

SUBJECT: DCC Update Report to Council

DATE: December 6, 2021

FILE: 2849.0070.01

1. Introduction

This brief report sets out the results of the DCC calculations for discussion with Council. The report sets out some specific decision points for Council. Based on Council direction our next steps will be to meet with stakeholders on the resulting DCCs.

This report includes the following topics:

- Growth assumptions
- Parks project costs and options for discussion
- Roads projects and DCC calculations
- Water projects and DCC calculations
- Sewer projects and DCC calculations
- Storm Drainage projects and DCC calculations
- Summary of calculated DCCs
- Appendix A with DCC projects and calculations

2. Growth assumptions

The Growth Assumptions are based on the Colliers report prepared for the Official Community Plan update - Real Estate Inventory and Growth Projections

The population information in the report is as follows:

- 2021 population: 37,046
- 2030 population: 43,252
- 2040 population: 49,419
- The growth over the 20 year period from 2021 to 2040 is 12,373 people

The report projects residential commercial and industrial growth. Based on the information in the report, the growth projection and units used for the 20 year DCC period is set out in the table below.

Form of Development	Units	Unit type
Single Family Residential	1,080	lots
Small Lot Single Family	884	lots
Small Residential Building	1,171	dwelling units
Apartment	227,460	sq.m. floor area
Carriage homes	21,000	sq.m. floor area
Commercial	44,848	sq.m. floor area
Industrial	114,125	sq.m. floor area
Institutional - care facility	300	beds
Institutional	25,000	sq.m. floor area

Industrial is based on developing suitable vacant or underutilized Industrial land in Colliers report which is set out as 94 acres or about 38 hectares. For industrial building floor area, a 30 percent parcel coverage is assumed.

Carriage homes were not calculated in the Colliers report. The figures assumed are based on past construction, with a slight increase and are consistent with previous DCC calculations.

Split between larger lots (550 m² +) and smaller lots (<550 m²) were not set out in Colliers report. The previous DCC had 60% large 40% small. The model assumes 55% large and 45% small to reflect a shift to smaller lots.

Institutional growth is not included in the Colliers report. Institutional growth was increased from 15,300 m² in the old DCC calculations to 25,000 m² to reflect items such as George Pringle site school, City Hall, Library, and the anticipation of additional Institutional.

3. Parks DCCs

Parks DCC costs are divided into two main components:

- Costs for parkland acquisition
- Costs to develop and improve parkland for public use

The details are discussed in the sections below.

4. Parkland acquisition

To determine parkland acquisition costs, we analyzed the increase in assessed land values in West Kelowna from 2016 to 2021. The increase in overall assessed values for land only (not including construction of buildings or other improvements) from 2016 to 2021 is approximately 49%. To calculate the updated land values, this analysis uses the parks land values calculated for the 2016 DCC bylaw and applies a 49% increase as set out in the table below.

Park Type	Old 2016 Price per ha	percentage increase	New 2021 Price per ha
Waterfront park	\$1,746,815	49.0%	\$2,602,754
Athletic park	\$400,121	49.0%	\$596,180
Community park	\$400,121	49.0%	\$596,180

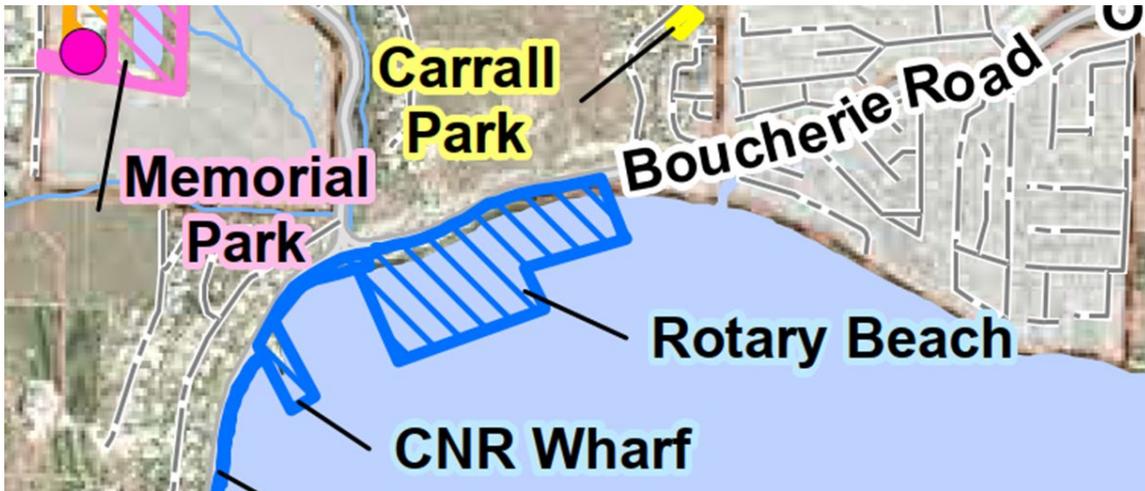
5. Amount of parkland required

The amount of parkland required by type is based on maintaining the current level of parkland per capita for the three types of parkland identified for collection though DCCs: waterfront, athletic and community park. Neighbourhood parkland is collected through the 5% parkland dedication, and is not part of the Parks DCC calculations.

The most recent data regarding parkland inventories and amounts of existing parkland per 1000 people in West Kelowna is from the 2016 Parks Master Plan.

The amount for Municipal waterfront parkland set out in the Parks master plan was total of 15.4 hectares. This amount does not include areas provided by the Regional District because the focus of the DCC is to calculate the demand for City owned waterfront parkland. Upon a more detailed review of the data set out in the Parks Master Plan, we identified that some of the areas included in the total were Licences of Occupation that extended out into the water. An example of this is shown in the excerpt from the Parks Master Plan mapping below.

Excerpt from Map A: Existing Parks - Parks Master Plan



While this useful for the Parks Master Plan, we needed actual land area in order to calculate the demand for future lands and the lands cost. We revied the data, and by including land only and excluding water surface, we identified 6.24 hectares of waterfront lands owed by the City including many parks located on road ends. The population used in the Parks Master plan was 34,484 and the resulting amount of waterfront parkland is 0.18 ha per 1000 people. The 0.18 ha

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per 1000 people is the figure used for calculating the future amounts of waterfront parkland required.

The other amounts in the Parks Master plan were consistent with the requirements for the DCC calculations. The other amounts and the revised waterfront amounts are set out in the following table.

Land Type	Acquisition	Existing ha of park per 1000 people	Population Growth	Land Area Required for Growth in ha	Price per ha	Total Cost
Waterfront park		0.18	12,373	2.23	\$2,602,754	\$5,796,698
Athletic park		0.80	12,373	9.90	\$596,180	\$5,901,231
Community park		0.43	12,373	5.32	\$596,180	\$3,171,912
TOTAL		1.410		17.45		\$14,869,841

6. DCC assist amounts

Based on the Local Government Act, the City must provide some level of assistance to pay costs of off-site infrastructure required by development. The extent of the assist factor is at Council's discretion. The Assist Factor can vary by service (i.e., roads different than water), but it cannot vary by area of community, or land use.

A comparison of Assist factors in the Okanagan Valley is set out below

	Roads	Sewage	Drainage	Water	Parks
West Kelowna	1%	1%	1%	1%	25%
Kelowna	15%	1%	n/a	1%	8%
Peachland	1%	1%	1%	1%	1%
Penticton	5%	15%	3%	15%	5%
Lake Country	1%	1%	1%	1%	1%
Vernon	1%	1%	1%	1%	1%

With an Assist factor, it is important to remember that even though the project (or part of the project) benefits new development, the City and its existing taxpayers pay for the assist amount.

As set out in the table, the current DCC Assist amount for parks is 25%. This 25% amount was set when the City was initially establishing the Parks DCC. For this update, our recommendation is for the City to consider reducing the parks DCC assist to 1% to be consistent with the other services. The 1% parks DCC will allow growth to pay for growth, rather than having existing residents subsidize new development.

Recommendation:

Our recommendation is to establish a 1% Assist Factor for the Parks DCC

7. Parks Improvement Benefit Allocations

In the 2016 parks DCC, the calculations were based on new growth only paying for 33% of the costs for constructing improvements on the parkland that is 100% growth-related. In this case essentially new growth is only paying 33% of its burden. As shown graphically below, new growth is paying to acquire the parkland required to serve the new growth but they are only paying to develop 33% of the park required for growth. Even though the only reason the City needs to improve this vacant parkland is to serve new residents. This results in the City acquiring parkland to serve new growth, but only obtaining funds to improve a third of that land.



Development does not pay for developing 67% of parkland needed for growth

Development pays for developing 33% of the parkland needed for growth

8. Forgone Parks DCC revenues

To calculate the revenues forgone by collecting 33% of park improvements on parks required only due to growth vs collecting 100%, we took the following steps:

1. Recalculated the previous parks DCCs using 100% instead of 33%
2. Examined the impact this would have on the old DCC rate. It would have gone up by 65%
3. Applied the 65% increase to the amount of Parks DCCs collected from 2016 to 2021 (Oct) inclusive
4. Calculated the difference in revenue

The results are as follows:

- For a Single detached dwelling, the Parks DCC would have gone up from \$4,691 per lot to \$7,740 per lot, or a 65% increase.
- The City collected \$5,583,951 in Parks DCC revenues 2016 to 2021 (Oct). Increasing that by 65% results in \$9,213,803

- The result is that the City would have collected \$3,629,852 more revenue if there was a DCC that collected 100% instead of 33% of estimated costs to improve parkland required for growth.
- about \$3.6 million in forgone revenue for parks improvements.

Recommendation:

Our recommendation is to consider allocating 100% of these costs to growth since these are improvements to parkland required only for growth, and there is significant potential revenue generation to pay for improving parks needed to serve growth.

9. Equal Rate vs Gradient for Residential Parks DCCs

Currently the City has a gradient with lower Parks DCC for multi family apartment and townhouse types of developments compared to single detached residential. The City could have the Parks DCCs be exactly the same for single detached and multi family types of development.

While the number of people per unit may be slightly less for apartments than for homes on individual lots, the apartment dwellers have a higher need for parkland since they don't have back yards they can use. Keeping the charge the same for both recognizes that slightly more land per capita is required for multi unit developments.

The equal charge neither disincentivizes nor incentivizes higher density forms of development, since the charge per unit for multi family is exactly the same as for single family. Furthermore, having the multi family charge the same as the single detached charge will allow for more funds from multi family development which can help address the often more expensive land costs in higher density areas where multifamily developments often occur.

The City of Kelowna and the District of Lake Country have both recently shifted to have equal parks DCCs for all forms of residential including single detached homes, townhouses and apartments.

By having an equal rate, the higher density units shoulder an equal burden of the Parks DCC project costs, reducing the Parks DCCs for single detached and other land use categories. In the following information in this report:

- The term 'Equal Rate' refers to the Parks DCC rate being set to be equal for Residential Subdivision, Small Lot Residential Subdivision (less than 550 m²), Small Residential Building (Duplex, Townhouse, Mobile home) and Apartment.
- The term 'Gradient Rate' refers to the Parks DCC rate being set using a gradients resulting in declining Parks DCCs when moving from Residential Subdivision, to Small Lot Residential Subdivision (less than 550 m²), to Small Residential Building (Duplex, Townhouse, Mobile home), to Apartment.

As an example, the resulting DCCs under an equal rate or a gradient (if the City collects DCCs from Commercial uses and not Industrial uses) are set out in the table below.

Parks DCCs by Type		Existing	Proposed Gradient		Proposed Equal	
		Gradient Rate	Gradient Rate	% Increase	Equal Rate	% Increase
Residential Subdivision	per lot	\$4,691	\$8,679	85%	\$6,867	46%
Small Lot Residential Subdivision (less than 550 m ²)	per lot	\$3,909	\$7,233	85%	\$6,867	76%
Small Residential Building (Duplex, Townhouse, Mobile home)	per unit	\$3,518	\$6,509	85%	\$6,867	95%
Apartment	per sq.m.	\$30.66	\$56.73	85%	\$67.33	120%

The resulting parks DCC rates under an equal rate or a gradient will be set out in more detail in sections that follow.

Recommendations

After reviewing the results of the analysis for the Equal vs Gradient approach to Residential Parks DCCs the staff and consultant recommendation is to proceed with the Equal approach. The reasons are as follows:

- Higher density developments such as townhouses and apartments will place higher demands on parkland so they should pay their fair share.
- With more units sharing the burden, the increases in Parks DCCs for other uses are somewhat less.
- This approach is consistent with regional trends that have seen Kelowna and Lake Country switch to the equal approach.
- Although one impact of concern is that the percentage DCC increase for apartments and townhouses will be higher than for single detached homes, the absolute amount of overall DCCs for apartments and townhouses are still lower than the amount for single detached lots.

10. Industrial and Commercial Parks DCCs

Currently the City of West Kelowna does not charge Parks DCCs for Commercial, Industrial or Institutional uses. Many communities are shifting towards charging Parks DCCs for Commercial and Industrial uses. For example: the City of Kelowna charges these uses a parks improvement DCC and is considering charging them a parks acquisition DCC. The District of Lake Country charges both a parks improvement and acquisition DCC to Commercial and Industrial uses.

Commercial and Industrial uses can place demands on parks as employees, tourists, and business visitors use parks. Parks also provide a benefit by providing a more attractive community to do business.

In reviewing this option, we examined the types of uses defined and commercial and industrial in the existing DCC bylaw and the demand for parks generated by industrial floor area compared to commercial. Commercial uses in the zoning bylaw include uses that generate more visitors

and parks demand than industrial including: accommodation, recreation, entertainment, auto services, food and beverage, and retail.

The industrial definition in DCC Bylaw is quite narrowly focussed:

“industrial” means extracting, processing, manufacturing, fabricating, transportation, distribution and service uses not provided directly to consumers or the public, and includes the portions of winery premises such as fermentation and barrel rooms and wine storage areas that are not ordinarily accessible to the general public.

To reflect the narrow focus of the industrial definition and specifically “uses not provided directly to consumers or the public” we calculated equivalency factors to reflect that Industrial uses will generate significantly less demand for parks than commercial uses.

11. Parks DCC calculation results

The parks DCCs are set out under various options:

- Option 1: Equal Rate Residential with:
 - o 1a - Commercial and Industrial parks DCCs
 - o 1b - Commercial parks DCCs only (no industrial parks DCCs)
 - o 1c - No Commercial or Industrial parks DCCs

- Option 2: Gradient Rate Residential with:
 - o 2a - Commercial and Industrial parks DCCs
 - o 2b - Commercial parks DCCs only (no industrial parks DCCs)
 - o 2c - No Commercial or Industrial parks DCCs

The parks DCC results under various options are set out below. The results using the Equal rate residential approach are set out in the table below.

Equal Residential		Option 1a	Option 1b	Option 1c
		Commercial and Industrial Parks DCCs	Commercial Parks DCCs only	No Commercial or Industrial Parks DCCs
Residential Subdivision	per lot	\$6,623	\$6,867	\$7,006
Small Lot Residential Subdivision (less than 550 m²)	per lot	\$6,623	\$6,867	\$7,006
Small Residential Building (Duplex, Townhouse, Mobile home)	per unit	\$6,623	\$6,867	\$7,006
Apartment	per sq.m.	\$64.93	\$67.33	\$68.69
Commercial	per sq.m.	\$16.56	\$17.17	\$0.00
Industrial	per sq.m.	\$12.14	\$0.00	\$0.00

The Parks DCCs in Option 1b, without the Industrial development paying, are 3.7% higher than in Option 1a

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The Parks DCCs in Option 1c, without either Industrial or commercial development paying, are 5.8% higher than in Option 1a.

The results using the Gradient rate residential approach are set out in the table below.

Gradient Residential		Option 2a	Option 2b	Option 2c
		Commercial and Industrial Parks DCCs	Commercial Parks DCCs only	No Commercial or Industrial Parks DCCs
Residential Subdivision	per lot	\$8,292	\$8,679	\$8,902
Small Lot Residential Subdivision (less than 550 m²)	per lot	\$6,910	\$7,233	\$7,418
Small Residential Building (Duplex, Townhouse, Mobile home)	per unit	\$6,219	\$6,509	\$6,676
Apartment	per sq.m.	\$54.20	\$56.73	\$58.18
Commercial	per sq.m.	\$20.73	\$21.70	\$0.00
Industrial	per sq.m.	\$15.20	\$0.00	\$0.00

The Parks DCCs in Option 2b, without the Industrial development paying, are 4.7% higher than in Option 2a

The Parks DCCs in Option 2c, without either Industrial or commercial development paying, are 7.3% higher than in Option 2a.

12. Industrial and Commercial DCC revenues

To get an idea of the magnitude of Industrial and Commercial Parks DCC revenues, we calculated the amount of Commercial and Industrial parks DCCs that would have been collected if the proposed Commercial and Industrial Parks DCCs had been imposed from 2016 to 2021 (Oct). For the analysis we chose option 1a with the equal residential DCCs.

	New Parks DCC	Units of charge	Estimate of floor area built 2016 - 2021	Revenue if Parks DCC at proposed rate
Commercial	\$16.56	Per sq.m. Floor Area	16,856	\$279,089
Industrial	\$12.14	Per sq.m. Floor Area	11,204	\$136,046
				\$415,135

- If we apply the Commercial Parks DCC proposed to the amount of development from 2016 to 2021, then we would have collected \$279,089

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- For comparison, the total DCC collected from Commercial from 2016 to 2021 (which doesn't include Parks since there was no parks DCC on commercial) was \$649,000
- If we apply the Industrial Parks DCC proposed to the amount of development from 2016 to 2021, converted to building floor area, then we would have collected \$136,046.
- For comparison, the total DCC collected from Industrial from 2016 to 2021 (which doesn't include Parks since there was no parks DCC on industrial) was \$1,023,000

Recommendations

After reviewing the analysis of Commercial and Industrial DCCs, the Staff and consultant recommendation is to proceed with the Commercial Parks DCCs and not the Industrial Parks DCC revenues. The reasons are as follows:

- Commercial uses have an impact on parks through various uses such as accommodation, recreation, entertainment, auto services, food and beverage, and retail. All of these uses bring visitors to the City which will use the parks, along with the employees in all commercial enterprises.
- Industrial uses will have a limited impact on parks since by the definition in the DCC bylaw the Industrial uses are "uses not provided directly to consumers or the public". While industrial employees may use parks their impact would be limited compared to the tourism use generated by commercial activities.
- The amount of potential revenue generated by Industrial would only be about \$136,000. The potential concern generated by a Parks DCC for Industrial uses might not be worth the revenue generated.
- The City could reconsider the Industrial Parks DCC once an Industrial Strategy has been prepared that might refine the types of industrial uses and may eventually result in uses that attract more visitors or employees from outside the City.

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13. Roads DCCs

The projects identified for the Roads DCC project list are set out in Appendix A. These projects have been identified as required to serve growth needs over the next 20 years. The benefit allocations (the portion of each project that is required due to growth) range from 33% to 80%.

As noted in earlier discussions the costs of roads construction have increased significantly since the cost estimates for the previous DCC were completed in 2015.

The details of the DCC calculations are also set out in Appendix A.

The resulting roads DCCs are set out in the table below.

New DCC Rates		Existing	Proposed	% +
			Roads	
Assist Factor			1%	
Single Family Residential	per lot	\$10,518	\$14,861	41%
Small Lot Single Family	per lot	\$8,761	\$12,379	41%
Small Residential	per unit	\$6,419	\$9,070	41%
Apartment	per sq.m.	\$45.49	\$64.28	41%
Carriage Home	per sq.m.	\$22.10	\$31.22	41%
Commercial	per sq.m.	\$34.83	\$49.21	41%
Industrial*	per sq.m.	\$28.87	\$12.24	-58%
Institutional - care facility	per bed	\$3,020	\$4,267	41%
Institutional - other	per sq.m.	\$34.83	\$49.21	41%
Campground	per site	\$740	\$1,046	41%
Golf course	per ha	\$4,541	\$6,416	41%

* the existing Industrial rates are shown as the equivalent to the charge per m2 of floor area assuming a 30% parcel coverage at one storey

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14. Water Projects

The projects identified for the Water DCC project list are set out in Appendix A. These projects have been identified as required to serve growth needs over the next 20 years. The benefit allocations (the portion of each project that is required due to growth) range from 5% to 65%.

As noted in earlier discussions, the costs of water construction have increased significantly since the cost estimates for the previous DCC were completed in 2015. The cost increases relate to increases in the costs for concrete for reservoir construction and piping costs.

The details of the DCC calculations are also set out in Appendix A.

The resulting Water DCCs are set out in the table below.

New DCC Rates		Existing	Proposed	% +
			Water	
Assist Factor			1%	
Single Family Residential	per lot	\$2,938	\$3,577	22%
Small Lot Single Family	per lot	\$2,448	\$2,981	22%
Small Residential	per unit	\$2,204	\$2,683	22%
Apartment	per sq.m.	\$19.20	\$23.38	22%
Carriage Home	per sq.m.	\$9.33	\$11.36	22%
Commercial	per sq.m.	\$7.35	\$8.94	22%
Industrial*	per sq.m.	\$54.40	\$19.87	-63%
Institutional - care facility	per bed	\$1,224	\$1,490	22%
Institutional - other	per sq.m.	\$9.79	\$11.92	22%
Campground	per site	\$727	\$885	22%
Golf course	per ha	\$16,160	\$19,673	22%

* the existing Industrial rates are shown as the equivalent to the charge per m2 of floor area assuming a 30% parcel coverage at one storey

Water DCCs do not increase as much as the other DCCs for the following reasons:

- The DCCs subtract the Grant for the Water treatment plant. The previous DCC did not have a grant for the plant.
- The water DCCs have a healthy reserve fund of about \$7 million.
- Only small percentages of some projects are allocated to growth - some expensive reservoirs only have 5% to 10% allocated to growth.

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15. Sewer Projects

The projects identified for the Sewer DCC project list are set out in Appendix A. These projects have been identified as required to serve growth needs over the next 20 years. The benefit allocations (the portion of each project that is required due to growth) range from 17% to 100%.

As noted in earlier discussions, the costs of sewer construction have increased significantly since the cost estimates for the previous DCC were completed in 2015. The cost increase relate to increases in the costs for piping, lift stations and generator sets, as well as the addition of more projects required for growth.

The details of the DCC calculations are also set out in Appendix A.

The resulting Sewer DCCs are set out in the table below.

New DCC Rates		Existing	Proposed	% +
			Sewer	
Assist Factor			1%	
Single Family Residential	per lot	\$85	\$256	200%
Small Lot Single Family	per lot	\$71	\$213	200%
Small Residential	per unit	\$64	\$192	200%
Apartment	per sq.m.	\$0.56	\$1.67	198%
Carriage Home	per sq.m.	\$0.27	\$0.81	201%
Commercial	per sq.m.	\$0.21	\$0.64	204%
Industrial*	per sq.m.	\$1.57	\$1.42	-9%
Institutional - care facility	per bed	\$36	\$107	200%
Institutional - other	per sq.m.	\$0.28	\$0.85	204%
Campground	per site	\$0.00	\$0.00	
Golf course	per ha	\$0.00	\$0.00	

* the existing Industrial rates are shown as the equivalent to the charge per m2 of floor area assuming a 30% parcel coverage at one storey

While the percentage increases in the sewer DCCs are high, the absolute dollar value is quite modest. For example, single family residential sewer DCCs increase from \$85 to \$256, which is a 200% increase, but only an increase of \$171 per lot.

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16. Storm Drainage Projects

The projects identified for the Storm Drainage DCC project list are set out in Appendix A. These projects have been identified as required to serve growth needs over the next 20 years. The benefit allocations (the portion of each project that is required due to growth) range from 5% to 75% with most having allocations of 25% or 40%.

As noted in earlier discussions, the costs of storm drainage construction have increased significantly since the cost estimates for the previous DCC were completed before 2015. In addition, the previous costs were quite low. In comparing master plan costs to actual project costs, we saw an aggregate of about 90% increase in costs, and we have applied this increase to the remaining projects.

The details of the DCC calculations are also set out in Appendix A.

The resulting Storm Drainage DCCs are set out in the table below.

New DCC Rates		Existing	Proposed	% +
			Storm	
Assist Factor			1%	
Single Family Residential	per lot	\$250	\$653	162%
Small Lot Single Family	per lot	\$187	\$490	162%
Small Residential	per unit	\$143	\$373	162%
Apartment	per sq.m.	\$1.14	\$2.99	162%
Carriage Home	per sq.m.	\$0.95	\$2.49	162%
Commercial	per sq.m.	\$0.44	\$1.16	164%
Industrial*	per sq.m.	\$5.53	\$4.35	-21%
Institutional - care facility	per bed	\$58	\$152	162%
Institutional - other	per sq.m.	\$0.37	\$0.98	165%
Campground	per site	\$0.00	\$0.00	
Golf course	per ha	\$0.00	\$0.00	

* the existing Industrial rates are shown as the equivalent to the charge per m2 of floor area assuming a 30% parcel coverage at one storey

Similar to the sewer DCCs, while the percentage increases in the Storm Drainage DCCs are high, the absolute dollar value is quite modest. For example, single family residential sewer DCCs increase from \$250 to \$653, which is a 162% increase, but only an increase of \$403 per lot.

17. Summary Table with Parks Options

The following tables summarize the existing DCCs, the proposed DCCs, and the percentage increase for Roads, Sewer, Storm Drainage and Parks, using the various Parks Options:

- Option 1: Equal Residential with:
 - o 1a - Commercial and Industrial parks DCCs
 - o 1b - Commercial parks DCCs only (no industrial parks DCCs)
 - o 1c - No Commercial or Industrial parks DCCs

- Option 2: Gradient Residential with:
 - o 2a - Commercial and Industrial parks DCCs
 - o 2b - Commercial parks DCCs only (no industrial parks DCCs)
 - o 2c - No Commercial or Industrial parks DCCs

1a : Equal Residential with: Commercial and Industrial parks DCCs

New DCC Rates		Existing			Proposed			Existing			Proposed			Existing			Proposed			Existing			Proposed		
				% +			% +			% +			% +			% +			% +			% +			
			Roads			Sewer			Storm			Water			Parks			Total							
Assist Factor			1%			1%			1%			1%			1%										
Single Family Residential	per lot	\$10,518	\$14,861	41%	\$85	\$256	200%	\$250	\$653	162%	\$2,938	\$3,577	22%	\$4,691	\$6,623	41%	\$18,481	\$25,970	41%						
Small Lot Single Family	per lot	\$8,761	\$12,379	41%	\$71	\$213	200%	\$187	\$490	162%	\$2,448	\$2,981	22%	\$3,909	\$6,623	69%	\$15,377	\$22,686	48%						
Small Residential	per unit	\$6,419	\$9,070	41%	\$64	\$192	200%	\$143	\$373	162%	\$2,204	\$2,683	22%	\$3,518	\$6,623	88%	\$12,347	\$18,940	53%						
Apartment	per sq.m.	\$45.49	\$64.28	41%	\$0.56	\$1.67	198%	\$1.14	\$2.99	162%	\$19.20	\$23.38	22%	\$30.66	\$64.93	112%	\$97.05	\$157.25	62%						
Carriage Home	per sq.m.	\$22.10	\$31.22	41%	\$0.27	\$0.81	201%	\$0.95	\$2.49	162%	\$9.33	\$11.36	22%	\$14.89	\$21.03	41%	\$47.54	\$66.90	41%						
Commercial	per sq.m.	\$34.83	\$49.21	41%	\$0.21	\$0.64	204%	\$0.44	\$1.16	164%	\$7.35	\$8.94	22%	\$0.00	\$16.56		\$42.83	\$76.51	79%						
Industrial*	per sq.m.	\$28.87	\$12.24	-58%	\$1.57	\$1.42	-9%	\$5.53	\$4.35	-21%	\$54.40	\$19.87	-63%	\$0.00	\$12.14		\$90.37	\$50.03	-45%						
Institutional - care facility	per bed	\$3,020	\$4,267	41%	\$36	\$107	200%	\$58	\$152	162%	\$1,224	\$1,490	22%	\$1,954	\$2,760	41%	\$6,292	\$8,776	39%						
Institutional - other	per sq.m.	\$34.83	\$49.21	41%	\$0.28	\$0.85	204%	\$0.37	\$0.98	165%	\$9.79	\$11.92	22%	\$0.00	\$0.00		\$45.27	\$62.96	39%						
Campground	per site	\$740	\$1,046	41%	\$0.00			\$0.00			\$727	\$885	22%	\$0.00			\$1,467	\$1,931	32%						
Golf course	per ha	\$4,541	\$6,416	41%	\$0.00			\$0.00			\$16,160	\$19,673	22%	\$0.00			\$20,700	\$26,089	26%						

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1b Equal Residential with: Commercial parks DCCs only (no industrial parks DCCs)

New DCC Rates		Existing	Proposed	% +															
			Roads			Sewer			Storm			Water			Parks			Total	
Assist Factor			1%			1%			1%			1%			1%				
Single Family Residential	per lot	\$10,518	\$14,861	41%	\$85	\$256	200%	\$250	\$653	162%	\$2,938	\$3,577	22%	\$4,691	\$6,867	46%	\$18,481	\$26,215	42%
Small Lot Single Family	per lot	\$8,761	\$12,379	41%	\$71	\$213	200%	\$187	\$490	162%	\$2,448	\$2,981	22%	\$3,909	\$6,867	76%	\$15,377	\$22,931	49%
Small Residential	per unit	\$6,419	\$9,070	41%	\$64	\$192	200%	\$143	\$373	162%	\$2,204	\$2,683	22%	\$3,518	\$6,867	95%	\$12,347	\$19,185	55%
Apartment	per sq.m.	\$45.49	\$64.28	41%	\$0.56	\$1.67	198%	\$1.14	\$2.99	162%	\$19.20	\$23.38	22%	\$30.66	\$67.33	120%	\$97.05	\$159.65	64%
Carriage Home	per sq.m.	\$22.10	\$31.22	41%	\$0.27	\$0.81	201%	\$0.95	\$2.49	162%	\$9.33	\$11.36	22%	\$14.89	\$21.80	46%	\$47.54	\$67.68	42%
Commercial	per sq.m.	\$34.83	\$49.21	41%	\$0.21	\$0.64	204%	\$0.44	\$1.16	164%	\$7.35	\$8.94	22%	\$0.00	\$17.17		\$42.83	\$77.12	80%
Industrial*	per sq.m.	\$28.87	\$12.24	-58%	\$1.57	\$1.42	-9%	\$5.53	\$4.35	-21%	\$54.40	\$19.87	-63%	\$0.00	\$0.00		\$90.37	\$37.89	-58%
Institutional - care facility	per bed	\$3,020	\$4,267	41%	\$36	\$107	200%	\$58	\$152	162%	\$1,224	\$1,490	22%	\$1,954	\$2,861	46%	\$6,292	\$8,878	41%
Institutional - other	per sq.m.	\$34.83	\$49.21	41%	\$0.28	\$0.85	204%	\$0.37	\$0.98	165%	\$9.79	\$11.92	22%	\$0.00	\$0.00		\$45.27	\$62.96	39%
Campground	per site	\$740	\$1,046	41%	\$0.00			\$0.00			\$727	\$885	22%	\$0.00			\$1,467	\$1,931	32%
Golf course	per ha	\$4,541	\$6,416	41%	\$0.00			\$0.00			\$16,160	\$19,673	22%	\$0.00			\$20,700	\$26,089	26%

1c Equal Residential with: No Commercial or Industrial parks DCCs

New DCC Rates		Existing	Proposed	% +															
			Roads			Sewer			Storm			Water			Parks			Total	
Assist Factor			1%			1%			1%			1%			1%				
Single Family Residential	per lot	\$10,518	\$14,861	41%	\$85	\$256	200%	\$250	\$653	162%	\$2,938	\$3,577	22%	\$4,691	\$7,006	49%	\$18,481	\$26,353	43%
Small Lot Single Family	per lot	\$8,761	\$12,379	41%	\$71	\$213	200%	\$187	\$490	162%	\$2,448	\$2,981	22%	\$3,909	\$7,006	79%	\$15,377	\$23,069	50%
Small Residential	per unit	\$6,419	\$9,070	41%	\$64	\$192	200%	\$143	\$373	162%	\$2,204	\$2,683	22%	\$3,518	\$7,006	99%	\$12,347	\$19,323	57%
Apartment	per sq.m.	\$45.49	\$64.28	41%	\$0.56	\$1.67	198%	\$1.14	\$2.99	162%	\$19.20	\$23.38	22%	\$30.66	\$68.69	124%	\$97.05	\$161.00	66%
Carriage Home	per sq.m.	\$22.10	\$31.22	41%	\$0.27	\$0.81	201%	\$0.95	\$2.49	162%	\$9.33	\$11.36	22%	\$14.89	\$22.24	49%	\$47.54	\$68.12	43%
Commercial	per sq.m.	\$34.83	\$49.21	41%	\$0.21	\$0.64	204%	\$0.44	\$1.16	164%	\$7.35	\$8.94	22%	\$0.00	\$0.00		\$42.83	\$59.95	40%
Industrial*	per sq.m.	\$28.87	\$12.24	-58%	\$1.57	\$1.42	-9%	\$5.53	\$4.35	-21%	\$54.40	\$19.87	-63%	\$0.00	\$0.00		\$90.37	\$37.89	-58%
Institutional - care facility	per bed	\$3,020	\$4,267	41%	\$36	\$107	200%	\$58	\$152	162%	\$1,224	\$1,490	22%	\$1,954	\$2,919	49%	\$6,292	\$8,935	42%
Institutional - other	per sq.m.	\$34.83	\$49.21	41%	\$0.28	\$0.85	204%	\$0.37	\$0.98	165%	\$9.79	\$11.92	22%	\$0.00	\$0.00		\$45.27	\$62.96	39%
Campground	per site	\$740	\$1,046	41%	\$0.00			\$0.00			\$727	\$885	22%	\$0.00			\$1,467	\$1,931	32%
Golf course	per ha	\$4,541	\$6,416	41%	\$0.00			\$0.00			\$16,160	\$19,673	22%	\$0.00			\$20,700	\$26,089	26%

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2a Gradient Residential with: Commercial and Industrial parks DCCs

New DCC Rates		Existing	Proposed	% +	Existing	Proposed	% +	Existing	Proposed	% +									
			Roads			Sewer			Storm			Water			Parks			Total	
Assist Factor			1%			1%			1%			1%			1%				
Single Family Residential	per lot	\$10,518	\$14,861	41%	\$85	\$256	200%	\$250	\$653	162%	\$2,938	\$3,577	22%	\$4,691	\$8,292	77%	\$18,481	\$27,640	50%
Small Lot Single Family	per lot	\$8,761	\$12,379	41%	\$71	\$213	200%	\$187	\$490	162%	\$2,448	\$2,981	22%	\$3,909	\$6,910	77%	\$15,377	\$22,974	49%
Small Residential	per unit	\$6,419	\$9,070	41%	\$64	\$192	200%	\$143	\$373	162%	\$2,204	\$2,683	22%	\$3,518	\$6,219	77%	\$12,347	\$18,537	50%
Apartment	per sq.m.	\$45.49	\$64.28	41%	\$0.56	\$1.67	198%	\$1.14	\$2.99	162%	\$19.20	\$23.38	22%	\$30.66	\$54.20	77%	\$97.05	\$146.52	51%
Carriage Home	per sq.m.	\$22.10	\$31.22	41%	\$0.27	\$0.81	201%	\$0.95	\$2.49	162%	\$9.33	\$11.36	22%	\$14.89	\$26.33	77%	\$47.54	\$72.20	52%
Commercial	per sq.m.	\$34.83	\$49.21	41%	\$0.21	\$0.64	204%	\$0.44	\$1.16	164%	\$7.35	\$8.94	22%	\$0.00	\$20.73		\$42.83	\$80.68	88%
Industrial*	per sq.m.	\$28.87	\$12.24	-58%	\$1.57	\$1.42	-9%	\$5.53	\$4.35	-21%	\$54.40	\$19.87	-63%	\$0.00	\$15.20		\$90.37	\$53.09	-41%
Institutional - care facility	per bed	\$3,020	\$4,267	41%	\$36	\$107	200%	\$58	\$152	162%	\$1,224	\$1,490	22%	\$1,954	\$3,455	77%	\$6,292	\$9,471	51%
Institutional - other	per sq.m.	\$34.83	\$49.21	41%	\$0.28	\$0.85	204%	\$0.37	\$0.98	165%	\$9.79	\$11.92	22%	\$0.00	\$0.00		\$45.27	\$62.96	39%
Campground	per site	\$740	\$1,046	41%	\$0.00			\$0.00			\$727	\$885	22%	\$0.00			\$1,467	\$1,931	32%
Golf course	per ha	\$4,541	\$6,416	41%	\$0.00			\$0.00			\$16,160	\$19,673	22%	\$0.00			\$20,700	\$26,089	26%

2b Gradient Residential with: Commercial parks DCCs only (no industrial parks DCCs)

New DCC Rates		Existing	Proposed	% +	Existing	Proposed	% +	Existing	Proposed	% +									
			Roads			Sewer			Storm			Water			Parks			Total	
Assist Factor			1%			1%			1%			1%			1%				
Single Family Residential	per lot	\$10,518	\$14,861	41%	\$85	\$256	200%	\$250	\$653	162%	\$2,938	\$3,577	22%	\$4,691	\$8,679	85%	\$18,481	\$28,026	52%
Small Lot Single Family	per lot	\$8,761	\$12,379	41%	\$71	\$213	200%	\$187	\$490	162%	\$2,448	\$2,981	22%	\$3,909	\$7,233	85%	\$15,377	\$23,296	52%
Small Residential	per unit	\$6,419	\$9,070	41%	\$64	\$192	200%	\$143	\$373	162%	\$2,204	\$2,683	22%	\$3,518	\$6,509	85%	\$12,347	\$18,827	52%
Apartment	per sq.m.	\$45.49	\$64.28	41%	\$0.56	\$1.67	198%	\$1.14	\$2.99	162%	\$19.20	\$23.38	22%	\$30.66	\$56.73	85%	\$97.05	\$149.04	54%
Carriage Home	per sq.m.	\$22.10	\$31.22	41%	\$0.27	\$0.81	201%	\$0.95	\$2.49	162%	\$9.33	\$11.36	22%	\$14.89	\$27.55	85%	\$47.54	\$73.43	54%
Commercial	per sq.m.	\$34.83	\$49.21	41%	\$0.21	\$0.64	204%	\$0.44	\$1.16	164%	\$7.35	\$8.94	22%	\$0.00	\$21.70		\$42.83	\$81.65	91%
Industrial*	per sq.m.	\$28.87	\$12.24	-58%	\$1.57	\$1.42	-9%	\$5.53	\$4.35	-21%	\$54.40	\$19.87	-63%	\$0.00	\$0.00		\$90.37	\$37.89	-58%
Institutional - care facility	per bed	\$3,020	\$4,267	41%	\$36	\$107	200%	\$58	\$152	162%	\$1,224	\$1,490	22%	\$1,954	\$3,616	85%	\$6,292	\$9,633	53%
Institutional - other	per sq.m.	\$34.83	\$49.21	41%	\$0.28	\$0.85	204%	\$0.37	\$0.98	165%	\$9.79	\$11.92	22%	\$0.00	\$0.00		\$45.27	\$62.96	39%
Campground	per site	\$740	\$1,046	41%	\$0.00			\$0.00			\$727	\$885	22%	\$0.00			\$1,467	\$1,931	32%
Golf course	per ha	\$4,541	\$6,416	41%	\$0.00			\$0.00			\$16,160	\$19,673	22%	\$0.00			\$20,700	\$26,089	26%

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2c Gradient Residential with: No Commercial or Industrial parks DCCs

New DCC Rates		Existing	Proposed	% +	Existing	Proposed	% +	Existing	Proposed	% +	Existing	Proposed	% +	Existing	Proposed	% +	Existing	Proposed	% +	
			Roads		Sewer		Storm		Water		Parks		Total							
Assist Factor			1%		1%		1%		1%		1%		1%		1%					
Single Family Residential	per lot	\$10,518	\$14,861	41%	\$85	\$256	200%	\$250	\$653	162%	\$2,938	\$3,577	22%	\$4,691	\$8,902	90%	\$18,481	\$28,249	53%	
Small Lot Single Family	per lot	\$8,761	\$12,379	41%	\$71	\$213	200%	\$187	\$490	162%	\$2,448	\$2,981	22%	\$3,909	\$7,418	90%	\$15,377	\$23,481	53%	
Small Residential	per unit	\$6,419	\$9,070	41%	\$64	\$192	200%	\$143	\$373	162%	\$2,204	\$2,683	22%	\$3,518	\$6,676	90%	\$12,347	\$18,994	54%	
Apartment	per sq.m.	\$45.49	\$64.28	41%	\$0.56	\$1.67	198%	\$1.14	\$2.99	162%	\$19.20	\$23.38	22%	\$30.66	\$58.18	90%	\$97.05	\$150.50	55%	
Carriage Home	per sq.m.	\$22.10	\$31.22	41%	\$0.27	\$0.81	201%	\$0.95	\$2.49	162%	\$9.33	\$11.36	22%	\$14.89	\$28.26	90%	\$47.54	\$74.14	56%	
Commercial	per sq.m.	\$34.83	\$49.21	41%	\$0.21	\$0.64	204%	\$0.44	\$1.16	164%	\$7.35	\$8.94	22%	\$0.00	\$0.00		\$42.83	\$59.95	40%	
Industrial*	per sq.m.	\$28.87	\$12.24	-58%	\$1.57	\$1.42	-9%	\$5.53	\$4.35	-21%	\$54.40	\$19.87	-63%	\$0.00	\$0.00		\$90.37	\$37.89	-58%	
Institutional - care facility	per bed	\$3,020	\$4,267	41%	\$36	\$107	200%	\$58	\$152	162%	\$1,224	\$1,490	22%	\$1,954	\$3,709	90%	\$6,292	\$9,725	55%	
Institutional - other	per sq.m.	\$34.83	\$49.21	41%	\$0.28	\$0.85	204%	\$0.37	\$0.98	165%	\$9.79	\$11.92	22%	\$0.00	\$0.00		\$45.27	\$62.96	39%	
Campground	per site	\$740	\$1,046	41%	\$0.00			\$0.00			\$727	\$885	22%	\$0.00			\$1,467	\$1,931	32%	
Golf course	per ha	\$4,541	\$6,416	41%	\$0.00			\$0.00			\$16,160	\$19,673	22%	\$0.00			\$20,700	\$26,089	26%	

Appendix A

DCC Projects and Calculations

U:\Projects_KEL\2849\0070\01\R-Reports-Studies-Documents\R1-Reports\Report to Council for Dec 14 2021\2021-12-06-DCC Update Report to Council.docx

ROADS & TRANSPORTATION CAPITAL COSTS			Benefit Allocation		Net Capital Cost (for DCC calculations)	Benefit to New Development	1% Municipal Assist	Total Recoverable From DCC	Total Municipal Responsibility
#	Project Name	Description	% to New Dev.	% to Existing					
1b.1	Boucherie Rd from Ogden to Sunnyside (added a roundabout)	Wine Route Cross-Section- Wine Route Cross-Section - Arterial	74%	26%	\$ 10,115,320	\$ 7,475,221	\$ 74,752.21	\$ 7,400,469	\$ 2,714,851
1b.2	Boucherie Rd from Sunnyside to Green Bay (added a roundabout)	Wine Route Cross-Section- Wine Route Cross-Section - Arterial	74%	26%	\$ 11,341,010	\$ 8,392,347	\$ 83,923.47	\$ 8,308,424	\$ 3,032,586
1c	Boucherie Rd from Green Bay to WFN IR#9	Wine Route Cross-Section- Wine Route Cross-Section - Arterial	74%	26%	\$ 4,953,000	\$ 3,660,267	\$ 36,602.67	\$ 3,623,664	\$ 1,329,336
2	Boucherie Rd from Gellatly Rd to WFN IR#9	Wine Route Cross-Section- Wine Route Cross-Section - Arterial	74%	26%	\$ 3,525,000	\$ 2,604,975	\$ 26,049.75	\$ 2,578,925	\$ 946,075
3a.1	Gellatly Rd and Carrington Roundabout	roundabout	72%	28%	\$ 1,756,000	\$ 1,267,832	\$ 12,678.32	\$ 1,255,154	\$ 500,846
3a.2	Gellatly Rd from Witt to Boucherie	Urban Arterial Cross-Section- Urban Arterial Cross-Section - Arterial	72%	28%	\$ 1,845,760	\$ 1,328,947	\$ 13,289.47	\$ 1,315,658	\$ 530,102
3b	Gellatly Rd South from Whitworth to 4251	Wine Route Cross-Section- Wine Route Cross-Section - Arterial	74%	26%	\$ 2,950,000	\$ 2,180,050	\$ 21,800.50	\$ 2,158,250	\$ 791,751
3d	Gellatly Rd South from 4035 to Glen Canyon	Wine Route Cross-Section- Wine Route Cross-Section - Arterial	74%	26%	\$ 4,250,000	\$ 3,145,000	\$ 31,450.00	\$ 3,113,550	\$ 1,136,450
3f	Gellatly Rd South from Glen Canyon to Hwy 97	Wine Route Cross-Section- Wine Route Cross-Section - Arterial	74%	26%	\$ 6,146,000	\$ 4,541,894	\$ 45,418.94	\$ 4,496,475	\$ 1,649,525
4b	Glenrosa Rd from Webber to Glen Abbey	Urban Arterial Cross-Section- Urban Arterial Cross-Section - Arterial	72%	28%	\$ 1,365,000	\$ 985,530	\$ 9,855.30	\$ 975,675	\$ 389,325
4c	Glenrosa Rd from Glen Abbey to McGinnis	Urban Arterial Cross-Section- Urban Arterial Cross-Section - Arterial	72%	28%	\$ 5,885,570	\$ 4,249,382	\$ 42,493.82	\$ 4,206,888	\$ 1,678,682
5b	Elliott from Solar to Butt	Urban Arterial Cross-Section- Urban Arterial Cross-Section - Arterial	72%	28%	\$ 3,155,000	\$ 2,277,910	\$ 22,779.10	\$ 2,255,131	\$ 899,869
5c	Elliott from Butt to Reece	Rural Arterial Cross-Section- Rural Arterial Cross-Section - Arterial	61%	39%	\$ 5,141,000	\$ 3,115,446	\$ 31,154.46	\$ 3,084,292	\$ 2,056,708
5d	Elliott from Reece to Smith Creek	Rural Arterial Cross-Section- Rural Arterial Cross-Section - Arterial	61%	39%	\$ 3,855,000	\$ 2,336,130	\$ 23,361.30	\$ 2,312,769	\$ 1,542,231

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ROADS & TRANSPORTATION CAPITAL COSTS			Benefit Allocation		Net Capital Cost (for DCC calculations)	Benefit to New Development	1% Municipal Assist	Total Recoverable From DCC	Total Municipal Responsibility
#	Project Name	Description	% to New Dev.	% to Existing					
6a	Smith Creek from Elliott to Wild Horse	Rural Arterial Cross-Section- Rural Arterial Cross-Section - Arterial	61%	39%	\$ 3,367,000	\$ 2,040,402	\$ 20,404.02	\$ 2,019,998	\$ 1,347,002
7a	Old Okanagan Hwy from Dobbin to Butt	Urban Arterial Cross-Section- Urban Arterial Cross-Section - Arterial	72%	28%	\$ 4,382,000	\$ 3,163,804	\$ 31,638.04	\$ 3,132,166	\$ 1,249,834
7b	Old Okanagan Hwy from Butt to Reece	Urban Arterial Cross-Section- Urban Arterial Cross-Section - Arterial	72%	28%	\$ 4,103,000	\$ 2,962,366	\$ 29,623.66	\$ 2,932,742	\$ 1,170,258
8a	Shannonn Lake Road from IR #9 to Asquith	Urban Arterial Cross-Section- Urban Arterial Cross-Section - Arterial	72%	28%	\$ 2,108,000	\$ 1,521,976	\$ 15,219.76	\$ 1,506,756	\$ 601,244
8b	Shannonn Lake Road from Asquith to 2835	Urban Arterial Cross-Section- Urban Arterial Cross-Section - Arterial	72%	28%	\$ 3,169,000	\$ 2,288,018	\$ 22,880.18	\$ 2,265,138	\$ 903,862
8f	Shannonn Lake Road from 1850 to Bartley	Urban Arterial Cross-Section- Urban Arterial Cross-Section - Arterial	72%	28%	\$ 3,017,000	\$ 2,178,274	\$ 21,782.74	\$ 2,156,491	\$ 860,509
9a	Being Constructed as a single project: Stevens Road from Bartley to Ross, Stevens Road from Ross to Westlake, Shannon Lake Rd / Bartley Rd Intersection Improvements (roundabout), *Bartley Road from Stevens to Hwy 97 (incomplete). Replaces projects 10a, 10b, 20, and part of 9		72%	28%	\$ 4,902,537	\$ 3,529,827	\$ 35,298.27	\$ 3,494,528	\$ 1,408,009
12	Tallus Ridge Rd / Shannon Lake Rd Intersection Improvements	Intersection Improvements	80%	20%	\$ 3,640,000	\$ 2,912,000	\$ 29,120.00	\$ 2,882,880	\$ 757,120
14	Gossett Rd / Old Okanagan Highway Intersection Improvements	Roundabout	80%	20%	\$ 1,600,000	\$ 1,280,000	\$ 12,800.00	\$ 1,267,200	\$ 332,800
17	Glenrosa Access: - Second Access Route Study	Corridor Study	33%	67%	\$ 447,000	\$ 147,510	\$ 1,475.10	\$ 146,035	\$ 300,965
23	Butt Rd / Old Okanagan Highway Intersection Improvements	Intersection Improvements	80%	20%	\$ 224,000	\$ 179,200	\$ 1,792.00	\$ 177,408	\$ 46,592
TOTAL					\$ 97,243,197	\$ 69,764,308	\$ 697,643	\$ 69,066,665	\$ 28,176,532

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ROADS & TRANSPORTATION DCC CALCULATION					
Land Use	Estimated New Development	Unit	Trip Generation Rates	Impact Factor	Equivalent Units
Single Family Residential	1,080	lot	9.52	1	1080
Small Lot Single Family	884	lot	7.93016	0.833	736
Small Residential	1,171	dwelling units	5.81	0.61	715
Apartment	227,460	sq.m.	0.04118	0.00433	984
Carriage homes	21,000	sq.m.	0.02	0.00210	44
Commercial	44,848	sq.m.	0.03152	0.00331	149
Industrial	114,125	sq.m.	0.00784	0.00082	94
Institutional - care facility	300	beds	2.73333	0.28711	86
Institutional	25,000	sq.m.	0.03152	0.00331	83
Campground	-	site	0.66989	0.07037	0
Golf course	-	hectare	4.10977	0.43170	0
TOTAL					3970
Unit Road DCC Calculation					
Net Road DCC Program Recovera					\$69,066,665
Existing DCC Reserve Monies					-10,061,343
Net Amount to be Paid by DCCs					\$59,005,322
DCC per Equivalent Unit					\$14,861.19
Resulting Road DCCs					
Single Family Residential \$14,861.19 per lot					
Small Lot Single Family \$12,379.38 per lot					
Small Residential \$9,069.70 per unit					
Apartment \$64.28 per sq.m.					
Carriage home \$31.22 per sq.m.					
Commercial \$49.21 per sq.m.					
Industrial \$12.24 per sq.m.					
Institutional - care \$4,266.87 per bed					
Institutional - other \$49.21 per sq.m.					
Campground \$1,045.73 per site					
Golf course \$6,415.55 per ha					

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2021 DCC CALCULATION WATER CAPITAL COSTS		a		b	d	e	f	g	h
		Benefit Allocation		Net Capital Cost (for DCC calculations)	Benefit to New Development	1% Municipal Assist	Total Recoverable From DCC	Total Municipal Responsibility	
#	Project Name	% to New Dev.	% to Existing						
TD-2	Sunnyside Transmission Main	25%	75%	\$ 2,900,000	\$ 725,000	\$ 7,250	\$ 717,750	\$ 2,182,250	
TD-3	Pritchard Water Supply Modifications and Decommissioning of Lake Intake	25%	75%	\$ 5,300	\$ 1,325	\$ 13	\$ 1,312	\$ 3,988	
TD-4	West Kelowna Estates Transmission Main	65%	35%	\$ 5,650,000	\$ 3,672,500	\$ 36,725	\$ 3,635,775	\$ 2,014,225	
T-2	Rose Valley Water Treatment Plant	25%	75%	\$ 21,598,000	\$ 5,399,500	\$ 53,995	\$ 5,345,505	\$ 57,254,495	
S-1	Connect Sunnyside & Pritchard & Build Storage	5%	95%	\$ 4,734,000	\$ 236,700	\$ 2,367	\$ 234,333	\$ 4,499,667	
S-2	Sunnyside Reservoir Storage Improvements	5%	95%	\$ 1,191,000	\$ 59,550	\$ 596	\$ 58,955	\$ 1,132,046	
S-3	Sunnyside Reservoir Storage Improvements	5%	95%	\$ 3,969,000	\$ 198,450	\$ 1,985	\$ 196,466	\$ 3,772,535	
S-4	WKE Rose Valley Storage Improvements - PZ 657	25%	75%	\$ 439,000	\$ 109,750	\$ 1,098	\$ 108,653	\$ 330,348	
S-5	WKE Rose Valley Storage Improvements - PZ 710	5%	95%	\$ 838,000	\$ 41,900	\$ 419	\$ 41,481	\$ 796,519	
S-7	WKE Storage Improvements - PZ 504	5%	95%	\$ 1,720,000	\$ 86,000	\$ 860	\$ 85,140	\$ 1,634,860	
S-8	Rose Valley Storage Improvements - PZ 539	5%	95%	\$ 4,190,000	\$ 209,500	\$ 2,095	\$ 207,405	\$ 3,982,595	
S-9	Rose Valley Storage Improvements - PZ 597	10%	90%	\$ 17,934,000	\$ 1,793,400	\$ 17,934	\$ 1,775,466	\$ 16,158,534	
S-10	Powers Creek Storage Improvements - PZ 630	50%	50%	\$ 5,087,000	\$ 2,543,500	\$ 25,435	\$ 2,518,065	\$ 2,568,935	
S-11	Powers Creek Storage Improvements - PZ 673	20%	80%	\$ 3,200,000	\$ 640,000	\$ 6,400	\$ 633,600	\$ 2,566,400	
S-12	Powers Creek Storage Improvements - PZ 583	15%	85%	\$ 2,797,000	\$ 419,550	\$ 4,196	\$ 415,355	\$ 2,381,646	
S-13	Powers Creek Storage Improvements - PZ 503	25%	75%	\$ 17,787,000	\$ 4,446,750	\$ 44,468	\$ 4,402,283	\$ 13,384,718	
S-14	Goat's Peak Storage Improvements - PZ 449	51%	49%	\$ 9,740,000	\$ 4,967,400	\$ 49,674	\$ 4,917,726	\$ 4,822,274	
H-1	Fire Hydrant Coverage	10%	90%	\$ 2,436,000	\$ 243,600	\$ 2,436	\$ 241,164	\$ 2,194,836	
P-1	Harold Road Water pump station	58%	42%	\$ 1,686,555	\$ 975,663	\$ 9,757	\$ 965,906	\$ 720,649	
TOTAL				\$ 106,215,300	\$ 25,794,375	\$ 257,944	\$ 25,536,431	\$ 121,680,869	

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WATER DCC CALCULATION					
Land Use	Estimated New Development	Unit	Density or Pop. Equivalent	Impact Factor	Equivalent Units
Single Family Resident	1,080	lot	3	1	3,241
Small Lot Single Family	884	lot	2.5	0.83333	2,210
Small Residential	1,171	dwelling units	2.25	0.75	2,635
Apartment	227,460	sq.m.	0.0196	0.00654	4,460
Carriage homes	21,000	sq.m.	0.0095	0.00317	67
Commercial	44,848	sq.m.	0.0075	0.0025	336
Industrial	114,125	sq.m.	0.0167	0.00556	1,902
Institutional - care facilit	300	beds	1.25	0.41667	375
Institutional	25,000	sq.m.	0.01	0.00333	250
Campground	-	site	0.7425	0.2475	-
Golf course	-	hectare	16.5	5.5	-
TOTAL					15,475
Unit Water DCC Calculation					
				Net Water DCC Program Recovera	\$25,536,431
				Existing DCC Reserve Monies	-7,085,198
				Net Amount to be Paid by DCCs	\$18,451,233
				DCC per Unit	\$1,192.33
Resulting Water DCCs					
				Single Family Residential	\$3,576.98 per lot
				Small Lot Single Family	\$2,980.82 per lot
				Small Residential	\$2,682.74 per unit
				Apartment	\$23.38 per sq.m.
				Carriage Homes	\$11.36 per sq.m.
				Commercial	\$8.94 per sq.m.
				Industrial	\$19.87 per sq.m.
				Institutional - care facility	\$1,490.41 per bed
				Institutional - other	\$11.92 per sq.m.
				Campground	\$885.30 per site
				Golf course	\$19,673.41 per ha

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2021 DCC CALCULATION SEWAGE SYSTEM CAPITAL COSTS			a	b	d	e	f	g	h
#	Project Name	Description	Benefit Allocation		Net Capital Cost (for DCC calculations)	Benefit to New Development	1% Municipal Assist	Total Recoverable From DCC	Total Municipal Responsibility
			% to New Dev.	% to Existing					
1	Horizon Drive pipe size increase to 250mm	Upsize Existing 200mm Main to 250mm	100%	0%	\$ 54,000	\$ 54,000	\$ 540	\$ 53,460	\$ 540
2	Gorman Road main size increase	Upsize Existing 250mm Main to 300mm	100%	0%	\$ 70,000	\$ 70,000	\$ 700	\$ 69,300	\$ 700
3	West Kelowna Estates SRW pipe size increase	Upsize Existing 200mm Main to 250mm	100%	0%	\$ 210,000	\$ 210,000	\$ 2,100	\$ 207,900	\$ 2,100
4	West Kelowna trunk upsize	Upsize Existing 200mm Main to 450mm	100%	0%	\$ 448,000	\$ 448,000	\$ 4,480	\$ 443,520	\$ 4,480
5	Upgrade Green Bay LS #8	New Lift station - 20 hp, 600 V	15%	85%	\$ 840,000	\$ 126,000	\$ 1,260	\$ 124,740	\$ 715,260
6	Inverness Lift Station	Telemetry upgrade	17%	83%	\$ 10,430	\$ 1,773	\$ 18	\$ 1,755	\$ 8,675
7	Whitworth Lift Station	New Kiosk and flowmeter	25%	75%	\$ 62,580	\$ 15,645	\$ 156	\$ 15,489	\$ 47,091
8	Hitchner Jennings Lift Station	New Kiosk and flowmeter	25%	75%	\$ 62,580	\$ 15,645	\$ 156	\$ 15,489	\$ 47,091
9	King Lift Station	complete station with Flow meter - 5.4 hp 240V	25%	75%	\$ 427,630	\$ 106,908	\$ 1,069	\$ 105,838	\$ 321,792
10	Stevens Lift Station	New left station	25%	75%	\$ 1,150,000	\$ 287,500	\$ 2,875	\$ 284,625	\$ 865,375
11	Ross Road Lift Station	Genset for backup power	25%	75%	\$ 146,020	\$ 36,505	\$ 365	\$ 36,140	\$ 109,880
12	Hayman Lift Station	Telemetry upgrade	25%	75%	\$ 10,430	\$ 2,608	\$ 26	\$ 2,581	\$ 7,849
13	Bridgeview Lift Station	Genset for backup power	20%	80%	\$ 156,450	\$ 31,290	\$ 313	\$ 30,977	\$ 125,473
TOTAL					\$ 3,648,120	\$ 1,405,873	\$ 14,059	\$ 1,391,814	\$ 2,256,306

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SANITARY SEWER DCC CALCULATION					
Land Use	Estimated New Development	Unit	Density or Pop. Equivalent	Impact Factor	Equivalent Units
Residential Subdivision	1,080	lot	3	1	3,241
Small Lot Residential Subdivision	884	lot	2.5	0.83333	2,210
Small Residential Building (duplex,t	1,171	dwelling units	2.25	0.75	2,635
Apartment	227,460	sq.m.	0.0196	0.00654	4,460
Carriage House	21,000	sq.m.	0.0095	0.00317	67
Commercial	44,848	sq.m.	0.0075	0.00250	336
Industrial	114,125	sq.m.	0.0167	0.00556	1,902
Institutional - care facility	300	beds	1.25	0.41667	375
Institutional	25,000	sq.m.	0.01	0.00333	250
TOTAL	435,869				15,475
Unit Sanitary DCC Calculation					
				Net Sanitary DCC Program Recover	\$1,391,814
				Existing DCC Reserve Monies	-72,713
				Net Amount to be Paid by DCCs	\$1,319,101
				DCC per Unit	\$85.24
Resulting Sanitary DCCs					
				Residential Subdivision	\$255.72 per lot
				Small Lot Residential Subdivis	\$213.10 per lot
				Small Residential Building	\$191.79 per unit
				Apartment	\$1.67 per sq.m.
				Carriage House	\$0.81 per sq.m.
				Commercial	\$0.64 per sq.m.
				Industrial	\$1.42 per sq.m.
				Institutional - care facility	\$106.55 per bed
				institutional - other	\$0.85 per sq.m.

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2021 DCC CALCULATION STORM DRAINAGE CAPITAL COSTS		a		b	d	e	f	g	h
		Benefit Allocation		Net Capital Cost (for DCC calculations)	Benefit to New Development	1% Municipal Assist	Total Recoverable From DCC	Total Municipal Responsibility	
#	Project Name	% to New Dev.	% to Existing						
3.7	Erosion Protection – Webber Road to Inverness Road	25%	75%	\$ 134,000	\$ 33,500	\$ 335	\$ 33,165	\$ 100,835	
5.3	Stream Stabilization – Smith Creek	40%	60%	\$ 1,867,000	\$ 746,800	\$ 7,468	\$ 739,332	\$ 1,127,668	
5.4	Storm water detention pond and Drainage Easement – Bridlehill Road to Rubicon Road	40%	60%	\$ 1,606,000	\$ 642,400	\$ 6,424	\$ 635,976	\$ 970,024	
5.5	Storm Pipe Installation – Copper Ridge Drive to Wild Horse Drive	75%	25%	\$ 187,000	\$ 140,250	\$ 1,403	\$ 138,848	\$ 48,153	
6.2	Obtain Drainage Easement – Shannon Lake Golf Course	25%	75%	\$ 107,000	\$ 26,750	\$ 268	\$ 26,483	\$ 80,518	
6.3	Obtain Drainage Easement – Ridge Place to Shannon Lake	50%	50%	\$ 107,000	\$ 53,500	\$ 535	\$ 52,965	\$ 54,035	
7.1	Bank Stabilization – Shannon Lake Road to Pike Road	25%	75%	\$ 534,000	\$ 133,500	\$ 1,335	\$ 132,165	\$ 401,835	
8.2	Erosion Protection – Menu Road to Gregory Road	40%	60%	\$ 268,000	\$ 107,200	\$ 1,072	\$ 106,128	\$ 161,872	
8.3	Erosion Protection/ Drainage Easement – Gregory Road to Mission Hill Road	25%	75%	\$ 272,000	\$ 68,000	\$ 680	\$ 67,320	\$ 204,680	
8.5	Storm Sewer Upgrades – Sunnyview Road	25%	75%	\$ 669,000	\$ 167,250	\$ 1,673	\$ 165,578	\$ 503,423	
9.10	Creek Improvements – Keefe Creek between Horizon Dr and Spyglass Way	25%	75%	\$ 937,000	\$ 234,250	\$ 2,343	\$ 231,908	\$ 705,093	
9.11	Erosion Protection/ Drainage Easement – Horizon Drive to Spyglass Way	5%	95%	\$ 107,000	\$ 5,350	\$ 54	\$ 5,297	\$ 101,704	
9.13	Erosion Protection – Spyglass Way to Keefe Creek	25%	75%	\$ 96,000	\$ 24,000	\$ 240	\$ 23,760	\$ 72,240	
9.14	Erosion Protection - Horizon Drive west of I.R. boundary near Hwy 97	25%	75%	\$ 32,000	\$ 8,000	\$ 80	\$ 7,920	\$ 24,080	
9.15	Erosion Protection/ Drainage Easement – Horizon Drive to Covington Court	25%	75%	\$ 80,000	\$ 20,000	\$ 200	\$ 19,800	\$ 60,200	
9.2	Channel Improvements/Drainage Easement – Rosewood Drive to Westlake Road	50%	50%	\$ 455,000	\$ 227,500	\$ 2,275	\$ 225,225	\$ 229,775	
9.4	Erosion Protection – Bear Creek Rd from Vancouver Road to I.R. boundary	25%	75%	\$ 234,000	\$ 58,500	\$ 585	\$ 57,915	\$ 176,085	
9.5	Erosion Protection/ Drainage Easement – Parkinson Road to Bear Creek Road	25%	75%	\$ 187,000	\$ 46,750	\$ 468	\$ 46,283	\$ 140,718	
9.6	Drainage Improvements – Horizon Drive	25%	75%	\$ 20,000	\$ 5,000	\$ 50	\$ 4,950	\$ 15,050	
	pipng the drainage beyond edge of development from Gorman to Webber Road The piped storm routing option would connect the Gorman Road system down to Webber Road and into the existing City storm pipe just south of Scotstown Road intersection	25%	75%	\$ 1,100,000	\$ 275,000	\$ 2,750	\$ 272,250	\$ 827,750	
TOTAL				\$ 8,999,000	\$ 3,023,500	\$ 30,235	\$ 2,993,265	\$ 6,005,735	

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STORM DRAINAGE DCC CALCULATION							
Land Use	Estimated New Development	Units	Density (units per ha, FAR)	Runoff Coefficient	Per Unit	Impact Factor	Equivalent Units
Large lot single family	1,080	lots	10.00	0.30	300	1	1,080
Small Lot Single Family	884	lots	20.00	0.45	225	0.75	663
Small Residential	1,171	dwelling units	35.00	0.60	171.4286	0.57143	669
Apartment	227,460	sq.m.	50.00	0.70	1.3725	0.00458	1,041
Carriage	21,000	sq.m.	25.00	0.30	1.1429	0.00381	80
Commercial	44,848	sq.m.	1.50	0.80	0.5333	0.00178	80
Industrial	114,125	sq.m.	0.30	0.60	2	0.00667	761
Institutional - care facility	300	beds	100.00	0.70	70	0.23333	70
Institutional	25,000	sq.m.	1.00	0.45	0.45	0.00150	38
TOTAL							4481
Unit Storm DCC Calculation							
Net Storm DCC Program Recovera							\$2,993,265
Existing DCC Reserve Monies							-66,142
Net Amount to be Paid by DCCs							\$2,927,123
DCC per Unit							\$653
Resulting Storm DCCs							
Single Family Residential							\$653 per lot
Small Lot Single Family							\$490 per lot
Small Residential							\$373 per unit
Apartment							\$2.99 per sq.m.
Carriage Homes							\$2.49 per sq.m.
Commercial							\$1.16 per sq.m.
Industrial							\$4.35 per sq.m.
Institutional - care facility							\$152 per bed
Institutional - other							\$0.98 per sq.m.

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2021 DCC CALCULATION PARKS CAPITAL COSTS					b	c	d	e
Project Name	Existing Ratio	Population Growth	Land Area Required for Growth	Price per ha or per m ²	Total Capital Cost	Benefit Allocation		Amount to Development
Land acquisition								
waterfront park	0.18	12,373	2.23	\$2,602,754	\$5,796,698	100%		\$5,796,698
athletic park	0.80	12,373	9.90	\$596,180	\$5,901,231	100%		\$5,901,231
community park	0.43	12,373	5.32	\$596,180	\$3,171,912	100%		\$3,171,912
SUB TOTAL	1.410		17.45		\$14,869,841			\$14,869,841
Parkland Improvements¹					Total Cost			
Memorial park DCC eligible components					\$491,500	33%		\$162,195
CNR Wharf DCC eligible components					\$1,832,439	33%		\$604,705
Multi-use grass field					\$1,445,300	33%		\$476,949
waterfront park	0.18		2.227	\$207.44	\$4,619,930	100%		\$4,619,930
athletic park	0.80		9.898	\$136.35	\$13,496,459	100%		\$13,496,459
community park	0.43		5.320	\$136.35	\$7,254,346	100%		\$7,254,346
SUB TOTAL					\$29,139,974			\$26,614,584
TOTAL (LAND & IMPROVEMENT)								\$41,484,425
Assist Factor							1%	\$ (414,844)
DCC Eligible								\$41,069,581
1 DCC Eligible parkland improvement costs only								

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Showing option 1b from report with Equal DCCs for residential, and commercial parks DCC, No Industrial parks DCC

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PARKLAND ACQUISITION AND IMPROVEMENT DCC CALCULATION				
Land Use	Estimated New Development	Unit	Impact Factor	Equivalent Units
Residential Subdivision	1,080	lots	3	3,241
Small Lot Residential Subdivision	884	lots	3	2,651
Small Residential Building (duplex,tov	1,171	dwelling units	3	3,513
Apartment	227,460	sq.m.	0.0294	6,690
Carriage House	21,000	sq.m.	0.0095	200
Commercial	44,848	sq.m.	0.0075	336
Industrial	-	sq.m.	0.0055	-
Institutional - Care Facility	300	beds	1.25	375
Institutional	25,000	sq.m.	0	-
TOTAL	321,743			17,006
		Unit Park DCC Calculation		
		Net Park DCC Program Recovera		\$41,069,581
		Existing DCC Reserve Monies		-2,139,662
		Net Amount to be Paid by DCCs		\$38,929,919
		DCC per equivalent unit		\$2,289.14
	Resulting Park DCCs			
	Residential Subdivision		\$6,867	per lot
	Small Lot Residential Subdivis		\$6,867	per lot
	Small Residential Building		\$6,867	per unit
	Apartment		\$67.33	per sq.m.
	Carriage House		\$21.80	per sq.m.
	Commercial		\$17.17	per sq.m.
	Industrial		\$0.00	per sq.m.
	Institutional - Care Facility		\$2,861.42	per bed
	institutional - Other		\$0.00	per sq.m.

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