the work. All landscape areas shall be provided establishment maintenance which shall include irrigation maintenance and watering.

7C.2 Irrigation Plan and Irrigation Design Report Requirements for Works and Services

For irrigation Works and Services that will be owned by the City of Kelowna, the Owner's Qualified Professional is required to submit the following plans and reports, gain City "Issued for Construction" status, and certify construction quality assurance:

- a) Irrigation Plan
- b) Landscape Water Conservation Report (in accordance with Water Use Regulation Bylaw 10480)
- c) Irrigation Design Report
- d) Maintenance Schedule

The following information shall be shown on the Irrigation Plans and Landscape Water Conservation Report

- (a) Name and contact information for the IIABC Certified Designer.
- (b) Name and contact information for the water utility provider and the electrical utility provider.
- (c) property lines.

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- (d) buildings, edge of pavement, curb lines and curbs, sidewalks, lighting fixture locations, surface utilities and related service boxes or other elements that would affect the irrigation system – but with an objective of minimizing drawing clutter.
 - (e) Location of all existing vegetation to remain.
 - (f) Location of retaining walls and slopes that exceed 3:1 vertical.
 - (g) Landscape Water Budget, and Estimated Landscape Water Use and calculations (in accordance with Schedule C of the Water Regulation Bylaw No. 10480 - may be a separate Landscape Water Conservation Report).
 - (h) Hydrozones shall be designated by number, letter or other designation.
 - (i) Designate the areas irrigated by each valve (irrigation zones) and assign a number to each valve.
 - (j) Indication of which irrigation zones will be automatic vs manual watering systems. Clearly identify any 'temporary zones': those zones which are intended to operate for less than a two (2) year grow in period.
 - (k) Schematic layout showing all points of connection, backflow prevention, water meters, electrical supply and meters, winterization facilities, timeclocks, heads, valves, piping, sleeves, sensors and other elements critical to construction and maintenance of the irrigation system.
 - (l) Irrigation legend describing brand, model and size of timeclocks, heads, valves, piping, sleeves, sensors and all other elements shown on the irrigation plan.
 - (m) Any details specific to the project that are not included in Schedule 5.

The Irrigation Design Report shall be submitted with the Irrigation Plans, in booklet form on 8.5 x 11 paper and shall include:

- (a) Static water pressure obtained either by pressure gauge reading from the site; or from the City of Kelowna.
- (b) Design flow calculations indicating maximum water flows required to irrigate the proposed site in the desired water window;
- (c) Water utility jurisdiction; inclusive of any regulations or restrictions imposed by the said water utility that will affect the operation of the Irrigation System.
- (d) The electrical requirements necessary to operate the proposed Irrigation System. Verification from the applicable electrical utility that the service is available and what is required to route it to the necessary location(s);

- (e) Identification of the micro-climates throughout the proposed site;
- (f) A chart illustrating a zone by zone breakdown of the following items;
 - i. Type of plant material
 - ii. Product Type (micro, spray, rotor); and area based calculated precipitation rates.
 - iii. Required operating pressure
 - iv. Required zone flow
 - v. Zone valve size
- (g) Scheduling data utilizing a maximum ET value of 7"/month (Kelowna July ET); taking into consideration soil type, slope and micro-climate. Show the cumulative watering time required to water all circuits in the project. Except where otherwise required or approved, the irrigation water window shall not be greater than 6 hours per day on an odd or even scheduling format.

7C.3 Establishment Watering Provisions in Single Family Subdivisions

Watering provisions are required for establishment of all street tree planting. Automatic irrigation systems to be provided to the boulevard area as an extension of privately held irrigation systems on the fronting lot. Provide irrigation sleeves across the sidewalk at the lot centerline and across the driveway as necessary to accommodate the irrigation pipe connecting all landscape areas and the fronting boulevard and medians.

In cases where boulevard landscape and related irrigation is being installed in advance of single family lots being occupied, the developer is to install a temporary irrigation system to water the boulevard. When private homes are constructed and occupied, within 6 months of occupancy the developer must arrange to have the boulevard irrigation fronting each lot removed from the temporary irrigation system and attached permanently to the irrigation system of the fronting lot. Design of the temporary irrigation system may follow one of two general arrangements:

FULL LANDSCAPED BOULEVARD: generally in accordance with Schedule 5 Standard Drawing "Temporary Boulevard Irrigation", based on a spray or drip irrigation system to serve grass, groundcover, shrubs and trees in the boulevard, OR

TREES ONLY BOULEVARD: if trees only are being planted, with dryland or paved landscape in between, a Root Watering System (Double) on public property shall be provided that meets the requirements Schedule 5 Standard Drawings.

- (a) For temporary boulevard irrigation systems, and/or for permanent median irrigation systems, water supply, backflow prevention and irrigation smart controller shall be provided in central location(s) in the subdivision, with valves and distribution piping designed in accordance with Section 6C – *Irrigation*. Water supply may be obtained from the services of the new lots. A water billing account must be established prior to use.

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- (b) Irrigation sleeves for the temporary or permanent boulevard and median systems shall be provided under all driveways or other paved areas to provide pipe access to all landscape areas within the highway for installation and maintenance of the irrigation system without removing surface paving.
 - (c) The City will withhold part of the maintenance bond at a value of 140% of the cost of connecting temporary irrigation in boulevards to permanent irrigation systems on fronting private lots, and abandonment of any temporary irrigation system. If this conversion is not completed by the Developer within 6 months of home occupancy, the City may if necessary at the Developer's expense undertake the connection of the boulevard irrigation system to the adjacent private lot system and decommission the temporary irrigation with its own forces.

7C.4 Irrigation Service Connections

Except as required otherwise all landscaped areas of a Highway or Utility Facility shall be serviced with a metered water service (50mm diameter, and a metered electrical service (120/240 volts, 60 amps minimum). Provision of water and electrical services by the Owner shall include the establishment of service accounts with the utility providers, all necessary permits, testing and certification, and all materials, labour, fees and utility costs necessary to provide the service until the end of the Landscape Maintenance Period.

Hillside Development Street Standards

8 Hillside Development Street Standards

- 8.1 [General](#)
- 8.2 [Street Trees](#)
- 8.3 [Hillside Street Classification](#)
 - 8.3.1 [Arterial Streets](#)
 - 8.3.2 [Village Collector Streets \("Main Street"\)](#)
 - 8.3.3 [Collector Streets](#)
 - 8.3.4 [Minor Collector Streets](#)
 - 8.3.5 [Village Local Streets](#)
 - 8.3.6 [Local Streets](#)
 - 8.3.7 [Public Lanes](#)
 - 8.3.8 [Cul-de-Sac Streets and Hillside Emergency Accesses](#)

- **LIST OF TABLES (located at back of section)**

<u>NO.</u>	<u>TITLE</u>
Table 1	Hillside Street Standards
Table 2	Alignment Design Criteria

- **LIST OF DRAWINGS (located at back of section)**

<u>NO.</u>	<u>TITLE</u>
TYP-1	Local Road
TYP-01SW	Local Road – Optional Sidewalk
TYP-02	Minor Collector – No Parking – No Access
TYP-03	Minor Collector – Parking – Access One Side
TYP-04	Minor Collector – Parking – Access Both Sides

8.1 General

Where development lands receive hillside zoning (Residential Hillside (RH) zone or "h" designation to parent RU1 zone), these standards may be utilized in place of the specific sections in the HIGHWAY DESIGN STANDARDS (Section 4 of this Schedule). The Hillside Street Standard drawings are included in Schedule 5, Section 2 (Drawings) of this Bylaw.

The hillside standards have been designed for environmental sensitivity with reduced physical impacts in mind. Generally, the street standards proposed herein have been drawn from the following principles:

- The public interest requires safe, liveable and attractive streets that contribute to the urban fabric;
- Streets should be designed to suit their function. Many streets, especially local ones, have purposes other than vehicular traffic;
- A hierarchical street network should have a rich variety of types, including bicycle, pedestrian and transit routes; and
- Standards should be developed to enhance local streets' contributions to urban design. Issues such as sense of enclosure, landscaping, parking, building setbacks,

Hillside Development Street Standards

surface materials, street furniture, signs and street lighting are vital determinants of liveability in neighbourhoods.

These street standards have largely been designed for application under specific traffic volumes and development densities. Traffic volume determines which general street type (Arterial, Collector, Minor Collector, Local, etc.) is required to service an area and, in most cases, density of fronting development determines which specific street condition ("Condition A", "Condition B", "Condition C", etc.) will be applied. In the case of Collector Streets, whether or not the street acts as a village centre "main street" is also a factor. For Arterial Streets, proximity to a village centre and local environmental conditions are the determinants of "condition" application.

Development that has direct public street access is defined as "fronting" the street. In other words, only those units that are oriented to the street are considered to "front" on it. This will most often occur in areas of fee-simple single family, mixed-use, or apartment development. Circumstances where strata units "front" onto a public street may also arise; however, strata and bareland strata developments will primarily be serviced by Private Streets. Standards for Public Lanes, Cul-de-sac Streets and Hillside Emergency Accesses are also included.

8.2 Street Trees

Street trees contribute to the liveability of a street. Trees modify the microclimate and foster a sense of comfort and safety for drivers and pedestrians by creating an edge between the sidewalk and the moving traffic. In hillside areas it is desired that the natural landscape be more prominent. While in some instances, such as along Arterials and Collectors and in a village centre, street trees are thought to be appropriate, even necessary, in other areas a more natural approach is desired, and the retention of natural vegetation is encouraged.

Therefore, those hillside street standards that will be applied to areas that will have a tighter "fit" to the natural landscape will not be required to incorporate street trees. For Minor Collector Streets and Local Streets street trees are considered optional. The planting of stands of native trees and vegetation is encouraged in these areas to contribute some of the elements of liveability that would otherwise be missed with the elimination of formal street tree plantings. Street trees and landscaping are to be to the satisfaction of the City's Development Services Department/Subdivision Approval Branch and a landscape plan showing proposed planting on private property are required. The City's Development Services Department/Subdivision Approval Branch will require a performance bond for landscaping on private property.

A discussion of each class of street follows.

8.3 Hillside Street Classification – See Table 1

An overall plan is required allocating the location of each street type and its relationship to adjacent land uses proposed. A discussion of each class of street follows.

Hillside Development Street Standards**8.3.1 Arterial Streets**

Arterial streets provide a continuous drive path for inter-community through traffic. The Arterial corridors of hillside areas will be different in that, while they will continue to provide a throughway for automobiles, the experience will take on qualities of a scenic drive.

8.3.2 Village Collector Streets ("Main Street")

Collector streets perform the dual function of land access and traffic movement between arterial and local roads. In the village centre the unique and very social function of this more localized type of street will be reflected in a more urban feel than will be found on collectors elsewhere throughout the site.

8.3.3 Collector Streets

Collector streets perform the dual function of land access and traffic movement between arterial and local roads; however, this more localized type of street plays a social as well as a functional role in the neighbourhood. Street design, therefore, must balance all objectives including, but not limited to, the need to provide a driving path for automobiles to access the neighbourhood.

8.3.4 Minor Collector Streets

There is the potential for some portions of Collector streets to experience lower traffic volumes. In these instances, Minor Collector streets will be utilized. Toward reducing the street section, a sidewalk will be provided on only one side of the street for all Minor Collectors.

8.3.5 Village Local Streets

The residential areas of the village centre will be more urban than those that will be found elsewhere within the Hillside areas. Narrow local streets with on-street parking and framed by street trees and sidewalks on both sides will provide a comfortable environment for all users in the neighbourhood. This condition is for use where development fronts at least one side of the street.

8.3.6 Local Streets

Local streets serve a multitude of functions that are important in the day-to-day lives of residents: residents walk their dogs on the street, they wash their cars on the street and they meet and talk to their neighbours on the street. Children play on the street, they learn to ride their bicycles on the street; they treat the street as an extension of the local neighbourhood park system. At this level, the street plays a very social role. Local street design, therefore, should continue to be sensitive to the needs of non-vehicle street users as well as seeking the best fit between street and landscape.

8.3.7 Public Lanes

Public Lanes are also used by the residents of a community as a venue for social interaction and play and they can contribute greatly to the fabric of a liveable community. One opportunity for their use, however, is in areas such as the village centre. Such higher density development is generally located in more gently sloping areas where steeply sloping terrain is not an issue. The inclusion of Public Lanes in these neighbourhoods will contribute to the more urban feel envisioned as well as provide an alternate route for bikes and pedestrians.

8.3.8 Cul-de-Sac Streets Hillside Emergency Accesses and Hillside Private Lanes

In complex topographic hillside areas long streets may be required to access developable pockets within areas of steep terrain. Due to the complex topography it may not be possible for connectivity to be achieved at both ends of a street. However, in response to public safety a:

- 1) A cul-de-sac, turn-around, or a second point of access is required at the terminus of roads longer than 90m.
- 2) A Hillside Emergency and Utility Vehicle Access is required on roads between 90m and 360m in length, serving more than 100 units*.
- 3) Access Public Lane is required within the last 360m on roads longer than 360m and serving/designed to serve up to 100 units*.
- 4) Local street is required within the last 360m on roads longer than 360m and serving more than 100 units*.

*unit count total shall include all units that depend on a single point of access to the major road network, including branching cul-de-sacs. The number of units shall include the maximum potential unit count of single family, multi-family, secondary suite/carriage houses as permitted by zoning. For non-residential land uses, building occupancy will be considered.

. Beyond 600 units, a 3rd access route is required. Turnarounds are required every 360m.

In general, temporary secondary points of access will not be considered. However, a Hillside Emergency Access may be considered, consistent with the limitations of this access type, where it is; 1) ultimately replaced by a permanent connection on another alignment or to higher standard (i.e. public lane, local street, etc.), 2) constructed over the applicants lands within a highway road reservation, 3) constructed to the Hillside Emergency Access standard (but unpaved) and 4) maintained by the applicant to the satisfaction of the Fire Department. Temporary secondary points of access will not be considered to defer the construction of ultimate works on the same alignment.

Maintaining street connectivity for safety reasons wherever possible will remain a priority.

Hillside Development Street Standards

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- ROW: min 13.0m radius;
- Radius to edge of paved surface: min 12.0m radius;
- Alternative types of street turnarounds will be considered for use based on site specific topographic conditions. In certain circumstances reduced cul-de-sac radii or hammer head type turnarounds will be permitted.

Hillside Emergency Access

- Maximum grade: 15%;
- 4.5m ROW; 4.5m roadway;
- Horizontal Alignment, Minimum Radius = R12m
- Vertical Alignment, Minimum K Value = 2
- Design Vehicle, Fire Truck
- Restrict non-emergency vehicles access through the use of removable bollards or gates;
- Shared use with pedestrian trails.

Hillside Private Lanes/Emergency Access Lanes/Maintenance Roads

Maximum grade: 15%;

Private Lanes must have a turn-around at or near their terminus. Acceptable turn-around types include cul-de-sac, eyebrow or hammerhead.

6.0m ROW; 6.0m roadway.

Hillside Development Street Standards

BL10696 Amended Table 1: Hillside Street Standards									
TABLE 1									
Street Conditions		Street Section Specifications							
Street Type and Condition (Std Drawing number)	Max. Units Served	Design Speed ¹ (km/h)	Max. Grade (%)	ROW (m)	Street Width ² (m)	Parking	Curb & Gutter	Sidewalk ³	Street Trees
Arterial Streets		>600							
Condition A (median) (SS-H1)	within village centre where environmental conditions permit	60 (50) ⁴	8 (10) ¹¹	23.0	16.0 ⁵	none permitted	barrier curb required	Required both sides ⁶	required both sides and in median
Condition B (SS-H2)	within 10-minute walking distance ⁷ of village centre; or, within village centre where environmental conditions do not permit the use of Condition A	60 (50) ⁴	8 (10) ¹¹	17.0 ⁸	10.0 ⁸	none permitted	barrier curb required	Required both sides ⁶	required both sides
Condition C (SS-H3)	greater than a 10-minute walking distance ⁷ from village centre.	60 (50) ⁴	8 (10) ¹¹	15.0 ⁸	10.0 ⁸	none permitted	barrier curb required	Required one side ⁶	required both sides
Village Collector Streets (main street)		600							
Condition A (SS- H4)	• where commercial development fronts street	50	10	20.0	12.8	required on- street both sides	barrier curb required	required both sides	required both sides
Condition B (SS- H5)	• where no commercial development fronts street	50	10	20.0	12.8	required on- street both sides	barrier curb required	required both sides	required both sides
Collector Streets		600							
Condition A (SS- H6)	• development ⁹ fronts both sides	50 (40) ⁴	10 (12) ¹¹	18.2 ⁸	8.6 ⁸	required above curb both sides	rollover curb required	required both sides ⁶	required both sides
Condition B (SS- H7)	• development ⁹ fronts one side only	50 (40) ⁴	10 (12) ¹¹	14.9 ⁸	8.6 ⁸	required above curb one side	rollover curb required ¹²	required one side ⁶	required both sides
Condition C (SS- H8)	• no development ⁹ fronts street	50 (40) ⁴	10 (12) ¹¹	14.0 ⁸	8.6 ⁸	none permitted ¹⁰	rollover curb required ¹²	required one side ⁶	required both sides
Minor Collector Streets		500							
Condition A (SS- H9)	• development ⁹ fronts both sides; or, • development ⁹ fronts one side only	50 (40) ⁴	10 (12) ¹¹	13.3 ⁸	7.0 ⁸	required above curb one side	rollover curb required	required one side ⁶	required on one side
Condition B (SS- H10)	• no development ⁹ fronts street	50 (40) ⁴	10 (12) ¹¹	12.4 ⁸	7.0 ⁸	none permitted ¹⁰	rollover curb required	required one side ⁶	required on one side

Hillside Development Street Standards

BL10696 Amended Table 1: Hillside Street Standards									
Street Conditions		TABLE 1 Street Section Specifications							
Street Type and Condition (Std Drawing number)	Max. Units Served	Design Speed ¹ (km/h)	Max. Grade (%)	ROW (m)	Street Width ² (m)	Parking	Curb & Gutter	Sidewalk ³	Street Trees
Village Local Streets		200							
Village Local (SS-H11)	• development ⁹ fronts at least on side	40 (30) ⁴	12	17.4	8.7	required on- street both sides	barrier curb required	required minimum one side ⁶	required both sides
Local Streets		200							
Condition A (SS- H12)	• development ⁹ fronts both sides	30	15	14.1	6.0	required above curb both sides	rollover curb required	optional one side ⁶	required on one side
Condition B (SS- H13)	• development ⁹ fronts one side only	30	15	12.3	6.0	required above curb one side	rollover curb required	optional one side ⁶	required on one side
Condition C (SS- H14)	• no development ⁹ fronts street	30	15	10.5	6.0	none permitted ¹⁰	rollover curb required	optional one side ⁶	required on one side
Public Lane		10							
(SS-H15)	• all cases	20	12 (15) ¹¹	6.0	5.7	on edge of paved surface	rollover curb required	none	--
Hillside Emergency and Utility Vehicle Access		--							
• provide a secondary access route, if possible, where a cul-de-sac exceeds maximum street length as specified by the City of Kelowna. Radius (min) = 12m; K (min) = 2.		--	15	4.5	4.5	--	--	--	--

Notes:

1. See Table 2 for alignment design criteria for each design speed.
2. Street width measured from curb face (gutterline).
3. For all conditions, sidewalks should terminate at a destination or connect with another sidewalk or trailhead.
4. Minimum permitted design speed reduction, where necessary due to topographic constraints, and approved by the City.
5. Separate left turn lanes to be provided in the medians.
6. Where issues of livability warrant, (e.g. extreme topographic conditions) sidewalk(s) may be located in a separate dedicated corridor

Hillside Development Street Standards

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and street ROW width reduced accordingly. Unless necessary for pedestrian connectivity to schools, parks, commercial areas or land beyond, a sidewalk is not required for local streets accessing 30 lots or less. Street right of way may be reduced accordingly if a sidewalk is not required. (see Standard Drawings)

7. For this purpose, the 10-minute walking distance is considered to be ½ mile (0.8 km).
8. Where required, ROW and street widths will be increased at major intersections to provide for separate turning lanes.
9. "Development" includes all residential, mixed-use, commercial, institutional and park uses.
10. All parking shall be managed on-site or within small parking pullouts, as required.
11. Maximum grade permitted where necessary due to topographic constraints and as approved by the City.
12. Where no fronting development (driveway access not required), barrier curbs to be considered to restrict illegal parking on sidewalks.

Hillside Development Street Standards

Table 2
Alignment Design Criteria

BL10640 amended the following:

1. Horizontal Curve Radii

Criteria	60 km/h	50 km/h	40 km/h	30 km/h
Roadway Crossfall				
normal crown (-2%)	260m	165m	90m	25m
2% superelevation	205m	120m	65m	25m
4% superelevation	150m	80m	45m	22m
6% superelevation	120m	-	-	-
Through Intersections	200m	120m	70m	40m

2. Superelevation

Criteria	60 km/h	50 km/h	40 km/h	30 km/h
Maximum Superelevation	6%	4%	4%	4%
Maximum Superelevation at Intersections	4%	4%	4%	4%

3. Superelevation Transition Lengths

Criteria	60 km/h	50 km/h	40 km/h	30 km/h
Transition Lengths (2 / 4-lane roadways)				
normal crown to +2%	24m / 36m	22m / 34m	20m	20m
normal crown to +4%	38m / 54m	33m / 50m	30m	30m
normal crown to +6%	48m / 72m	-	-	-
Min Tangent Length between reversing curves				
2% superelevation (2 / 4-lane roadways)	15m / 22m	13m / 20m	12m	12m
4% superelevation	28m / 42m	26m / 40m	24m	22m
6% superelevation	42m / 64m	-	-	-

- 1 Values for transition lengths include tangent runoff applied at the same rate as superelevation runoff.
- 2 60% of superelevation runoff occurs on the tangent approach and 40% on the curve, resulting in a minimum length of tangent between reversing curves of 120% of the superelevation runoff length.

Table 2 (continued)
Alignment Design Criteria

4. Gradients

Criteria	60 km/h	50 km/h	40 km/h	30 km/h
Minimum Grade	0.5%	0.5%	0.5%	0.5%
Maximum Grades				
on horizontal tangents	8% ¹	10% ²	12%	12%
on minimum radius horizontal curves ³	8%	9%	10%	10%
Grades Through Intersections				
with design speed on major road	8%	8%	8%	-
approach distance for major road ⁴	15 / 5m ⁵	5m	0m	-
with design speed on minor road	5% ⁶	5%	6%	6%
approach distance for minor road ⁷	20m	15m	5m	5m

- 1 Under special circumstances, grades up to 10% may be permitted.
- 2 Under special circumstances, grades up to 12% may be permitted.
- 3 Applies where radius is less than 1.5 times minimum allowable radius.
- 4 Minimum distance back from the gutter line of the minor road that the specified grade may not be exceeded.
- 5 Distances for design road approach to intersection with collector road / local road.
- 6 4% desirable.
- 7 Minimum distance back from the gutter line of the major road that the specified grade may not be exceeded.

5. Vertical Curve K Values

Criteria	60 km/h	50 km/h	40 km/h	30 km/h
Minimum Crest	15	8	4	2
Minimum Sag	10	7	4	2
Crest / Sag on approach to stop condition	4	3	2	2

K values listed assume that new roadways will be illuminated

6. Stopping Sight Distances

Criteria	60 km/h	50 km/h	40 km/h	30 km/h
Down grades: 12%	109	78	52	34
9%	101	73	50	32
6%	94	69	48	31
3%	89	66	46	30
0%	85	63	45	30
Up grades: 3%	81	61	44	29
6%	78	59	42	29
9%	76	57	41	28
12%	73	56	40	28

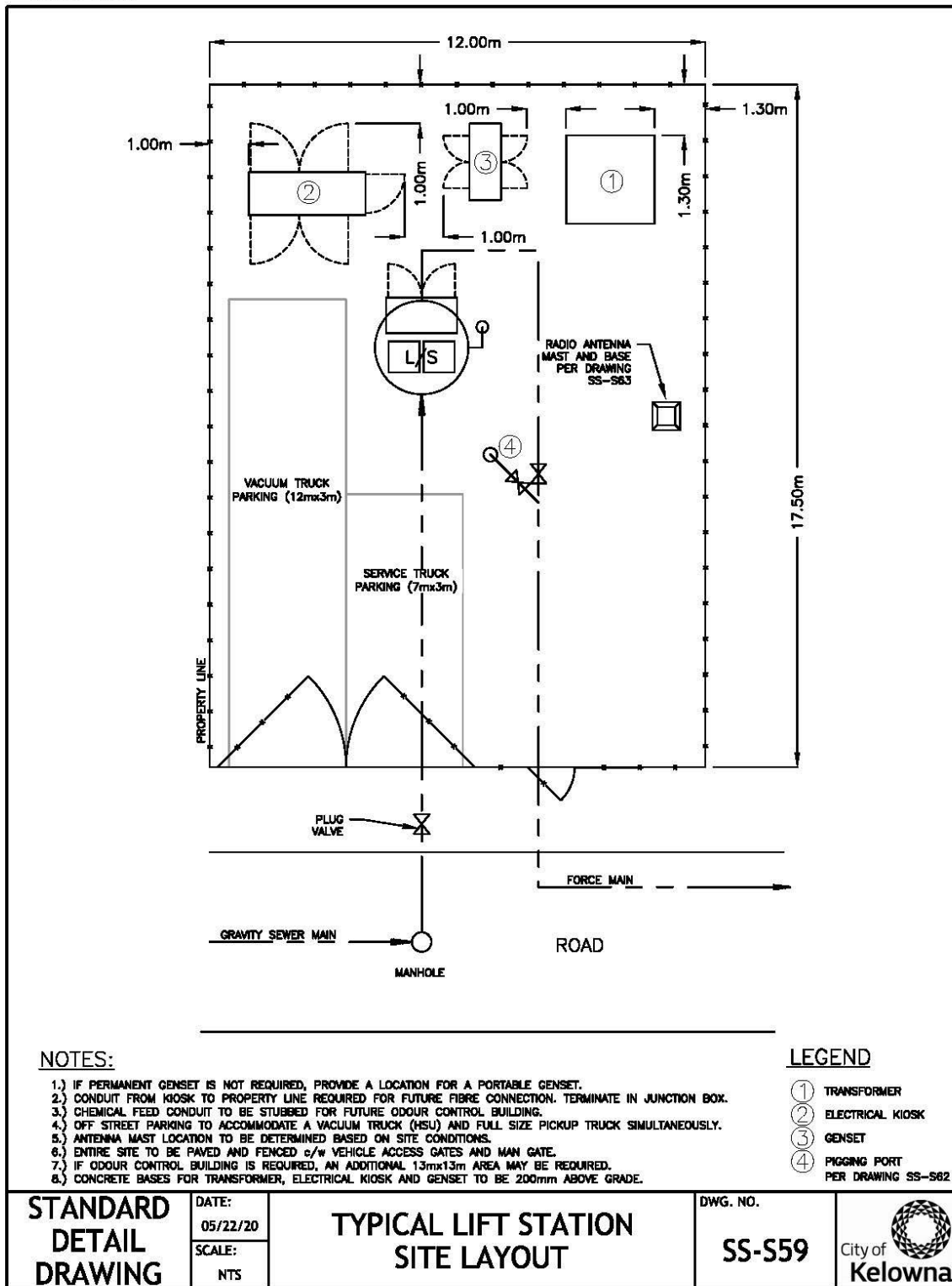
7. Decision Sight Distance

Minimum decision sight distance for 60 km/h: 175m – 235m.

1. Note that decision sight distance applies only to multi-lane roads at intersections.
2. The range of values recognizes the variation in complexity that occurs at various sites. For less complex situations, values towards the lower end of the range are appropriate and for more complexity, values at the upper end are used.

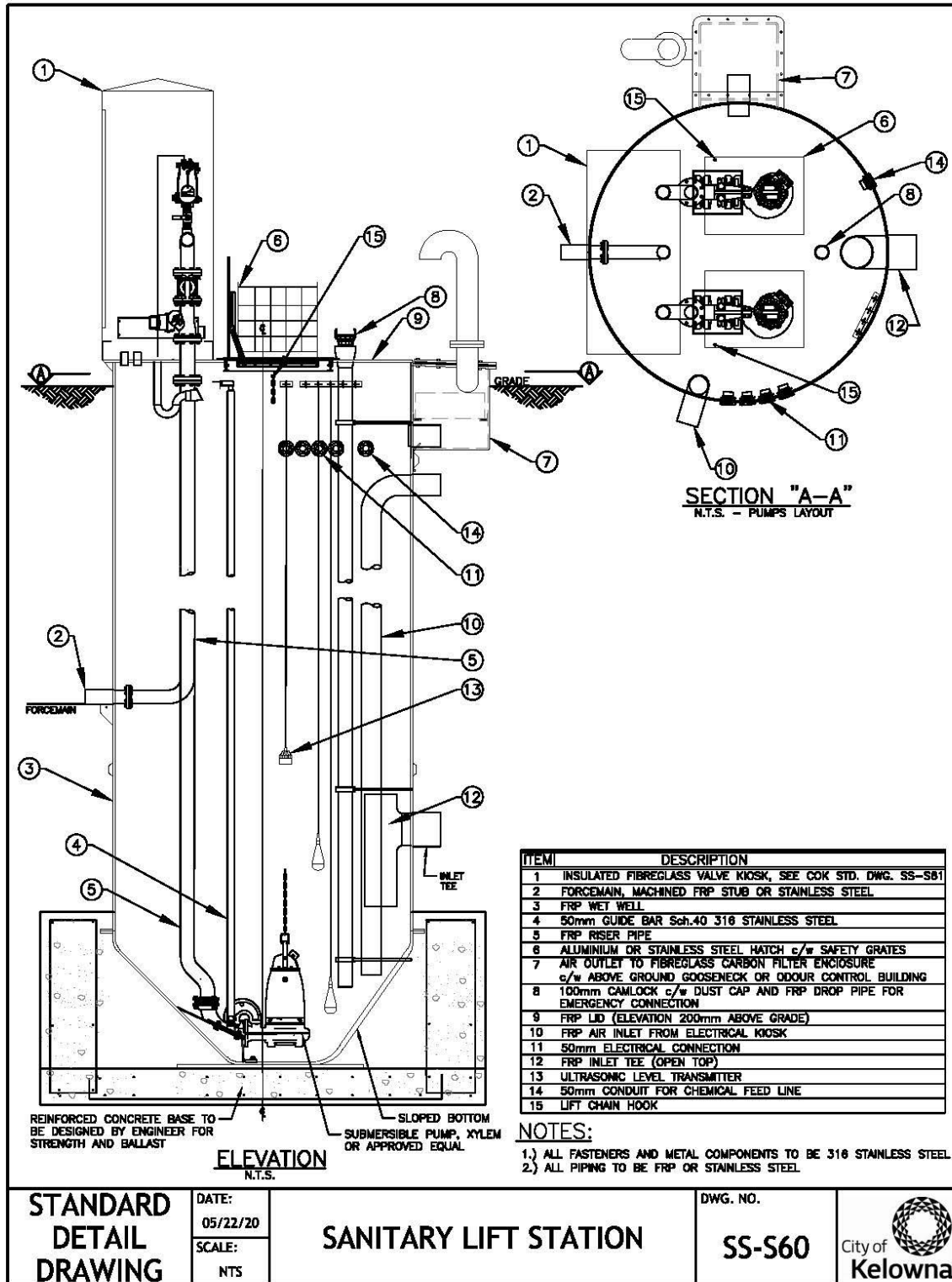
Drawing A

BYLAW NOTE



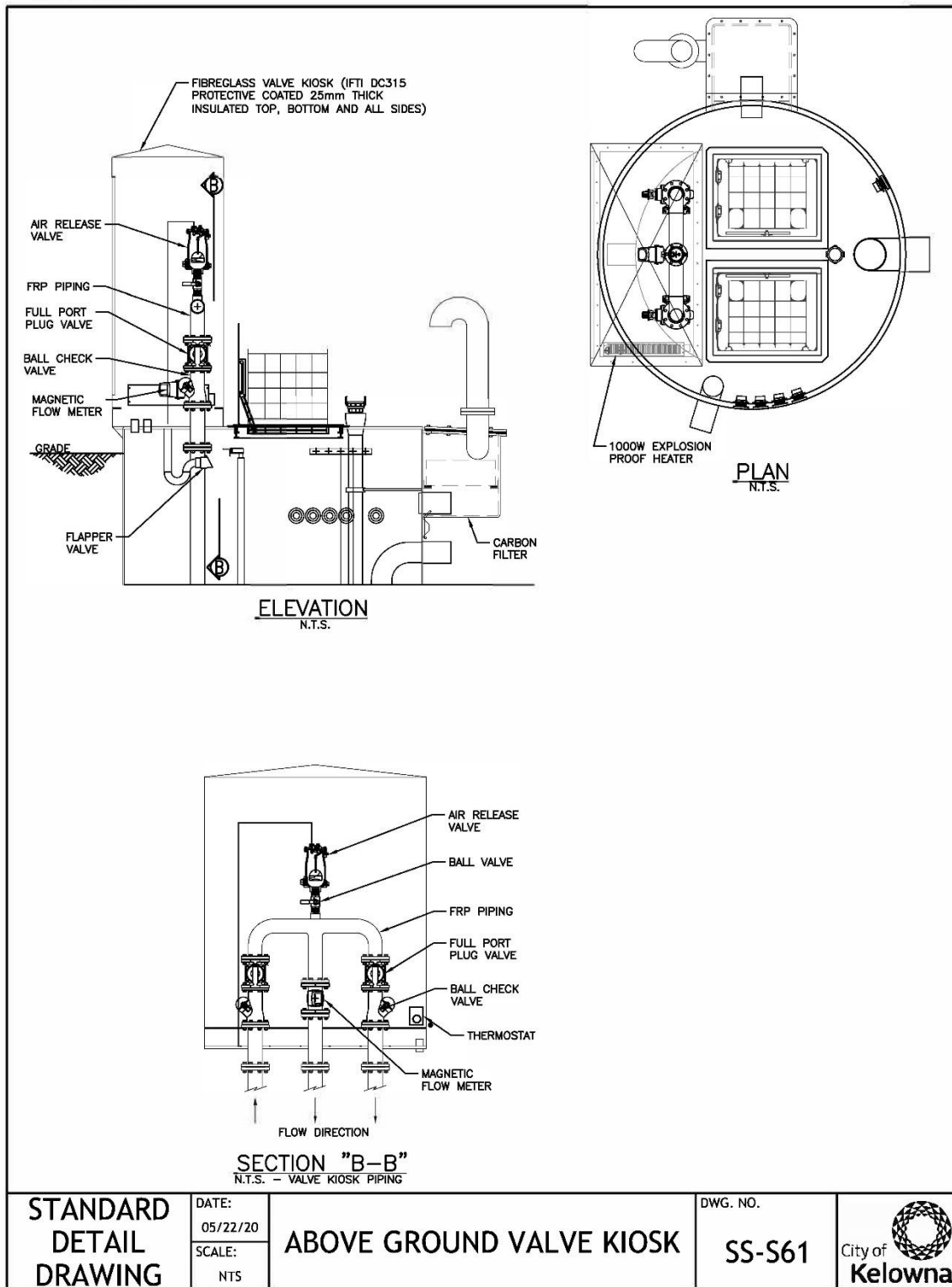
Drawing B

BYLAW NOTE



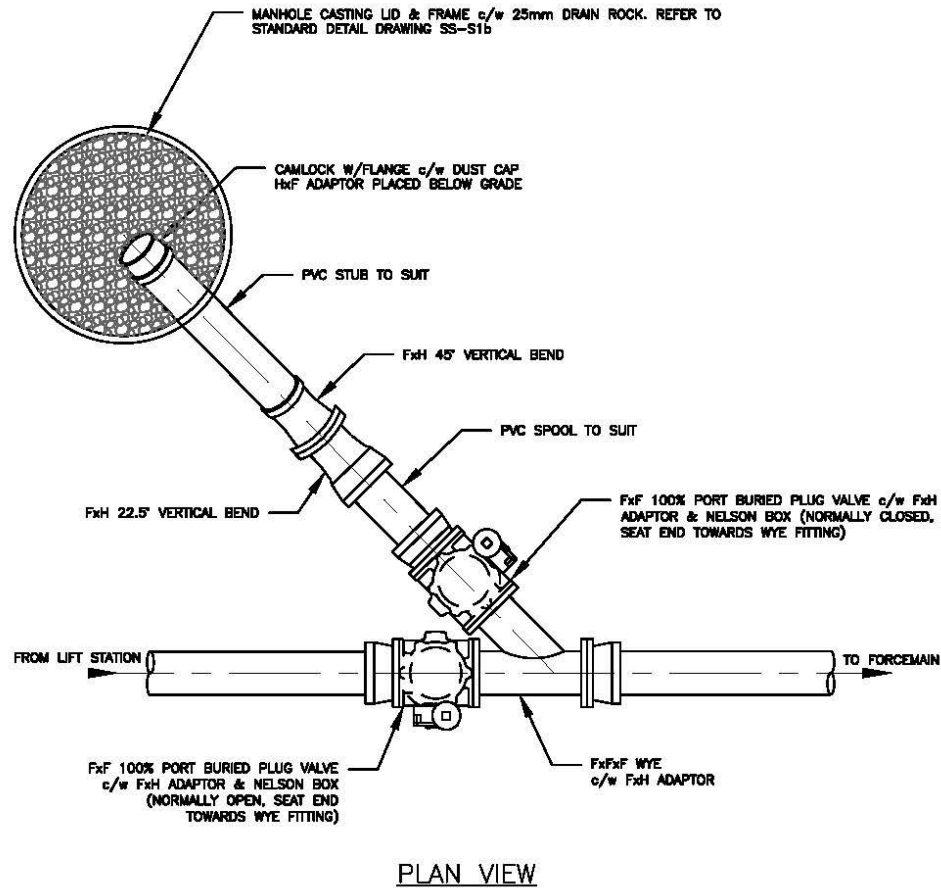
Drawing C

BYLAW NOTE



Drawing D

BYLAW NOTE



NOTES:

- 1.) ALL FITTINGS SHALL BE JOINT RESTRAINED.
- 2.) SIZE OF ALL FITTINGS AND PIPE TO MATCH SIZE OF FORCEMAIN.

**STANDARD
DETAIL
DRAWING**

DATE:
05/22/20
SCALE:
NTS

PIGGING PORT

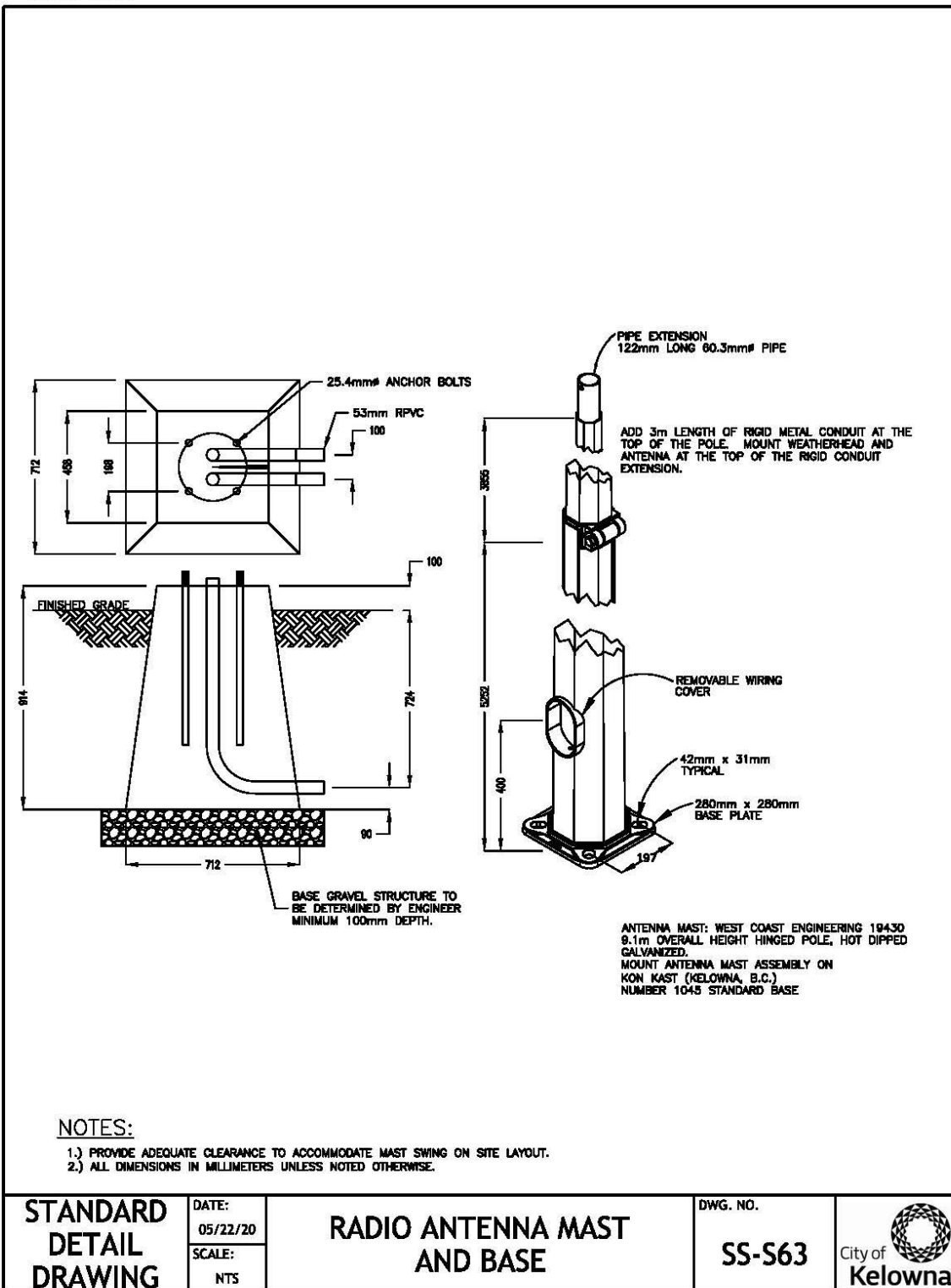
DWG. NO.

SS-S62



Drawing E

BYLAW NOTE



Report to Council



Date: July 27, 2020
To: Council
From: Shelly Little, Corporate Finance Manager
Subject: 2019 Audit Committee Meeting Review
Department: Financial Services

Recommendation:

THAT Council receive the report of the Corporate Finance Manager, Financial Services dated July 27, 2020 for information.

Purpose:

To provide a high-level review of the information provided to the Audit Committee during the meeting on July 14, 2020.

Background:

Annually the Audit Committee meets to review the Financial Statements, Financial Health Indicators, Auditor's report, City Reserves and Debt, Surplus Balances and Appropriations as well as a report from the Internal Control Branch updating them on accomplishments and workplans.

Discussion:

There was an in-depth review of the Consolidated Financial Statements. The key number on the Consolidated Statement of Financial Position is the \$2.14B dollars in Accumulated Surplus that represents the City's overall financial viability and is equal to the sum of the net financial assets and non-financial assets representing resources (both financial and non-financial) that may be used to provide future services. The Consolidated Statement of Operations and Accumulated Surplus shows an annual surplus of \$98.4M which includes the Water, Wastewater and Airport Funds. The Consolidated Statement of Changes in Net Financial Assets recognizes that the City acquired \$129.4M in tangible capital assets and used \$67.7M through amortization. The Consolidated Statement of Cash Flows outlines the cash generated and used by the City's operations, capital, investing and financing activities.

In the Council adopted Financial principles & strategies a key component is Financial Policies and Performance Measures to aid in decision making. The Financial Health Indicators are a set of ratios that

the City uses to measure the overall financial health of the City. The ratios provide comparative financial information for the year-ended 2018 using Local Government data for Municipalities with greater than 100,000 population and for Local Governments in the region. The ratios provide a way to measure how decisions made during the year have affected the sustainability, flexibility and vulnerability of the City. They also link the financial results to the overall economic and fiscal environment that the City operates in. The results show that the overall financial health of the City is strong and is well positioned to meet current financial obligations.

The Audit report outlined the areas of review that took place and provided a clean audit opinion stating that the City of Kelowna's consolidated financial statements present fairly, in all material respects, the financial position of the City of Kelowna as at December 31, 2019, and the results of operations, its changes in its net assets, and its cash flows for the year then ended in accordance with Canadian public sector accounting standards.

2019 General fund Financial results show a surplus of \$8.1M. In a subsequent Council Report being received today the Council Audit Committee recommends the appropriation from surplus to reserve of \$7.6M and the appropriation of \$514k to accumulated surplus. Total accumulated surplus for the General Fund that is unallocated is now \$4.3M dollars at the 2019 year-end which represents 3.4% of taxation demand.

The Water and Wastewater utility funds 2019 surplus was \$2.4M and \$5.8M respectively these funds fall to the utilities accumulated surplus which is used for infrastructure replacement, mitigating fluctuations in utility billing rates to ensure that the City can continue to provide sustainable healthy and safe Water and Wastewater services to the Cities citizens.

The Airport had a surplus of \$15.2M which will be used to enable the ongoing operating and infrastructure requirements and improvements at the Airport.

The Internal Control branch of the City of Kelowna completed development of the 5-year strategic plan. To ensure efficient and consistent execution of the monitoring program, a formal review engagement program was developed that includes review templates. The 2019 accomplishments and 2020 workplans were reported to the Audit Committee.

Conclusion:

The preparation for year-end and the audit process provides a detailed review and assessment of the City's Financial results for the year ended and compares those results to the previous year and the budget. The City's Strong Financial principles and strategies are reflected in the 2019 financial results and have positioned the City to continue to build a vibrant community and address the challenges of the COVID-19 pandemic.

Considerations not applicable to this report:

Legal/Statutory Authority:

Legal/Statutory Procedural Requirements:

Existing Policy:

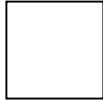
Financial/Budgetary Considerations:

External Agency/Public Comments:

Communications Comments:

Submitted by: S. Little, Corporate Finance Manager

Approved for inclusion:



G. Davidson, Divisional Director, Financial Services

CC:

Report to Council



Date: July 27, 2020
To: City Manager
From: Audit Committee
Subject: Financial Statements for the Year Ending December 31, 2019
Department: Financial Services

Recommendation:

THAT Council receives, for information, the Report from the Audit Committee dated July 27, 2020 with respect to the Consolidated Financial Statements and Auditor's Report for the City of Kelowna for the year ending December 31, 2019.

AND THAT Council approves the appropriation of \$8,113,748 of surplus generated from all general fund operations in 2019 to reserves and accumulated surplus as detailed in the Report from the Audit Committee dated July 27, 2020.

AND FURTHER THAT the Consolidated Financial Statements and Auditor's Report be reprinted in and form part of the City of Kelowna's annual report.

Purpose:

To present the Consolidated Financial Statements to Council for acceptance per the legislative requirements, to provide Council with a recommendation on the appropriation of \$8,113,748 of surplus to general reserves and accumulated surplus and to seek approval to include the financial statements in the annual report.

Background:

A detailed review of the draft City of Kelowna Financial Statements for the year ending December 31, 2019 was undertaken on July 14, 2020 by the Audit Committee, the City of Kelowna Auditor, Grant Thornton LLP, and Financial Services staff.

Discussion:

City Administration has recommended the appropriation to reserves and accumulated surplus of the 2019 surplus generated from all general fund operations, in the amount of \$8,113,748 in addition to

those amounts that are normally appropriated through the budget process. The Audit Committee is in agreement with reasons provided for the appropriation. This results in an unappropriated surplus for 2019 of \$513,748 and an accumulated surplus balance of \$4.3 million.

The recommended appropriations to reserves are:

Community Safety	\$ 400,000
RCMP	2,500,000
Slope Stability	550,000
Climate Action	350,000
Sidewalk Network	200,000
Land Sales	700,000
Major Systems	400,000
Public/Private/Partnership	2,500,000
Accumulated Surplus	<u>513,748</u>
	\$8,113,748

Conclusion:

Internal Circulation:

Considerations applicable to this report:

Legal/Statutory Authority:

The Community Charter section 167 "Annual Financial Statements" requires that municipal financial statements for a fiscal year must be presented to Council for its acceptance.

Financial/Budgetary Considerations:

The financial impact is that a total of \$7,600,000 will be transferred from surplus to reserves and \$513,748 will fall to accumulated surplus.

Considerations not applicable to this report:

Legal/Statutory Procedural Requirements:

Existing Policy:

External Agency/Public Comments:

Communications Comments:

Submitted by:

Mayor Basran, Chair, Audit Committee

Approved for inclusion:



cc: Councillor G. Given – Audit Committee
Councillor L. Stack – Audit Committee
Divisional Director, Financial Services
Corporate Finance Manager
Grant Thornton LLP – Auditor - Mr. Tyler Neels, CPA, CA

2019

Consolidated Financial Statements

Kelowna, British Columbia, Canada

For the year ended December 31, 2019



CITY OF KELOWNA

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Independent auditor's report

Grant Thornton LLP
200-1633 Ellis Street
Kelowna, BC
V1Y 2A8
T +1 250 712 6800
F +1 250 712 6850

To the members of the Council of the [City of Kelowna](#):

Opinion

We have audited the consolidated financial statements of the City of Kelowna ("the City"), which comprise the consolidated statement of financial position as at December 31, 2019, and the consolidated statements of operations and accumulated surplus, consolidated statement of changes in net financial assets and consolidated statement of cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the financial position of the City of Kelowna as at December 31, 2019, and the results of operations, its changes in its net debt, and its cash flows for the year then ended in accordance with Canadian public sector accounting standards.

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the consolidated financial statements* section of our report. We are independent of the City in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of Management and Those Charged with Governance for the consolidated financial statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with Canadian public sector accounting standards, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the City's ability to continue as a going concern, disclosing, as applicable, matters related to a going concern and using the going concern basis of accounting unless management either intends to liquidate the City or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the City's financial reporting process.

Auditor's Responsibilities for the Audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the City's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the City's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the City to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Kelowna, Canada
July 14, 2020

Grant Thornton LLP
Chartered Professional Accountants

CITY OF KELOWNA
Consolidated Statement of Financial Position
As at December 31, 2019
(in thousands of dollars)

	<u>2019</u>	<u>2018</u>
Financial Assets		
Cash and cash equivalents (Note 3)	\$ 18,842	\$ 24,989
Accounts receivable (Note 3)	40,138	45,414
Accrued interest	2,444	1,585
Portfolio investments (Note 3)	549,192	495,817
Long term investments (Note 10)	6,000	6,000
Assets held for resale	5,072	3,455
	<u>621,688</u>	<u>577,260</u>
Liabilities		
Accounts payable	63,284	50,922
Performance deposits	28,063	21,580
Deferred revenue (Note 3)	45,404	50,382
Deferred development cost charges (Note 3)	79,100	66,834
Long term debt (Note 3)	105,615	119,340
	<u>321,466</u>	<u>309,058</u>
Net Financial Assets	<u>300,222</u>	<u>268,202</u>
Non-Financial Assets		
Prepaid expenses	10,194	3,328
Inventory	1,318	1,484
Work in progress (Note 4)	61,556	35,373
Tangible capital assets (Note 4)	1,767,122	1,733,595
	<u>1,840,190</u>	<u>1,773,780</u>
Accumulated Surplus (Note 5)	<u>\$ 2,140,412</u>	<u>\$ 2,041,982</u>

Contingent liabilities and Commitments (Notes 8 and 9)
Subsequent event (Note 17)



Genelle Davidson, CPA, CMA
Divisional Director, Financial Services



Colin Basran
Mayor, City of Kelowna

See accompanying notes to the consolidated financial statements.

CITY OF KELOWNA
Consolidated Statement of Operations and Accumulated Surplus
For the Year Ended December 31, 2019
(in thousands of dollars)

	Budget 2019	Actual 2019	Actual 2018
Revenue			
Taxation (Note 6)	\$ 154,981	\$ 155,624	\$ 145,944
Fees and charges	139,137	150,516	152,536
Interest earned	4,055	14,316	12,821
DCC contributions	27,523	16,841	12,929
Government transfers (Note 7)	75,679	53,016	49,019
Other capital contributions	5,694	4,523	23,028
Gain on disposal of tangible capital assets	-	1,241	4,603
	<u>407,069</u>	<u>396,077</u>	<u>400,880</u>
Expenses			
General government	36,591	31,804	30,373
Protective services	65,126	65,549	60,946
Transportation	37,837	64,443	63,743
Recreation & cultural	38,375	45,460	44,642
Other services	23,439	27,711	24,138
Airport	17,497	24,502	23,004
Natural Gas Legacy	-	-	2,723
Wastewater	13,572	22,549	22,608
Water	10,439	13,380	13,458
Loss on disposal of tangible capital assets	-	1,085	462
Write down of tangible capital assets	-	1,164	486
	<u>242,876</u>	<u>297,647</u>	<u>286,583</u>
Annual Surplus	<u>\$ 164,193</u>	<u>98,430</u>	<u>114,297</u>
Accumulated Surplus, beginning of year		<u>2,041,982</u>	<u>1,927,685</u>
Accumulated Surplus, end of year		<u>\$ 2,140,412</u>	<u>\$ 2,041,982</u>

See accompanying notes to the consolidated financial statements.

CITY OF KELOWNA
Consolidated Statement of Changes in Net Financial Assets
For the Year Ended December 31, 2019
(in thousands of dollars)

	Budget 2019	Actual 2019	Actual 2018
Annual Surplus	\$ 164,193	\$ 98,430	\$ 114,297
Amortization of tangible capital assets	-	67,697	66,989
Proceeds from disposal of tangible capital assets	-	1,463	39,148
(Gain) loss on disposal of tangible capital assets	-	(156)	(4,141)
Write down of tangible capital assets	-	1,164	486
Acquisition of tangible capital assets	(240,079)	(129,376)	(114,637)
Contributions of tangible capital assets	-	(502)	(19,253)
Change in inventory and prepaid expenses	-	(6,700)	(993)
Increase (decrease) in Net Financial Assets	(75,886)	32,020	81,896
Net Financial Assets, beginning of year	268,202	268,202	186,306
Net Financial Assets, end of year	\$ 192,316	\$ 300,222	\$ 268,202

See accompanying notes to the consolidated financial statements.

CITY OF KELOWNA
Consolidated Statement of Cash Flows
For the Year Ended December 31, 2019
(in thousands of dollars)

	Actual 2019	Actual 2018
Net inflow (outflow) of cash and cash equivalents related to the following activities		
Operating		
Annual surplus	\$ 98,430	\$ 114,297
Adjustment for non-cash items		
Amortization of tangible capital assets	67,697	66,989
(Gain) loss on disposal of tangible capital assets	(156)	(4,141)
Write down of tangible capital assets	1,164	486
Actuarial adjustment on long term debt	(3,266)	(6,545)
Contributions of tangible capital assets	(502)	(19,253)
Termination of debt	-	(2,132)
Decrease (increase) in		
Accounts receivable	5,276	(11,694)
Inventory and prepaid expenses	(6,700)	(993)
Other assets	(2,475)	(160)
Increase (decrease) in		
Accounts payable	12,362	6,979
Deferred development cost charges	12,266	24,067
Other liabilities	1,505	(98)
	185,601	167,802
Capital		
Acquisition of tangible capital assets	(129,376)	(114,637)
Proceeds from disposal of tangible capital assets	1,463	39,148
	(127,913)	(75,489)
Investing		
Change in investments	(53,376)	(78,553)
Financing		
Proceeds from issuance of long term debt	2,952	8,485
Repayment of long term debt	(13,411)	(17,903)
	(10,459)	(9,418)
Net increase (decrease) in cash and cash equivalents	(6,147)	4,342
Cash and cash equivalents, beginning of year	24,989	20,647
Cash and cash equivalents, end of year	\$ 18,842	\$ 24,989
Non-cash capital activities		
Acquisition of tangible capital assets through contributions (Note 4)	\$ 502	\$ 19,253

See accompanying notes to the consolidated financial statements.

CITY OF KELOWNA
Notes to the Consolidated Financial Statements
December 31, 2019
(all tabular amounts reported in 000's of dollars)

The notes to the consolidated financial statements are an integral part of the statements. They explain the significant accounting and reporting policies and principles underlying these statements. They also provide relevant supplementary information and explanations which cannot be conveniently expressed in the consolidated financial statements.

The consolidated financial statements are the responsibility of and prepared by management in accordance with Canadian Public Sector Accounting Standards (PSAS). The preparation of these consolidated financial statements necessarily involves the use of estimates based on management's judgment, particularly when transactions affecting the current accounting period cannot be finalized with certainty until future periods.

1. Significant accounting policies

Basis of presentation

The City of Kelowna's resources and operations are segregated into General, Airport, Wastewater Utility, Water Utility, Development Cost Charges and Statutory Reserve Funds for accounting and financial reporting purposes. The consolidated financial statements include all the accounts of these funds. All material interfund transactions and balances have been eliminated within the consolidated financial statements.

Accrual accounting

The accrual method for reporting revenues and expenses has been used. Revenues are recognized in the period in which the transactions or events occur that give rise to the revenues. Expenses are recognized in the period in which the goods or services are acquired and a liability is incurred.

Assets held for resale

Assets held for sale are those expected to be sold within one year. They are valued at the lower of cost or expected net realizable value. Cost includes amounts for improvements to prepare the asset for sale.

Inventory

Inventory is valued at the lower of cost, determined principally on a weighted average and specific item basis, or replacement cost.

Municipal Finance Authority cash deposits and demand notes

The City issues the majority of its debt instruments through the Municipal Finance Authority. As a condition of these borrowings, a portion of the debenture proceeds is withheld by the Municipal Finance Authority as a debt reserve fund. The City also executes demand notes in connection with each debenture whereby the City may be required to loan certain amounts to the Municipal Finance Authority. These demand notes are contingent in nature. The Debt Reserve and Demand Note balances are as follows:

	2019	2018
Cash deposits held by MFA	\$ 1,906	\$ 2,401
Demand notes held by MFA	4,655	6,731
	\$ 6,561	\$ 9,132

CITY OF KELOWNA
Notes to the Consolidated Financial Statements
December 31, 2019
(all tabular amounts reported in 000's of dollars)

Municipal pension plan

The City of Kelowna's pension plan follows the guidelines of the Municipal Pension Plan which is administered by the Province of British Columbia for all British Columbia municipalities. The City and its employees contribute to the Municipal Pension Plan (a jointly trustee pension plan). The board of trustees, representing plan members and employers, is responsible for administering the plan, including investment of assets and administration of benefits. The plan is a multi-employer defined benefit pension plan.

Reserves for future expenditures

Reserves for future expenditures are non-statutory reserves which represent an appropriation of surplus for specific purposes. Transfers to reserves for future expenditures include funds to finance incomplete projects and accumulations for specific purposes.

Statutory reserve funds

The use of these funds is restricted by the Community Charter and associated Municipal Bylaws. Statutory reserve funds are funded 100% by cash and portfolio investments.

Intangible assets

Intangible assets include works of art and historic assets located throughout the City. They are not reflected in these consolidated financial statements.

Interest capitalization

The City of Kelowna only capitalizes interest on projects being financed internally which will require debenture borrowing upon completion. Interest is calculated on monthly expenditures at the bank prime rate less 2%.

Work in progress

Work in progress represents capital projects under construction but not yet completed and are valued at cost.

Tangible capital assets

The City records tangible capital assets, including assets held as work in progress or capital lease, at cost in the period they were acquired or when the asset is put into use.

All tangible capital assets are valued at cost which includes all costs directly attributable to acquisition, construction, development or betterment of the tangible capital asset.

Assets owned by the City but not paid for by the City including contributions, dedications, gifts and donations, are valued at fair value at the date of contribution, dedication, gift or donation, where fair value is reasonably determinable.

Contributions of tangible capital assets

Tangible capital assets received as contributions are recorded at their fair market value.

CITY OF KELOWNA
Notes to the Consolidated Financial Statements
December 31, 2019
(all tabular amounts reported in 000's of dollars)

Amortization

The cost less residual value of the tangible capital assets is amortized on a straight-line basis over the useful lives of the asset as follows:

<u>Asset Type</u>	<u>Useful Life (years)</u>	<u>Asset Type</u>	<u>Useful Life (years)</u>
Parks infrastructure		Vehicles	
Playground equipment	15 - 20	Cars and light trucks	5 - 10
Artificial turf field	10 - 12	Fire trucks	15 - 20
Washrooms, concessions, picnic shelters	40 - 50	IT infrastructure	
Outdoor pools, spray pools	50 - 60	Hardware	4 - 5
Building structure	40 - 75	Software	5 - 10
Building improvements		Telephone system	7 - 10
Exterior envelope	30 - 40	Infrastructure	
HVAC systems	10 - 12	(dependent upon component and material)	
Roof	15 - 20	Electrical	20 - 25
Electrical, plumbing and fire	15 - 20	Water	10 - 100
Site works - asphalt, water and sewer lines, etc	10 - 100	Wastewater	10 - 100
Machinery & equipment		Drainage	10 - 100
General equipment	7 - 10	Transportation	10 - 100
Grounds equipment and machinery	10 - 15		
Heavy construction equipment	5 - 10		

Land and Work in Progress are not amortized.

Revenue recognition

Taxation revenue

Annual levies for non-optional municipal services and general administrative services are recorded as taxes for municipal purposes. Levies imposed by other taxing authorities are not included as taxes for municipal purposes. Taxes are recognized as revenue in the year they are levied.

Through the BC Assessment appeal process taxes may be adjusted by way of supplementary roll adjustments. The effect of these adjustments on taxes are recognized at the time they are awarded.

Fees and charges revenue

Charges for transportation, environmental health, building permits, water, wastewater, and airport are included in this category. These revenues are recorded on the accrual basis and recognized as earned which is usually when services are provided or facilities are utilized.

CITY OF KELOWNA
Notes to the Consolidated Financial Statements
December 31, 2019
(all tabular amounts reported in 000's of dollars)

Development Cost Charges (DCC) contributions

Development Cost Charges (DCC) contributions are recognized as revenue during the period in which the related costs are incurred.

Government transfers

Government transfers are recognized as revenue in the period that the transfer is authorized, eligibility criteria, if any, has been met by the City, and a reasonable estimate of the amount to be received can be made.

Investment income

The City's investments are disclosed in Note 3.

Investment income is recorded on the accrual basis and recognized when earned.

A portion of the City's investments are invested in pooled funds of the Municipal Finance Authority of British Columbia. Earnings on these funds are allocated to the members from time to time based on the market value of the pool. The City recognizes only its share of the realized earnings of the pool. This revenue is recorded as investment income and the amount is added to the cost base of the investment.

To the extent that investments have no stated rate of return, investment income is recognized as it is received.

Expenses

Expenses are recorded in the period in which the goods or services are acquired and a liability is incurred.

Liability for contaminated sites

Contaminated sites are a result of contamination being introduced into air, soil, water or sediment of a chemical, organic or radioactive material or live organism that exceeds an environmental standard. The liability is recorded net of any expected recoveries. A liability for remediation of contaminated sites is recognized when a site is not in productive use and all of the following criteria are met:

- an environmental standard exists;
- contamination exceeds the environmental standard;
- the City is directly responsible; or accepts responsibility;
- it is expected that future economic benefits will be given up; and
- a reasonable estimate of the amount can be made.

The liability is recognized as management's estimate of the cost of post-remediation including operation, maintenance and monitoring that are an integral part of the remediation strategy for a contaminated site.

In late 2019, the City acquired and accepted responsibility to remediate a site located on Harvey Avenue. Clean up activities are expected to take place in 2020, primarily consisting of soil delineation and groundwater monitoring. Recognition of a liability in the amount of \$130,000 is based on contractor estimates of the work expected to be undertaken.

There were no liabilities recorded as at December 31, 2018.

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Use of estimates

Management has made estimates and assumptions that affect the amounts reported in preparing these financial statements. Actual results could differ from the estimates. Significant areas requiring the use of management estimates relate to the determination of tangible capital assets estimated useful life and related amortization, allowance for doubtful accounts, contaminated site liabilities, landfill post closure costs and settlement costs associated with outstanding legal actions.

2. Future accounting changes

PS 3280 Asset retirement obligations

This section revises and replaces the existing Section PS 3270 Solid Waste Landfill Closure and Post-Closure Liability. This section applies to fiscal years beginning on or after April 1, 2022, with early adoption permitted.

PS 3400 Revenues

This section establishes standards on how to account for and report on revenue. This section applies to fiscal years beginning on or after April 1, 2023, with early adoption permitted.

PS 3450 Financial instruments

This section establishes standards for recognizing and measuring financial assets, financial liabilities and non-financial derivatives. This section applies to fiscal years beginning on or after April 1, 2022, with early adoption permitted. Adoption of this standard requires corresponding adoption of PS 1201 Financial Statement Presentation, PS 2601 Foreign Currency Translation and PS 3041 Portfolio Investments in the same fiscal period.

- **PS 1201 Financial Statement Presentation**

This section revises the general reporting principles and standards for the disclosure of information in the financial statements. This section applies to fiscal years beginning on or after April 1, 2022, with early adoption permitted.

- **PS 2601 Foreign Currency Translation**

This section revises and replaces the existing Section PS 2600 Foreign Currency Translation. This section applies to fiscal years beginning on or after April 1, 2022, with early adoption permitted.

- **PS 3041 Portfolio investments**

This section revises and replaces the existing Section PS 3040 Portfolio investments. This section applies to fiscal years beginning on or after April 1, 2022, with early adoption permitted.

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3. Financial assets and liabilities

Cash and cash equivalents

Cash and cash equivalents consist of cash and short-term investments with maturities of 90 days or less from the date of acquisition.

Accounts receivable

Accounts receivable are recorded net of allowance and are comprised of the following:

<u>Type of receivable</u>	<u>2019</u>	<u>2018</u>
Property tax	\$ 4,888	\$ 4,279
Trade receivables	13,732	17,169
Due from government	1,448	5,748
Due from provincial government	6,613	4,373
Due from regional government	146	64
Utilities	5,333	3,996
Deferred development cost charges	7,978	9,785
	<u>\$ 40,138</u>	<u>\$ 45,414</u>

Portfolio investments

Portfolio investments are recorded at cost and are comprised of the following:

<u>Type of investment</u>	<u>2019</u>	<u>2018</u>
Municipal Finance Authority bond / Intermediate Funds	\$ 108,795	\$ 106,139
Provincial and bank issued bonds	100,826	95,030
Publicly traded shares	65,232	62,748
Guaranteed Investment Certificates and deposit notes	274,339	231,900
Total Portfolio investments	<u>\$ 549,192</u>	<u>\$ 495,817</u>

The quoted market value of the publicly traded shares at December 31, 2019 was \$103.86 million (2018 - \$85.91 million).

Operating line of credit

The City has an operating line of credit with the Royal Bank of Canada for an authorized amount of \$5.0 million, bearing interest at bank prime rate less 0.50%. At December 31, 2019 the balance outstanding was \$nil (2018 - \$nil).

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Deferred revenue

The City records deferred revenue for funds received in advance of services not yet rendered and is recognized into revenue during the period in which the service is provided. The City also records deferred revenue when a contract specifies how the resources are to be used and therefore funds received in advance are deferred until the period in which the requirements are met. Because these funds are restricted in nature they are shown as a liability.

<u>Deferred Revenue by Type</u>	<u>2018</u>	<u>Receipts</u>	<u>Interest</u>	<u>Transfers Out</u>	<u>2019</u>
Tax prepayments	\$ 19,839	\$ 37,660	\$ 194	\$ 36,914	\$ 20,779
Construction	12,901	2,518	206	690	14,935
Grants	8,510	-	9	8,374	145
Other	4,819	6,499	16	6,033	5,301
Local Area Service	4,313	186	-	255	4,244
Total	<u>\$ 50,382</u>	<u>\$ 46,863</u>	<u>\$ 425</u>	<u>\$ 52,266</u>	<u>\$ 45,404</u>

Deferred development cost charges (DCC)

The City collects development cost charges to pay for a proportionate share of infrastructure related to new growth. In accordance with the Local Government Act, these funds must be deposited into a separate reserve fund. Because these funds are externally restricted in nature they are shown as a liability.

	<u>2018</u>	<u>Receipts</u>	<u>Interest</u>	<u>Transfers Out</u>	<u>2019</u>
Parks	\$ 18,278	\$ 9,795	\$ 467	\$ 6,426	\$ 22,114
Roads	43,050	10,622	1,093	4,123	50,642
Water	13,429	822	346	175	14,422
Wastewater	(7,923)	6,215	(253)	6,117	(8,078)
Total Deferred DCC	<u>\$ 66,834</u>	<u>\$ 27,454</u>	<u>\$ 1,653</u>	<u>\$ 16,841</u>	<u>\$ 79,100</u>

Long term debt

Sinking fund installments and mortgage payments on net outstanding debt and loans payable over the next five years and thereafter are as follows:

	<u>Total</u>
2020	\$ 13,029
2021	11,024
2022	10,385
2023	9,141
2024	8,705
2025 and thereafter	53,331
Total	<u>\$ 105,615</u>

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Total debt issued was \$205.5 million and total debt payable at December 31, 2019 was \$105.6 million (2018 - \$119.3 million).

Schedule 3 provides a breakdown of long term debt.

4. Tangible capital assets (TCA) and work in progress

	2019 Work in progress	2019 Tangible capital assets (NBV)	2018 Work in progress	2018 Tangible capital assets (NBV)
Land	\$ -	\$ 319,486	\$ -	\$ 303,532
Land improvements	116	36,697	327	37,168
Buildings	5,132	191,499	2,762	194,848
Infrastructure	55,335	1,140,750	31,013	1,121,799
Machinery and equipment	973	78,690	1,271	76,248
	\$ 61,556	\$ 1,767,122	\$ 35,373	\$ 1,733,595

Contributions received in 2019 include:

<u>Type of contribution</u>	2019	2018
Land	\$ 420	\$ 2,326
Land improvements	-	122
Buildings	-	126
Infrastructure	82	16,420
Machinery and equipment	-	259
Total Contributed tangible capital assets	\$ 502	\$ 19,253

Schedule 1 provides a break down of tangible capital assets and work in progress.

During the year, tangible capital assets with a cost of \$1,164,262 (2018 - \$486,223) were written off due to impairment.

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5. Accumulated surplus

	Reserves for Future Expenditures	Statutory Reserves	Fund Surpluses	Investment in Tangible Capital Assets	Total 2019	Total 2018
Accumulated surplus, beginning of year	\$ 253,740	\$ 83,696	\$ 54,168	\$ 1,650,378	\$ 2,041,982	\$ 1,927,685
Annual surplus (deficit)	5,666	2,291	110,190	(19,717)	98,430	114,297
Transfers	36,392	2,369	(38,761)	-	-	-
Acquisition of tangible capital assets, net	(28,920)	-	(52,977)	81,897	-	-
Repayment of long term debt	-	-	(13,411)	13,411	-	-
Accumulated surplus, end of year	\$ 266,878	\$ 88,356	\$ 59,209	\$ 1,725,969	\$ 2,140,412	\$ 2,041,982

Accumulated Surplus detail as follows:

Description	Balances, Beginning of Year	Transfer From	Transfer To	Annual Surplus	Balances, End of Year
<u>Non-Statutory Reserves</u>					
General Fund reserve	\$ 187,759	\$ 14,796	\$ 26,025	\$ 4,550	\$ 203,538
Airport Fund reserve	25,733	20,184	24,170	617	30,336
Waste Water Fund reserve	12,154	3,978	2,443	58	10,677
Water Fund reserve	28,094	12,052	5,844	441	22,327
	<u>253,740</u>	<u>51,010</u>	<u>58,482</u>	<u>5,666</u>	<u>266,878</u>
<u>Statutory Reserves</u>					
Parking reserve	6,181	3,979	4,106	182	6,490
Land reserve	14,772	7,465	2,868	375	10,550
Capital works, machinery and equipment reserve	62,743	21,028	27,867	1,734	71,316
	<u>83,696</u>	<u>32,472</u>	<u>34,841</u>	<u>2,291</u>	<u>88,356</u>
<u>Surplus by Fund</u>					
General Fund surplus	4,458	110,670	45,751	64,784	4,323
Airport Fund surplus	1,475	25,266	3,729	22,469	2,407
Waste Water Fund surplus	35,148	18,099	10,038	13,816	40,903
Water Fund surplus	13,087	10,632	-	9,121	11,576
Accumulated Surplus	<u>54,168</u>	<u>164,667</u>	<u>59,518</u>	<u>110,190</u>	<u>59,209</u>
<u>Investment in Non Financial Assets</u>					
Investment in tangible capital assets	<u>1,650,378</u>	<u>13,411</u>	<u>108,719</u>	<u>(19,717)</u>	<u>1,725,969</u>
Accumulated Surplus	\$ 2,041,982	\$ 261,560	\$ 261,560	\$ 98,430	\$ 2,140,412

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6. Taxation

Taxation revenue comprises the following amounts raised less transfers to other governments:

	<u>2019</u>	<u>2018</u>
Taxes collected		
Property taxes	\$ 243,487	\$ 229,253
Local improvement levies	146	158
Frontage tax - water	1,527	1,483
Specified sewer area recoveries	1,358	1,398
Grants in lieu of taxes	583	570
Levies	7,557	7,316
	<u>254,658</u>	<u>240,178</u>
Less transfers to other governments		
Province of BC (school taxes)	72,384	68,641
BC Assessment Authority	2,038	1,981
Regional Hospital District	12,147	11,691
Regional District of Central Okanagan	12,465	11,921
	<u>99,034</u>	<u>94,234</u>
Net taxes available for municipal purposes	<u><u>\$ 155,624</u></u>	<u><u>\$ 145,944</u></u>

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7. Government transfers

Government transfers are the major source of transfers to the City. Government transfers received are for completed projects that meet the required criteria as set out by the Government body providing the funding. Government transfers do not include grants in lieu of taxes received from the Federal and Provincial governments. Due to the completion of projects in 2019 there are no deferred revenue balances related to these transfers. In 2019 the City received and recorded as revenue the following transfers:

	<u>2019</u>	<u>2018</u>
Operating transfers		
Federal	\$ 166	\$ 173
Provincial	20,756	19,637
Other governments	226	212
	<u>21,148</u>	<u>20,022</u>
Capital transfers		
Federal	16,801	12,328
Provincial	15,067	16,639
Other governments	-	30
	<u>31,868</u>	<u>28,997</u>
Total Government transfers	<u>\$ 53,016</u>	<u>\$ 49,019</u>

8. Contingent liabilities

Regional District of Central Okanagan

Regional District debt is, under the provisions of the Local Government Act, a direct, joint and several liability of the District and each member municipality within the District including the City of Kelowna.

The loan agreements with the Regional District of Central Okanagan and the Municipal Finance Authority provide that if at any time the scheduled payments provided for in the agreements are not sufficient to meet the Authority's obligation with respect to such borrowing, the resulting deficiency becomes a liability of the member municipalities.

Pension liability

The employer and its employees contribute to the Municipal Pension Plan (a jointly trustee pension plan). The board of trustees, representing plan members and employers, is responsible for administering the plan, including investment of assets and administration of benefits. The plan is a multi-employer defined benefit pension plan. Basic pension benefits are based on a formula. As at December 31, 2018, the plan has about 205,000 active members and approximately 101,000 retired members. Active members include approximately 40,000 contributors from local governments.

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Every three years, an actuarial valuation is performed to assess the financial position of the plan and adequacy of plan funding. The actuary determines an appropriate combined employer and member contribution rate to fund the plan. The actuary's calculated contribution rate is based on the entry-age normal cost method, which produces the long-term rate of member and employer contributions sufficient to provide benefits for average future entrants to the plan. This rate may be adjusted for the amortization of any actuarial funding surplus and will be adjusted for the amortization of any unfunded actuarial liability.

The most recent valuation for the Municipal Pension Plan as at December 31, 2018, indicated a \$2,866 million funding surplus for basic pension benefits on a going concern basis.

The City of Kelowna paid \$7.5 million (2018 - \$7.2 million) for employer contributions while employees contributed \$6.3 million (2018 - \$5.9 million) to the plan in fiscal 2019.

The next valuation will be as at December 31, 2021, with results available in 2022.

Employers participating in the plan record their pension expense as the amount of employer contributions made during the fiscal year (defined contribution pension plan accounting). This is because the plan records accrued liabilities and accrued assets for the plan in aggregate, resulting in no consistent and reliable basis for allocating the obligation, assets and cost to individual employers participating in the plan.

Post employment benefits

The City of Kelowna does not accrue expenses for post employment benefits such as retirement allowances or compensated absences (sick leave). City employees retiring do not receive any retirement allowance that either vests or accrues over the period of employment. Sick benefits do not accrue and are not vested. The City recognizes the expense for sick time when the event obligates the City to pay.

Legal actions

The City of Kelowna is currently engaged in certain legal actions, the outcome of which is not determinable at this time. Accordingly, no provision has been made in the accounts for these actions.

The amount of loss, if any, arising from these contingent liabilities will be recorded in the accounts in the period in which the loss is realized. The City of Kelowna has insurance policies and financial reserves to offset associated risks.

9. Commitments

Agreements, contracts and purchase orders

The City has entered into various agreements and contracts for services and construction with periods ranging from one to five years.

The City has purchase orders open as at December 31, 2019 which have not been recorded in the accounts. The balance of these open purchase orders is not determinable at this time. The funding for the majority of these obligations has been set aside in reserves for future expenditures. These amounts will be recorded in the accounts in the period the goods and services, to which they relate, are received.

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Landfill closure and post closure costs

As required by PSAS and regulated by the Ministry of Environment & Climate Change Strategy, the City has agreed to obligations regarding the operation of the landfill site. These obligations include recognition of closure and post-closure liability. As currently engineered, and based on current waste disposal patterns, the landfill has a remaining life expectancy of 89 years. The estimated length of time needed for post-closure is 80 years.

The present value of future cash flows for the expected landfill closure and post-closure care costs is estimated to be \$30.7 million based on a Design, Operations and Closure Plan (DOCP) completed in 2018.

The City's liability for these landfill closure and post-closure care cost expenditures is recognized as the landfill site's capacity is used. The reported liability of \$4.1 million (2018 - \$4.0 million) represents the portion of the estimated total expenditure recognized as at December 31, 2019. The remaining capacity of the landfill site is estimated at 27.2 million tonnes which is 91% of the site's total capacity.

The liability and annual expenditure is calculated based on the ratio of current usage to the total capacity of the site and the discounted estimated future cash flows associated with closure and post-closure activities using an inflation rate of 0.96% and discount rate of 2.25%.

The reported liability is based on estimates and assumptions with respect to events extending over the remaining life of the landfill. Future events may result in significant changes to the estimated remaining useful life, estimated total costs, total or used capacity and the estimated liability. These would be recognized prospectively as a change in estimate when applicable.

YMCA of Okanagan Association loan guarantee agreement

The City has, under the terms of the partnering agreement between the City of Kelowna and YMCA of Okanagan Association, guaranteed repayment in the event that the YMCA of Okanagan Association defaults on a \$1.8 million, 20-year loan issued in 2001. Under the agreement the City shall resume operation of the facility and assume responsibility for the repayment of the debt incurred by the YMCA of Okanagan Association. During 2010 an amendment was made to the agreement for additional financing of \$700,000 for a 20-year term. As at December 31, 2019, the outstanding loan balance was \$660,443 (2018 - \$765,079). The City does not expect to make any payments on the guarantee and no amounts have been accrued in the financial statements.

Multi-Purpose Facility Public/Private Partnership

The City has, under the terms of the Preferred Share Agreement between the City of Kelowna and RG Properties Ltd., purchased \$6.0 million of preferred shares in RG Arenas (Kelowna) Ltd. at a cost of \$1 per share. The terms and conditions of the purchase are subject to the terms of a Tripartite Agreement between the City of Kelowna, Royal Bank of Canada and RG Arenas (Kelowna) Ltd., RG Properties Ltd., Prospero Canadian Land Investment Fund Ltd. group of companies.

The City has, under the terms of the above noted Tripartite Agreement, committed to the annual purchase of community use time at the Multi-Purpose facility, commencing with substantial completion, on November 10, 1999 under the following terms:

- (i) \$1.3 million per annum for Years 1 to 3 comprised of a payment of \$1.1 million, which for Years 2 and 3 is subject to a minimum CPI increase of 1% per annum and a maximum average CPI increase of 5% per annum, plus an annual payment of \$150,000 without any adjustment for CPI;
- (ii) \$1.2 million per annum for Years 4 to 7, subject to a minimum CPI increase of 1% per annum and a maximum average CPI increase of 5% per annum;
- (iii) \$1.2 million per annum for Years 8 to 10, subject to a minimum CPI increase of 1% per annum and a maximum average CPI increase of 5% per annum, minus \$150,000 per annum;

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- (iv) \$1.0 million per annum for Years 11 to 20, subject to a minimum CPI increase of 1% per annum and a maximum average CPI increase of 5% per annum; and
- (v) \$0.5 million per annum for Years 21 to 30, subject to a minimum CPI increase of 1% per annum and a maximum average CPI increase of 5% per annum.

The year 2019 represented year 21 of the agreement.

Should the City not exercise, in its sole discretion, its option to renew any future term for community use time in the Multi-Purpose facility, under the above terms it shall be required to make a lump sum payment to RG Arenas (Kelowna) Ltd. on or before the 15th day of one of year 6, 11, 16, 21 or 26 commencing with the year of substantial completion in the following amounts:

2004	Year 6	\$13.2 million
2009	Year 11	\$11.9 million
2014	Year 16	\$10.4 million
2019	Year 21	\$6.7 million
2024	Year 26	\$4.5 million

Upon such payment, no further amounts will be payable to RG Arenas (Kelowna) Ltd. and the City will have the right to the community use time for the period from the beginning of the year in which the payment was made until November 9, 2029 without any additional payment.

For years up to and including 2018, the City did exercise its option to renew the purchase of community use time under the above annual payments terms and accordingly did not make any of the lump sum payments of \$13.2 or \$11.9 or \$10.4 million otherwise due to RG Arenas (Kelowna) Ltd. in years 6 or 11 or 16.

In 2019 (Year 21), the City chose to exercise its option to prepay for community use time rather than renew annually and made a lump sum payment of \$6.7 million. No further amounts are payable under the Tripartite Agreement.

Royal Canadian Mounted Police Services

The Province of British Columbia and the Federal Government have an agreement with the Royal Canadian Mounted Police to provide police services for various municipalities in the Province, including the City of Kelowna. This agreement has a 20 year term expiring on March 31, 2032.

10. Long term investments

Kelowna Developments Ltd.

The investment in Kelowna Developments Ltd., a wholly owned subsidiary, is carried at its cost of \$2. The company is inactive with no assets or liabilities and is being retained for potential future use.

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RG Arenas (Kelowna) Ltd.

The investment in preferred shares in RG Arenas (Kelowna) Ltd. is carried at its cost of \$6.0 million. The shares were purchased under the terms of the Preferred Share Agreement between the City of Kelowna and RG Properties Ltd. and are to be retained until 2029 per the terms of that agreement described in Note 9.

11. Letters of credit

In addition to the performance deposits reflected in cash balances, the City is holding irrevocable Letters of Credit in the amount of \$52.7 million (2018 - \$45.0 million) which were received from depositors to ensure their performance of works to be undertaken within the City. These amounts are not reflected in the financial statements but are available to satisfy any liabilities arising from non-performance by the depositors. Included in the \$52.7 million, the City is holding irrevocable Letters of Credit in the amount of \$9.1 million (2018 - \$7.9 million) which are received from developers to ensure payment of development cost charges in future years.

12. Trust funds

In accordance with PSAS, trust funds are not included in the City's consolidated financial statements. The City administers a Cemetery Maintenance Fund for the perpetual care and maintenance of the City owned and operated cemetery. As at December 31, 2019 the Trust Fund balance is \$3.0 million (2018 - \$2.9 million).

13. Segmented information

The City of Kelowna is connecting communities and providing a multitude of services to the citizens of Kelowna. The City's operations and activities are organized and reported by funds and departments. The General Fund reports on operations, funded primarily by property taxes, which include services provided by the City such as general government, protective services, transportation services, recreation and cultural services, as well as public health, and environmental and development services. The City also operates its own airport and City utilities comprised of the wastewater and water systems that are self-sustaining operations. Operating results reported by the following segments are included in Schedule 2.

General government

General Government operations are primarily funded by property taxation and business tax revenues. The expenses within the department are for executive and legislative costs, general administration, and other general government areas such as community service grants and rental property operating costs within the municipality. The general revenue reported under the department includes revenues associated with taxation, business tax revenues and senior government payments in lieu of taxes. These revenues have not been apportioned to other departments supported by the General Fund.

Protective services

Protective services are comprised of police services provided by the Royal Canadian Mounted Police, fire protection services, building inspection services and bylaw enforcement.

Police services include administration, crime investigation and prevention, traffic, prisoner custody and court liaison expenses.

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The fire department is responsible for effective fire protection and public safety services to the City. This includes fire suppression and rescue, prevention and investigation, specialty rescue/first medical responses and fire safety inspections.

Transportation services

Transportation services are responsible for the delivery of municipal public works services related to the planning, development and maintenance of streets and roads, bridges, drainage systems, street lights, traffic lights and signals, parking lots and on-street parking, and public transit as well as maintenance of workshops, yards and other buildings. The mandate is to provide a safe, efficient, environmentally-sensitive and cost-effective transportation network.

Recreation and cultural services

Recreation and cultural services provide services related to recreation, leisure and culture including administration and program costs as well as grounds and building maintenance. Facilities managed within this area include parks and playgrounds, arenas, swimming pools, beaches, boat launches, stadiums as well as community and seniors centers. The H2O Adventure & Fitness Centre, Parkinson Recreation Centre, Kelowna Community Theatre, Kelowna Museum, Kelowna Library, Kelowna Art Gallery and the Rotary Centre for the Arts are some of the larger facilities included.

Other services (Public Health/Environmental/Development services)

Public health services are comprised of cemetery operations and maintenance, environmental and development services including community planning and zoning as well as landfill operations.

Airport services

The Airport, owned and operated by the City of Kelowna, provides quality airport services in a safe and cost effective manner in compliance with Federal regulations. The Airport is accounted for in its own fund.

Wastewater services

Kelowna's sanitary sewer system collects, conveys, treats and disposes of domestic wastewater (derived from the home) and industrial wastewater (resulting from business use, manufacturing and processing). The system currently services approximately 70% of Kelowna's population and continues to be extended to unserved areas. Kelowna's wastewater system has a treatment capacity of 72 million litres per day. Wastewater Utility is accounted for in its own fund.

Water services

The Water Utility is responsible for planning, designing, building, operating and maintaining the City's Water Utility and is one of four water suppliers operating within Kelowna's boundaries. The Water Utility is accounted for in its own fund.

Natural Gas legacy services

Natural Gas Legacy Fund was created from an agreement with FortisBC for a 35 year capital lease for the natural gas distribution system within the City's municipal boundary and a 17 year operating lease, expiring in 2018, whereby the City leased back to FortisBC the operations of the gas distribution system. The Natural Gas Legacy Fund was accounted for in its own fund. As at October 31, 2018 Fortis terminated this agreement and the City has closed out this fund and excess reserve funds were transferred to the General Fund.

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Statutory reserves

Statutory Reserves include funds for parking, land and capital works, machinery and equipment.

14. Expenses by object

Total consolidated expenses by object are itemized in Schedule 2 – Segmented information.

15. Budget data

The budget figures are from the Annual Five-Year Financial Plan Bylaw adopted before May 15th of each year. Subsequent amendments have been made by Council to reflect changes in the budget as required by law. Amortization of tangible capital assets was not included in the budget. The table below shows the reconciliation between the approved budget and the budget presented in these consolidated financial statements.

	<u>Budget Amount</u>
Revenues:	
Operating budget	\$ 323,258
Capital budget	83,811
	<u>407,069</u>
Expenses:	
Operating budget	242,876
Capital budget	240,079
	482,955
Annual deficit per approved budget	(75,886)
Add: tangible capital asset purchases	240,079
Annual surplus per statement of operations	<u>\$ 164,193</u>

16. Comparative figures

Certain comparative figures have been reclassified to conform to the presentation format adopted in the current year.

CITY OF KELOWNA
Notes to the Consolidated Financial Statements
December 31, 2019
(all tabular amounts reported in 000's of dollars)

17. Subsequent event

Since December 31, 2019, the spread of COVID-19 has severely impacted many local economies around the globe. In many countries, including Canada, businesses were forced to cease operations or have voluntarily ceased or limited operations for an indefinite period of time. Measures taken to contain the spread of the virus, including travel bans, quarantines, social distancing, and closures of non-essential services have triggered significant disruptions to businesses worldwide, resulting in an economic slowdown. Global stock markets have experienced great volatility and a significant weakening. Governments and central banks have responded with monetary and fiscal interventions to stabilize economic conditions.

The City has determined that these events are non-adjusting subsequent events. Accordingly, the financial position and results of operations as of and for the year ended December 31, 2019 have not been adjusted. The duration and impact of the COVID-19 pandemic, as well as the effectiveness of government and central bank responses, remains unclear at this time. It is not possible to reliably estimate the duration and severity of these consequences, as well as their potential impact on the financial position and results of the City for future periods.

CITY OF KELOWNA
Schedule 1 - Tangible Capital Assets
For the Year Ended December 31, 2019
(in thousands of dollars)

Machinery & Equipment							
	Land	Land Improvements	Buildings	Vehicles	Machinery & Equipment	Computers	Subtotal Machinery & Equipment
Cost							
Balance, beginning of year	\$ 303,532	\$ 75,840	\$ 350,123	\$ 32,367	\$ 98,503	\$ 16,761	\$ 147,631
Add: additions during the year	16,787	858	3,662	3,513	4,171	1,609	9,293
Add: transfers to tangible capital assets	-	1,458	3,843	-	1,467	1,146	2,613
Less: assets held for resale	(616)	-	-	-	(1,054)	-	(1,054)
Less: disposals during the year	(217)	(182)	(6,044)	(1,673)	(76)	-	(1,749)
Balance, end of year	319,486	77,974	351,584	34,207	103,011	19,516	156,734
Accumulated Amortization							
Balance, beginning of year	-	38,672	155,275	20,092	42,457	8,834	71,383
Add: amortization	-	2,605	9,077	2,015	4,636	1,766	8,417
Less: accumulated amortization on disposals	-	-	(4,267)	(1,670)	(33)	-	(1,703)
Less: amortization on assets held for resale	-	-	-	-	(53)	-	(53)
Balance, end of year	-	41,277	160,085	20,437	47,007	10,600	78,044
Net Book Value of Tangible Capital Assets	\$ 319,486	\$ 36,697	\$ 191,499	\$ 13,770	\$ 56,004	\$ 8,916	\$ 78,690

	Infrastructure								
	Plant & Facilities	Roads, Lanes, Sidewalks & Bike Paths	Bridges, Tunnels & Overpasses	Underground, Overhead & Other Networks	Airport Infrastructure	Subtotal Infrastructure	Work In Progress	Total 2019	Total 2018
Cost									
Balance, beginning of year	\$ 206,374	\$ 553,838	\$ 34,116	\$ 1,094,013	\$ 74,557	\$ 1,962,898	\$ 35,373	\$ 2,875,397	\$ 2,805,552
Add: additions during the year	1,901	6,268	177	2,906	3,157	14,409	86,486	131,495	133,884
Add: transfers to tangible capital assets	3,910	9,933	863	33,568	4,115	52,389	(60,303)	-	-
Less: assets held for resale	-	-	-	-	-	-	-	(1,670)	325
Less: disposals during the year	-	(31)	(4)	(26)	(188)	(249)	-	(8,441)	(64,364)
Balance, end of year	212,185	570,008	35,152	1,130,461	81,641	2,029,447	61,556	2,996,781	2,875,397
Accumulated Amortization									
Balance, beginning of year	82,161	312,282	9,151	406,910	30,595	841,099	-	1,106,429	1,067,992
Add: amortization	7,233	20,224	531	16,749	2,861	47,598	-	67,697	66,989
Less: accumulated amortization on disposals	-	-	-	-	-	-	-	(5,970)	(28,877)
Less: amortization on assets held for resale	-	-	-	-	-	-	-	(53)	325
Balance, end of year	89,394	332,506	9,682	423,659	33,456	888,697	-	1,168,103	1,106,429
Net Book Value of Tangible Capital Assets	\$ 122,791	\$ 237,502	\$ 25,470	\$ 706,802	\$ 48,185	\$ 1,140,750	\$ 61,556	\$ 1,828,678	\$ 1,768,968

CITY OF KELOWNA
Schedule 2 - Segmented Information
For the Year Ended December 31, 2019
(in thousands of dollars)

	General Government	Protective Services	Transportation	Recreation & Cultural	Other Services	Airport	Wastewater	Water	Natural Gas Legacy	Statutory Reserves	2019
Revenue											
Taxation	\$ 152,569	\$ -	\$ 146	\$ -	\$ -	\$ -	\$ 1,358	\$ 1,551	\$ -	\$ -	\$ 155,624
Fees and charges	17,569	10,388	16,227	5,586	27,735	38,826	18,452	15,690	-	43	150,516
Interest earned	9,463	-	-	-	-	660	1,112	832	-	2,249	14,316
DCC contributions	-	-	4,122	6,427	-	-	6,117	175	-	-	16,841
Government transfers	3,339	4,228	9,739	729	3,687	297	241	30,756	-	-	53,016
Other capital contributions	1,738	-	-	-	-	128	2,282	375	-	-	4,523
Gain on disposal of tangible capital assets	1,171	-	63	-	-	7	-	-	-	-	1,241
	<u>185,849</u>	<u>14,616</u>	<u>30,297</u>	<u>12,742</u>	<u>31,422</u>	<u>39,918</u>	<u>29,562</u>	<u>49,379</u>	<u>-</u>	<u>2,292</u>	<u>396,077</u>
Expenses											
Salaries and benefits	20,707	29,528	9,228	11,829	7,647	4,619	3,424	3,556	-	-	90,538
Contract and professional services	6,639	2,356	27,591	8,895	9,309	1,772	712	936	-	-	58,210
RCMP Contract	-	31,235	-	-	-	-	-	-	-	-	31,235
Materials and supplies	6,303	1,771	6,808	11,014	2,027	8,115	1,464	1,566	-	-	39,068
Equipment	543	324	2,994	1,895	2,376	23	748	548	-	-	9,451
Allocations	(7,162)	(50)	(93)	(172)	1,933	1,690	3,107	840	-	-	93
Cost recoveries	(2,133)	(1,875)	(11,519)	(318)	(1,521)	(723)	(272)	(541)	-	-	(18,902)
Grants and external transfers	9	117	20	1,904	3,702	-	-	1	-	-	5,753
Utilities	188	304	1,288	2,080	330	573	1,151	1,076	-	-	6,990
Loss on disposal of tangible capital assets	1	1,084	-	-	-	-	-	-	-	-	1,085
Write down of tangible capital assets	696	-	51	186	-	196	24	11	-	-	1,164
Amortization of tangible capital assets	3,969	1,838	28,128	8,333	1,908	7,850	10,571	5,100	-	-	67,697
Total before Debt	<u>29,760</u>	<u>66,632</u>	<u>64,496</u>	<u>45,646</u>	<u>27,711</u>	<u>24,115</u>	<u>20,929</u>	<u>13,093</u>	<u>-</u>	<u>-</u>	<u>292,382</u>
Debt interest and fiscal services	2,740	-	-	-	-	584	1,644	297	-	-	5,265
Total operating expenses	<u>32,500</u>	<u>66,632</u>	<u>64,496</u>	<u>45,646</u>	<u>27,711</u>	<u>24,699</u>	<u>22,573</u>	<u>13,390</u>	<u>-</u>	<u>-</u>	<u>297,647</u>
Annual Surplus (Deficit)	<u>\$ 153,349</u>	<u>\$ (52,016)</u>	<u>\$ (34,199)</u>	<u>\$ (32,904)</u>	<u>\$ 3,711</u>	<u>\$ 15,219</u>	<u>\$ 6,989</u>	<u>\$ 35,989</u>	<u>\$ -</u>	<u>\$ 2,292</u>	<u>\$ 98,430</u>

CITY OF KELOWNA
Schedule 2 - Segmented Information
For the Year Ended December 31, 2018
(in thousands of dollars)

	General Government	Protective Services	Transportation	Recreation & Cultural	Other Services	Airport	Wastewater	Water	Natural Gas Legacy	Statutory Reserves	2018
Revenue											
Taxation	\$ 142,879	\$ -	\$ 158	\$ -	\$ -	\$ -	\$ 1,398	\$ 1,509	\$ -	\$ -	\$ 145,944
Fees and charges	15,175	10,443	16,534	5,641	25,444	35,173	17,216	23,452	3,246	212	152,536
Interest earned	8,461	-	-	-	-	544	788	660	504	1,864	12,821
DCC contributions	-	-	1,253	5,504	-	-	5,950	222	-	-	12,929
Government transfers	3,147	4,185	19,364	3,437	2,952	1,035	272	14,627	-	-	49,019
Other capital contributions	3,835	-	-	-	-	788	1,673	13,411	3,321	-	23,028
Gain on disposal of tangible capital assets	4,268	9	-	-	-	-	-	-	326	-	4,603
	<u>177,765</u>	<u>14,637</u>	<u>37,309</u>	<u>14,582</u>	<u>28,396</u>	<u>37,540</u>	<u>27,297</u>	<u>53,881</u>	<u>7,397</u>	<u>2,076</u>	<u>400,880</u>
Expenses											
Salaries and benefits	17,676	28,172	8,362	11,400	7,607	4,388	3,363	2,891	-	-	83,859
Contract and professional services	5,602	3,563	26,118	8,488	8,175	1,546	611	2,485	-	-	56,588
RCMP Contract	-	28,485	-	-	-	-	-	-	-	-	28,485
Materials and supplies	5,881	2,033	5,697	11,296	1,641	7,326	1,151	1,137	-	-	36,162
Equipment	698	633	2,656	1,645	2,888	19	680	492	-	-	9,711
Allocations	(4,815)	(56)	(98)	(172)	(208)	1,591	2,972	845	20	-	79
Cost recoveries	(1,303)	(4,274)	(8,817)	(361)	(1,534)	(660)	(287)	(557)	-	-	(17,793)
Grants and external transfers	8	142	5	1,673	3,437	-	-	-	-	-	5,265
Utilities	176	362	1,770	2,111	319	768	1,161	986	-	-	7,653
Loss on disposal of tangible capital assets	236	215	11	-	-	-	-	-	-	-	462
Write down of tangible capital assets	307	-	89	9	-	-	-	81	-	-	486
Amortization of tangible capital assets	3,295	1,888	28,050	8,562	1,813	7,210	10,645	4,726	800	-	66,989
Total before Debt	<u>27,761</u>	<u>61,163</u>	<u>63,843</u>	<u>44,651</u>	<u>24,138</u>	<u>22,188</u>	<u>20,296</u>	<u>13,086</u>	<u>820</u>	<u>-</u>	<u>277,946</u>
Debt interest and fiscal services	3,152	-	-	-	-	816	2,313	453	1,903	-	8,637
Total operating expenses	<u>30,913</u>	<u>61,163</u>	<u>63,843</u>	<u>44,651</u>	<u>24,138</u>	<u>23,004</u>	<u>22,609</u>	<u>13,539</u>	<u>2,723</u>	<u>-</u>	<u>286,583</u>
Annual Surplus (Deficit)	<u>\$ 146,852</u>	<u>\$ (46,526)</u>	<u>\$ (26,534)</u>	<u>\$ (30,069)</u>	<u>\$ 4,258</u>	<u>\$ 14,536</u>	<u>\$ 4,688</u>	<u>\$ 40,342</u>	<u>\$ 4,674</u>	<u>\$ 2,076</u>	<u>\$ 114,297</u>

CITY OF KELOWNA
Schedule 3 - Long Term Debt
For the Year Ended December 31, 2019
(in thousands of dollars)

Long term debt - General Fund

Debenture Debt

Year of Maturity	Purpose	Debt Balance December 31, 2018	Amount of Issue	Debt Balance December 31, 2019	Sinking Fund Balance December 31, 2019	Current Interest Rate
	Public Works					%
2019	South Pandosy Spec Area 1	\$ 18	\$ 234	\$ -	\$ 234	2.10
2019	South Pandosy Spec Area 2	31	410	-	410	2.10
2019	Automated Curb Side Carts	570	4,810	-	4,810	4.13
2022	Chapman Parkade	1,158	4,071	890	3,181	2.25
	Local Improvements					
2019	Local Improvements	5	69	-	69	2.10
2035	Lawrence Ave LAS	296	345	282	63	3.00
	Recreation and Cultural					
2021	Kokanee Gym Facility	109	500	75	425	1.75
2027	H2O Centre	15,045	27,500	13,624	13,876	2.25
2027	Kokanee Gymnastic	438	800	396	404	2.25
2028	H2O Centre	1,194	2,000	1,094	906	2.90
2035	Police Facilities	17,803	20,000	17,019	2,981	2.75
2035	Library Parkade Ext & Memorial Parkade	13,352	15,000	12,764	2,236	2.75
2036	Police Facilities	15,777	17,000	15,133	1,867	2.60
2037	Police Facilities	2,888	3,000	2,773	227	3.15
2038	Police Facilities	1,360	1,360	1,310	50	3.15
<u>Total Debt - General Fund</u>		<u>\$ 70,044</u>	<u>\$ 97,099</u>	<u>\$ 65,360</u>	<u>\$ 31,739</u>	

CITY OF KELOWNA
Schedule 3 - Long Term Debt
For the Year Ended December 31, 2019
(in thousands of dollars)

Long term debt - Wastewater Fund

Debenture Debt

Year of Maturity	Purpose	Debt Balance December 31, 2018	Amount of Issue	Debt Balance December 31, 2019	Sinking Fund Balance December 31, 2019	Current Interest Rate
2022	Spec. Area 22A - Gerstmar	\$ 11	\$ 40	\$ 9	\$ 31	1.75
2024	Spec. Area 21A - McKenzie Bench	550	1,350	469	881	2.25
2024	Spec. Area 22B - Vista Rd	32	80	28	52	2.25
2024	Spec. Area 22C - Hein Rd	109	266	92	174	2.25
2024	Spec. Area 22D - Elwyn Rd	61	149	52	97	2.25
2024	Spec. Area 22E - Dease Rd	39	96	33	63	2.25
2024	Spec. Area 22F - Mills Rd	140	342	119	223	2.25
2024	Spec. Area 29 - Campion Cambro	356	874	304	570	2.25
2024	Spec. Area 30 - Acland	148	364	127	237	2.25
2025	Spec. Area 20 - North Rutland	2,993	6,822	2,609	4,213	1.80
2025	Spec. Area 28A - Okaview	280	638	244	394	1.80
2028	Spec Area 26 - Fisher Rd	1,206	2,021	1,106	915	2.90
2028	Spec Area 34 - Country Rhodes	260	435	238	197	2.90
2028	Spec Area 36 - Clifton	159	267	146	121	2.90
Sewer Improvement Programs						
2019	Byrns Baron Main	355	3,866	-	3,866	2.00
Sewage Treatment Plant						
2019	Waste Water Treatment Expansion	2,371	20,000	-	20,000	4.90
2019	Waste Water Treatment Expansion	1,186	10,000	-	10,000	4.13
2020	Waste Water Treatment Expansion	2,325	10,000	1,185	8,815	3.73
2031	Brandt's Creek Tradewaste Treatment	2,301	3,800	2,051	1,749	3.25
<u>Total Debt - Wastewater Fund</u>		<u>\$ 14,882</u>	<u>\$ 61,410</u>	<u>\$ 8,812</u>	<u>\$ 52,598</u>	

CITY OF KELOWNA
Schedule 3 - Long Term Debt
For the Year Ended December 31, 2019
(in thousands of dollars)

Long term debt - Water Fund

Debenture Debt

Year of Maturity	Purpose	Debt Balance December 31, 2018	Amount of Issue	Debt Balance December 31, 2019	Sinking Fund Balance December 31, 2019	Current Interest Rate
	Specified Area Programs					%
2023	Spec Area 16 - Byrns	\$ 14	\$ 39	\$ 11	\$ 28	2.85
2024	Spec Area 18 - Lakeshore	9	24	8	16	2.25
2028	Spec Area 26 - Fisher Rd	177	297	163	134	2.90
2038	Local Area Service - Aspen Rd	48	48	46	2	3.20
	Water Improvement Programs					
2028	Cedar Creek Pump Station	4,522	7,577	4,145	3,432	2.90
2031	Poplar Point Pump Station Upgrade	1,470	2,000	1,381	619	3.25
<u>Total Debt - Water Fund</u>		<u>\$ 6,240</u>	<u>\$ 9,985</u>	<u>\$ 5,754</u>	<u>\$ 4,231</u>	

Long term debt - Airport Fund

Debenture Debt

2025	Airport Expansion	\$ 5,514	\$ 7,500	\$ 4,805	\$ 2,695	2.75
2026	Airport Expansion	2,893	3,500	2,573	927	2.60
2026	Airport Expansion	2,469	3,000	2,191	809	2.10
2027	Airport Expansion	7,302	8,000	6,583	1,417	2.80
<u>Total Debt - Airport Fund</u>		<u>\$ 18,178</u>	<u>\$ 22,000</u>	<u>\$ 16,152</u>	<u>\$ 5,848</u>	

Long term debt - Other

2019	Water - KLO Road for SEKID	\$ 177	\$ 177	\$ -		nil
2020	Wastewater - Commonage	219	439	110		nil
2021	Airport - 3770 Bulman road	2,700	4,500	1,800		nil
2022	General Land - Diamond Mountain	6,900	6,900	4,675		nil
2023	General Land - Dewdney Park	-	2,952	2,952		nil
<u>Total Debt - Other</u>		<u>\$ 9,996</u>	<u>\$ 14,968</u>	<u>\$ 9,537</u>		

<u>Total City Long Term Debt</u>	<u>\$ 119,340</u>	<u>\$ 205,462</u>	<u>\$ 105,615</u>
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City Hall
Financial Services
1435 Water Street
Kelowna, BC, V1Y 1J4

Tel 250-469-8542
financeyearend@kelowna.ca

kelowna.ca



2019 Consolidated Financial Statements

Report to Council

July 27, 2020

Outline

- ▶ 2019 Audit Committee Review
- ▶ Audit Results
- ▶ Consolidated Financial Statements
- ▶ Financial Principles & Strategies
- ▶ Key Financial Health Indicators
- ▶ General Fund Financial Results
- ▶ Recommendation of Reserve Appropriations
- ▶ Utility Fund Financial Results
- ▶ Internal Control Update

2019 Audit Committee Review

- ▶ Consolidated Financial Statements
- ▶ Notes to the Financial Statements
- ▶ Financial Health Indictors
- ▶ Auditor's Report
- ▶ Internal Control Branch Update
- ▶ City Reserves and Debt
- ▶ Surplus Balances and Appropriations

Audit Result

City receives a clear audit



Consolidated Financial Statements

- ▶ Financial Position
- ▶ Operations and Accumulated Surplus
- ▶ Changes in Net Financial Assets
- ▶ Cash Flow Activity

Financial Position

CITY OF KELOWNA
Consolidated Statement of Financial Position
As at December 31, 2019
(in thousands of dollars)

	2019	2018
Financial Assets		
Cash and cash equivalents (Note 3)	\$ 18,842	\$ 24,989
Accounts receivable (Note 3)	40,138	45,414
Accrued interest	2,444	1,585
Portfolio investments (Note 3)	549,192	495,817
Long term investments (Note 10)	6,000	6,000
Assets held for resale	5,072	3,455
	<u>621,688</u>	<u>577,260</u>
Liabilities		
Accounts payable	63,284	50,922
Performance deposits	28,063	21,580
Deferred revenue (Note 3)	45,404	50,382
Deferred development cost charges (Note 3)	79,100	66,834
Long term debt (Note 3)	105,615	119,340
	<u>321,466</u>	<u>309,058</u>
Net Financial Assets	<u>300,222</u>	<u>268,202</u>
Non-Financial Assets		
Prepaid expenses	10,194	3,328
Inventory	1,318	1,484
Work in progress (Note 4)	61,556	35,373
Tangible capital assets (Note 4)	1,767,122	1,733,595
	<u>1,840,190</u>	<u>1,773,780</u>
Accumulated Surplus (Note 5)	<u>\$ 2,140,412</u>	<u>\$ 2,041,982</u>

Operations and Accumulated Surplus

CITY OF KELOWNA
Consolidated Statement of Operations and Accumulated Surplus
For the Year Ended December 31, 2019
(in thousands of dollars)

	Budget 2019	Actual 2019	Actual 2018
Revenue			
Taxation (Note 6)	\$ 154,981	\$ 155,624	\$ 145,944
Fees and charges	139,137	150,516	152,536
Interest earned	4,055	14,316	12,821
DCC contributions	27,523	16,841	12,929
Government transfers (Note 7)	75,679	53,016	49,019
Other capital contributions	5,694	4,523	23,028
Gain on disposal of tangible capital assets	-	1,241	4,603
	<u>407,069</u>	<u>396,077</u>	<u>400,880</u>
Expenses			
General government	36,591	31,804	30,373
Protective services	65,126	65,549	60,946
Transportation	37,837	64,443	63,743
Recreation & cultural	38,375	45,460	44,642
Other services	23,439	27,711	24,138
Airport	17,497	24,502	23,004
Natural Gas Legacy	-	-	2,723
Wastewater	13,572	22,549	22,608
Water	10,439	13,380	13,458
Loss on disposal of tangible capital assets	-	1,085	462
Write down of tangible capital assets	-	1,164	486
	<u>242,876</u>	<u>297,647</u>	<u>286,583</u>
Annual Surplus	<u>\$ 164,193</u>	<u>98,430</u>	114,297
Accumulated Surplus, beginning of year		2,041,982	1,927,685
Accumulated Surplus, end of year		<u>\$ 2,140,412</u>	<u>\$ 2,041,982</u>

Changes in Net Financial Assets

CITY OF KELOWNA
Consolidated Statement of Changes in Net Financial Assets
For the Year Ended December 31, 2019
(in thousands of dollars)

	Budget 2019	Actual 2019	Actual 2018
Annual Surplus	\$ 164,193	\$ 98,430	\$ 114,297
Amortization of tangible capital assets	-	67,697	66,989
Proceeds from disposal of tangible capital assets	-	1,463	39,148
(Gain) loss on disposal of tangible capital assets	-	(156)	(4,141)
Write down of tangible capital assets	-	1,164	486
Acquisition of tangible capital assets	(240,079)	(129,376)	(114,637)
Contributions of tangible capital assets	-	(502)	(19,253)
Change in inventory and prepaid expenses	-	(6,700)	(993)
Increase (decrease) in Net Financial Assets	(75,886)	32,020	81,896
Net Financial Assets, beginning of year	268,202	268,202	186,306
Net Financial Assets, end of year	<u>\$ 192,316</u>	<u>\$ 300,222</u>	<u>\$ 268,202</u>

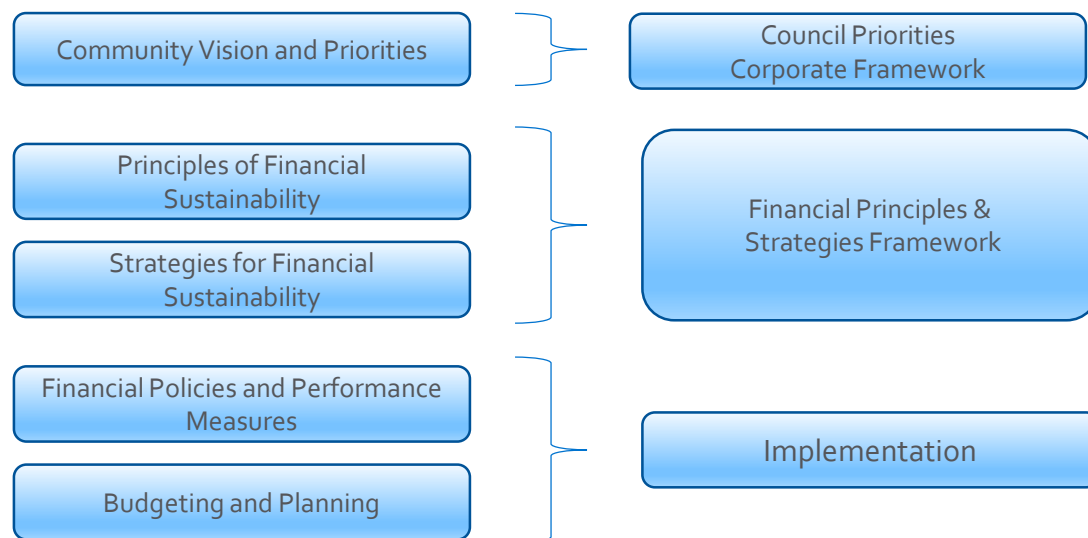
Cash Flow

CITY OF KELOWNA
Consolidated Statement of Cash Flows
For the Year Ended December 31, 2019
(in thousands of dollars)

	Actual 2019	Actual 2018
Net inflow (outflow) of cash and cash equivalents related to the following activities		
Operating		
Annual surplus	\$ 98,430	\$ 114,297
Adjustment for non-cash items		
Amortization of tangible capital assets	67,697	66,989
(Gain) loss on disposal of tangible capital assets	(156)	(4,141)
Write down of tangible capital assets	1,164	486
Actuarial adjustment on long term debt	(3,266)	(6,545)
Contributions of tangible capital assets	(502)	(19,253)
Termination of debt	-	(2,132)
Decrease (increase) in		
Accounts receivable	5,276	(11,694)
Inventory and prepaid expenses	(6,700)	(993)
Other assets	(2,475)	(160)
Increase (decrease) in		
Accounts payable	12,362	6,979
Deferred development cost charges	12,266	24,067
Other liabilities	1,505	(98)
	185,601	167,802
Capital		
Acquisition of tangible capital assets	(129,376)	(114,637)
Proceeds from disposal of tangible capital assets	1,463	39,148
	(127,913)	(75,489)
Investing		
Change in investments	(53,376)	(78,553)
Financing		
Proceeds from issuance of long term debt	2,952	8,485
Repayment of long term debt	(13,411)	(17,903)
	(10,459)	(9,418)
Net increase (decrease) in cash and cash equivalents	(6,147)	4,342
Cash and cash equivalents, beginning of year	24,989	20,647
Cash and cash equivalents, end of year	\$ 18,842	\$ 24,989

Financial principles & strategies

► Decision Making Framework



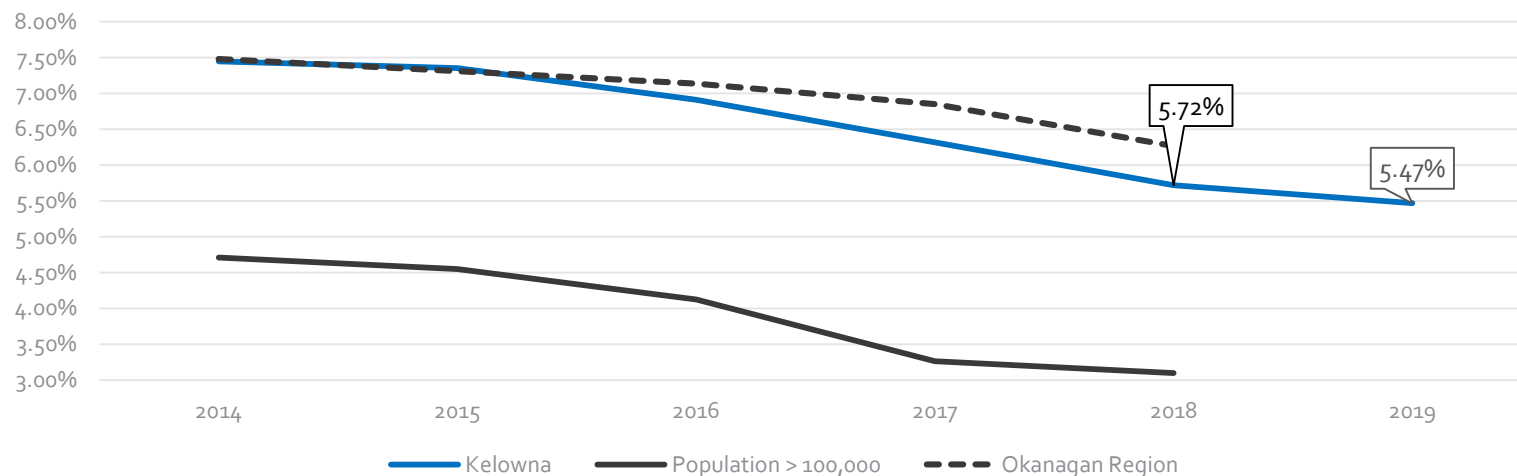
Financial Health Indicators

- ▶ Comparison to Municipalities of similar size
- ▶ Comparison to Municipalities in the Okanagan region
- ▶ Measures Sustainability, Flexibility and Vulnerability

Sustainability Ratio

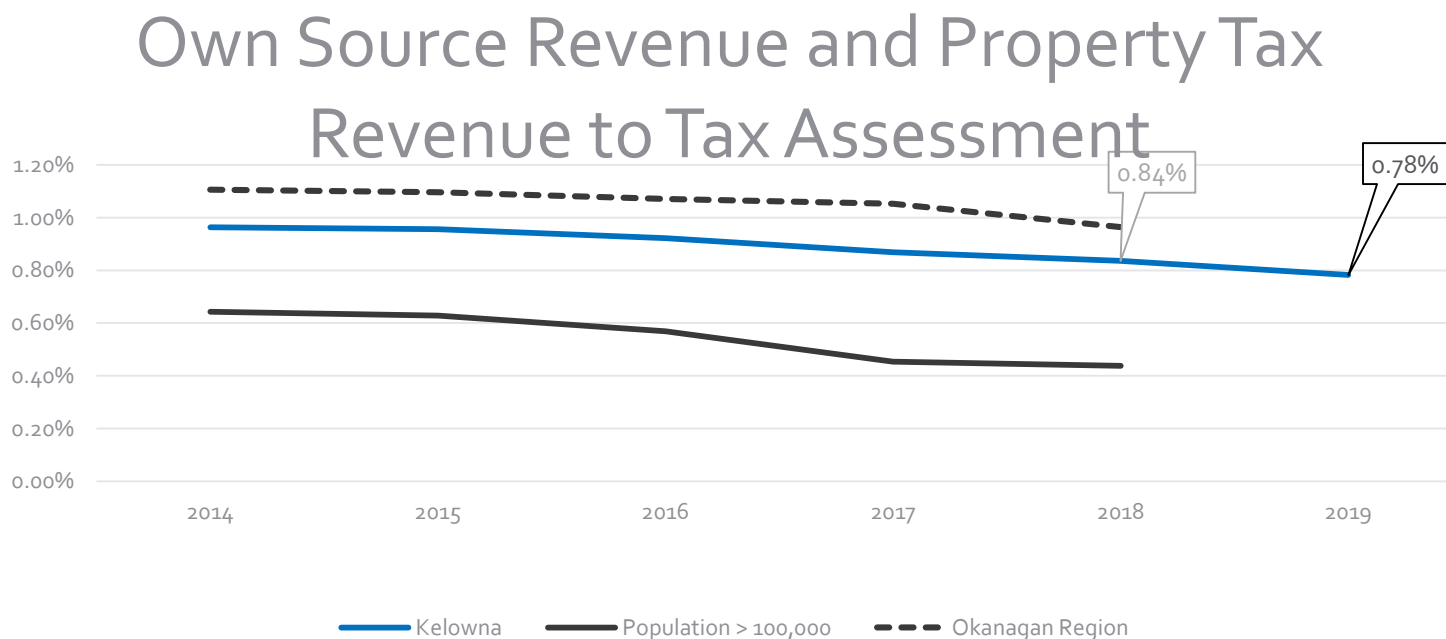
- ▶ The trending decline in this ratio is consistent with other Municipalities

Accumulated Surplus/Deficit to Property Assessment



Flexibility Ratio

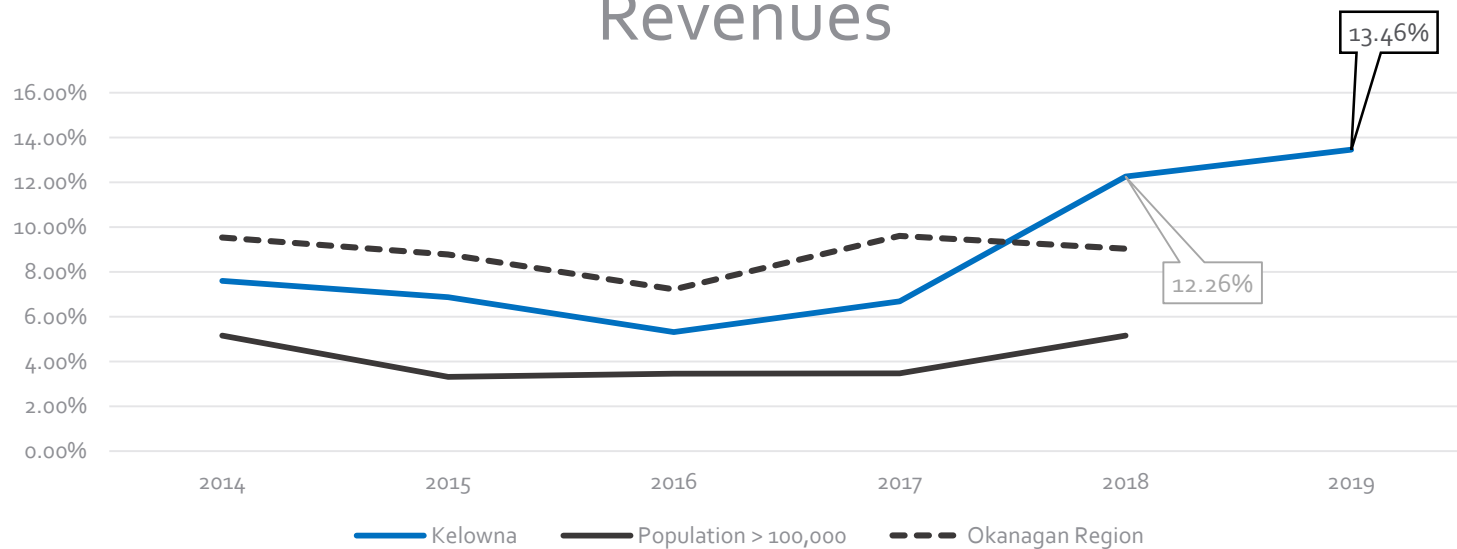
- ▶ Slight decline in 2019 is the result of 10% increase in property assessments from 2018 to 2019



Vulnerability Ratio

- 2019 increase result of one-time capital grants

Government Transfers to Total Revenues



Summary of Financial Health

- ▶ Services vary among Local Governments
- ▶ Financial health of the City is strong
- ▶ City is well positioned to take on challenges in 2020 from impacts of the COVID-19 pandemic

2019 General Fund Financial Results

- ▶ General Fund surplus is \$8.1M
 - ▶ 3.2% of operating budget \$255M
 - ▶ Appropriate \$7.6M to reserve to support upcoming projects

- ▶ General Fund accumulated surplus is \$4.3M
 - ▶ Represents 3.4% of taxation demand
 - ▶ Emergency funding only

Appropriation to Reserve for Future Use

Community Safety	\$ 400,000
RCMP	2,500,000
Slope Stability	550,000
Climate Action	350,000
Sidewalk Network	200,000
Land Sales	700,000
Major Systems	400,000
Public/Private/Partnership	2,500,000
	<hr/>
	\$ 7,600,000
	<hr/>

Utility Funds & Airport Fund

- ▶ Water & Wastewater Funds surplus \$2.4M and \$5.8M
 - ▶ Infrastructure replacement
 - ▶ Mitigate fluctuations in utility rates
 - ▶ Ensure healthy and safe service delivery

- ▶ Airport surplus \$15.2M
 - ▶ Self-funded, planned surpluses
 - ▶ Provides flexibility in both operating & capital improvements

Internal Control Update

- ▶ Completed 5-year strategic plan
- ▶ Developed review engagement program & templates
- ▶ Reported 2019 accomplishments and 2020 work plans to Audit Committee

In Summary

- ▶ Strong Financial Results in 2019
- ▶ Receive clear audit
- ▶ Health Indicators show City is well positioned to address the challenges of COVID-19 in 2020
- ▶ Appropriations to reserves of \$7.6M support Council priorities and ability to navigate through the ongoing COVID-19 pandemic
- ▶ Internal Control function achieving desired results



Questions?

For more information, visit kelowna.ca.

Report to Council



Date: July 27, 2020
To: Council
From: City Manager
Subject: Permissive Tax Exemption Policy 327 – Non-Profits
Department: Financial Services

Recommendation:

THAT Council receives the report from the Revenue Supervisor dated July 27, 2020 which provides information for the Permissive Tax Exemption Policy 327 as it relates to non-profits.

Purpose:

To respond to Council's July 14, 2020 request for a report explaining the permissive tax exemption policy as it relates to non-profits.

Background:

Permissive Tax Exemption Policy 327 history

Aug 2005	Council adopted Permissive Tax Exemption Policy 327
Mar 2006	Task Force formed by council direction begins review of the policy, including public meetings/input <i>(led by a consultant, chaired by a City Councilor and includes city staff, two businesses, two resident's associations and two non-profit organizations)</i>
May 2006	Council adopted Task Force recommendations for policy amendments to provide clarity and ensure fair, consistent, and unified permissive exemption eligibility criteria.
Jun 2010	Council reaffirmed their position on the policy, specifically regarding a review of Criteria #8 for short-term housing <i>(provides short term housing with length of stay up to a maximum of 2 years)</i>
Sep 2012	Council reconfirmed the policy in its current state from a Council requested review

The Task Force's objective was to develop amendments for Policy 327 to clarify the Permissive Tax Exemption eligibility criteria. They accomplished this by:

- Background research, including legislation and policies from other communities
- Training to understand the present state and historical issues with application of the policy
- Hearing concerns and requests from organizations through a public meeting and written submissions
- Deliberating how to create a level playing field for all non-profits through a full-day workshop

Discussion:

There are nine eligibility criteria detailed in the attached Appendix A (Policy 327) that apply to all applicants that are a result of the work the Task Force undertook. Each applicant falls under one of eight schedules as set out in the attached Appendix B (Schedules Background). Schedules A, B and C represent properties that have a statutory exemption from BC Assessment and so are not considered for this report. The other schedules (D, E, F, G and H) all relate to non-profits.

The following table summarizes the rationale from the Task Force for the eligibility criteria that is detailed in the attached in Appendix C (Task Force amendments):

Criteria	Rationale
#3: Non-Profit Organization	Must not be in competition with for-profit business
#4: Services/programs	If provided at a reasonable cost and benefits the community, City then doesn't need to provide
#5: Principal use of property	Tied to principal purpose of property owner to clarify non-profit leasing to community members
#6: Provides benefits and is accessible to residents of Kelowna	Some age restrictions may apply depending on activities offered
#7: Liquor and/or meal services as primary function not eligible	Restaurant type services are in competition with for-profit
#8: Short term housing	Prior policy was one year, increase to two years based on industry practices to maintain emergency-type housing Rationale for the change was that long-term housing is not provided by the City and there are municipal cost consequences of an area that's traditionally a provincial responsibility
#9: Residence on property	Exempt only for caretaker not paying rent under agreement

Conclusion:

There are many organizations in the community providing excellent services, however providing tax exemptions to all would shift the costs to other taxpayers. The Task Force made compromises for many sectors during their review recognizing any changes may create a ripple effect with other organizations. Adherence to the eligibility criteria outlined in the policy results in granting exemptions that are clear, consistent and certain.

Internal Circulation:

Divisional Director, Financial Services

Considerations applicable to this report:

Legal/Statutory Authority:

Council may, by bylaw in accordance with sections 220, 224 and 225 of the Community Charter exempt land or improvements, or both, from taxation to the extent, for the period and subject to the conditions provided in the bylaw.

Legal/Statutory Procedural Requirements:

Under section 227 of the Community Charter Council must give notice of a proposed bylaw in accordance with section 94 [public notice must be once a week for 2 consecutive weeks prior], identifying the property that would be subject to the bylaw, describe the proposed exemption, state the number of years that the exemption may be provided and provide an estimate of the amount of taxes that would be imposed on the property if it were not exempt, for the year in which the proposed bylaw is to take effect and the following 2 years.

Under Division 7 – Permissive Exemptions of the Community Charter a bylaw may only be adopted by an affirmative vote of the majority of Council, and does not apply to taxation in a calendar year unless it comes into force on or before October 31 in the preceding year.

Existing Policy:

Permissive Tax Exemption Policy 327

Financial/Budgetary Considerations:

Tax exemptions are not financed through a budgetary line item in the same way as municipal spending, nor do they affect the amount that has to be raised through property taxes. Nevertheless, tax exemptions do impose a cost on taxpayers who are not exempt. Tax exemptions reduce the total value of the tax base (i.e. the taxable value of property). Therefore, tax exemptions transfer the burden of taxation from properties that are exempt to properties that are taxable. An increase in the value of tax exemptions increases the taxes paid by properties that are not tax exempt.

Considerations not applicable to this report:

External Agency/Public Comments:

Communications Comments:

Submitted by:

Angie Schumacher, Revenue Supervisor

Approved for inclusion:



Genelle Davidson, Divisional Director, Financial Services

Attachments:

Appendix A Permissive Tax Exemption Policy 327

Appendix B Permissive Tax Exemption Schedules Background

Appendix C Permissive Tax Exemption Task Force amendments



City of Kelowna
1435 Water Street
Kelowna, BC V1Y 1J4
250 469-8500
kelowna.ca

Council Policy

Permissive Tax Exemption Policy

APPROVED August 8, 2005

RESOLUTION R840/17/10/16

REPLACING: R375/10/04/26; R446/06/05/15; R759/05/08/08

DATE OF LAST REVIEW: October 2017

A. PREAMBLE

The City of Kelowna recognizes the significant value of volunteers, volunteer groups and agencies to the spiritual, educational, social, cultural, and physical well-being of the community. A permissive tax exemption is a means for Council to support organizations within the community that further Council's objective to enhance the quality of life while delivering services economically to the citizens of Kelowna.

The Permissive Tax Exemption Policy is intended to:

- Provide clarity, consistency and certainty to the municipality, the public and prospective applicants.

B. EXTENT, CONDITIONS, AND PENALTIES

1. Council may designate only a portion of land/improvements as exempted where the following circumstances exist:
 - a. A portion of the land/improvements is used by private sector and/or organization not meeting Council's exemption criteria.
 - b. The applicant already receives grant in aid from the municipality, provincial or federal government.
 - c. The applicant meets all eligibility criteria, however Council may at its discretion grant a partial exemption.
2. Council may impose conditions on the exempted land/improvements with the applicant organization, including but not limited to:
 - a. Registration of a covenant restricting use of the property.
 - b. An agreement committing the organization to continue a specific service/program
 - c. An agreement committing the organization to have field/facilities open for public use for specific times or a total amount of time
 - d. An agreement committing the organization to offer use of the field/facility to certain groups free of charge or at reduced rates.
 - e. An agreement committing the organization to immediately disclose any substantial increase in the organization's revenue or anticipated revenue (i.e. receives large operating grant from senior government)
3. Council may impose penalties on an exempted organization for knowingly breaching conditions of exemption, including but not limited to:
 - a. Revoking exemption with notice.
 - b. Disqualifying any future application for exemption for specific time period.
 - c. Requiring repayment of monies equal to the foregone tax revenue.

C. PROCESS

Council will consider permissive tax exemption applications from Places of Worship, Private Schools and Hospitals for a period of up to 5 years. Other Non-Profit organizations will be considered annually.

The opportunity to apply for a permissive tax exemption will be advertised in the local newspaper once in the month of June. Application forms can be downloaded from the City of Kelowna website, or picked up at City Hall in the Revenue Branch of the Financial Services Department.

Application Forms

Places of Worship, Private Schools and Hospitals are required to complete the Place of Worship, Private School, and Hospital 5 Year Application. The City of Kelowna will administer these applications on a 5-year cycle. If the application is approved the organization will be exempt for the number of years remaining in the cycle. At the end of the 5 year cycle all organizations must complete an application for the next 5 years. It is the organization's responsibility to notify the City of Kelowna of any changes in property ownership and/or use of the property.

For example:

Application Period	Number of Years Exempt	Application Due Date
2011 – 2015	5 Years	July 15, 2010
2012 – 2015	4 Years	July 15, 2011
2013 – 2015	3 Years	July 15, 2012
2014 – 2015	2 Years	July 15, 2013
2015	1 Year	July 15, 2014

Other Non-Profit Organizations will be required to complete a Comprehensive Non-Profit Application. If the application is approved for the next tax year, the organization will be required to submit a short renewal application every year for the next 4 tax years. The renewal application is confirmation that ownership and use of property has not changed and will be reviewed and approved before a permissive tax exemption is granted.

The Place of Worship, Private Schools and Hospital applications and the Comprehensive Non-Profit applications must have the following information attached before consideration of a 5-year permissive tax exemption:

- Copy of last Registered Charity Information Return or Non-Profit Organization Information Return submitted to the CCRA
- Copy of most current Audited Financial Statements
- Financial Budget (pro-forma Balance Sheet and Income Statement) for the current 12 months
- Scale Drawing of Property, that includes buildings, parking lots, landscaping, playgrounds, fields, etc.
- Copy of Lease Agreement if applicable

Applications with required supporting information must be submitted prior to July 15th of each year to be considered for the next permissive tax exemption year or cycle.

Additional Information

Council may request a presentation from applying organization.

The City of Kelowna may request additional information.

The City of Kelowna reserves the right to review records and/or property to verify information provided in support of application.

Successful applicants may be asked to publicly acknowledge the exemption.

Council may, at its discretion, reject any or all applicants in any given year.

This policy does not apply to permissive tax exemptions for heritage revitalization, riparian, and other special exemption authority.

Eligibility Criteria

To be eligible for a permissive tax exemption an organization must comply with all of the eligibility criteria outlined below. The application forms and supporting documentation are an integral part of this policy. There is no obligation on the part of Council to grant permissive tax exemptions in any given year.

The applicant(s):

1. qualifies for an exemption under the provisions of the Community Charter, general authority for permissive exemptions. (Part 7, Division 7, Section 224).
2. and/or the property owner is in compliance with municipal policies, plans, bylaws, and regulations (i.e. business licensing, zoning).
3. is a Non-Profit Organization.

Tax exemptions will only be granted to organizations that are a Registered Charity or Non-Profit Organization.

The intent of this requirement is to ensure that municipal support is not used to further activities of an organization or individual that, if not for its not-for-profit status would otherwise be considered business, i.e. an organization that is operating as a Non-Profit; although it charges market value for services available, and would be comparable in operations and perception to public as a For Profit Business.

Non-profit organizations conducting retail and/or commercial activity and charging rates or fees at market value are considered to be in competition with for-profit businesses and will not be eligible for tax exemption.

4. provides services or programs that are compatible or complementary to those offered by the City of Kelowna. When a service or program is offered by a non-profit group or club, the Community may benefit from a more cost effective provision of services.

Services provided by an organization should fulfill some basic need, or otherwise improve the quality of life for residents of Kelowna.

5. principal use of property meets Council's objectives. The "principal use of the property" refers to the use related directly to the principal purpose of the organization **owning** the property.

Permissive tax exemptions will be based on the principal use of the property, not on the non-profit or charitable services of the organization.

6. will provide benefits and accessibility to the residents for Kelowna. Specifically, members of the public, within the appropriate age range, are able to join a club or organization and participate in its activities for a nominal rate or fee.

Kelowna residents must be the primary beneficiaries of the organization's services. The services provided on the property must be accessible to the public. Council may at its discretion provide partial exemptions.

7. that provide liquor and/or meal services as their primary function and/or source of revenue will not be eligible for permissive tax exemption.

8. provides short term housing with length of stay up to a maximum of two years.

This would include: emergency shelters, transitional housing, supportive housing for people with special needs, and group homes.

9. that have a residence in the building or on the property will only be exempt if a caretaking function is performed and the property owner (organization) can provide a copy of an agreement demonstrating:

- a. rent is not collected on the residence, and
- b. there is a caretaker agreement in place.

Administration

The Revenue Branch in the Financial Services Department will review all applications for completeness and contact the applicant if additional information is necessary.

The Revenue Branch will prepare a summary report of applications and bylaw for presentation to Council the first week of October for approval and adoption prior to October 31st of each year.

A public notice will be placed in the local newspaper of proposed bylaw. The notice will include:

- Property subject to bylaw
- Description of the proposed exemption
- Number of years the exemption will be provided

- Estimate of the amount of taxes that would be imposed on the property if it were not exempt for the year of exemption and following 2 years.

Public notice will be in accordance with Section 94 of the Community Charter.

Places of Worship, Private Schools, and Hospitals that have been approved for permissive tax exemption will be exempt for up to 5 years.

All other Non-Profit Organizations that have been approved will be exempt for 1 year. To be considered for future years a renewal application must be submitted prior to July 15th of each year of the next 4 tax years. A comprehensive application must be submitted at least every 5 years.

Late Application

Applications that meet the qualification requirements for permissive tax exemption that are received after the July 15th application deadline may be considered for inclusion in the Permissive Tax Exemption Bylaw to be presented to Council in October of the same year. No further consideration will be given to applications received after the current year's Bylaw has been presented to Council.

REASON FOR POLICY

Provide clarity for permissive property tax exemption applications.

LEGISLATIVE AUTHORITY

Section 224 – *Community Charter*

PROCEDURE FOR IMPLEMENTATION

Council Resolution

APPENDIX B PERMISSIVE TAX EXEMPTION SCHEDULES BACKGROUND

(all references to “Section” relate to the Community Charter)

SCHEDULE A – Public Worship:

Statutory Exemption

A building set apart for public worship, and the land on which the building stands is exempt from taxation (Section 220(1)(h)) if title to the land is registered in:

- the name of the religious organization using the building,
- the trustees for the use of that organization, or
- religious organization granting a lease of the building and land to be used solely for public worship

A permissive tax exemption may be provided for the land surrounding the exempt building that Council considers necessary (Section 224(2)(f)).

A permissive tax exemption may be provided for land and improvements used or occupied by a religious organization, as a tenant or licensee, for the purpose of public worship (Section 224(2)(g)). The lessee under the lease must be required to pay property taxes directly to the City of Kelowna.

SCHEDULE B – Private Schools:

Statutory Exemption

A building and the land on which the building stands if owned by an incorporated institution of learning that is regularly giving children instruction accepted as equivalent to that given in a public school, is exempt from taxation (Section 220(1)(l)).

A permissive tax exemption may be provided for the land surrounding the exempt building (Section 224(2)(h.1)).

SCHEDULE C – Hospitals:

Statutory Exemption

A building set apart and used solely as a hospital under the Hospital Act, except a private hospital under that Act, together with the land on which the building stands is exempt from taxation (Section 220(1)(j)).

A permissive tax exemption may be provided for the land surrounding the exempt building (Section 224(2)(h)).

A permissive tax exemption may be provided for land or improvements owned or held by a person or organization and operated as a private hospital licensee under the Hospital Act, or an institution licensed under the Community Care Facility Act (Section 224(2)(j)).

SCHEDULE D – Special Need Housing:

A permissive tax exemption may be provided for land and improvements that are owned or held by a registered charity or non-profit, and Council considers are used for a purpose that is directly related to the purposes of the corporation (Section 224(2)(a)). Special needs housing to members of the community such as:

- Short term emergency or protection housing
- Halfway houses, group homes, or supportive housing for people with special needs

SCHEDULE E – Social Services:

A permissive tax exemption may be provided for land and improvements that are owned or held by a registered charity or non-profit, and Council considers are used for a purpose that is directly related to the purposes of the corporation (Section 224(2)(a)). Social services to members of the community such as:

- Food banks, drop in centres for people with special needs, seniors or youth.
- Support services and programs for people with special needs, who are in some way disadvantaged and need assistance in maximizing their quality of life. (i.e. counselling for substance abuse, employment re-entry programs)

SCHEDULE F – Public Park or Recreation Ground, Public Athletic or Recreational

A permissive tax exemption may be provided for land or improvements owned or held by a person or athletic or service club or association and used as a public park or recreational ground or for public athletic or recreational purposes (Section 224(2)(i)).

- Facilities must be available to the public; exclusive membership clubs or associations not eligible for exemption.
- Council may impose covenant restricting use of property or require agreement committing organization to offer the field/facility to certain groups free of charge or at reduced rates.

A permissive exemption may be provided when land and improvements are owned by public authority or local authority and used by a non-profit organization for the purpose of public park or recreation ground or athletic or recreational purposes, which would have been exempt if land and improvements were owned by that organization (Section 224(2)(d)). The lessee under the lease must be required to pay the property taxes directly to the City of Kelowna, or have a partnership agreement with the City of Kelowna.

SCHEDULE G – Cultural Organizations

A permissive exemption may be provided for land and improvements that are owned or held by a non-profit that provides cultural education and recreation (Section 224(2)(a)). The Facility must be available for members of the public.

SCHEDULE H – Other Non-Profit Societies

A permissive tax exemption may be provided for land and improvements that are owned or held by a registered charity or nonprofit society that Council deems beneficial to the community, such as museums, animal shelters, property to preserve wildlife and environmental areas (Section 224(2)(a)).

A permissive tax exemption may be provided for land or improvements, for which a grant has been made, after March 31, 1974, under the Housing Construction (Elderly Citizens) Act before its repeal (Section 224(2)(k)).

SCHEDULE I – Assessment and Taxation Impact

Includes land and improvements associated with the following:

- Total projected municipal taxation impact for each of Schedules A through H by assessment class for the years 2020, 2021 and 2022.

APPENDIX C PERMISSIVE TAX EXEMPTION TASK FORCE AMENDMENTS 2006

The following table details the amendments to Policy #327 and provides the rationale for the Task Force's decisions.

Original Policy Statement	Task Force Changes, Clarification or Additions to Original Policy	Rationale for Amendment
Eligibility Criterion #3 states that, to qualify for exemption, an organization must have non-profit status. It further states that, "the intent of this requirement is to ensure that municipal support is not used to further activities that, if not for it's not-for-profit status would otherwise be considered business, i.e. an organization that is operating as a Non-Profit; although it charges market value for services available, and would be comparable in operations and perception to public as a For-profit Business."	The Task Force clarified this criterion by adding, "Non-profit organizations conducting retail and/or commercial activity and charging rates or fees at market value are considered to be in competition with for-profit businesses and will not be eligible for tax exemption."	For-profit businesses are not compatible or complementary to services or programs offered by the City of Kelowna for the purposes of permissive tax exemption.
Eligibility Criterion #4 states that, to qualify for an exemption an organization must provide services or programs that are compatible or complementary to those offered by the City of Kelowna	The Task Force added a further interpretation: "When a service or program is offered by a non-profit group or club, the community may benefit from a more cost effective provision of services."	The added interpretation provides further explanation as to why some groups benefit the community. If a service is provided at reasonable cost, it may mean the City does not need to provide that service.
Eligibility Criterion #5 states that, to qualify for an exemption the applicant's principal use of property meets Council's objectives, and that exemptions will be based on the principal use of the property.	The Task Force added a clarifying statement: "The 'principal use of the property' means the use related directly to the principal purpose of the organization owning the property."	This clarifies the intent of the Policy in regard to; non-profit organizations leasing to other non-profits or rental of non-profit space to community members.
Eligibility Criterion #6 states that to be eligible for exemption the services provided by the applicant must be accessible to the public.	The Task Force defined 'accessible to the public' to mean that, within an appropriate age range, members of the public are able to join a club or organization and participate in its activities at a nominal rate."	This recognizes and clarifies that it is not necessarily appropriate for all persons to access all tax exempt services. Some age restrictions may apply.

Original Policy Statement	Task Force Changes, Clarification or Additions to Original Policy	Rationale for Amendment
No existing statement	The Task Force added Eligibility Criterion #7: "Non-profit organizations that provide liquor and/or meal services as their primary function and/or source of revenue will not be eligible for tax exemption on that portion of the property."	There are several non-profit organizations within the City that offer restaurant type services including meals and /or liquor. This is seen as competing with for-profit business, and is also not a service that the City would normally provide.
No existing statement	The Task Force added Eligibility Criterion #8: "Exemptions will not be granted for housing with stays longer than two years. Exemptions will be permitted for short term housing with stays up to a maximum of two years. This would include: emergency shelters, transitional housing, halfway houses, supportive housing for people with special needs, and group homes."	The City would not normally provide long-term housing, and housing provided for periods longer than 2 years is not deemed to be emergency-type housing.
No existing statement	<p>The Task force added Eligibility Criterion #9: "Residences will be excluded from otherwise tax exempt property unless the resident(s) on the property provide a caretaking function and the property owner (organization) can provide a copy of an agreement demonstrating:</p> <ol style="list-style-type: none"> 1. Rent is not collected on the residence, and 2. There is a caretaker agreement in place." 	This provides consistency with the policy of not exempting church manses or other residences on church property. At the same time it recognizes that, for some properties, it is in the public's interest to support a resident caretaker.



Permissive Tax Exemption Policy 327 – Non-Profits



BACKGROUND

- ▶ Aug 2005
 - ▶ Council adopted Permissive Tax Exemption Policy 327

- ▶ Mar 2006
 - ▶ Task Force begins in depth review of policy

- ▶ May 2006
 - ▶ Council adopts Task Force recommended amendments, including increasing the short-term housing criteria to up to two years from one year

BACKGROUND

▶ Jun 2010

- ▶ Council reaffirms policy after further review, specifically focused on criteria #8 for short term housing

▶ Sep 2012

- ▶ Council reconfirms the policy in its current state

BACKGROUND

- ▶ Purpose of Task Force: develop amendments to clarify the policy
 - ▶ Reviewed legislation and policies from other communities
 - ▶ Training to understand policy and its application
 - ▶ Critical deliberation on historical issues
 - ▶ Public consultation

DISCUSSION

- ▶ Task Force amendments to policy supported a level playing field for all applicants
- ▶ Rationale for eligibility criteria amendments centered around:
 - ▶ Prohibiting competition with for-profit business
 - ▶ Ensuring services/programs benefit the community
 - ▶ Clarification of property usage/ownership and housing opportunities

CONCLUSION

A permissive tax exemption is a means for Council to support organizations within the community that further Council's objective to enhance the quality of life while delivering services economically to the citizens of Kelowna.

- ▶ Permissive Tax Exemption Policy 327 contains the guidelines and criteria that allow the City to grant exemptions that are clear, consistent and certain.



Questions?

For more information, visit kelowna.ca.

Report to Council



Date: July 27, 2020
To: Council
From: City Manager
Subject: Rental Housing Agreement Bylaws – July 2020
Department: Policy & Planning

Recommendation:

THAT Council, receives for information, the report from Policy and Planning dated July 27, 2020 recommending that the City of Kelowna enter into two housing agreements to secure 285 long-term rental housing units.

AND THAT Bylaw No. 12044 authorizing a Housing Agreement between 815 Leon Developments Ltd., Inc. No. BC105909, which requires the owners to designate 127 dwelling units in a purpose-built rental housing for Lot A, District Lot 138, ODYD, Plan EPP78759, at 815 Leon Avenue, Kelowna, BC be forwarded for reading consideration.

AND FURTHER THAT Bylaw No. 12046 authorizing a Housing Agreement between PC Urban Clement Holdings Ltd. NO. BC1099980, which requires the owners to designate 158 dwelling units in purpose-built rental housing for Lot A Section 30 Township 26, ODYD, PLAN EPP83554 at 740 Clement Ave and 1195 Richter Street, Kelowna BC be forwarded for reading consideration.

Purpose:

To consider two Rental Housing Agreements for projects pursuing rental housing incentives, in accordance with the Revitalization Tax Exemption Bylaw No. 9561.

Background:

In order to be eligible for a rental housing revitalization tax exemption, a housing agreement with the City of Kelowna must be in place to secure the rental housing units for a minimum of ten years.

Discussion:

Both of the projects pursuing the revitalization tax exemption are developing long-term rental housing in close proximity to the Downtown. The Clement Avenue rental project includes two buildings with commercial-retail units on the ground floor and a total of 158 long-term rental units above. The Leon Avenue project is a purpose-built rental housing project that will include 127 units in a six-storey wood frame structure.

The housing agreement for the Clement Avenue project is different than the usual approach, allowing for the commercial-retail strata units to be excluded from the housing agreement. After the project receives occupancy and strata plans are registered on title the landowner will make a formal request to the City to exclude the commercial-retail strata units from the housing agreement. The long-term rental housing units will remain under the housing agreement as well as a Section 219 Covenant. If the landowner chooses to lift the agreement after ten years, Council approval will be required to remove both the agreement and Section 219 Covenant.

The Leon Ave rental project follows the City's standard approach for rental housing agreements. If Council should authorize the housing agreement it would become bylaw upon approval from Council, ensuring the project operates as purpose-built rental housing for a minimum of ten years. After ten years, if a landowner chooses to lift the agreement, Council approval will be required.

Conclusion:

These two housing agreements ensure the 285 long-term rental units associated with these projects are secured for long-term rental housing for a minimum of ten years. The housing agreements align with the City's goal of promoting and protecting the supply of long-term rental housing.

Internal Circulation:

Divisional Director, Planning and Development Services
Policy and Planning
Development Planning
Legislative Services

Legal/Statutory Authority:

Local Government Act, Section 483.

Existing Policy:

2030 Official Community Plan

Objective 10.3 Support the creation of affordable and safe rental, non-market and /or special needs housing

Policies 10.3.1, 10.3.2, 10.3.3 & 10.3.4

Submitted by:

R. Soward, Acting Long Range Planning Manager

Approved for inclusion:



D. Noble-Brandt, Department Manager, Policy & Planning

cc:

Legislative Services

CITY OF KELOWNA

BYLAW NO. 12044

Housing Agreement Authorization Bylaw - 815 Leon Developments Ltd., Inc. No. BC1053909 815 Leon Avenue

Whereas pursuant to Section 483 of the *Local Government Act*, a local government may, by bylaw, enter into a housing agreement.

Therefore, the Municipal Council of the City of Kelowna, in open meeting assembled, enacts as follows:

1. The Municipal Council hereby authorizes the City of Kelowna to enter into a Housing Agreement with 815 Leon Developments Ltd., Inc. No. BC1053909 for the lands known as Lot A District Lot 138 ODYD Plan EPP78759 located on Leon Avenue, Kelowna, B.C., a true copy of which is attached to and forms part of this bylaw as Schedule "A".
2. The Mayor and City Clerk are hereby authorized to execute the attached agreement as well as any conveyances, deeds, receipts or other documents in connection with the attached agreement.
3. This bylaw shall come into full force and effect and is binding on all persons as and from the date of adoption.

Read a first, second and third time by the Municipal Council this

Adopted by the Municipal Council of the City of Kelowna this

Mayor

City Clerk

Schedule A

Page 1

PURPOSE-BUILT RENTAL HOUSING AGREEMENT

THIS AGREEMENT dated for reference April 24, 2020 affects:

LEGAL DESCRIPTION OF PROPERTY SUBJECT TO THE AGREEMENT:

Lot A District Lot 138 ODYD Plan EPP78759

("Land")

And is

BETWEEN:

815 LEON DEVELOPMENTS LTD. (Inc. No. BC1053909)
612 Bernard Avenue
Kelowna, BC V1Y 6P3

("Owner")

AND:

CITY OF KELOWNA, a local government incorporated pursuant to the *Community Charter* and having its offices at 1435 Water Street, Kelowna, B.C. V1Y 1J4

("City")

GIVEN THAT:

- A. The Owner has applied to the City for rezoning of the Lands to permit the construction of a housing complex that will include purpose-built rental housing units, as defined in this Agreement, on certain lands more particularly described in this Agreement;
- B. The City may, pursuant to section 483 of the *Local Government Act*, enter into an agreement with an owner of land that includes terms and conditions regarding the occupancy, tenure, and availability of the housing units on the land or construction on land;
- C. The Owner and the City wish to enter into this Agreement to provide for purpose-built rental housing on the terms and conditions set out in this Agreement, and agree that this Agreement is a housing agreement under s. 483 of the *Local Government Act*; and
- D. The City has, by bylaw, authorized the execution of this Agreement and the Owner has duly authorized the execution of this Agreement;

This Agreement is evidence that in consideration of \$1.00 paid by the City to the Owner (the receipt of which is acknowledged by the Owner) and in consideration of the promises exchanged below, the City and Owner agree, as a housing agreement between the Owner and the City under s. 483 of the *Local Government Act*, as follows:

ARTICLE 1 INTERPRETATION

1.1 Definitions -

"Caregiver" means an individual who provides assistance with the performance of the personal functions and activities necessary for daily living that a person is unable to perform efficiently for himself or herself;

"City" means the City of Kelowna;

"Dwelling Unit" means accommodation providing sleeping rooms, washrooms, and no more than one kitchen, intended for domestic use, and used or intended to be used permanently or semi-permanently for a Household. This use does not include a room in a hotel or a motel.

"Household" means

- (a) a person;
- (b) two or more persons related by blood, marriage, or adoption; or associated through foster care, all living together in one dwelling unit as a single household using common cooking facilities;
- (c) a group of not more than five persons, including boarders, who are not related by blood, marriage, or adoption, or associated through foster care, all living together in one dwelling unit as a single household using common cooking facilities; or
- (d) a combination of (b) and (c), provided that the combined total does not include more than 3 persons unrelated by blood, marriage or adoption or associated through foster care; all living together in one dwelling unit as a single household using common cooking facilities.

In addition, a household may also include up to one Caregiver or nanny;

"Land" means the land described herein;

"LTO" means the Kamloops Land Title Office or its successor;

"Official Community Plan" means the City of Kelowna Official Community Plan Bylaw No. 10500, or its successor bylaw;

"Owner" means the registered owner of the Lands from time to time and any parcels into which the Lands are subdivided;

"Purpose-Built Rental Housing" means a Dwelling Unit that is intended to be used for rental housing; and

"Tenancy Agreement" means a tenancy agreement as defined in, and subject to, the *Residential Tenancy Act*.

1.2 Interpretation - In this Agreement:

- (a) reference to the singular includes a reference to the plural, and vice versa, unless the context requires otherwise;
- (b) article and section headings have been inserted for ease of reference only and are not to be used in interpreting this Agreement;
- (c) reference to a particular numbered section or article, or to a particular lettered Schedule, is a reference to the correspondingly numbered or lettered article, section or Schedule of this Agreement;
- (d) if a word or expression is defined in this Agreement, other parts of speech and grammatical forms of the same word or expression have corresponding meanings;
- (e) the word "enactment" has the meaning given in the *Interpretation Act* on the reference date of this Agreement;
- (f) reference to any enactment includes any regulations, orders or directives made under the authority of that enactment;
- (g) reference to any enactment is a reference to that enactment as consolidated, revised, amended, re-enacted or replaced, unless otherwise expressly provided;
- (h) the provisions of s. 25 of the *Interpretation Act* with respect to the calculation of time apply;
- (i) time is of the essence;
- (j) all provisions are to be interpreted as always speaking;
- (k) reference to a "party" is a reference to a party to this Agreement and to their respective successors, assigns, trustees, administrators and receivers;
- (l) reference to a "day", "month", "quarter" or "year" is a reference to a calendar day, calendar month, calendar quarter or calendar year, as the case may be, unless otherwise expressly provided;
- (m) the definitions given in the City of Kelowna Zoning Bylaw No. 8000, or its successor bylaw, and the Official Community Plan apply for the purposes of this Agreement; and
- (n) any act, decision, determination, consideration, consent or exercise of discretion by a party, or other person, as provided in this Agreement will be performed, made or exercised acting reasonably.

1.3 Purpose of Agreement - The Owner and the City agree that:

- (a) this Agreement is intended to serve the public interest by providing for occupancy of a certain number of Dwelling Units, of the kinds provided for in this Agreement, that are in demand in the City of Kelowna but that are not readily available;

- (b) damages are not an adequate remedy to the City in respect of any breach of this Agreement by the Owner, such that the Owner agrees the City should be entitled to an order for specific performance, injunction or other specific relief respecting any breach of this Agreement by the Owner.

ARTICLE 2

HOUSING AGREEMENT AND LAND USE RESTRICTIONS

2.1 Land Use Restrictions - The Owner and the City hereby covenant and agree as follows:

- (a) The Land will be used only in accordance with this Agreement;
- (b) The Owner will design, construct and maintain one or more buildings providing 127 Dwelling Units as Purpose-Built Rental Housing
- (c) The Owner acknowledges that the City will not support applications to stratify the building(s) on the Land, thereby allowing the identified Purpose-Built Rental Housing Dwelling Units to be sold independently of each other, for a period of ten (10) years from the date of this Agreement.

ARTICLE 3

HOUSING AGREEMENT AND TRANSFER RESTRICTIONS

3.1 Purchaser Qualifications - The City and the Owner agree as follows:

- (a) the Owner will not sell or transfer, or agree to sell or transfer, any interest in any building containing Purpose-Built Rental Housing Dwelling Units on the Land other than a full interest in the fee simple title to an agency or individual that will continue to ensure that the Purpose-Built Rental Housing Dwelling Units are available in accordance with this Agreement.

3.2 Use and Occupancy of Purpose-Built Rental Housing Dwelling Unit - The Owner agrees with the City as follows:

- (a) the Owner will rent or lease each Purpose-Built Rental Housing Dwelling Unit on the Land in accordance with the *Residential Tenancy Act*, and in no event may the Owner itself occupy a Purpose-Built Rental Housing Dwelling Unit or use the Purpose-Built Rental Housing Dwelling Unit for short-term vacation accommodation; and
- (b) the Owner will deliver a copy of the Tenancy Agreement for each Purpose-Built Rental Housing Dwelling Unit to the City upon demand.

ARTICLE 4

GENERAL

4.1 Notice of Housing Agreement - For clarity, the Owner acknowledges and agrees that:

- (a) this Agreement constitutes a housing agreement entered into under s. 483 of the *Local Government Act*;

- (b) the City is requiring the Owner to file a notice of housing agreement in the LTO against title to the Land;
- (c) once such a notice is filed, this Agreement binds all persons who acquire an interest in the Land;
- (d) in the event the parties agree to release this Agreement from the title of the Land, which may not occur before the tenth (10th) anniversary of the date of this Agreement, the Owner will repay the City for 100% of the amount of the rental grant received from the City. Such repaid funds will be directed to the City's Housing Opportunities Reserve Fund.

4.2 No Effect On Laws or Powers - This Agreement does not

- (a) affect or limit the discretion, rights, duties or powers of the City under any enactment or at common law, including in relation to the use or subdivision of land,
- (b) impose on the City any legal duty or obligation, including any duty of care or contractual or other legal duty or obligation, to enforce this Agreement,
- (c) affect or limit any enactment relating to the use or subdivision of land, or
- (d) relieve the Owner from complying with any enactment, including in relation to the use or subdivision of land.

4.3 Management - The Owner covenants and agrees that it will furnish good and efficient management of the Dwelling Units and will permit representatives of the City to inspect the Dwelling Units at any reasonable time, subject to the notice provisions of the *Residential Tenancy Act*. The Owner further covenants and agrees that it will maintain the Dwelling Units in a satisfactory state of repair and fit for habitation and will comply with all laws, including health and safety standards applicable to the Land. Notwithstanding the foregoing, the Owner acknowledges and agrees that the City, in its absolute discretion, may require the Owner, at the Owner's expense, to hire a person or company with the skill and expertise to manage the Dwelling Units.

4.4 Notice - Any notice which may be or is required to be given under this Agreement will be in writing and either be delivered or sent by facsimile/electronic transmission. Any notice which is delivered is to be considered to have been given on the first day after it is dispatched for delivery. Any notice which is sent by fax/electronic transmission is to be considered to have been given on the first business day after it is sent. If a party changes its address, facsimile number or electronic address, it will promptly give notice of its new address, facsimile number or electronic address, to the other party as provided in this section.

4.5 Agreement Runs With the Land - Every obligation and covenant of the Owner in this Agreement constitutes both a contractual obligation and a covenant granted by the Owner to the City in respect of the Land and this Agreement burdens the Land and runs with it and binds the Owner's successors in title and binds every parcel into which it is consolidated or subdivided by any means, including by subdivision or by strata plan under the *Strata Property Act*.

- 4.6 Limitation on Owner's Obligations** - The Owner is only liable for breaches of this Agreement that occur while the Owner is the registered owner of the Land.
- 4.7 Release** - The Owner by this Agreement releases and forever discharges the City and each of its elected officials, officers, directors, employees and agents, and its and their heirs, executors, administrators, personal representatives, successors, and assigns, from and against all claims, demands, damages, actions, or causes of action by reason of or arising out of advice or direction respecting the ownership, lease, operation or management of the Land or the Dwelling Units which has been or at any time after the commencement of this Agreement may be given to the Owner by all or any of them. This clause will survive the termination of this Agreement.
- 4.8 Joint Venture** - Nothing in this Agreement will constitute the Owner as the agent, joint venturer, or partner of the City or give the Owner any authority to bind the City in any way.
- 4.9 Waiver** - An alleged waiver of any breach of this Agreement is effective only if it is an express waiver in writing of the breach. A waiver of a breach of this Agreement does not operate as a waiver of any other breach of this Agreement.
- 4.10 Further Acts** - The Owner will do everything reasonably necessary to give effect to the intent of this Agreement, including execution of further instruments.
- 4.11 Severance** - If any part of this Agreement is held to be invalid, illegal or unenforceable by a court having the jurisdiction to do so, that part is to be considered to have been severed from the rest of this Agreement and the rest of this Agreement remains in force unaffected by that holding or by the severance of that part.
- 4.12 Equitable Remedies** - The Owner acknowledges and agrees that damages would be an inadequate remedy for the City for breach of this Agreement and that the public interest strongly favours specific performance, injunctive relief (mandatory or otherwise), or other equitable relief, as the only adequate remedy for a default under this Agreement.
- 4.13 No Other Agreements** - This Agreement is the entire agreement between the parties regarding its subject and it terminates and supersedes all other agreements and arrangements regarding its subject.
- 4.14 Amendment** - This Agreement may be discharged, amended or affected only by an instrument duly executed by both the Owner and the City.
- 4.15 Enurement** - This Agreement binds the parties to it and their respective successors, heirs, executors and administrators. Reference in this Agreement to the "City" is a reference also to the elected and appointed officials, employees and agents of the City.
- 4.16 Deed and Contract** - By executing and delivering this Agreement each of the parties intends to create both a contract and a deed executed and delivered under seal.

IN WITNESS WHEREOF the parties hereunto have executed this Agreement on the date and year first above written.

SIGNED, SEALED & DELIVERED in)
the presence of:)

Signature of Witness)

Print Name JAMES A. PATERSON
BARRISTER & SOLICITOR
301-1665 ELLIS STREET
KELOWNA, BC V1Y 2B3)

Address)

Occupation)

815 LEON DEVELOPMENTS LTD.
by its authorized signatory:

Corey Makus)

SIGNED, SEALED & DELIVERED in)
the presence of:)

Signature of Witness)

Print Name)

Address)

Occupation)

CITY OF KELOWNA
by its authorized signatories:

Mayor)

City Clerk)

CITY OF KELOWNA

BYLAW NO. 12046

Housing Agreement Authorization Bylaw - PC Urban Clement Holdings Ltd., Inc. No. BC109980 740 Clement Avenue and 1195 Richter Street

Whereas pursuant to Section 483 of the *Local Government Act*, a local government may, by bylaw, enter into a housing agreement.

Therefore, the Municipal Council of the City of Kelowna, in open meeting assembled, enacts as follows:

1. The Municipal Council hereby authorizes the City of Kelowna to enter into a Housing Agreement with PC Urban Clement Holdings Ltd., Inc. No. BC109980 for the lands known as Lot A Section 30 Township 26 ODYD Plan EPP83554 located on Clement Avenue and Richter Street, Kelowna, B.C., a true copy of which is attached to and forms part of this bylaw as Schedule "A".
2. The Mayor and City Clerk are hereby authorized to execute the attached agreement as well as any conveyances, deeds, receipts or other documents in connection with the attached agreement.
3. This bylaw shall come into full force and effect and is binding on all persons as and from the date of adoption.

Read a first, second and third time by the Municipal Council this

Adopted by the Municipal Council of the City of Kelowna this

Mayor

City Clerk

Schedule A

FORM C_V25 (Charge)

LAND TITLE ACT
FORM C (Section 233) CHARGE
GENERAL INSTRUMENT - PART 1 Province of British Columbia

PAGE 1 OF 13 PAGES

Your electronic signature is a representation that you are a designate authorized to certify this document under section 168.4 of the *Land Title Act*, RSBC 1996 c.250, that you certify this document under section 168.41(4) of the act, and that an execution copy, or a true copy of that execution copy, is in your possession.

1. APPLICATION: (Name, address, phone number of applicant, applicant's solicitor or agent)

Kathleen Higgins, Barrister & Solicitor

YOUNG ANDERSON

1616 - 808 Nelson Street

Vancouver

BC V6Z 2H2

Phone: (604) 689-7400

File: 122-459

Purpose-Built Rental Housing Agreement and Section 219
Covenant

Deduct LTSA Fees? Yes ☒

2. PARCEL IDENTIFIER AND LEGAL DESCRIPTION OF LAND:
[PID] [LEGAL DESCRIPTION]

030-571-219

LOT A SECTION 30 TOWNSHIP 26 OSOYOOS DIVISION YALE DISTRICT PLAN
EPP83554

STC? YES ☐

3. NATURE OF INTEREST CHARGE NO. ADDITIONAL INFORMATION

SEE SCHEDULE

4. TERMS: Part 2 of this instrument consists of (select one only)

(a) ☐ Filed Standard Charge Terms D.F. No.

(b) ☒ Express Charge Terms Annexed as Part 2

A selection of (a) includes any additional or modified terms referred to in Item 7 or in a schedule annexed to this instrument.

5. TRANSFEROR(S):

SEE SCHEDULE

6. TRANSFEREE(S): (including postal address(es) and postal code(s))

CITY OF KELOWNA

1435 WATER STREET

KELOWNA

V1Y 1J4

BRITISH COLUMBIA

CANADA

7. ADDITIONAL OR MODIFIED TERMS:

8. EXECUTION(S): This instrument creates, assigns, modifies, enlarges, discharges or governs the priority of the interest(s) described in Item 3 and the Transferor(s) and every other signatory agree to be bound by this instrument, and acknowledge(s) receipt of a true copy of the filed standard charge terms, if any.

Officer Signature(s)



J. SCOTT MYERS
Solicitor
619, 610 GRANVILLE STREET
VANCOUVER, B.C. V6C 3T3
(604) 682-8670

Execution Date

Y	M	D
20	06	11

Transferor(s) Signature(s)

PC URBAN CLEMENT HOLDINGS
LTD. by its authorized signatory
(ies):

Name: J. Brent Sawchyn

Name:

OFFICER CERTIFICATION:

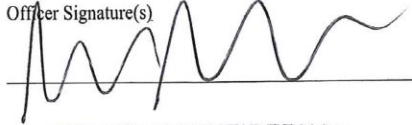
Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

**LAND TITLE ACT
FORM D**

EXECUTIONS CONTINUED

PAGE 2 of 13 PAGES

Officer Signature(s)



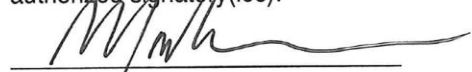
STEPHEN SCHNEIDERMAN
BARRISTER, SOLICITOR, NOTARY PUBLIC
309-850 WEST HASTINGS STREET
VANCOUVER, B.C. V6C 1E1

Execution Date

Y	M	D
2020	6	9

Transferor / Borrower / Party Signature(s)

SHELMARJAY HOLDINGS LTD. by its
authorized signatory(ies):



Name:

Mark Spawakow

Name:

(as to all signatures)

BRITISH COLUMBIA HOUSING
MANAGEMENT COMMISSION by its
authorized signatory(ies):

Name:

Name:

(as to all signatures)

CITY OF KELOWNA by its authorized
signatory(ies):

Name:

Name:

(as to all signatures)

OFFICER CERTIFICATION:

Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

LAND TITLE ACT
FORM D

EXECUTIONS CONTINUED

PAGE 2 of 13 PAGES

Officer Signature(s)

(as to all signatures)



CHARLOTTE K. WONG
Barrister & Solicitor
2110 Burquitlam Drive
Vancouver, BC V5P 2P1

(as to all signatures)

(as to all signatures)

Execution Date

Y	M	D
20	06	11

Transferor / Borrower / Party Signature(s)

SHELMARJAY HOLDINGS LTD. by its
authorized signatory(ies):

Name: _____

Name: _____

BRITISH COLUMBIA HOUSING
MANAGEMENT COMMISSION by its
authorized signatory(ies):

Name: _____


Stacey Lee

Name: _____


Abbas BarodawallaCITY OF KELOWNA by its authorized
signatory(ies):

Name: _____

Name: _____

OFFICER CERTIFICATION:

Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

**LAND TITLE ACT
FORM E****SCHEDULE**

PAGE 3 OF 13 PAGES

NATURE OF INTEREST

CHARGE NO.

ADDITIONAL INFORMATION

Covenant

Section 219

NATURE OF INTEREST

CHARGE NO.

ADDITIONAL INFORMATION

Priority Agreement

Granting the Covenant herein priority over
Mortgage CA7566393

NATURE OF INTEREST

CHARGE NO.

ADDITIONAL INFORMATION

Priority Agreement

Granting the Covenant herein priority over
Mortgage CA7678849 and Assignment of Rents
CA7678850

NATURE OF INTEREST

CHARGE NO.

ADDITIONAL INFORMATION

NATURE OF INTEREST

CHARGE NO.

ADDITIONAL INFORMATION

NATURE OF INTEREST

CHARGE NO.

ADDITIONAL INFORMATION

**LAND TITLE ACT
FORM E**

SCHEDULE

PAGE 4 OF 13 PAGES

ENTER THE REQUIRED INFORMATION IN THE SAME ORDER AS THE INFORMATION MUST APPEAR ON THE FREEHOLD TRANSFER FORM, MORTGAGE FORM, OR GENERAL INSTRUMENT FORM.

5. TRANSFEROR(S):

PC URBAN CLEMENT HOLDINGS LTD. (Inc. No. BC10999800)

SHELMARJAY HOLDINGS LTD. (Inc. No. BC0855415) [as to priority]

BRITISH COLUMBIA HOUSING MANAGEMENT COMMISSION [as to priority]

PURPOSE-BUILT RENTAL HOUSING AGREEMENT AND 219 COVENANT

THIS AGREEMENT, dated for reference June 1, 2020, which affects:

LEGAL DESCRIPTION OF PROPERTY SUBJECT TO THE AGREEMENT:

PID: 030-571-219
LOT A SECTION 30 TOWNSHIP 26 OSOYOOS DIVISION YALE DISTRICT PLAN EPP83554
(the "Land")

IS BETWEEN:

PC URBAN CLEMENT HOLDINGS LTD. INC.NO. BC1099980
880 - 1090 West Georgia Street
Vancouver, BC
V6E 3V7
(the "Owner")

AND:

CITY OF KELOWNA, a local government incorporated pursuant to the *Community Charter* and having its offices at 1435 Water Street, Kelowna, B.C. V1Y 1J4
(the "City")

GIVEN THAT:

- A. The Owner intends to construct on the Land a commercial and residential development consisting of two mixed-use buildings that will include Purpose-Built Rental Housing (hereinafter defined);
- B. The City may, pursuant to section 483 of the *Local Government Act*, enter into an agreement with an owner of land that includes terms and conditions regarding the occupancy, tenure, and availability of the housing units on the land or construction on land;
- C. Section 219 of the *Land Title Act* permits the registration of a covenant of a negative or positive nature in favour of the City in respect of the use of land and buildings on land, construction on land, or the subdivision of land;
- D. As a condition of rezoning the Land, the Owner and the City wish to enter into this Agreement to provide for Purpose-Built Rental Housing on the terms and conditions set out in this Agreement and to restrict the use of, and construction on, the Land and the use of the Purpose-Built Rental Housing constructed on the Land, on the terms and conditions of this Agreement, to have effect as both a covenant under section 219 of the *Land Title Act* and a housing agreement under section 483 of the *Local Government Act*; and
- E. The City has, by bylaw, authorized the execution of this Agreement and the Owner has duly authorized the execution of this Agreement.

This Agreement is evidence that in consideration of \$1.00 paid by the City to the Owner (the receipt of which is

acknowledged by the Owner) and in consideration of the promises exchanged below, the City and Owner agree, pursuant to s. 483 of the *Local Government Act* and s. 219 of the *Land Title Act*, as follows:

ARTICLE 1 INTERPRETATION

1.1 Definitions -

"Caregiver" means an individual who provides assistance with the performance of the personal functions and activities necessary for daily living that a person is unable to perform efficiently for himself or herself;

"Dwelling Unit" means accommodation providing sleeping rooms, washrooms, and no more than one kitchen, intended for domestic use, and used or intended to be used permanently or semi-permanently for a Household. This use does not include a room in a hotel or a motel.

"Household" means

- (a) a person;
- (b) two or more persons related by blood, marriage, or adoption; or associated through foster care, all living together in one Dwelling Unit as a single household using common cooking facilities;
- (c) a group of not more than five persons, including boarders, who are not related by blood, marriage, or adoption, or associated through foster care, all living together in one Dwelling Unit as a single household using common cooking facilities; or
- (d) a combination of (b) and (c), provided that the combined total does not include more than 3 persons unrelated by blood, marriage or adoption or associated through foster care; all living together in one Dwelling Unit as a single household using common cooking facilities.

In addition, a household may also include up to one Caregiver or nanny;

"Land" means the land described herein;

"LTO" means the Kamloops Land Title Office or its successor;

"Owner" means the registered owner of the Land from time to time and any parcels into which the Land is subdivided;

"Purpose-Built Rental Housing" means a Dwelling Unit that is intended to be used for rental housing;

"Purpose-Built Rental Housing Dwelling Units" means the 158 Dwelling Units on the Land designated as Purpose-Built Rental Housing Dwelling Units under section 2.2 of this Agreement.

"Tenancy Agreement" means a tenancy agreement as defined in, and subject to, the *Residential Tenancy Act*.

1.2 Interpretation - In this Agreement:

- (a) reference to the singular includes a reference to the plural, and vice versa, unless the context requires otherwise;
- (b) article and section headings have been inserted for ease of reference only and are not to be used in interpreting this Agreement;
- (c) reference to a particular numbered section or article, or to a particular lettered Schedule, is a reference to the correspondingly numbered or lettered article, section or Schedule of this Agreement;
- (d) if a word or expression is defined in this Agreement, other parts of speech and grammatical forms of the same word or expression have corresponding meanings;
- (e) the word "enactment" has the meaning given in the *Interpretation Act* on the reference date of this Agreement;
- (f) reference to any enactment includes any regulations, orders or directives made under the authority of that enactment;
- (g) reference to any enactment is a reference to that enactment as consolidated, revised, amended, re-enacted or replaced, unless otherwise expressly provided;
- (h) the provisions of s. 25 of the *Interpretation Act* with respect to the calculation of time apply;
- (i) time is of the essence;
- (j) all provisions are to be interpreted as always speaking;
- (k) reference to a "party" is a reference to a party to this Agreement and to their respective successors, assigns, trustees, administrators and receivers;
- (l) reference to a "day", "month", "quarter" or "year" is a reference to a calendar day, calendar month, calendar quarter or calendar year, as the case may be, unless otherwise expressly provided;
- (m) the definitions given in the City of Kelowna Zoning Bylaw No. 8000, or its successor bylaw, and the City of Kelowna Official Community Plan Bylaw No. 10500, or its successor in function, apply for the purposes of this Agreement; and
- (n) any act, decision, determination, consideration, consent or exercise of discretion by a party, or other person, as provided in this Agreement will be performed, made or exercised acting reasonably.

1.3 Purpose of Agreement - The Owner and the City agree that:

- (a) this Agreement is intended to serve the public interest by providing for occupancy Purpose-Built Rental Housing that is in demand in the City of Kelowna but that is not readily available;
- (b) performance of this Agreement by the Owner is a condition, as contemplated by s. 482 of the *Local Government Act*, of the Owner becoming entitled to certain density bonuses respecting development of the Land, which density bonuses the Owner acknowledges are a benefit to the Owner; and
- (c) damages are not an adequate remedy to the City in respect of any breach of this Agreement by the

Owner, such that the Owner agrees the City should be entitled to an order for specific performance, injunction or other specific relief respecting any breach of this Agreement by the Owner.

ARTICLE 2 HOUSING AGREEMENT AND LAND USE RESTRICTIONS

2.1 Land Use Restrictions – Pursuant to section 219 of the *Land Title Act*, the Owner and the City hereby covenant and agree as follows:

- (a) the Land will be used only in accordance with this Agreement;
- (b) the Owner will design, construct and maintain one or more buildings on the Land and such buildings will include not less than 158 Dwelling Units which will be designated, used and occupied as a Purpose-Built Rental Housing Dwelling Unit in accordance with this Agreement; and
- (c) the Owner may only subdivide the Land via deposit of a strata plan pursuant to the *Strata Property Act*.

2.2 Designation – The Owner will, prior to applying for an occupancy permit for any Dwelling Unit located on the Land, notify the City in writing which Dwelling Units located on the Land it has designated as Purpose-Built Rental Housing Dwelling Units. Such written designation is irrevocable by the Owner upon receipt by the City of the same, but the designation is not effective unless and until the City confirms its approval of such designation in writing.

2.3 Partial Release – If the Owner subdivides the Land and not all strata lots created as a result thereof contain Purpose-Built Rental Housing Dwelling Units, the Owner is entitled to apply for a release of this Agreement (including registered notice of the housing agreement herein) from such non-Purpose-Built Rental Housing Dwelling Unit strata lots pursuant to section 2.4. Notwithstanding the foregoing, the Owner will not apply for a release of this Agreement pursuant to section 2.4 below in respect of such non- Purpose-Built Rental Housing Dwelling Unit strata lots, and the Municipality will be under no obligation to provide such release, unless, at the time that the Owner applies for such release:

- (a) the Owner is not in breach of any of its obligations under this Agreement;
- (b) the Owner has notified the City in writing which of the strata lots located on the Land contain Purpose-Built Rental Housing Dwelling Units. Such written designation is irrevocable by the Owner upon receipt by the City of the same, but the designation is not effective unless and until the City confirms its approval of such designation in writing;
- (c) occupancy permits for all Purpose-Built Rental Housing Dwelling Units have been issued by the City; and
- (d) the Purpose-Built Rental Housing Dwelling Units are used and always have been used, occupied and transferred in compliance with this Agreement.

2.4 Process for Partial Release – Subject to section 2.3, at the request of the Owner and at the Owner's sole expense, the City will deliver to the Owner releases of this Agreement (including registered notice of the housing agreement herein) in registrable form for each strata lot on the Land that does not contain a Purpose-Built Rental Housing Dwelling Unit, provided that the City may withhold delivery of any release against any such non- Purpose-Built Rental Housing Dwelling Unit strata lot unless:

- (a) the Owner has filed a Rental Disclosure Statement pursuant to section 139 of the *Strata Property Act* designating each Purpose-Built Rental Housing Dwelling Unit located on the Land as a rental strata lot with a rental period expiry date no earlier than 10 years from the date of stratification; and
- (b) the strata corporation created by the filing of the strata plan over the Land has the following contained within its bylaws:

"Residential Strata Lots within the Strata Corporation are subject to a Housing Agreement with the City of Kelowna. No action will be taken by the owners or the strata corporation to restrict or limit the terms of the Housing Agreement, including, but not limited to, amendment to these bylaws".

ARTICLE 3 HOUSING AGREEMENT AND TRANSFER RESTRICTIONS

3.1 Purchaser Qualifications - The City and the Owner agree as follows:

- (a) the Owner will not sell or transfer, or agree to sell or transfer, any interest in any strata lot designated as a Purpose-Built Rental Housing Dwelling Unit on the Land other than a full interest in the fee simple title to a person, firm, agency, society, or corporation that will continue to ensure that such Purpose-Built Rental Housing Dwelling Unit is used in accordance with this Agreement.

3.2 Use and Occupancy of Purpose-Built Rental Housing Dwelling Unit – The Owner agrees with the City as follows:

- (a) a Purpose-Built Rental Housing Dwelling Unit will only be used as a rental unit and occupied as a permanent residence by a Household pursuant to a Tenancy Agreement;
- (b) the Owner will rent or lease each Purpose-Built Rental Housing Dwelling Unit on the Land in accordance with the *Residential Tenancy Act*, and in no event may the Owner itself occupy a Purpose-Built Rental Housing Dwelling Unit or use or allow the use of the Purpose-Built Rental Housing Dwelling Unit for short-term rental accommodation; and
- (b) the Owner will deliver a copy of the Tenancy Agreement for each Purpose-Built Rental Housing Dwelling Unit to the City upon demand.

ARTICLE 4 GENERAL

4.1 Notice of Housing Agreement - For clarity, the Owner acknowledges and agrees that:

- (a) this Agreement constitutes a housing agreement entered into under s. 483 of the *Local Government Act*;
- (b) the City is requiring the Owner to file a notice of housing agreement in the LTO against title to the Land;
- (c) once such a notice is filed, this Agreement binds all persons who acquire an interest in the Land.

4.2 No Effect On Laws or Powers - This Agreement does not

- (a) affect or limit the discretion, rights, duties or powers of the City under any enactment or at common law, including in relation to the use or subdivision of land,
- (b) impose on the City any legal duty or obligation, including any duty of care or contractual or other legal duty or obligation, to enforce this Agreement,
- (c) affect or limit any enactment relating to the use or subdivision of land, or
- (d) relieve the Owner from complying with any enactment, including in relation to the use or subdivision of land.

4.3 Management – The Owner covenants and agrees that it will furnish good and efficient management of the Purpose-Built Rental Housing Dwelling Units and will permit representatives of the City to inspect the Purpose-Built Rental Housing Dwelling Units at any reasonable time, subject to the notice provisions of the *Residential Tenancy Act*. The Owner further covenants and agrees that it will maintain the Purpose-Built Rental Housing Dwelling Units in a satisfactory state of repair and fit for habitation and will comply with all laws, including health and safety standards applicable to the Land. Notwithstanding the foregoing, the Owner acknowledges and agrees that the City, in its absolute discretion, may require the Owner, at the Owner's expense, to hire a person or company with the skill and expertise to manage the Purpose-Built Rental Housing Dwelling Units.

4.4 Registration & Priority – The Owner shall, at its expense, do or cause to be done all acts necessary to register this Agreement in the land title office against title to the Land with priority over all financial charges, liens and encumbrances registered, or pending registration, at the time of application for registration of this Agreement against the title to the Land.

4.5 Notice - Any notice which may be or is required to be given under this Agreement will be in writing and either be delivered or sent by fax or email. Any notice which is delivered is to be considered to have been given on the first day after it is dispatched for delivery. Any notice which is sent by fax is to be considered to have been given on the first business day after it is sent and any notice which is sent by email is to be considered to have been given on the day it is sent, and if such day is not a business day, the subsequent business day. If a party changes its address, fax number or email address, it will promptly give notice of its new address, fax number, or email in accordance with this section.

4.6 Agreement Runs With the Land - Every obligation and covenant of the Owner in this Agreement constitutes both a contractual obligation and a covenant granted by the Owner to the City in respect of the Land and this Agreement burdens the Land and runs with it and binds the Owner's successors in title and binds every parcel into which it is consolidated or subdivided by any means, including by subdivision or by strata plan under the *Strata Property Act*.

4.7 Limitation on Owner's Obligations - The Owner is only liable for breaches of this Agreement that occur while the Owner is the registered owner of the Land.

4.8 Release – The Owner by this Agreement releases and forever discharges the City and each of its elected officials, officers, directors, employees and agents, and its and their heirs, executors, administrators, personal representatives, successors, and assigns, from and against all claims, demands, damages, actions, or causes of action by reason of or arising out of advice or direction respecting the ownership, lease, operation or management of the Land or the Dwelling Units which has been or at any time after the

commencement of this Agreement may be given to the Owner by all or any of them. This clause will survive the termination of this Agreement.

- 4.9 **Joint Venture** – Nothing in this Agreement will constitute the Owner as the agent, joint venturer, or partner of the City or give the Owner any authority to bind the City in any way.
- 4.10 **Waiver** - An alleged waiver of any breach of this Agreement is effective only if it is an express waiver in writing of the breach. A waiver of a breach of this Agreement does not operate as a waiver of any other breach of this Agreement.
- 4.11 **Further Acts** - The Owner will do everything reasonably necessary to give effect to the intent of this Agreement, including execution of further instruments.
- 4.12 **Severance** - If any part of this Agreement is held to be invalid, illegal or unenforceable by a court having the jurisdiction to do so, that part is to be considered to have been severed from the rest of this Agreement and the rest of this Agreement remains in force unaffected by that holding or by the severance of that part.
- 4.13 **Equitable Remedies** – The Owner acknowledges and agrees that damages would be an inadequate remedy for the City for breach of this Agreement and that the public interest strongly favours specific performance, injunctive relief (mandatory or otherwise), or other equitable relief, as the only adequate remedy for a default under this Agreement.
- 4.14 **No Other Agreements** - This Agreement is the entire agreement between the parties regarding its subject and it terminates and supersedes all other agreements and arrangements regarding its subject.
- 4.15 **Amendment** - This Agreement may be discharged, amended or affected only by an instrument duly executed by both the Owner and the City.
- 4.16 **Enurement** - This Agreement binds the parties to it and their respective successors, heirs, executors and administrators. Reference in this Agreement to the "City" is a reference also to the elected and appointed officials, employees and agents of the City.
- 4.17 **Deed and Contract** - By executing and delivering this Agreement each of the parties intends to create both a contract and a deed executed and delivered under seal.

IN WITNESS WHEREOF the parties hereunto have executed this Agreement on the General Instrument – Part 1 which is attached to and forms part of this Agreement.

CONSENT AND PRIORITY AGREEMENT

RECITALS:

- A. **PC URBAN CLEMENT HOLDINGS LTD.** is the registered owner of PID: 030-571-219, Lot A Section 30 Township 26 Osoyoos Division Yale District Plan EPP83554 (the "Land");
- B. **PC URBAN CLEMENT HOLDINGS LTD.** granted **SHELMARJAY HOLDINGS LTD.** (Inc. No. BC0855415) (the "Prior Chargeholder") a mortgage which was registered against the title to the Land in the Kamloops Land Title Office under number CA7566393 ("Prior Charge");
- C. **PC URBAN CLEMENT HOLDINGS LTD.** granted to the City ("Subsequent Chargeholder") a Section 219 Covenant to which this Priority is attached ("Subsequent Charge"); and
- D. Section 207 of the *Land Title Act* permits the Prior Chargeholder to grant priority over a charge to a subsequent chargeholder.

This Priority Agreement is evidence that in consideration of \$1.00 paid by the Subsequent Chargeholder to the Prior Chargeholder (the receipt and sufficiency of which is hereby acknowledged) the Prior Chargeholder grants to the Subsequent Chargeholder priority over the Prior Charge and the Prior Chargeholder covenants and agrees to subordinate and postpone all its right, title and interest in and to the Land with the intent and with the effect that the interests of the Subsequent Chargeholder in and under the Subsequent Charge are the same as if the Subsequent Charge had been executed, delivered and registered against the title to the Land before registration of the Prior Charge.

As evidence of its agreement to be bound by the above terms of this Consent and Priority Agreement, the Prior Chargeholder has executed and delivered Part 1 of *Land Title Act* Form C Form C which is attached hereto and forms part of this Agreement.

CONSENT AND PRIORITY AGREEMENT

RECITALS:

- A. **PC URBAN CLEMENT HOLDINGS LTD.** is the registered owner of PID: 030-571-219, Lot A Section 30 Township 26 Osoyoos Division Yale District Plan EPP83554 (the "Land");
- B. **PC URBAN CLEMENT HOLDINGS LTD.** granted BRITISH COLUMBIA HOUSING MANAGEMENT COMMISSION (the "Prior Chargeholder") a mortgage and assignment of rents which were registered against the title to the Land in the Kamloops Land Title Office under number CA7678849 and CA7678850 ("Prior Charges");
- C. **PC URBAN CLEMENT HOLDINGS LTD.** granted to the City ("Subsequent Chargeholder") a Section 219 Covenant to which this Priority is attached ("Subsequent Charge"); and
- D. Section 207 of the *Land Title Act* permits the Prior Chargeholder to grant priority over a charge to a subsequent chargeholder.

This Priority Agreement is evidence that in consideration of \$1.00 paid by the Subsequent Chargeholder to the Prior Chargeholder (the receipt and sufficiency of which is hereby acknowledged) the Prior Chargeholder grants to the Subsequent Chargeholder priority over the Prior Charges and the Prior Chargeholder covenants and agrees to subordinate and postpone all its right, title and interest in and to the Land with the intent and with the effect that the interests of the Subsequent Chargeholder in and under the Subsequent Charge are the same as if the Subsequent Charge had been executed, delivered and registered against the title to the Land before registration of the Prior Charges.

As evidence of its agreement to be bound by the above terms of this Consent and Priority Agreement, the Prior Chargeholder has executed and delivered Part 1 of *Land Title Act* Form C Form C which is attached hereto and forms part of this Agreement.

REPORT TO COUNCIL



Date: July 27, 2020
To: Council
From: City Manager
Subject: Rental Housing Tax Exemption Agreements – July 2020
Department: Policy & Planning

Recommendation:

THAT Council, receives, for information, the Report from the Acting Manager Long Range Policy Planning dated July 27, 2020 recommending that Council adopt the following Revitalization Tax Exemption Agreements for two rental housing projects.

AND THAT Council approves the City of Kelowna entering into a Revitalization Tax Exemption Agreement with 815 Leon Developments Ltd., Inc. No. BC105909 for Lot A District Lot 138 ODYD, Plan EPP78759 at 815 Leon Avenue, Kelowna, BC.

AND FURTHER THAT Council approves the City of Kelowna entering into a Revitalization Tax Exemption Agreement with PC Urban Clement Holdings Ltd., INC. NO. BC1099980, for Lot A Section 30 Township 26 ODYD PLAN EPP83554, at 740 Clement Avenue and 1195 Richter Street, Kelowna BC.

Purpose:

To bring forward two rental housing tax exemption agreements in accordance with the Revitalization Tax Exemption Program Bylaw No. 9561 for Council consideration.

Background:

Over the last two years Kelowna has seen a considerable improvement in the rental housing vacancy rate with the 2019 CMHC Rental Market Report indicating a vacancy rate of 2.7 per cent. However, there continues to be strong demand for rental housing with a growing proportion of Kelowna's population relying on rental housing. Based on the most recent Census, 73% of new households in Kelowna identified as renters, highlighting the importance of adding rental supply to keep pace with population growth and respond to shifting housing preferences.

To encourage the development of purpose-built rental housing the City of Kelowna provides several financial incentives. One of the incentives is the 10-year Revitalization Tax Exemption (RTE) for purpose-built rental housing where the proponent meets three key requirements:

1. The subject property has a Housing Agreement (for a minimum of 10 years)
2. Development complies with the OCP Future Land Use Designation
3. The subject property is located within the Core Area or one of the designated Village Centres (i.e., Glenmore Valley or University South)

Discussion:

Both applications meet the rental housing requirements of the RTE Bylaw. The projects are both located in the Core Area near Downtown Kelowna and have entered into a long-term rental housing agreement with the City (subject to Council approval). Further, these projects support the City's broader growth management strategy of directing multi-family and rental housing to areas that are well served by amenities, close to employment centres with good access to sustainable transportation options such as protected bike lanes, frequent transit, and shared mobility.

Although the creation of affordable and attainable housing options remains a key Council priority, the RTE program does come at a financial cost to the City of Kelowna. Based on a high level estimate the total tax revenue associated with the 10-year exemption for the 285 purpose-built rental units is approximately \$2,350,000. A further breakdown of the taxation impact of each project is provided in the table below.

Property	Project Details	Estimated Annual Taxation Impact	Estimated 10-year Revenue Impact
740 Clement Avenue & 1195 Richter Street	158 rental units	\$130,000	\$1,300,000
815 Leon Avenue	127 rental units	\$105,000	\$1,050,000

Conclusion:

To better understand the impact of the broader RTE Program, staff will be preparing a report in September 2020. The report will review the financial impacts and associated benefits of the program, identifying options for how parts of the RTE program could be adapted in the future to reflect changing market conditions to ensure the program continues to provide a benefit to the community.

Internal Circulation:

Supervisor, Revenue
Divisional Director, Planning & Development Services
Department Manager, Policy & Planning
Manager, Urban Planning

Legal/Statutory Authority:

Revitalization Tax Exemption Program Bylaw No. 9561, 2006
Community Charter, Division, Section 226

Legal/Statutory Procedural Requirements:

The Revitalization Tax Exemption Bylaw No. 9561 supports municipal tax incentives for rental housing for projects located in the Core Area as well as Glenmore Valley and University South Village Centres.

Existing Policy:

Official Community Plan Bylaw No. 10500

Revitalization Tax Exemption Program Bylaw No. 9561, Policy 5.1.3

Submitted by: R. Soward, Acting Manager Long Range Policy & Planning

Approved for inclusion:



D. Noble Brandt, Department Manager of Policy & Planning

Attachments:

1. Draft Revitalization Tax Exemption Agreement 815 Leon Avenue
2. Draft Revitalization Tax Exemption Agreement 740 Clement Avenue and 1195 Richter Street

BL10566, BL10674, BL11457, BL10974, BL11854 & BL11912 amended SCHEDULE "B":

SCHEDULE "B"
Revitalization Tax Exemption Agreement

THIS AGREEMENT dated for reference the 15th day of June 2020 is

BETWEEN:

815 LEON DEVELOPMENTS LTD.

612 Bernard Avenue
Kelowna, BC
V1Y 6P3

(the "Owner")

AND:

CITY OF KELOWNA

1435 Water Street,
Kelowna, B.C.
V1Y 1J4

(the "City")

GIVEN THAT:

- A. The Owner is the registered owner in fee simple of lands in the City of Kelowna at 815 Leon Avenue and legally described as Lot A District Lot 138 ODYD Plan EPP78759 (the "Parcel");
- B. Council has established a revitalization tax exemption program and has included within the City of Kelowna Revitalization Tax Exemption Program Bylaw No. 9561 the designation of areas which include the Parcel as a revitalization area; and
- C. The Owner proposes to construct new improvements on the Parcel as described in Appendix "A" attached to and forming part of this agreement (the "Project") and has applied to the City to take part in the revitalization tax exemption program in respect of the Project and the City has agreed to accept the Project under the program;

THIS AGREEMENT is evidence that in consideration of the promises exchanged below, the Owner and the City covenant and agree each with the other as follows:

- 1. **The Project** – the Owner will use its best efforts to ensure that the Project is constructed, maintained, operated and used in a fashion that will be consistent with and will foster the objectives of the revitalization tax exemption program, as outlined in the City of Kelowna Revitalization Tax Exemption Program Bylaw No. 9561. Without limiting the generality of the foregoing, the Owner covenants to use its best efforts to ensure that the Project will:
 - a. provide 127 purpose-built rental units containing a mixture of townhomes and apartment style homes in a six-storey wood frame structure.
 - b. provide approximately 111,264 SF of new rentable living area complete with onsite parking enclosed within a two level structured parkade.

- c. Remain as dedicated purpose-built, long-term rental housing units within the duration set out in the Rental Housing Agreement.
2. **Operation and Maintenance of the Project** – throughout the term of this agreement, the Owner shall operate, repair and maintain the Project and will keep the Project in a state of good repair as a prudent owner would do.
3. **Revitalization Amount** – In this agreement, “**Revitalization Amount**” means the municipal portion of property tax calculated in relation to the increase in the assessed value of improvements on the Parcel resulting from the construction of the Project as described in section 1;
4. **Revitalization Tax Exemption** – subject to fulfilment of the conditions set out in this agreement and in “City of Kelowna Revitalization Tax Exemption Program Bylaw No. 9561”, the City shall issue a revitalization tax exemption certificate (the “Tax Exemption Certificate”) to the British Columbia Assessment Authority entitling the Owner to a property tax exemption in respect of the property taxes due (not including local service taxes) in relation to the Revitalization Amount on the Parcel (the “Tax Exemption”) for the calendar year(s) set out in the Tax Exemption Certificate .
5. **Conditions** – the following conditions shall be fulfilled before the City will issue a Tax Exemption Certificate to the Owner in respect of the Project:
 - a. The Owner must complete or cause to be completed construction of the Project in a good and workmanlike fashion and in strict compliance with the building permit and the plans and specifications attached hereto as Appendix “A”;
 - b. The completed Project must substantially satisfy the performance criteria set out in Appendix “B” hereto, as determined by the City’s Development Planning Manager or designate, in their sole discretion, acting reasonably; and
 - c. The Owner must submit a copy of the Occupancy Permit and Title Certificate to the City of Kelowna’s Revenue Branch within 48 months from the date the Agreement is executed by Council.
6. **Calculation of Revitalization Tax Exemption** – the amount of the Tax Exemption shall be equal to:
 - a) Purpose-Built Rental Housing Projects within the Core Area, Glenmore Valley Village Centre and University South Village Centre as defined by the OCP, 100% of the Revitalization Amount on the parcel, for projects that are subject to a Housing Agreement (for a minimum of 10 years) and where the proposed project is in compliance with the OCP Future Land Use designation at the time of Revitalization Tax Exemption application.
7. **Term of Tax Exemption** – provided the requirements of this agreement, and of the City of Kelowna Revitalization Tax Exemption Program Bylaw No. 9561, are met the Tax Exemption shall be for 10 years after the BC Assessment Authority validates the Tax Exemption Certificate issued by the City of Kelowna’s Revenue Branch.,
8. **Compliance with Laws** – the Owner shall construct the Project and, at all times during the term of the Tax Exemption or any renewal term, use and occupy the Parcel and the Project in compliance with all statutes, laws, regulations and orders of any authority having jurisdiction and, without limiting the generality of the foregoing, all federal, provincial, or municipal laws or statutes or bylaws, including all the rules regulations policies guidelines criteria or the like made under or pursuant to any such laws.

9. **Effect of Stratification** – if the Owner stratifies the Parcel under the Strata Property Act, then the Tax Exemption shall be prorated among the strata lots in accordance with the unit entitlement of each strata lot for:
- a. the current and each subsequent tax year during the currency of this agreement if the strata plan is accepted for registration at the Land Title Office before May 1; or
 - b. for the next calendar year and each subsequent tax year during the currency of this agreement if the strata plan is accepted for registration at the Land Title Office after May 1;

so long as, if the Project is the subject of an operating agreement between the Owner and the Provincial Rental Housing Corporation, the Owner is in compliance with the operating agreement. The Owner agrees to provide written confirmation to the City regarding the Owner's compliance with the said operating agreement, satisfactory to the City, upon the City's reasonable inquiry.

10. **Termination of the agreement** - the revitalization tax exemption agreement will be valid for 48 months from the date the agreement is executed by Council. If the conditions for issuance of a Tax Exemption Certificate have not been met during this term, the owner may request a renewal term to this agreement or the agreement will be terminated.
11. **Cancellation** – the City may in its sole discretion cancel the Tax Exemption Certificate at any time:
- a. on the written request of the Owner; or
 - b. effective immediately upon delivery of a notice of cancellation to the Owner if at any time any of the conditions in the Tax Exemption Certificate are not met.
 - c. If the Owner is subject to an operating agreement with the Provincial Rental Housing Corporation and is not in compliance with the operating agreement.

If such cancellation occurs, the Owner of the Parcel for which the Tax Exemption Certificate was issued will remit to the City an amount equal to the value of any Tax Exemption received after the cancellation of the Tax Exemption Certificate.

12. **No Refund** – for greater certainty, under no circumstances will the Owner be entitled under the City's revitalization tax exemption program to any cash credit, any carry forward tax exemption credit or any refund for any property taxes paid.
13. **Notices** – any notice or other writing required or permitted to be given hereunder or for the purposes hereof to any party shall be sufficiently given if delivered by hand or posted on the Parcel, or if sent by prepaid registered mail (Express Post) or if transmitted by facsimile to such party:
- a. in the case of a notice to the City, at:

THE CITY OF KELOWNA
1435 Water Street,
Kelowna, B.C.
V1Y 1J4

Attention: Revenue Department
Email: revenue@kelowna.ca

- b. in the case of a notice to the Owner, at:

815 Leon Developments Ltd.
612 Bernard Avenue
Kelowna, BC V1Y 6P3

Attention: Corey Makus
Phone: 250-878-2001
Email: corey@kayson.ca

Or at such other address as the party to whom such notice or other writing is to be given shall have last notified the party giving the same.

14. **No Assignment** – the Owner shall not assign its interest in this agreement except to a subsequent owner in fee simple of the Parcel.
15. **Severance** – if any portion of this agreement is held invalid by a court of competent jurisdiction, the invalid portion shall be severed and the decision that it is invalid shall not affect the validity of the remainder of this agreement.
16. **Interpretation** – wherever the singular or masculine is used in this agreement, the same shall be construed as meaning the plural, the feminine or body corporate where the context or the parties thereto so require.
17. **Further Assurances** – the parties hereto shall execute and do all such further deeds, acts, things and assurances that may be reasonably required to carry out the intent of this agreement.
18. **Waiver** – waiver by the City of a default by the Owner shall be in writing and shall not be deemed to be a waiver of any subsequent or other default.
19. **Powers Preserved** – this agreement does not:
 - a. Affect or limit the discretion, rights or powers of the City under any enactment or at common law, including in relation to the use or subdivision of the Parcel;
 - b. Affect or limit any enactment relating to the use or subdivision of the Parcel; or
 - c. Relieve the Owner from complying with any enactment, including in relation to the use or subdivision of the Parcel and without limitation shall not confer directly or indirectly any exemption or right of set-off from development cost charges, connection charges, application fees, user fees or other rates, levies or charges payable under any bylaw of the City.
20. **Reference** – every reference to each party is deemed to include the heirs, executors, administrators, personal representatives, successors, assigns, servants, employees, agents, contractors, officers, licensees and invitees of such party, wherever the context so requires or allows.
21. **Enurement** – this agreement shall ensure to the benefit of and be binding upon the parties hereto and their respective successors and permitted assigns.

22. Any construction of a new improvement or alteration of an existing improvement as of this bylaw undertaken prior to the application for a Revitalization Tax Exemption will not be eligible for consideration
23. The maximum Revitalization Tax Exemption authorized under this Bylaw must not exceed the Revitalization Amount on the Property between:
 - a. the calendar year before the construction or alteration began, as outlined under Section 1 of this agreement; and
 - b. the calendar year in which the construction or alteration, as outlined under Section 1 of this agreement, is completed
24. The Property's assessed value of improvements must not be reduced below the amount assessed in the calendar year prior to construction or alteration, as a result of the Revitalization Tax Exemption.

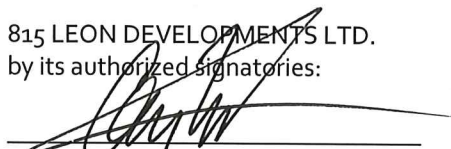
IN WITNESS WHEREOF the parties hereto have executed this agreement as of the day and year first above written.

Executed by the CITY OF KELOWNA by
Its authorized signatories:

Mayor

City Clerk

815 LEON DEVELOPMENTS LTD.
by its authorized signatories:



Corey Makus



Sam Brovender

Appendix "A": Exterior Image of building
Appendix "B": Executed Housing Agreement

Appendix A – Project Exterior Image



PURPOSE-BUILT RENTAL HOUSING AGREEMENT

THIS AGREEMENT dated for reference April 30, 2020 affects:

LEGAL DESCRIPTION OF PROPERTY SUBJECT TO THE AGREEMENT:

Lot A District Lot 138 ODYD Plan EPP78759

("Land")

And is

BETWEEN:

815 LEON DEVELOPMENTS LTD. (Inc. No. BC1053909
612 Bernard Avenue
Kelowna, BC V1Y 6P3

("Owner")

AND:

CITY OF KELOWNA, a local government incorporated pursuant to
the *Community Charter* and having its offices at 1435 Water Street,
Kelowna, B.C. V1Y 1J4

("City")

GIVEN THAT:

- A. The Owner has applied to the City for rezoning of the Lands to permit the construction of a housing complex that will include purpose-built rental housing units, as defined in this Agreement, on certain lands more particularly described in this Agreement;
- B. The City may, pursuant to section 483 of the *Local Government Act*, enter into an agreement with an owner of land that includes terms and conditions regarding the occupancy, tenure, and availability of the housing units on the land or construction on land;
- C. The Owner and the City wish to enter into this Agreement to provide for purpose-built rental housing on the terms and conditions set out in this Agreement, and agree that this Agreement is a housing agreement under s. 483 of the *Local Government Act*; and
- D. The City has, by bylaw, authorized the execution of this Agreement and the Owner has duly authorized the execution of this Agreement;

This Agreement is evidence that in consideration of \$1.00 paid by the City to the Owner (the receipt of which is acknowledged by the Owner) and in consideration of the promises exchanged below, the City and Owner agree, as a housing agreement between the Owner and the City under s. 483 of the *Local Government Act*, as follows:

ARTICLE 1 INTERPRETATION

1.1 Definitions -

"Caregiver" means an individual who provides assistance with the performance of the personal functions and activities necessary for daily living that a person is unable to perform efficiently for himself or herself;

"City" means the City of Kelowna;

"Dwelling Unit" means accommodation providing sleeping rooms, washrooms, and no more than one kitchen, intended for domestic use, and used or intended to be used permanently or semi-permanently for a Household. This use does not include a room in a hotel or a motel.

"Household" means

- (a) a person;
- (b) two or more persons related by blood, marriage, or adoption; or associated through foster care, all living together in one dwelling unit as a single household using common cooking facilities;
- (c) a group of not more than five persons, including boarders, who are not related by blood, marriage, or adoption, or associated through foster care, all living together in one dwelling unit as a single household using common cooking facilities; or
- (d) a combination of (b) and (c), provided that the combined total does not include more than 3 persons unrelated by blood, marriage or adoption or associated through foster care; all living together in one dwelling unit as a single household using common cooking facilities.

In addition, a household may also include up to one Caregiver or nanny;

"Land" means the land described herein;

"LTO" means the Kamloops Land Title Office or its successor;

"Official Community Plan" means the City of Kelowna Official Community Plan Bylaw No. 10500, or its successor bylaw;

"Owner" means the registered owner of the Lands from time to time and any parcels into which the Lands are subdivided;

"Purpose-Built Rental Housing" means a Dwelling Unit that is intended to be used for rental housing; and

"Tenancy Agreement" means a tenancy agreement as defined in, and subject to, the *Residential Tenancy Act*.

1.2 Interpretation - In this Agreement:

- (a) reference to the singular includes a reference to the plural, and vice versa, unless the context requires otherwise;
- (b) article and section headings have been inserted for ease of reference only and are not to be used in interpreting this Agreement;
- (c) reference to a particular numbered section or article, or to a particular lettered Schedule, is a reference to the correspondingly numbered or lettered article, section or Schedule of this Agreement;
- (d) if a word or expression is defined in this Agreement, other parts of speech and grammatical forms of the same word or expression have corresponding meanings;
- (e) the word "enactment" has the meaning given in the *Interpretation Act* on the reference date of this Agreement;
- (f) reference to any enactment includes any regulations, orders or directives made under the authority of that enactment;
- (g) reference to any enactment is a reference to that enactment as consolidated, revised, amended, re-enacted or replaced, unless otherwise expressly provided;
- (h) the provisions of s. 25 of the *Interpretation Act* with respect to the calculation of time apply;
- (i) time is of the essence;
- (j) all provisions are to be interpreted as always speaking;
- (k) reference to a "party" is a reference to a party to this Agreement and to their respective successors, assigns, trustees, administrators and receivers;
- (l) reference to a "day", "month", "quarter" or "year" is a reference to a calendar day, calendar month, calendar quarter or calendar year, as the case may be, unless otherwise expressly provided;
- (m) the definitions given in the City of Kelowna Zoning Bylaw No. 8000, or its successor bylaw, and the Official Community Plan apply for the purposes of this Agreement; and
- (n) any act, decision, determination, consideration, consent or exercise of discretion by a party, or other person, as provided in this Agreement will be performed, made or exercised acting reasonably.

1.3 Purpose of Agreement - The Owner and the City agree that:

- (a) this Agreement is intended to serve the public interest by providing for occupancy of a certain number of Dwelling Units, of the kinds provided for in this Agreement, that are in demand in the City of Kelowna but that are not readily available;

- (b) damages are not an adequate remedy to the City in respect of any breach of this Agreement by the Owner, such that the Owner agrees the City should be entitled to an order for specific performance, injunction or other specific relief respecting any breach of this Agreement by the Owner.

ARTICLE 2 HOUSING AGREEMENT AND LAND USE RESTRICTIONS

2.1 Land Use Restrictions - The Owner and the City hereby covenant and agree as follows:

- (a) The Land will be used only in accordance with this Agreement;
- (b) The Owner will design, construct and maintain one or more buildings providing 127 Dwelling Units as Purpose-Built Rental Housing
- (c) The Owner acknowledges that the City will not support applications to stratify the building(s) on the Land, thereby allowing the identified Purpose-Built Rental Housing Dwelling Units to be sold independently of each other, for a period of ten (10) years from the date of this Agreement.

ARTICLE 3 HOUSING AGREEMENT AND TRANSFER RESTRICTIONS

3.1 Purchaser Qualifications - The City and the Owner agree as follows:

- (a) the Owner will not sell or transfer, or agree to sell or transfer, any interest in any building containing Purpose-Built Rental Housing Dwelling Units on the Land other than a full interest in the fee simple title to an agency or individual that will continue to ensure that the Purpose-Built Rental Housing Dwelling Units are available in accordance with this Agreement.

3.2 Use and Occupancy of Purpose-Built Rental Housing Dwelling Unit - The Owner agrees with the City as follows:

- (a) the Owner will rent or lease each Purpose-Built Rental Housing Dwelling Unit on the Land in accordance with the *Residential Tenancy Act*, and in no event may the Owner itself occupy a Purpose-Built Rental Housing Dwelling Unit or use the Purpose-Built Rental Housing Dwelling Unit for short-term vacation accommodation; and
- (b) the Owner will deliver a copy of the Tenancy Agreement for each Purpose-Built Rental Housing Dwelling Unit to the City upon demand.

ARTICLE 4 GENERAL

4.1 Notice of Housing Agreement - For clarity, the Owner acknowledges and agrees that:

- (a) this Agreement constitutes a housing agreement entered into under s. 483 of the *Local Government Act*;

- (b) the City is requiring the Owner to file a notice of housing agreement in the LTO against title to the Land;
- (c) once such a notice is filed, this Agreement binds all persons who acquire an interest in the Land;
- (d) in the event the parties agree to release this Agreement from the title of the Land, which may not occur before the tenth (10th) anniversary of the date of this Agreement, the Owner will repay the City for 100% of the amount of the rental grant received from the City. Such repaid funds will be directed to the City's Housing Opportunities Reserve Fund.

4.2 No Effect On Laws or Powers - This Agreement does not

- (a) affect or limit the discretion, rights, duties or powers of the City under any enactment or at common law, including in relation to the use or subdivision of land,
- (b) impose on the City any legal duty or obligation, including any duty of care or contractual or other legal duty or obligation, to enforce this Agreement,
- (c) affect or limit any enactment relating to the use or subdivision of land, or
- (d) relieve the Owner from complying with any enactment, including in relation to the use or subdivision of land.

4.3 Management – The Owner covenants and agrees that it will furnish good and efficient management of the Dwelling Units and will permit representatives of the City to inspect the Dwelling Units at any reasonable time, subject to the notice provisions of the *Residential Tenancy Act*. The Owner further covenants and agrees that it will maintain the Dwelling Units in a satisfactory state of repair and fit for habitation and will comply with all laws, including health and safety standards applicable to the Land. Notwithstanding the foregoing, the Owner acknowledges and agrees that the City, in its absolute discretion, may require the Owner, at the Owner's expense, to hire a person or company with the skill and expertise to manage the Dwelling Units.

4.4 Notice - Any notice which may be or is required to be given under this Agreement will be in writing and either be delivered or sent by facsimile/electronic transmission. Any notice which is delivered is to be considered to have been given on the first day after it is dispatched for delivery. Any notice which is sent by fax/electronic transmission is to be considered to have been given on the first business day after it is sent. If a party changes its address, facsimile number or electronic address, it will promptly give notice of its new address, facsimile number or electronic address, to the other party as provided in this section.

4.5 Agreement Runs With the Land - Every obligation and covenant of the Owner in this Agreement constitutes both a contractual obligation and a covenant granted by the Owner to the City in respect of the Land and this Agreement burdens the Land and runs with it and binds the Owner's successors in title and binds every parcel into which it is consolidated or subdivided by any means, including by subdivision or by strata plan under the *Strata Property Act*.

- 4.6 Limitation on Owner's Obligations** - The Owner is only liable for breaches of this Agreement that occur while the Owner is the registered owner of the Land.
- 4.7 Release** – The Owner by this Agreement releases and forever discharges the City and each of its elected officials, officers, directors, employees and agents, and its and their heirs, executors, administrators, personal representatives, successors, and assigns, from and against all claims, demands, damages, actions, or causes of action by reason of or arising out of advice or direction respecting the ownership, lease, operation or management of the Land or the Dwelling Units which has been or at any time after the commencement of this Agreement may be given to the Owner by all or any of them. This clause will survive the termination of this Agreement.
- 4.8 Joint Venture** – Nothing in this Agreement will constitute the Owner as the agent, joint venturer, or partner of the City or give the Owner any authority to bind the City in any way.
- 4.9 Waiver** - An alleged waiver of any breach of this Agreement is effective only if it is an express waiver in writing of the breach. A waiver of a breach of this Agreement does not operate as a waiver of any other breach of this Agreement.
- 4.10 Further Acts** - The Owner will do everything reasonably necessary to give effect to the intent of this Agreement, including execution of further instruments.
- 4.11 Severance** - If any part of this Agreement is held to be invalid, illegal or unenforceable by a court having the jurisdiction to do so, that part is to be considered to have been severed from the rest of this Agreement and the rest of this Agreement remains in force unaffected by that holding or by the severance of that part.
- 4.12 Equitable Remedies** – The Owner acknowledges and agrees that damages would be an inadequate remedy for the City for breach of this Agreement and that the public interest strongly favours specific performance, injunctive relief (mandatory or otherwise), or other equitable relief, as the only adequate remedy for a default under this Agreement.
- 4.13 No Other Agreements** - This Agreement is the entire agreement between the parties regarding its subject and it terminates and supersedes all other agreements and arrangements regarding its subject.
- 4.14 Amendment** - This Agreement may be discharged, amended or affected only by an instrument duly executed by both the Owner and the City.
- 4.15 Enurement** - This Agreement binds the parties to it and their respective successors, heirs, executors and administrators. Reference in this Agreement to the "City" is a reference also to the elected and appointed officials, employees and agents of the City.
- 4.16 Deed and Contract** - By executing and delivering this Agreement each of the parties intends to create both a contract and a deed executed and delivered under seal.

IN WITNESS WHEREOF the parties hereunto have executed this Agreement on the date and year first above written.

SIGNED, SEALED & DELIVERED in)
the presence of:)

Signature of Witness)

Print Name)

JAMES A. PATERSON
BARRISTER & SOLICITOR
301-1665 ELLIS STREET
KELOWNA, BC V1Y 2B3)

Address)

Occupation)

815 LEON DEVELOPMENTS LTD.

by its authorized signatory:

Corey Makus)

SIGNED, SEALED & DELIVERED in)
the presence of:)

Signature of Witness)

Print Name)

Address)

Occupation)

CITY OF KELOWNA

by its authorized signatories:

Mayor

City Clerk

BL10566, BL10674, BL11457, BL10974, BL11854 & BL11912 amended SCHEDULE "B":

SCHEDULE "B"
Revitalization Tax Exemption Agreement

THIS AGREEMENT dated for reference the 9th day of July, 2020 is

BETWEEN:

PC Urban Clement Holdings Ltd.
Suite 880, 1090 West Georgia Street,
Vancouver, BC V6E 3V7

(the "Owner")

AND:

CITY OF KELOWNA
1435 Water Street,
Kelowna, B.C.
V1Y 1J4

(the "City")

GIVEN THAT:

- A. The Owner is the registered owner in fee simple of lands in the City of Kelowna at 740 Clement Avenue and 1195 Richter Street legally described as LOT A SECTION 30 TOWNSHIP 26 OSOYOOS DIVISION YALE DISTRICT PLAN EPP83554 (the "Parcel");
- B. Council has established a revitalization tax exemption program and has included within the City of Kelowna Revitalization Tax Exemption Program Bylaw No. 9561 the designation of areas which include the Parcel as a revitalization area; and
- C. The Owner proposes to construct new improvements on the Parcel as described in Appendix "A" attached to and forming part of this agreement (the "Project") and has applied to the City to take part in the revitalization tax exemption program in respect of the Project and the City has agreed to accept the Project under the program;

THIS AGREEMENT is evidence that in consideration of the promises exchanged below, the Owner and the City covenant and agree each with the other as follows:

- 1. **The Project** – the Owner will use its best efforts to ensure that the Project is constructed, maintained, operated and used in a fashion that will be consistent with and will foster the objectives of the revitalization tax exemption program, as outlined in the City of Kelowna Revitalization Tax Exemption Program Bylaw No. 9561. Without limiting the generality of the foregoing, the Owner covenants to use its best efforts to ensure that the Project will:
 - a. Provide 158 units of rental housing;
 - b. Build two 6-storey mixed-use buildings. Ground floor will be commercial retail space and floors 2 to 6 will be rental housing;

2. **Operation and Maintenance of the Project** – throughout the term of this agreement, the Owner shall operate, repair and maintain the Project and will keep the Project in a state of good repair as a prudent owner would do.
3. **Revitalization Amount** – In this agreement, “**Revitalization Amount**” means the municipal portion of property tax calculated in relation to the increase in the assessed value of improvements on the Parcel resulting from the construction of the Project as described in section 1;
4. **Revitalization Tax Exemption** – subject to fulfilment of the conditions set out in this agreement and in “City of Kelowna Revitalization Tax Exemption Program Bylaw No. 9561”, the City shall issue a revitalization tax exemption certificate (the “Tax Exemption Certificate”) to the British Columbia Assessment Authority entitling the Owner to a property tax exemption in respect of the property taxes due (not including local service taxes) in relation to the Revitalization Amount on the Parcel (the “Tax Exemption”) for the calendar year(s) set out in the Tax Exemption Certificate .
5. **Conditions** – the following conditions shall be fulfilled before the City will issue a Tax Exemption Certificate to the Owner in respect of the Project:
 - a. The Owner must complete or cause to be completed construction of the Project in a good and workmanlike fashion and in strict compliance with the building permit and the plans and specifications attached hereto as Appendix “A”;
 - b. The completed Project must substantially satisfy the performance criteria set out in Appendix “B” hereto, as determined by the City’s Development Planning Manager or designate, in their sole discretion, acting reasonably; and
 - c. The Owner must submit a copy of the Occupancy Permit and Title Certificate to the City of Kelowna’s Revenue Branch within 48 months from the date the Agreement is executed by Council.
6. **Calculation of Revitalization Tax Exemption** – the amount of the Tax Exemption shall be equal to:
 - a) [deleted]
 - b) [deleted]
 - c) [deleted]
 - d) [deleted]
 - e) For Purpose-Built Rental Housing Projects within the Core Area, Glenmore Valley Village Centre and University South Village Centre as defined by the OCP, 100% of the Revitalization Amount on the parcel, for projects that are subject to a Housing Agreement (for a minimum of 10 years) and where the proposed project is in compliance with the OCP Future Land Use designation at the time of Revitalization Tax Exemption application.
7. **Term of Tax Exemption** – provided the requirements of this agreement, and of the City of Kelowna Revitalization Tax Exemption Program Bylaw No. 9561, are met the Tax Exemption shall be for 10 years after the BC Assessment Authority validates the Tax Exemption Certificate issued by the City of Kelowna’s Revenue Branch.,

8. **Compliance with Laws** – the Owner shall construct the Project and, at all times during the term of the Tax Exemption or any renewal term, use and occupy the Parcel and the Project in compliance with all statutes, laws, regulations and orders of any authority having jurisdiction and, without limiting the generality of the foregoing, all federal, provincial, or municipal laws or statutes or bylaws, including all the rules regulations policies guidelines criteria or the like made under or pursuant to any such laws.
9. **Effect of Stratification** – if the Owner stratifies the Parcel under the Strata Property Act, then the Tax Exemption shall be prorated among the strata lots in accordance with the unit entitlement of each strata lot for:

- a. the current and each subsequent tax year during the currency of this agreement if the strata plan is accepted for registration at the Land Title Office before May 1; or
- b. for the next calendar year and each subsequent tax year during the currency of this agreement if the strata plan is accepted for registration at the Land Title Office after May 1;

so long as, if the Project is the subject of an operating agreement between the Owner and the Provincial Rental Housing Corporation, the Owner is in compliance with the operating agreement. The Owner agrees to provide written confirmation to the City regarding the Owner's compliance with the said operating agreement, satisfactory to the City, upon the City's reasonable inquiry.

10. **Termination of the agreement** - the revitalization tax exemption agreement will be valid for 48 months from the date the agreement is executed by Council. If the conditions for issuance of a Tax Exemption Certificate have not been met during this term, the owner may request a renewal term to this agreement or the agreement will be terminated.
11. **Cancellation** – the City may in its sole discretion cancel the Tax Exemption Certificate at any time:
- a. on the written request of the Owner; or
 - b. effective immediately upon delivery of a notice of cancellation to the Owner if at any time any of the conditions in the Tax Exemption Certificate are not met.
 - c. If the Owner is subject to an operating agreement with the Provincial Rental Housing Corporation and is not in compliance with the operating agreement.

If such cancellation occurs, the Owner of the Parcel for which the Tax Exemption Certificate was issued will remit to the City an amount equal to the value of any Tax Exemption received after the cancellation of the Tax Exemption Certificate.

12. **No Refund** – for greater certainty, under no circumstances will the Owner be entitled under the City's revitalization tax exemption program to any cash credit, any carry forward tax exemption credit or any refund for any property taxes paid.
13. **Notices** – any notice or other writing required or permitted to be given hereunder or for the purposes hereof to any party shall be sufficiently given if delivered by hand or posted on the Parcel, or if sent by prepaid registered mail (Express Post) or if transmitted by facsimile to such party:
- a. in the case of a notice to the City, at:
THE CITY OF KELOWNA
1435 Water Street,
Kelowna, B.C.
V1Y 1J4

Attention: Revenue Department
Email: Revenue@kelowna.ca

- b. in the case of a notice to the Owner, at:

PC Urban Clement Holdings Ltd.
Suite 880, 1090 West Georgia Street,
Vancouver, BC V6E 3V7

Attention: Larissa Maion
Phone: 604-282-6085
Email: lmaion@pcurban.ca

Or at such other address as the party to whom such notice or other writing is to be given shall have last notified the party giving the same.

14. **No Assignment** – the Owner shall not assign its interest in this agreement except where the owner has notified the city of Kelowna in writing prior to an assignment and where the Parcel is subdivided or consolidated at any time hereafter either under the provisions of the *Land Title Act* or under the *Strata Property Act*.
15. **Severance** – if any portion of this agreement is held invalid by a court of competent jurisdiction, the invalid portion shall be severed and the decision that it is invalid shall not affect the validity of the remainder of this agreement.
16. **Interpretation** – wherever the singular or masculine is used in this agreement, the same shall be construed as meaning the plural, the feminine or body corporate where the context or the parties thereto so require.
17. **Further Assurances** – the parties hereto shall execute and do all such further deeds, acts, things and assurances that may be reasonably required to carry out the intent of this agreement.
18. **Waiver** – waiver by the City of a default by the Owner shall be in writing and shall not be deemed to be a waiver of any subsequent or other default.
19. **Powers Preserved** – this agreement does not:
 - a. Affect or limit the discretion, rights or powers of the City under any enactment or at common law, including in relation to the use or subdivision of the Parcel;
 - b. Affect or limit any enactment relating to the use or subdivision of the Parcel; or
 - c. Relieve the Owner from complying with any enactment, including in relation to the use or subdivision of the Parcel and without limitation shall not confer directly or indirectly any exemption or right of set-off from development cost charges, connection charges, application fees, user fees or other rates, levies or charges payable under any bylaw of the City.
20. **Reference** – every reference to each party is deemed to include the heirs, executors, administrators, personal representatives, successors, assigns, servants, employees, agents, contractors, officers, licensees and invitees of such party, wherever the context so requires or allows.

21. **Enurement** – this agreement shall ensure to the benefit of and be binding upon the parties hereto and their respective successors and permitted assigns.
22. Any construction of a new improvement or alteration of an existing improvement as of this bylaw undertaken prior to the application for a Revitalization Tax Exemption will not be eligible for consideration
23. The maximum Revitalization Tax Exemption authorized under this Bylaw must not exceed the Revitalization Amount on the Property between:
 - a. the calendar year before the construction or alteration began, as outlined under Section 1 of this agreement; and
 - a. the calendar year in which the construction or alteration, as outlined under Section 1 of this agreement, is completed.
24. The Property's assessed value of improvements must not be reduced below the amount assessed in the calendar year prior to construction or alteration, as a result of the Revitalization Tax Exemption.

IN WITNESS WHEREOF the parties hereto have executed this agreement as of the day and year first above written.

Executed by the CITY OF KELOWNA by
Its authorized signatories:

Mayor

City Clerk

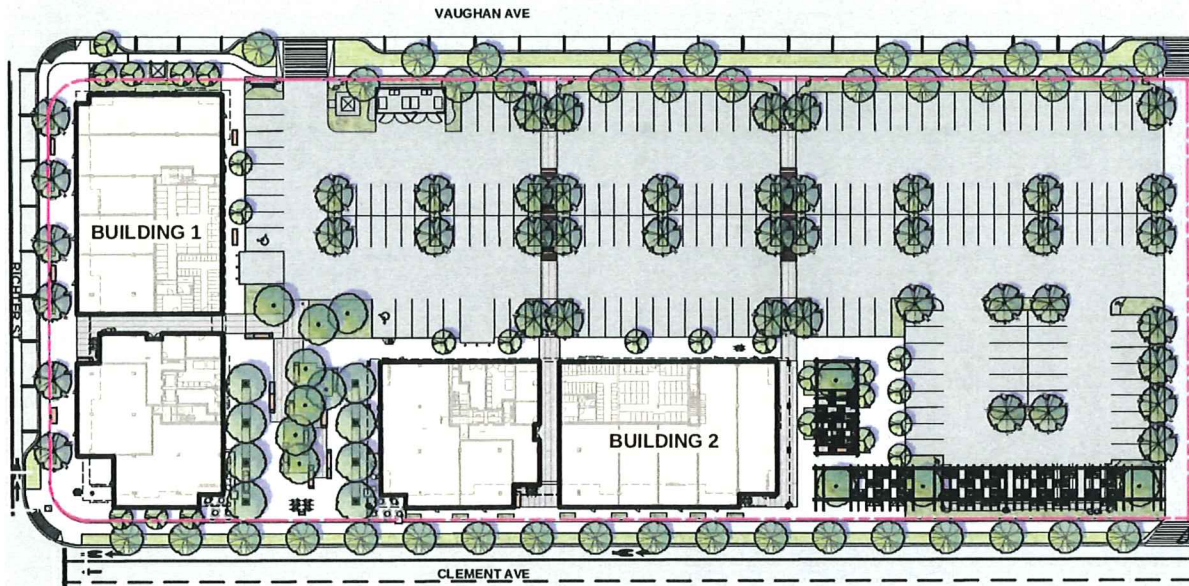
Executed by PC Urban Clement Holdings Ltd. by its Authorized signatories:



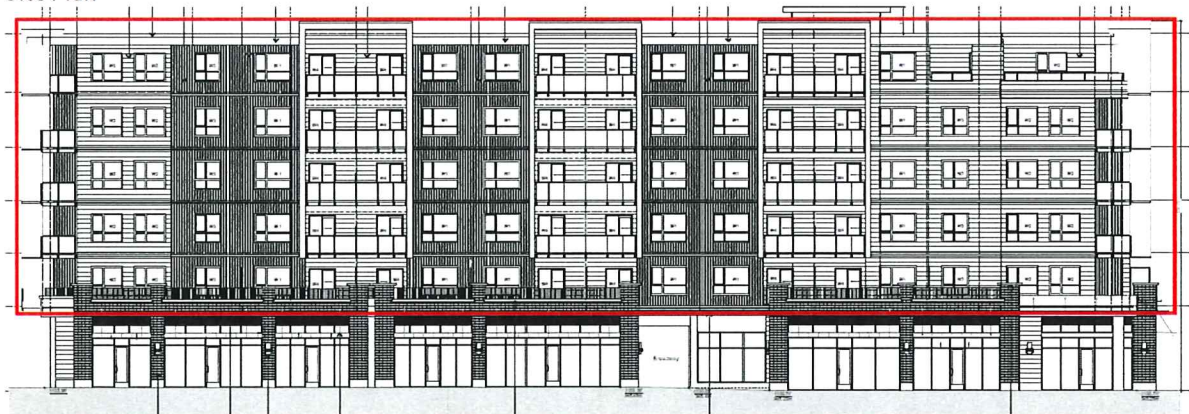
Name: Brent Sawchyn, CEO

Name:

Appendix "A": Plans and Specifications



Site Plan



Building 1 West Elevation



Building 2 South Elevation

LAND TITLE ACT
FORM C (Section 233) CHARGE
GENERAL INSTRUMENT - PART 1 Province of British Columbia

PAGE 1 OF 13 PAGES

Your electronic signature is a representation that you are a designate authorized to certify this document under section 168.4 of the *Land Title Act*, RSBC 1996 c.250, that you certify this document under section 168.41(4) of the act, and that an execution copy, or a true copy of that execution copy, is in your possession.

1. APPLICATION: (Name, address, phone number of applicant, applicant's solicitor or agent)

Kathleen Higgins, Barrister & Solicitor

YOUNG ANDERSON

1616 - 808 Nelson Street

Vancouver

BC V6Z 2H2

Phone: (604) 689-7400

File: 122-459

Purpose-Built Rental Housing Agreement and Section 219 Covenant

Deduct LTSA Fees? Yes ☒

2. PARCEL IDENTIFIER AND LEGAL DESCRIPTION OF LAND:
 [PID] [LEGAL DESCRIPTION]

030-571-219

**LOT A SECTION 30 TOWNSHIP 26 OSOYOOS DIVISION YALE DISTRICT PLAN
 EPP83554**

STC? YES ☐

3. NATURE OF INTEREST

CHARGE NO.

ADDITIONAL INFORMATION

SEE SCHEDULE

4. TERMS: Part 2 of this instrument consists of (select one only)

(a) ☐ Filed Standard Charge Terms D.F. No.

(b) ☒ Express Charge Terms Annexed as Part 2

A selection of (a) includes any additional or modified terms referred to in Item 7 or in a schedule annexed to this instrument.

5. TRANSFEROR(S):

SEE SCHEDULE

6. TRANSFEREE(S): (including postal address(es) and postal code(s))

CITY OF KELOWNA

1435 WATER STREET

KELOWNA

V1Y 1J4

BRITISH COLUMBIA

CANADA

7. ADDITIONAL OR MODIFIED TERMS:

8. EXECUTION(S): This instrument creates, assigns, modifies, enlarges, discharges or governs the priority of the interest(s) described in Item 3 and the Transferor(s) and every other signatory agree to be bound by this instrument, and acknowledge(s) receipt of a true copy of the filed standard charge terms, if any.

Officer Signature(s)



J. SCOTT MYERS
Solicitor
 619, 610 GRANVILLE STREET
 VANCOUVER, B.C. V6C 3T3
 (604) 682-8670

Execution Date

Y	M	D
20	06	11

Transferor(s) Signature(s)

PC URBAN CLEMENT HOLDINGS
 LTD. by its authorized signatory
 (ies):


 Name: J. Brent Sawchyn

Name:

OFFICER CERTIFICATION:

Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

**LAND TITLE ACT
FORM D**

EXECUTIONS CONTINUED

PAGE 2 of 13 PAGES

Officer Signature(s)

Execution Date

Transferor / Borrower / Party Signature(s)

Y M D

SHELMARJAY HOLDINGS LTD. by its
authorized signatory(ies):

Name:

Name:

(as to all signatures)

CHARLOTTE K. WONG
Barrister & Solicitor
2110 Burquitlam Drive
Vancouver, BC V5P 2P1

20 06 11

BRITISH COLUMBIA HOUSING
MANAGEMENT COMMISSION by its
authorized signatory(ies):

Name: **Stacey Lee**

Name: **Abbas Barodawalla**

(as to all signatures)

CITY OF KELOWNA by its authorized
signatory(ies):

Name:

Name:

(as to all signatures)

OFFICER CERTIFICATION:

Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

**LAND TITLE ACT
FORM E****SCHEDULE**PAGE **3** OF 13 PAGES

NATURE OF INTEREST
Covenant**CHARGE NO.****ADDITIONAL INFORMATION**
Section 219

NATURE OF INTEREST
Priority Agreement**CHARGE NO.****ADDITIONAL INFORMATION**
Granting the Covenant herein priority over
Mortgage CA7566393

NATURE OF INTEREST
Priority Agreement**CHARGE NO.****ADDITIONAL INFORMATION**
Granting the Covenant herein priority over
Mortgage CA7678849 and Assignment of Rents
CA7678850

NATURE OF INTEREST**CHARGE NO.****ADDITIONAL INFORMATION**

NATURE OF INTEREST**CHARGE NO.****ADDITIONAL INFORMATION**

NATURE OF INTEREST**CHARGE NO.****ADDITIONAL INFORMATION**

**LAND TITLE ACT
FORM E**

SCHEDULE

PAGE 4 OF 13 PAGES

ENTER THE REQUIRED INFORMATION IN THE SAME ORDER AS THE INFORMATION MUST APPEAR ON THE FREEHOLD TRANSFER FORM, MORTGAGE FORM, OR GENERAL INSTRUMENT FORM.

5. TRANSFEROR(S):

PC URBAN CLEMENT HOLDINGS LTD. (Inc. No. BC10999800)

SHELMARJAY HOLDINGS LTD. (Inc. No. BC0855415) [as to priority]

BRITISH COLUMBIA HOUSING MANAGEMENT COMMISSION [as to priority]

PURPOSE-BUILT RENTAL HOUSING AGREEMENT AND 219 COVENANT

THIS AGREEMENT, dated for reference June 1, 2020, which affects:

LEGAL DESCRIPTION OF PROPERTY SUBJECT TO THE AGREEMENT:

PID: 030-571-219

LOT A SECTION 30 TOWNSHIP 26 OSOYOOS DIVISION YALE DISTRICT PLAN EPP83554

(the "Land")

IS BETWEEN:

PC URBAN CLEMENT HOLDINGS LTD. INC.NO. BC1099980

880 - 1090 West Georgia Street

Vancouver, BC

V6E 3V7

(the "Owner")

AND:

CITY OF KELOWNA, a local government incorporated pursuant to the *Community Charter* and having its offices at 1435 Water Street, Kelowna, B.C. V1Y 1J4

(the "City")

GIVEN THAT:

- A. The Owner intends to construct on the Land a commercial and residential development consisting of two mixed-use buildings that will include Purpose-Built Rental Housing (hereinafter defined);
- B. The City may, pursuant to section 483 of the *Local Government Act*, enter into an agreement with an owner of land that includes terms and conditions regarding the occupancy, tenure, and availability of the housing units on the land or construction on land;
- C. Section 219 of the *Land Title Act* permits the registration of a covenant of a negative or positive nature in favour of the City in respect of the use of land and buildings on land, construction on land, or the subdivision of land;
- D. As a condition of rezoning the Land, the Owner and the City wish to enter into this Agreement to provide for Purpose-Built Rental Housing on the terms and conditions set out in this Agreement and to restrict the use of, and construction on, the Land and the use of the Purpose-Built Rental Housing constructed on the Land, on the terms and conditions of this Agreement, to have effect as both a covenant under section 219 of the *Land Title Act* and a housing agreement under section 483 of the *Local Government Act*; and
- E. The City has, by bylaw, authorized the execution of this Agreement and the Owner has duly authorized the execution of this Agreement.

This Agreement is evidence that in consideration of \$1.00 paid by the City to the Owner (the receipt of which is

acknowledged by the Owner) and in consideration of the promises exchanged below, the City and Owner agree, pursuant to s. 483 of the *Local Government Act* and s. 219 of the *Land Title Act*, as follows:

ARTICLE 1 INTERPRETATION

1.1 Definitions -

"Caregiver" means an individual who provides assistance with the performance of the personal functions and activities necessary for daily living that a person is unable to perform efficiently for himself or herself;

"Dwelling Unit" means accommodation providing sleeping rooms, washrooms, and no more than one kitchen, intended for domestic use, and used or intended to be used permanently or semi-permanently for a Household. This use does not include a room in a hotel or a motel.

"Household" means

- (a) a person;
- (b) two or more persons related by blood, marriage, or adoption; or associated through foster care, all living together in one Dwelling Unit as a single household using common cooking facilities;
- (c) a group of not more than five persons, including boarders, who are not related by blood, marriage, or adoption, or associated through foster care, all living together in one Dwelling Unit as a single household using common cooking facilities; or
- (d) a combination of (b) and (c), provided that the combined total does not include more than 3 persons unrelated by blood, marriage or adoption or associated through foster care; all living together in one Dwelling Unit as a single household using common cooking facilities.

In addition, a household may also include up to one Caregiver or nanny;

"Land" means the land described herein;

"LTO" means the Kamloops Land Title Office or its successor;

"Owner" means the registered owner of the Land from time to time and any parcels into which the Land is subdivided;

"Purpose-Built Rental Housing" means a Dwelling Unit that is intended to be used for rental housing;

"Purpose-Built Rental Housing Dwelling Units" means the 158 Dwelling Units on the Land designated as Purpose-Built Rental Housing Dwelling Units under section 2.2 of this Agreement.

"Tenancy Agreement" means a tenancy agreement as defined in, and subject to, the *Residential Tenancy Act*.

1.2 Interpretation - In this Agreement:

- (a) reference to the singular includes a reference to the plural, and vice versa, unless the context requires otherwise;
- (b) article and section headings have been inserted for ease of reference only and are not to be used in interpreting this Agreement;
- (c) reference to a particular numbered section or article, or to a particular lettered Schedule, is a reference to the correspondingly numbered or lettered article, section or Schedule of this Agreement;
- (d) if a word or expression is defined in this Agreement, other parts of speech and grammatical forms of the same word or expression have corresponding meanings;
- (e) the word "enactment" has the meaning given in the *Interpretation Act* on the reference date of this Agreement;
- (f) reference to any enactment includes any regulations, orders or directives made under the authority of that enactment;
- (g) reference to any enactment is a reference to that enactment as consolidated, revised, amended, re-enacted or replaced, unless otherwise expressly provided;
- (h) the provisions of s. 25 of the *Interpretation Act* with respect to the calculation of time apply;
- (i) time is of the essence;
- (j) all provisions are to be interpreted as always speaking;
- (k) reference to a "party" is a reference to a party to this Agreement and to their respective successors, assigns, trustees, administrators and receivers;
- (l) reference to a "day", "month", "quarter" or "year" is a reference to a calendar day, calendar month, calendar quarter or calendar year, as the case may be, unless otherwise expressly provided;
- (m) the definitions given in the City of Kelowna Zoning Bylaw No. 8000, or its successor bylaw, and the City of Kelowna Official Community Plan Bylaw No. 10500, or its successor in function, apply for the purposes of this Agreement; and
- (n) any act, decision, determination, consideration, consent or exercise of discretion by a party, or other person, as provided in this Agreement will be performed, made or exercised acting reasonably.

1.3 Purpose of Agreement - The Owner and the City agree that:

- (a) this Agreement is intended to serve the public interest by providing for occupancy Purpose-Built Rental Housing that is in demand in the City of Kelowna but that is not readily available;
- (b) performance of this Agreement by the Owner is a condition, as contemplated by s. 482 of the *Local Government Act*, of the Owner becoming entitled to certain density bonuses respecting development of the Land, which density bonuses the Owner acknowledges are a benefit to the Owner; and
- (c) damages are not an adequate remedy to the City in respect of any breach of this Agreement by the

Owner, such that the Owner agrees the City should be entitled to an order for specific performance, injunction or other specific relief respecting any breach of this Agreement by the Owner.

ARTICLE 2 HOUSING AGREEMENT AND LAND USE RESTRICTIONS

2.1 Land Use Restrictions – Pursuant to section 219 of the *Land Title Act*, the Owner and the City hereby covenant and agree as follows:

- (a) the Land will be used only in accordance with this Agreement;
- (b) the Owner will design, construct and maintain one or more buildings on the Land and such buildings will include not less than 158 Dwelling Units which will be designated, used and occupied as a Purpose-Built Rental Housing Dwelling Unit in accordance with this Agreement; and
- (c) the Owner may only subdivide the Land via deposit of a strata plan pursuant to the *Strata Property Act*.

2.2 Designation – The Owner will, prior to applying for an occupancy permit for any Dwelling Unit located on the Land, notify the City in writing which Dwelling Units located on the Land it has designated as Purpose-Built Rental Housing Dwelling Units. Such written designation is irrevocable by the Owner upon receipt by the City of the same, but the designation is not effective unless and until the City confirms its approval of such designation in writing.

2.3 Partial Release – If the Owner subdivides the Land and not all strata lots created as a result thereof contain Purpose-Built Rental Housing Dwelling Units, the Owner is entitled to apply for a release of this Agreement (including registered notice of the housing agreement herein) from such non-Purpose-Built Rental Housing Dwelling Unit strata lots pursuant to section 2.4. Notwithstanding the foregoing, the Owner will not apply for a release of this Agreement pursuant to section 2.4 below in respect of such non- Purpose-Built Rental Housing Dwelling Unit strata lots, and the Municipality will be under no obligation to provide such release, unless, at the time that the Owner applies for such release:

- (a) the Owner is not in breach of any of its obligations under this Agreement;
- (b) the Owner has notified the City in writing which of the strata lots located on the Land contain Purpose-Built Rental Housing Dwelling Units. Such written designation is irrevocable by the Owner upon receipt by the City of the same, but the designation is not effective unless and until the City confirms its approval of such designation in writing;
- (c) occupancy permits for all Purpose-Built Rental Housing Dwelling Units have been issued by the City; and
- (d) the Purpose-Built Rental Housing Dwelling Units are used and always have been used, occupied and transferred in compliance with this Agreement.

2.4 Process for Partial Release – Subject to section 2.3, at the request of the Owner and at the Owner's sole expense, the City will deliver to the Owner releases of this Agreement (including registered notice of the housing agreement herein) in registrable form for each strata lot on the Land that does not contain a Purpose-Built Rental Housing Dwelling Unit, provided that the City may withhold delivery of any release against any such non- Purpose-Built Rental Housing Dwelling Unit strata lot unless:

- (a) the Owner has filed a Rental Disclosure Statement pursuant to section 139 of the *Strata Property Act* designating each Purpose-Built Rental Housing Dwelling Unit located on the Land as a rental strata lot with a rental period expiry date no earlier than 10 years from the date of stratification; and
- (b) the strata corporation created by the filing of the strata plan over the Land has the following contained within its bylaws:

"Residential Strata Lots within the Strata Corporation are subject to a Housing Agreement with the City of Kelowna. No action will be taken by the owners or the strata corporation to restrict or limit the terms of the Housing Agreement, including, but not limited to, amendment to these bylaws".

ARTICLE 3 HOUSING AGREEMENT AND TRANSFER RESTRICTIONS

3.1 Purchaser Qualifications - The City and the Owner agree as follows:

- (a) the Owner will not sell or transfer, or agree to sell or transfer, any interest in any strata lot designated as a Purpose-Built Rental Housing Dwelling Unit on the Land other than a full interest in the fee simple title to a person, firm, agency, society, or corporation that will continue to ensure that such Purpose-Built Rental Housing Dwelling Unit is used in accordance with this Agreement.

3.2 Use and Occupancy of Purpose-Built Rental Housing Dwelling Unit – The Owner agrees with the City as follows:

- (a) a Purpose-Built Rental Housing Dwelling Unit will only be used as a rental unit and occupied as a permanent residence by a Household pursuant to a Tenancy Agreement;
- (b) the Owner will rent or lease each Purpose-Built Rental Housing Dwelling Unit on the Land in accordance with the *Residential Tenancy Act*, and in no event may the Owner itself occupy a Purpose-Built Rental Housing Dwelling Unit or use or allow the use of the Purpose-Built Rental Housing Dwelling Unit for short-term rental accommodation; and
- (b) the Owner will deliver a copy of the Tenancy Agreement for each Purpose-Built Rental Housing Dwelling Unit to the City upon demand.

ARTICLE 4 GENERAL

4.1 Notice of Housing Agreement - For clarity, the Owner acknowledges and agrees that:

- (a) this Agreement constitutes a housing agreement entered into under s. 483 of the *Local Government Act*;
- (b) the City is requiring the Owner to file a notice of housing agreement in the LTO against title to the Land;
- (c) once such a notice is filed, this Agreement binds all persons who acquire an interest in the Land.

4.2 No Effect On Laws or Powers - This Agreement does not

- (a) affect or limit the discretion, rights, duties or powers of the City under any enactment or at common law, including in relation to the use or subdivision of land,
- (b) impose on the City any legal duty or obligation, including any duty of care or contractual or other legal duty or obligation, to enforce this Agreement,
- (c) affect or limit any enactment relating to the use or subdivision of land, or
- (d) relieve the Owner from complying with any enactment, including in relation to the use or subdivision of land.

4.3 Management – The Owner covenants and agrees that it will furnish good and efficient management of the Purpose-Built Rental Housing Dwelling Units and will permit representatives of the City to inspect the Purpose-Built Rental Housing Dwelling Units at any reasonable time, subject to the notice provisions of the *Residential Tenancy Act*. The Owner further covenants and agrees that it will maintain the Purpose-Built Rental Housing Dwelling Units in a satisfactory state of repair and fit for habitation and will comply with all laws, including health and safety standards applicable to the Land. Notwithstanding the foregoing, the Owner acknowledges and agrees that the City, in its absolute discretion, may require the Owner, at the Owner's expense, to hire a person or company with the skill and expertise to manage the Purpose-Built Rental Housing Dwelling Units.

4.4 Registration & Priority – The Owner shall, at its expense, do or cause to be done all acts necessary to register this Agreement in the land title office against title to the Land with priority over all financial charges, liens and encumbrances registered, or pending registration, at the time of application for registration of this Agreement against the title to the Land.

4.5 Notice - Any notice which may be or is required to be given under this Agreement will be in writing and either be delivered or sent by fax or email. Any notice which is delivered is to be considered to have been given on the first day after it is dispatched for delivery. Any notice which is sent by fax is to be considered to have been given on the first business day after it is sent and any notice which is sent by email is to be considered to have been given on the day it is sent, and if such day is not a business day, the subsequent business day. If a party changes its address, fax number or email address, it will promptly give notice of its new address, fax number, or email in accordance with this section.

4.6 Agreement Runs With the Land - Every obligation and covenant of the Owner in this Agreement constitutes both a contractual obligation and a covenant granted by the Owner to the City in respect of the Land and this Agreement burdens the Land and runs with it and binds the Owner's successors in title and binds every parcel into which it is consolidated or subdivided by any means, including by subdivision or by strata plan under the *Strata Property Act*.

4.7 Limitation on Owner's Obligations - The Owner is only liable for breaches of this Agreement that occur while the Owner is the registered owner of the Land.

4.8 Release – The Owner by this Agreement releases and forever discharges the City and each of its elected officials, officers, directors, employees and agents, and its and their heirs, executors, administrators, personal representatives, successors, and assigns, from and against all claims, demands, damages, actions, or causes of action by reason of or arising out of advice or direction respecting the ownership, lease, operation or management of the Land or the Dwelling Units which has been or at any time after the

commencement of this Agreement may be given to the Owner by all or any of them. This clause will survive the termination of this Agreement.

- 4.9 Joint Venture** – Nothing in this Agreement will constitute the Owner as the agent, joint venturer, or partner of the City or give the Owner any authority to bind the City in any way.
- 4.10 Waiver** - An alleged waiver of any breach of this Agreement is effective only if it is an express waiver in writing of the breach. A waiver of a breach of this Agreement does not operate as a waiver of any other breach of this Agreement.
- 4.11 Further Acts** - The Owner will do everything reasonably necessary to give effect to the intent of this Agreement, including execution of further instruments.
- 4.12 Severance** - If any part of this Agreement is held to be invalid, illegal or unenforceable by a court having the jurisdiction to do so, that part is to be considered to have been severed from the rest of this Agreement and the rest of this Agreement remains in force unaffected by that holding or by the severance of that part.
- 4.13 Equitable Remedies** – The Owner acknowledges and agrees that damages would be an inadequate remedy for the City for breach of this Agreement and that the public interest strongly favours specific performance, injunctive relief (mandatory or otherwise), or other equitable relief, as the only adequate remedy for a default under this Agreement.
- 4.14 No Other Agreements** - This Agreement is the entire agreement between the parties regarding its subject and it terminates and supersedes all other agreements and arrangements regarding its subject.
- 4.15 Amendment** - This Agreement may be discharged, amended or affected only by an instrument duly executed by both the Owner and the City.
- 4.16 Enurement** - This Agreement binds the parties to it and their respective successors, heirs, executors and administrators. Reference in this Agreement to the "City" is a reference also to the elected and appointed officials, employees and agents of the City.
- 4.17 Deed and Contract** - By executing and delivering this Agreement each of the parties intends to create both a contract and a deed executed and delivered under seal.

IN WITNESS WHEREOF the parties hereunto have executed this Agreement on the General Instrument – Part 1 which is attached to and forms part of this Agreement.

CONSENT AND PRIORITY AGREEMENT

RECITALS:

- A. **PC URBAN CLEMENT HOLDINGS LTD.** is the registered owner of PID: 030-571-219, Lot A Section 30 Township 26 Osoyoos Division Yale District Plan EPP83554 (the "Land");
- B. **PC URBAN CLEMENT HOLDINGS LTD.** granted SHELMARJAY HOLDINGS LTD. (Inc. No. BC0855415) (the "Prior Chargeholder") a mortgage which was registered against the title to the Land in the Kamloops Land Title Office under number CA7566393 ("Prior Charge");
- C. **PC URBAN CLEMENT HOLDINGS LTD.** granted to the City ("Subsequent Chargeholder") a Section 219 Covenant to which this Priority is attached ("Subsequent Charge"); and
- D. Section 207 of the *Land Title Act* permits the Prior Chargeholder to grant priority over a charge to a subsequent chargeholder.

This Priority Agreement is evidence that in consideration of \$1.00 paid by the Subsequent Chargeholder to the Prior Chargeholder (the receipt and sufficiency of which is hereby acknowledged) the Prior Chargeholder grants to the Subsequent Chargeholder priority over the Prior Charge and the Prior Chargeholder covenants and agrees to subordinate and postpone all its right, title and interest in and to the Land with the intent and with the effect that the interests of the Subsequent Chargeholder in and under the Subsequent Charge are the same as if the Subsequent Charge had been executed, delivered and registered against the title to the Land before registration of the Prior Charge.

As evidence of its agreement to be bound by the above terms of this Consent and Priority Agreement, the Prior Chargeholder has executed and delivered Part 1 of *Land Title Act* Form C Form C which is attached hereto and forms part of this Agreement.

CONSENT AND PRIORITY AGREEMENT

RECITALS:

- A. **PC URBAN CLEMENT HOLDINGS LTD.** is the registered owner of PID: 030-571-219, Lot A Section 30 Township 26 Osoyoos Division Yale District Plan EPP83554 (the "Land");
- B. **PC URBAN CLEMENT HOLDINGS LTD.** granted BRITISH COLUMBIA HOUSING MANAGEMENT COMMISSION (the "Prior Chargeholder") a mortgage and assignment of rents which were registered against the title to the Land in the Kamloops Land Title Office under number CA7678849 and CA7678850 ("Prior Charges");
- C. **PC URBAN CLEMENT HOLDINGS LTD.** granted to the City ("Subsequent Chargeholder") a Section 219 Covenant to which this Priority is attached ("Subsequent Charge"); and
- D. Section 207 of the *Land Title Act* permits the Prior Chargeholder to grant priority over a charge to a subsequent chargeholder.

This Priority Agreement is evidence that in consideration of \$1.00 paid by the Subsequent Chargeholder to the Prior Chargeholder (the receipt and sufficiency of which is hereby acknowledged) the Prior Chargeholder grants to the Subsequent Chargeholder priority over the Prior Charges and the Prior Chargeholder covenants and agrees to subordinate and postpone all its right, title and interest in and to the Land with the intent and with the effect that the interests of the Subsequent Chargeholder in and under the Subsequent Charge are the same as if the Subsequent Charge had been executed, delivered and registered against the title to the Land before registration of the Prior Charges.

As evidence of its agreement to be bound by the above terms of this Consent and Priority Agreement, the Prior Chargeholder has executed and delivered Part 1 of *Land Title Act* Form C Form C which is attached hereto and forms part of this Agreement.

Your electronic signature is a representation that you are a subscriber as defined by the Land Title Act, RSBC 1996 c.250, and that you have applied your electronic signature in accordance with Section 168.3, and a true copy, or a copy of that true copy, is in your possession.

1. APPLICATION: (Name, address, phone number of applicant, applicant's solicitor or agent)

Deduct LTSA Fees? Yes

2. PARCEL IDENTIFIER AND LEGAL DESCRIPTION OF LAND:
[PID] [LEGAL DESCRIPTION]

STC? YES

3. NATURE OF INTEREST	CHARGE NO.	ADDITIONAL INFORMATION
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4. TERMS: Part 2 of this instrument consists of (select one only)
(a) Filed Standard Charge Terms D.F. No. (b) Express Charge Terms Annexed as Part 2
A selection of (a) includes any additional or modified terms referred to in Item 7 or in a schedule annexed to this instrument.

5. TRANSFEROR(S):

6. TRANSFEREE(S): (including postal address(es) and postal code(s))

7. ADDITIONAL OR MODIFIED TERMS:

8. EXECUTION(S): This instrument creates, assigns, modifies, enlarges, discharges or governs the priority of the interest(s) described in Item 3 and the Transferor(s) and every other signatory agree to be bound by this instrument, and acknowledge(s) receipt of a true copy of the filed standard charge terms, if any.

Officer Signature(s)	<table><tr><td colspan="3">Execution Date</td></tr><tr><td>Y</td><td>M</td><td>D</td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table>	Execution Date			Y	M	D																												Transferor(s) Signature(s)
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EXECUTIONS CONTINUED

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NATURE OF INTEREST	CHARGE NO.	ADDITIONAL INFORMATION
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**EXPRESS CHARGE TERMS
TERMS OF INSTRUMENT – PART 2**

WHEREAS:

- A. The Commission, on behalf of Her Majesty the Queen in Right of the Province of British Columbia, provides, or assists in providing, housing for persons with limited incomes and/or for persons with special housing requirements;
- B. The Transferor wishes to develop the Improvements on the Land for the Specific Purpose, and wishes to obtain the Commission's assistance in carrying out the Specific Purpose;
- C. The Transferor has acknowledged to the Commission that:
 - (i) the Transferor is entering into this Agreement to benefit the public interest;
 - (ii) the Transferor will use the Property for the Specific Purpose during the Term in accordance with the terms of this Agreement; and
 - (iii) the provision of housing, in accordance with the Specific Purpose, is in the public interest and is more important than the fact that the use of the Property may be restricted during the Term;
- D. Section 219 of the *Land Title Act* of British Columbia provides, amongst other things, that a covenant, whether of a negative or positive nature, in respect of the use of land or the use of a building, in favour of a Crown agency, may be registered as a charge against the title to that land;
- E. The Commission is a Crown agency pursuant to Section 10 of the *Ministry of Lands, Parks and Housing Act* of British Columbia but may on behalf of the Government of the Province of British Columbia carry out its duties and functions in its own name; and
- F. The Transferor has agreed to enter into this Agreement to ensure that the Property is used for the Specific Purpose during the Term in accordance with the terms of this Agreement and that the objectives stated in paragraph D of these recitals are carried out.

THEREFORE in consideration of the premises and of the mutual covenants contained herein, and in further consideration of the sum of \$1.00 now paid by each party to the other, the receipt and sufficiency of which each party hereby acknowledges.

SECTION 1.

INTERPRETATION

1.1 **Definitions.** In this Agreement:

- (a) “Agreement” means the General Instrument Part 1 and these Express Charge Terms under Part 2;
- (b) “Commission” means the British Columbia Housing Management Commission, or its successors in function;
- (c) “Eligible Occupants” means individuals who meet the eligibility criteria set out in Schedule “A”;
- (d) “Environmental Law” means any applicable federal, provincial, municipal or local law, statutes, ordinance, codes, by-law, regulation, rule, order, directive, decision, policy, instruction, guideline or decree regulating, relating to or imposing liability or standards of conduct concerning any environmental matter, occupational health and safety or the manufacture, processing, distribution, use, treatment, storage, disposal, packaging, transport, handling, containment, clean-up or other remediation or corrective action of Hazardous Substances including, but not limited to, matters related to air pollution, water pollution, noise control, or hazardous material and any similar, replacement, amendment or supplemental act and all regulations, orders or decrees, now or hereafter made pursuant to any of the foregoing;
- (e) “General Instrument Part 1” means Part 1 of the General Instrument as prescribed by the Land Title (Transfer Forms) Regulation, as amended;
- (f) “Hazardous Substances” collectively means, without limitation, contaminants, pollutants or other substances, products, materials or goods which are hazardous or dangerous to human, animal or plant health or life or the environment, and, in particular, includes substances, products, materials, or goods which are defined as hazardous substances or special waste in or pursuant to any law, regulation or order of any Statutory Authority;
- (g) “Improvements” means those improvements, structures, buildings, fixtures, equipment and systems which now exist, or which are constructed on the Land from time to time including heating, ventilating, air-conditioning, plumbing, electrical and mechanical systems and equipment;
- (h) “Interest in the Property” means the Transferor’s registered and beneficial right, title and estate in and to the Property;
- (i) “Land” means that certain parcel or those certain parcels of land, or any part thereof, described in Item 2 of the General Instrument Part 1;

- (j) “Landlord” means the landlord named in the Lease if the Interest in the Property is a leasehold interest;
- (k) “Lease” means the lease of the Property granted to the Transferor by the Landlord if the Interest in the Property is a leasehold interest;
- (l) “Permitted Encumbrances” means those charges or encumbrances set forth in Schedule “B” and any other encumbrances from time to time approved in writing by the Commission;
- (m) “Person” means any association, society, corporation, individual, joint-stock company, joint venture, partnership, trustee, administrator, legal representative, unincorporated organization, or Statutory Authority;
- (n) “Personal Property” means all trade fixtures, machinery, equipment, kitchen ware, cabinetry, furniture, moveable partitions, carpets, rugs, drapes, appliances and other personal property necessary or desirable to carry out the Specific Purpose from time to time;
- (o) “Property” means the Land, Improvements, and Personal Property;
- (p) “Records” means all documentation relating to the use and occupation of the Property including occupancy agreements, information confirming Eligible Occupant status, books of account and receipts;
- (q) “Specific Purpose” means the operation of the residential portion of the Property to provide affordable rental housing as a principle residence for persons who, at the date of the commencement of their residency, are Eligible Occupants;
- (r) “Statutory Authority” means any federal, provincial, regional, municipal, or other government or authorized agency, department or ministry thereof, which has jurisdiction with respect to any matter referred to in this Agreement;
- (s) “Term” means that period of time commencing on the date when this Agreement is registered at the Land Title Office and ending on the later of the date that is ten (10) years from when:
 - (i) this Agreement is registered at the Land Title Office; or
 - (ii) the final Certificate of Occupancy for the Improvements is issued by the applicable Statutory Authority; and
- (t) “Transferor” means the Person named in the General Instrument Part 1 as Transferor.

- 1.2 **Time.** Time will be of the essence of this Agreement. If either party expressly or impliedly waives this requirement, that party may reinstate it by delivering notice to the other party. If a time is specified in this Agreement for observing or

performing any obligation, such time will be then local Vancouver, British Columbia time.

- 1.3 **Governing Law.** This Agreement will be governed by and construed and enforced in accordance with the laws of British Columbia, and the laws of Canada applicable therein.
- 1.4 **References.** In this Agreement, words importing the singular include the plural and vice versa, and words importing gender include all genders.
- 1.5 **Construction.** The division of this Agreement into sections and the use of headings are for convenience of reference only and are not intended to govern, limit, or aid in the construction of any provision contained in this Agreement. In all cases, the language in this Agreement will be construed simply, according to its fair meaning, and not strictly for or against either party.
- 1.6 **No Limitation.** The word “including” when following any general statement, term, or matter is not to be construed to limit such general statement, term, or matter to the specific items set forth immediately following such word or to similar items whether or not non-limiting language such as “without limitation” or “but not limited to” or words of similar import are used with reference thereto, but rather such general statement, term, or matter is to be construed to refer to all other items that could reasonably fall within the broadest possible scope of such general statement, term, or matter.
- 1.7 **Validity of Provisions.** If a Court of competent jurisdiction finds that any provision contained in this Agreement is invalid, illegal, or unenforceable, such invalidity, illegality, or unenforceability will not affect any other provision of this Agreement which will be construed as if such invalid, illegal, or unenforceable provision had never been contained therein and such other provisions will be enforceable to the fullest extent permitted at law or in equity provided that such enforceability is consistent with the intent of this Agreement.
- 1.8 **No Waiver.** Failure by either party to exercise any of its rights, powers or remedies hereunder, or its delay to do so, shall not constitute a waiver of those rights, powers or remedies unless such waiver is in writing. No waiver made with respect to a particular right will be deemed to be a waiver with respect to any other instance involving the exercise of the right or with respect to any other such right.
- 1.9 **Statutes.** Any reference to a statute is to such statute and to the regulations made pursuant to such statute as such statute and regulations may at any time be amended or modified and in effect, and to any statute or regulation that may be passed that has the effect of supplementing or superceding such statute or regulation.

- 1.10 **Remedies.** Each party to this Agreement, in addition to its rights under this Agreement or at law, will be entitled to all equitable remedies including specific performance, injunction and/or declaratory relief, to enforce its rights under this Agreement. No reference to nor exercise of any specific right or remedy under this Agreement or at law or in equity by either party will prejudice, limit or preclude that party from exercising any other such right or remedy. No such right or remedy will be exclusive or dependent upon any other such right or remedy, but either party, from time to time, may exercise any one or more of such rights or remedies independently, successively, or in combination. The Transferor acknowledges that specific performance, injunctive relief (mandatory or otherwise), or other equitable relief may be the only adequate remedy for a default by the Transferor under this Agreement.
- 1.11 **Schedules.** The following schedules are attached to and form part of this Agreement:
- Schedule “A” Eligible Occupants - Criteria
- Schedule “B” Permitted Encumbrances

SECTION 2.

REPRESENTATIONS, WARRANTIES AND COVENANTS OF THE TRANSFEROR

- 2.1 **Representations and Warranties of the Transferor.** Regardless of any independent investigations that the Commission may cause to be made, the Transferor represents and warrants to the Commission as follows:
- (a) the Transferor has sufficient power, authority and capacity to enter into this Agreement and the execution and delivery of this Agreement has been duly and validly authorized by all necessary proceedings;
 - (b) the execution of this Agreement by the Transferor will not constitute a breach by the Transferor of any statute, regulation or its constating documents, or of any agreement to which it is a party, or by which it is bound;
 - (c) the Transferor has good and marketable title to the Interest in the Property, free and clear of all liens, encumbrances, charges, encroachments, defects in title, equities or claims, except for the Permitted Encumbrances;
 - (d) to the best knowledge of the Transferor, having made due inquiries, the Property is free of Hazardous Substances and complies with all Environmental Laws, and there are no environmental risks or liabilities in connection with the Property known to the Transferor;

- (e) the Transferor has no indebtedness to any Person or to any Statutory Authority which might by operation of law or otherwise now or hereafter constitute a lien, charge or encumbrance on the Interest in the Property, other than the Permitted Encumbrances;
- (f) the Improvements (if any) on the Land have been constructed, renovated and repaired pursuant to building permits, validly issued, and in compliance with all applicable building, zoning and other municipal by-laws and restrictions, and the Transferor has not received any notice alleging any such violation. Such Improvements do not encroach upon any lands not owned by the Transferor, or on which the Transferor does not have a leasehold interest;
- (g) the Transferor is a corporation duly organized, validly existing and in good standing under the laws of British Columbia;
- (h) all municipal taxes, rates, levies and assessments in respect of the Property have been paid in full, and the Transferor has no present or future obligation to pay moneys to any Statutory Authority in connection with offsite services, roads, utilities or the like;
- (i) the Transferor is not a non-resident of Canada within the meaning of the *Income Tax Act* of Canada; and
- (j) if the Interest in the Land is a leasehold interest, the Lease is in good standing and the Transferor has observed or performed all its obligations under the Lease as required by the Lease.

2.2 **Covenants of the Transferor – General.** The Transferor covenants and agrees with the Commission as follows:

- (a) the representations and warranties contained in SECTION 2 will be true and correct on the date of this Agreement and will remain true and correct throughout the term of this Agreement;
- (b) the Transferor shall maintain the Property in a state of good repair and maintenance, and in particular will:
 - (i) establish maintenance procedures to maintain the value of the Property and prolong the life of the Improvements and Personal Property on the Land;
 - (ii) ensure that the necessary skills and tools are available to adequately clean and maintain the Property;
 - (iii) ensure that the Improvements on the Land comply with all municipal requirements, and applicable statutory, health and safety standards at all times;

- (iv) ensure that any construction, renovation or repairs carried out on the Property comply with all municipal requirements and will advise the Commission in a timely manner as to the progress of such construction, renovation or repairs; and
- (v) ensure that all applicable fire regulations are observed and that fire inspections are carried out regularly by the appropriate authorities;
- (c) the Transferor shall maintain in force adequate insurance coverage that a prudent owner of property similar to the Property would obtain, including without limitation, insurance in respect of claims for personal injury, death, property damage, and third party or public claims arising from any accident which may occur on or within the vicinity of the Property and such other insurance as the Commission may reasonably require from time to time;
- (d) the Transferor shall pay to the appropriate Statutory Authority, as and when due, all municipal taxes, water taxes, school taxes and any other taxes, local improvements or similar rates, levies, charges and assessments whatsoever relating to the Property and shall submit to the Commission, proof of such payment;
- (e) the Transferor shall not vacate the Property or permit the Property to be used by any Person who is not entitled to use the Property;
- (f) the Transferor shall use of the Property throughout the Term for the Specific Purpose in accordance with the terms of this Agreement, and for no other purpose;
- (g) the Transferor shall promptly observe, perform, execute and comply with all present and future laws, rules, requirements, orders, directions, ordinances and regulations of every Statutory Authority that relate to the Property and further agrees at the sole cost and expense of the Transferor to do and perform all acts and things which may be required at any time during the Term by any such present or future laws, rules, requirements, orders, directions, ordinances and regulations;
- (h) if the Property now or any time hereafter comprises one or more strata lots:
 - (i) the Transferor will duly observe all of the provisions of the *Strata Property Act*, R.S.B.C. 1998, c.43, as amended or as replaced and other similar statutes affecting the Property, together with the by-laws and the rules and regulations of the strata corporation;
 - (ii) in exercising its right to vote at any strata meetings, the Transferor shall at all times vote to ensure that the Transferor is able to continue to use the Property for the Specific Purpose in accordance with this Agreement and at the Commission's written request, the Transferor shall assign to and

confer on the Commission its right to vote at any strata meetings, provided that the Commission continues to hold a mortgage charging the Property; and

- (iii) the Transferor will pay on or before the due dates thereof, the monthly maintenance fees and all assessments, contributions, or levies made against the Property by the strata corporation;
- (i) the Transferor shall not, without the Commission's prior written consent, transfer, mortgage, charge or otherwise further encumber the Property during the Term, except by the Permitted Encumbrances, provided however;
 - (i) with reference to any refinancing, the Commission's prior written consent will not be required if any financing provided by the Commission has been repaid; and
 - (ii) with reference to any transfer, with notice to the Commission, but the Commission's prior written consent will not be required if the Purchaser of the Property agrees, in writing, to be bound by the terms of this Agreement.
- (j) every year, or as otherwise requested by the Commission from time to time, the Transferor will submit to the commission:
 - (iii) move-in date of the current occupants;
 - (iv) household income of the current occupants at move-in; and
 - (iii) current monthly rent.

2.3 Covenants of the Transferor – Records and Privacy. The Transferor covenants and agrees with the Commission as follows:

- (a) the Transferor shall comply with all applicable privacy legislation and will maintain accurate and complete Records;
- (b) the Transferor shall notify the Commission in writing immediately upon becoming aware of any breach of privacy or security involving the unauthorized collection, use, disclosure or destruction of information relating to its obligations under this Agreement;
- (c) if the *Information Management Act* (British Columbia) applies to the destruction of Records, the Transferor will not destroy the Records without first obtaining the written consent of the Commission;
- (d) the Transferor shall cooperate with the Commission when the Commission has a request under the *Freedom of Information and Protection of Privacy Act* (British Columbia) to which the Records in the Transferor's custody apply, by locating

and disclosing the relevant Records as directed by the Commission upon notice and without delay;

- (e) the Transferor will retain all records that pertain to its obligations under this Agreement for the retention period required under applicable Provincial and Federal laws but for not less than seven (7) years following the date of receipt or production of the Records; and
- (f) the Commission shall have the right to inspect the Records including the right to enter any premises used by the Transferor to keep or store the Records at any time after the delivery of notice to the Transferor, and shall have the immediate right to make extracts from and take copies of the Records. The Transferor acknowledges that disclosure to the Commission without consent from the individual impacted by the Records is permitted under information and privacy legislation.

SECTION 3.

SECTION 219 COVENANT

- 3.1 **Section 219 Covenant.** The Transferor hereby covenants with the Commission, pursuant to Section 219 of the *Land Title Act* of British Columbia, with the intent that this Section 219 Covenant will be registered as a charge against the Interest in the Property and the burden of which will run with the Interest in the Property, and will also bind the Transferor contractually, during such time as the Transferor has an Interest in the Property, that:
- (a) the Property will be used only for the Specific Purpose during the Term in accordance with this Agreement; and
 - (b) the Interest in the Property will not be subdivided during the Term.

SECTION 4.

INDEMNITY

- 4.1 **Indemnity.** The Transferor will indemnify and save harmless the Commission and the Government of the Province of British Columbia and each of their ministers, officers, directors, employees and agents, and their heirs, executors, administrators, personal representatives, successors and assigns, from and against all claims, demands, actions, causes of action, damages, losses, deficiencies, costs, liabilities and expenses which may be made or brought against the Commission or the Government of the Province of British Columbia, or which the Commission or the Government of the Province of British Columbia may suffer or incur as a result of, in respect of, or arising out of:
- (a) any non-performance or non-fulfillment of any covenant on the part of the Transferor contained in this Agreement;

- (b) any misrepresentation, inaccuracy or breach of any representation or warranty made by the Transferor contained in this Agreement;
 - (c) any other act or omission of the Transferor or its officers, directors, employees, agents, contractors or other persons for whom the Transferor is at law responsible; or
 - (d) the Commission remedying any default by the Transferor in observing or performing its obligations under this Agreement or enforcing the obligations of the Transferor under this Agreement.
- 4.2 **Release.** The Transferor releases the Commission and the Government of the Province of British Columbia, and each of their ministers, officers, directors, employees and agents and their heirs, executors, administrators, personal representatives, successors and assigns absolutely and forever, from any claims the Transferor may have against all or any of them for costs, expenses, or damages the Transferor may suffer, incur, or be put to arising out of or in connection with the terms contained in this Agreement and, from all claims arising out of advice or direction respecting the use, development, operation or lease of the Property given to the Transferor by any of them.

SECTION 5.

GENERAL PROVISIONS

- 5.1 **Notices.** Unless otherwise specified, each notice to the Transferor must be given in writing and delivered, personally, or by courier to the Transferor as follows:

619-610 Granville Street
Vancouver, BC V6C 3T3

Attention: Director

or to any other address or person that the Transferor designates.

Unless otherwise specified, each notice to the Commission must be given in writing and delivered personally or by courier to the Commission, Attention: Manager Real Estate Services, at the address shown as the registered office of the Commission in the records maintained by the British Columbia Registrar of Companies as of the date upon which the notice is sent, or to any other address or person that the Commission designates. Any notice, if delivered personally or by courier, will be deemed to have been given when actually received.

- 5.2 **Fees.** Each of the Transferor and the Commission will pay its own legal fees.
- 5.3 **Enuring Effect.** This Agreement will enure to the benefit of and be binding upon the respective successors and permitted assigns of the Transferor and the Commission.

- 5.4 **Discharge.** On the expiry of the Term, at the Transferor's cost, the Transferor may require that the Commission execute and deliver to the Transferor a release in registrable form of the Agreement.
- 5.5 **Modification or Amendment.** Except as expressly provided in this Agreement, no amendment, supplement, restatement or termination of any provision of this Agreement is binding on the parties unless it is in writing and signed by each person that is a party to this Agreement at the time of the amendment, supplement, restatement or termination.
- 5.6 **Counterparts.** This Agreement and any amendment, supplement, restatement or termination of any provision of this Agreement may be executed in any number of counterparts, each of which, when executed and delivered will deemed to be an original, but all of which taken together will be deemed to constitute one and the same instrument.

IN WITNESS WHEREOF the parties hereto acknowledge that the parties have duly executed this Agreement by signing the Form C and Form D, on pages 1 and 2 hereof.

SCHEDULE “A”

ELIGIBLE OCCUPANTS

“Eligible Occupants” are limited to those persons who collectively have an Income, as defined below, that does not exceed Middle Income, as defined below.

“Income” means the total income from all sources, before tax, of all persons residing in a residential unit.

“Middle Income” means

- (a) for residential units with less than two bedrooms, Income that does not exceed the 75th income percentile for families, without children, as determined by the Commission from time to time based on data provided by Statistics Canada. For 2019, this annual Income is \$112,410.00; and
- (b) for residential units with two or more bedrooms, Income that does not exceed the 75th income percentile for families, with children, as determined by the Commission from time to time based on data provided by Statistics Canada. For 2019, this annual Income is \$155,510.00.

It is acknowledged that ten percent (10%) of the residential units may, from time to time, be occupied by persons who are not Eligible Occupants. Such residential units will be excluded from the definition of Specific Purpose during such time as they are occupied by persons who are not Eligible Occupants.

SCHEDULE “B”

PERMITTED ENCUMBRANCES

LEGAL NOTATIONS

Easement KJ100209 Over Lot A Plan KAP55947 Part Former Lot A Plan KAP55948

CHARGES & ENCUMBRANCES - EXISTING

Statutory Right of Way CA7068230

CHARGES & ENCUMBRANCES - FUTURE

The Commission consents to the registration of a Mortgage in favour of the Commission in the principal amount of \$39,500,000.00, together with an Assignment of Rents relating thereto.