CITY OF KELOWNA
20 YEAR SERVICING PLAN AND FINANCING STRATEGY

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I. INTRODUCTION

The **purpose** of the **20 Year Servicing Plan and Financing Strategy** document is to provide a detailed analysis of the work which has been completed to-date as it relates to the major servicing needs, to service growth projections outlined in the **Official Community Plan**. The **2020 Plan** is being considered as an **update to the 2013 Plan** as the ending population figures and the growth locations are quite similar for the two plans.

In addition to measuring the **financial impact of the major services** a **10 year Capital Plan** has been developed for infrastructure that will be required to satisfy **operational, recreational, cultural and safety** demands of a growing community. A further element of a long term financial strategy is the measurement of the **general taxation and utility rate impacts of the growth plan** and formulating policies and direction for Council and the Community to effectively deal with future service level alternatives. This element is covered in the annual Financial Plan document for a five year period.

1. Purpose of a Servicing Plan and Financing Strategy

In order to **accommodate continuing growth in Kelowna**, construction of new services or expansion of existing services will be required.

Integration of a servicing plan and financing strategy with the growth plan, developed as a part of the Official Community Plan, is necessary to ensure that the plan is **affordable** in the form that the City Council and the community is being asked to support and adopt as a blueprint for future development.

The purpose of the Financing section of the Community Plan is to provide an overview of the general principles and methodologies which have been applied when apportioning costs of new growth **between different land uses** in future development areas. Different land uses place a **different level of demand** on new infrastructure needs and cost-sharing methodologies must reflect the different levels of demand to the extent possible and practical.

There is a general recognition that the cost of provision of new infrastructure, to accommodate new growth, should **primarily be the responsibility of new growth**. However, there must also be some recognition given to the fact that **some portion of new infrastructure will also be of benefit to present taxpayers** and cost-sharing methodologies should reflect this principle.

A municipality's ability to finance new infrastructure, to accommodate new growth, is limited to powers granted by the Local Government Act. The Provincial Government, **through legislation**, has empowered municipalities with the right to impose Development Cost Charges for major services such as arterial and collector roads, water systems, sanitary sewer systems, drainage systems, parkland acquisition and development.

Development Cost Charges, although a useful mechanism for financing new infrastructure, do have some limitations and do require that Council give consideration to whether the charges:

(a) are excessive in relation to the capital cost of prevailing standards of service
(b) will deter development, or
(c) will discourage the construction of reasonably priced housing or the provision of reasonably priced serviced land

Development of a 20 year capital improvement plan to match infrastructure needs with a projected growth plan is based on the best information available at the time of formulation of the plan.

It should be recognized that the plan is dynamic and the assumptions which drive the plan are subject to ongoing change.

If growth develops in a different form from that which was assumed to occur, and formed the basis for developing a servicing plan and financing strategy, there will be a need to re-examine the servicing requirements and measure the financial impacts of these changes.

2. Other Capital Expenditure Requirements

Although major services such as arterial roads, water systems, sewage systems, drainage systems and park acquisition and development form the framework within which the city ultimately develops, there are many other infrastructure needs that will be required in order to satisfy **operational, recreational, cultural and safety** demand within a growing community:

- Operations buildings such as public works facilities
- Major new equipment such as snow removal equipment
- Recreation buildings
- Parks and playing field development
- Community theatres and art galleries
- New fire halls and new or expanded police facilities

As servicing standards have evolved over the years, there is a significant part of the city which has developed at **a service standard which is less than that which exists today** and there is a need to put together a strategy and cost-sharing plan to bring those service standards to current standards.

Not only must the municipality ensure that future growth is adequately serviced in accordance with prevailing service standards, there is a need to ensure that **existing infrastructure is maintained to a standard** which will extend the useful life in a cost-effective manner. **Infrastructure preservation** is critical for existing and future buildings as well as the transportation and utility networks.

Although the Province has not provided municipalities with the authority to assess new growth directly with this type of required infrastructure, there are a variety of other financing mechanisms which are specifically provided in other sections of the Local Government Act.

A combination of these **financing mechanisms** will be necessary in order to achieve the objectives outlined in the Official Community Plan:

- Long Term Borrowing authorized by a counter petition process or a Community referendum
- Grants or cost sharing programs provided by Senior levels of Government
- Developer Construct - Latecomer Agreements - recovery from benefiting property owners
- Formation of Benefiting (Specified) Areas - a form of direct user pay
- Short Term Borrowing - Five year maximum term/Statutory limits
- Public/Private partnerships
- Reserve Funds - funds put away in prior years for specific future purposes (parking, equipment replacement, landfill improvements)
- Pay-as-you-go (Taxation and Utility user rates)

Any of the funding mechanisms identified above which do not recover costs directly from the user will be recovered in the form of taxation or utility user rates from property owners in existence at the time the expenditure is incurred.

The major focus of this document is provide an overall financing strategy for major infrastructure needs for which the municipality can assess a Development Cost Charge.

II. FINANCING STRATEGIES - COST SHARING PRINCIPLES

The **purpose of this section** of the 20 year servicing plan and financing strategy is to provide an overview of the **financing options** available to the City when developing a Financial Plan to support the objectives of the Official Community Plan and to outline the **general overall principles** which were applied in the development of the financing strategies for the current plan.

This section also provides a **comparison between the principles applied in the current plan and the previous plan.**

A detailed explanation **Development Cost Charge concept** has been included in this section including the purpose of a DCC Bylaw and the process which has been applied to the development of development cost charge rates.

1. Financing Options/Mechanisms

A municipality is empowered, by authorization of the Local Government Act, with a number of funding mechanisms to finance capital expenditure needs resulting from a combination of new growth demands and the provision of facilities to existing taxpayers.

Property Taxes/Utility Rates

Revenue from increased property taxes is a method used to raise general funding for capital and operating needs which will be of general benefit to the entire community.

This type of funding might be used for capital expenditures such as roads overlay programs, sidewalk network programs, civic facilities, recreation facilities and cultural facilities for which funds cannot be directly imposed on new development.

Property taxes can also be used as a means to raise additional operating funds and debt financing to fund new or expanded programs resulting from an increase in population or a desire from the community for new and improved levels of service.

Property taxes, based on the assessed value of a property, are a very **general levy for services provided** and do not bear a direct relationship to the services actually received or used by property owners.

Debt Financing

Debt Financing is available to each municipality as a means of financing major capital expenditures such as land purchases, water and sewer facilities, recreation facilities, civic buildings and cultural buildings which **cannot normally be financed on a pay-as-you-go funding basis.**

In some cases, it may be necessary to borrow funds to pay for major infrastructure improvements such as roadways and trunk mains which cannot be financed on a pay-as-you-go basis or where inflow of revenue from Development Cost Charges does not match the capital improvement program.

There are **three (3) forms** of debt financing available to the municipality:

(a) ***Long Term Debenture Borrowing***

Generally requires a counter petition process, assent of benefiting property owners or a referendum to incur a liability for the borrowing. A loan authorization bylaw is required and the borrowing can be for any purpose of a capital nature.

The City currently has a policy of limiting the **debt repayment period to 15 years** unless the borrowing is on behalf of directly benefiting property owners, in which case the repayment period can be extended to 20 years.

(b) ***Agreements***

Council may incur a liability, under an agreement, if the liability is not a debenture debt and the liability period is not longer than the reasonable life expectancy of the service. A counter petition opportunity must be provided if the agreement is for more than 5 years (including rights of renewal that could exceed 5 years).

(c) ***Short Term Borrowing***

Can be used to finance almost any type of capital expenditure; however, a municipality is limited to a gross borrowing of **$50 per capita.** The term of repayment cannot exceed 5 years and simply requires a short-term borrowing bylaw.

Provincial Grants/Federal Grants

A municipality may apply to the Province for **unconditional or one-time grants** to assist in the financing of specific capital projects. The funding available is almost always based on a percentage of the estimated cost of the project with a fixed maximum grant.

Provincial Grants, for growth-related expenditures, have been **steadily declining over the past five to ten years**. The major grants received in recent years have been to assist with construction of sewer related facilities.

Specified Area Levies/Local Improvements/Developer Construct

Property owners, by petition of Council, are able to request that the city consider upgrading services on their local street such as roads, sidewalks, curb & gutter and drainage. Property owners can also request that new services be provided such as water and sanitary sewer service, again by **petition to Council or by Council initiative.**

In return for these services, benefiting property owners must contribute their proportional share of the cost of these services either in the form of an "up-front" payment or by making annual debt repayment payments on their property taxes.

Services which are required for a specific new development must be paid for directly by the developer and would include services such as water, sewer, subdivision roads and drainage works within a subdivision as well as other improvements to roadways abutting the subdivision. In many cases these major services must be extended from their existing termination point to the subdivision to be serviced.

When a developer extends services which are of benefit to other "fronting" property owners, the Local Government Act makes provision for a **recovery mechanism to the developer extending services.**

Public-Private Partnerships

Public-Private Partnerships are relatively new in Canada and provide an alternative to the traditional manner in which major projects are funded and operated.

Public-Private partnerships offer a new approach to the delivery of public services, however, they also require new forms of evaluation.

Public-Private partnerships, as well as offering a vehicle for substituting private for public investment, may also encourage innovative, more comprehensive solutions, as well as long term and more complex benefits, especially risk transfer.

Reserves-on-Hand

Reserves that a municipality may have available for capital project financing are generally **levied on an annual basis and have been set aside for a specific future purpose.** Reserves may also be set aside on a one-time basis if unexpected funds become available such as year-end surplus.

Examples of reserve funding set aside on a regular basis to fund future capital expenditures are the public works and fire equipment replacement fund, landfill reserve fund, parking reserve and major facilities reserve.

Development Cost Charges

Development Cost Charges are those levies, **adopted by bylaw**, which are required to be paid by new development to assist with the financing of major off-site services required to accommodate new growth.

Development Cost Charges are currently limited to arterial/collector roads, water and sewer systems, parks acquisition and development, and storm drainage facilities.

A more detailed explanation of the Development Cost Charge methodology and process is provided in the next section of this document.

2. General Principles Applied to the Proposed Financing Plan

The 20 year servicing plan has been developed by the City's Works & Utilities and Parks & Leisure Services departments in response to the land use plan and growth projections provided by the City's Planning department.

Each major service was analyzed in detail to determine the new infrastructure requirements and the costs of providing this infrastructure was developed from the best engineering information available. **In some cases this information was readily available from previous engineering work and studies and in other cases it was necessary to estimate costs based on a conceptual level of engineering work.**

In terms of process, it was necessary to develop cost sharing methodologies which properly allocated program costs between existing taxpayers and new growth based on general overall financing principles. **The following are some of the general principles applied in developing a financing strategy for this plan:**

- Quantification of the **level of funding assistance** from senior levels of government which for the most part was limited to funding already approved. An exception to this general principle is in the roads program and details of projected funding assistance is included in Section V - Analysis of Cost Sharing.

- Existing **Land Use obligations**, which deal specifically with off-site servicing issues, are quantified and limited to the Dilworth Mountain development.

- **Existing deficiencies**, as identified through analysis, will be paid for through the general taxation process or from utility revenues and not recovered from new growth.

- Infrastructure improvements which **provide capacity beyond the 20 year** planning horizon will be financed from general taxation or utility rates until such time as a new growth plan is developed which utilizes the capacity.

- Infrastructure improvements which provide a **city-wide benefit** and are of benefit to both existing taxpayers and new growth have been cost-shared on the ratio of

existing to projected total population at the end of the planning horizon at the year 2020. This principle has specifically been applied to:

- Swamp 1 – Dehart to Casorso
- McKinley 1 - Glenmore Road to Highway 97
- Beaver Lake Road – Railway tracks to City Limits
- Rutland 1 & 2 – Leathead to Old Vernon
- Highway 97 1 & 2 – Gordon to Sexsmith
- All two lane rural roads being improved to two lane urban roads
- One half of bridge costs where there is an existing bridge in place
- Sidewalks on arterial roads
- Bicycle paths on arterial roads

For infrastructure costs which are **primarily growth related**, and are to be borne by new growth over the 20 year planning horizon, it was necessary to establish new cost sharing methodologies where appropriate or to affirm the cost sharing methodologies which had previously been adopted by Council.

- **Retain the sector approach to allocation of individual service costs to the extent practical and defensible**. Utilizing the sector approach for cost sharing simply recognizes that off-site servicing costs, on a per unit basis, may be more costly in outlying areas than in the inner urban areas of the city.

- Develop **differential rates which reflect a different level of demand on certain types of services by different land uses**. The application of this cost sharing principle will result in a lower Development Cost Charge rate for apartments than for a single family residential lot.

It is important to ensure that the rates for commercial, industrial and institutional development are proportional to the Single Family rate to reflect demand.

- The **cost sharing methodology is different for each service** and is reflective of how the demand on the service is measured. Using the same unit to measure impact for roads as sewer trunks would result in a totally inequitable sharing of costs.

- Establishing a **level of assist** on new growth projects which is reflective of the benefit of new growth infrastructure to existing taxpayers. The established assist factor must be financed from general taxation or from utility rates.

The following is an identification of the major overall methodology and cost sharing changes which are proposed in this plan as **compared** to the previous multi-year plans:

- Provision of a **4 step density gradient to provide differential rates for residential units** as compared to the current 2 step gradient of a single family unit versus an apartment unit. This is to reflect the lower level of demand for most services as density of development increases.

- **Cancellation of the storm drainage Development Cost Charge** and addition of the complete roadway drainage requirements in the roads program.

- Separation of Roads Sector D into 2 sectors with Highway 33 as the dividing line. Sector D1 will be north and east of the highway and Sector D2 south and west.

- Funding for the Roads standard change, requiring an additional 1" of asphalt, will be paid for by taxation for all roads sectors except on developer construct roadways.

- Funding for road enhancements (stamped asphalt, median treatment, boulevard trees and irrigation) will be from taxation for all non-developer construct roads in the inner city sector (Sector I). This includes the South Mission roads that are physically within the Sector I area.

- No local improvement funding is anticipated in the cost sharing strategy.

3. The Development Cost Charge Concept

Development Costs Recovery is legislative **authority provided by Section 932** of the Local Government Act as a means of assisting local government to pay the capital cost of providing, constructing, altering or expanding sewage, water, drainage and highway facilities and providing park land to service, directly or indirectly, the development for which the charge is being imposed.

(a) Purpose of a Development Cost Charge Bylaw

The purpose of a Development Cost Charge Bylaw is to set forth the general conditions under which D.C.C. levies would apply, generally in concert with the municipality's **zoning bylaw**.

In addition, the bylaw would provide **detailed schedules** of the rates which would apply for different services, different land uses and in different areas of the city.

Where **different sectors** attract a different levy, a map which provides specific boundaries in which different rates apply must be approved as a part of the bylaw.

(b) Approach to Preparation of a Development Cost Charge Bylaw

- Develop **growth projections** identifying factors such as population growth by year, housing mix (single family vs. apartments), estimate commercial, industrial and institutional growth.

- Identify **growth areas**, project housing mix within those growth areas and project the level of growth on an annual basis.

- Develop **major servicing needs** to match the growth plan including the arterial road network, sewage collection/treatment/disposal systems, water

supply/distribution/storage systems, drainage improvements and park land requirements.

- **Develop costs** for major servicing needs

- Develop **cost sharing methodologies** that reflect level of benefit to existing taxpayers and new growth.

- Develop cost sharing methodologies that reflect the level of benefit for different **new growth land uses** .

4. Development Cost Charges - Enabling Legislation

Sections (932 - 937) of the Municipal Act along with Regulations regarding terms of payment have been paraphrased for clarity. The purpose of this section is to provide the legal framework for the imposition of Development Cost Charges:

- The capital costs to which Development Cost Charges apply
- When Development Cost Charges are payable
- When Development Cost Charges are not payable
- Conditions for Installment Payments
- How Development Cost Charges may vary by land use and area of the city
- Council's obligations when considering a Development Cost Charge Bylaw
- How Development Cost Charges reserves are handled

Development Cost Charges may be imposed, by bylaw, to assist the local government to pay the capital costs of:

- Sewage Facilities
- Water Facilities
- Drainage Facilities
- Highway Facilities (Except Off-Street Parking Facilities)
- Providing & Developing Park Land

to service, directly or indirectly, the development for which the charge is imposed.

Development Cost Charges are payable by every person who obtains:

- approval of a subdivision, or
- a building permit

but no charge is payable where:

- the building permit is for a church, or
- the building permit is for a building development which, on completion, will contain less than 4 self-contained units, or
- the value of the work authorized by the permit does not exceed $50,000.

DCC's may be paid by installment if the charge exceeds $50,000, on the basis of 1/3 down, 1/3 at the end of one year, and the balance at the end of the second year. No interest is charged on the outstanding balance if payments are made on time; however, the developer must deposit security in the form of a letter of credit to guarantee payment.

A DCC is not payable where:

- the development does not impose new capital cost burdens on the municipality, or
- A DCC has been previously paid, unless further development will impose new capital cost burdens on the municipality.

If a developer is required to construct off-site services for which a DCC is payable, the DCC will be reduced by an amount equal to the cost of the off-site works constructed, up to the amount of the DCC for each type of service.

DCCs may vary with respect to:

- different zones or different defined or specified areas,
- different uses,
- different capital costs as they relate to different classes of development,
- and different sizes or different numbers of lots or units in a development.

but the charges in the schedule shall be similar for all developments that impose similar capital cost burdens.

Council, in fixing Development Cost Charges, shall take into consideration future land use patterns and development, the phasing of works and services and the provision of park land in an Official Community Plan and whether the charges:

- are excessive in relation to the capital cost of prevailing standards of service,
- will deter development, or
- will discourage the construction of reasonably priced housing or the provision of reasonably priced serviced land.

Council shall make available, to the public, on request, the considerations, information and calculations used to determine the Development Cost Charges.

Revenues from DCC's must be deposited in a reserve fund established for each purpose, and the funds, together with earned interest, can only be spent for:

- the provision or construction of facilities, or
- principal and interest on debt incurred for facilities, or
- in the case of Parks DCC's, interest earned on funds in the reserve may be used to provide fencing, landscaping, drainage, irrigation, buildings, etc.

III. GROWTH PROJECTIONS - OFFICIAL COMMUNITY PLAN

The **purpose of this section** of the 20 year servicing plan and financing strategy is to detail growth projections which have been used as a basis for developing the servicing plan and subsequent financing strategy.

Details of the settlement plan including creation of town centres, increasing density to reduce urban sprawl and to increase the efficiency of the city's infrastructure are included in the Official Community Plan document and it is, therefore, not necessary to repeat all of that information again in this document.

1. Residential Growth Assumptions - Land Use Plan

The development of a comprehensive servicing plan and financing strategy is **directly linked to the growth assumptions** contained within the Official Community Plan.

Population is projected to increase, from the January 1, 2001 estimate of 96,000, by just under 60% during this current 20 year planning horizon resulting in a population of 153,220 by the end of the year 2020.

In order to adequately address the impact of this level of growth on existing infrastructure it is also necessary to project the **annual growth rate** over that same planning horizon as well as the areas of the city in which this growth will occur.

The development of this plan is based on an annual percentage increase in population of 2.60% for the first 5 years of the plan, 2.45% for the next 5 years, 2.30% for the third 5 years and reducing to 2.15% over the last 5 years of the plan. This is equivalent to a 2.35% growth rate assumption over the full 20 year period.

The **number of housing units required** to service the projected population over the 20 year planning horizon is directly impacted by the estimated population per household.

The average population per household for this plan has been estimated at 2.2 persons per household. Single family households have been estimated to contain an average of 2.8 persons per household while high density households have an estimated household population of 1.5 persons per household.

The **annual percentage population growth**, the **estimated number of persons per household** and the **housing mix of single family versus multi-family dwelling units** are used to determine the number of residential units that will be required over the 20 year planning horizon and will share in the costs of new infrastructure requirements.

Based on all of the factors provided within the growth plan, the estimated number of residential dwelling units required over the 20 year planning horizon is 25,539.

2. Residential Growth Assumptions – Density Gradient

The current 20 Year Servicing Plan contains a lower Development Cost Charge rate for multi-family high density residential properties to reflect a lower demand on services for roads, water and wastewater infrastructure. This is consistent with the Official Community Plan objective of promoting higher density in the town centre areas.

This has now been increased to four categories of residential density and is based on the density of development rather than on the type of dwelling unit. Density gradient based residential DCC's are established based on the relative impact of the dwelling unit on municipal services. The four categories were developed based on engineering data and planning analysis to reflect local considerations. The four categories, including a typical building form, are:

- **Residential 1** – developments with a density of not more than 15 units per net hectare (single family, secondary suite, duplex)
- **Residential 2** – developments with a density between 16 and 35 units per net hectare (small lot single family, row housing)
- **Residential 3** - developments with a density between 36 and 85 units per net hectare (row housing and up to four storey apartment buildings)
- **Residential 4** - developments with a density greater than 85 units per net hectare (apartments greater than four storeys)

Equivalency factors are established to reflect the relative impact on infrastructure for each service. The land use category, residential 1, serves as the baseline for the assessment of impacts on infrastructure of the other three residential land uses.

	Roads	Water	Sewer
Residential 1	100%	100%	100%
Residential 2	80%	67%	83%
Residential 3	55%	48%	56%
Residential 4	52%	34%	54%

The impact for parkland requirements is considered to be the same for each residential category. Although there could be an argument to use a different parkland rate for the different residential categories based on density it is also true that parkland requirements in multi-family areas is more expensive than in single family areas.

3. Commercial/Industrial/Institutional Growth Assumptions

The servicing plan and financing strategy must also consider the demand that will be placed on services by **commercial, industrial and institutional growth** over the 20 year planning horizon. The additional non-residential growth is required to service the additional population which will take up residence in the city over that same 20 year horizon.

Estimated Commercial Growth ***5,977,000 sq. ft***

Estimated Industrial Growth ***200 acres***

Estimated Institutional Growth ***2,713,000 sq. ft***

The development of a **cost-sharing model** which reflects the **relative demand on services of one type of land use to another**, it is necessary to convert commercial, industrial and institutional growth to an equivalent residential unit for each service.

Commercial - Roads	***1,000 sq. ft = .31 of a residential unit***
- Water	***1,000 sq. ft = .38 of a residential unit***
- Sewer	***1,000 sq. ft = .38 of a residential unit***
Industrial - Roads	***1 acre = 1.0 residential units***
- Water	***1 acre = 2.8 residential units***
- Sewer	***1 acre = 2.8 residential units***
Institutional - Roads	***1,000 sq. ft = .31 of a residential unit***
- Water	***1,000 sq. ft = .38 of a residential unit***
- Sewer	***1,000 sq. ft = .38 of a residential unit***

High School developments to Grade 12 and residential student housing units on college and university campus would be exempt from a Roads charge.

4. Unit Equivalent Considerations - Explanation of the D.C.C. Unit Calculation

The purpose of a Development Cost Charge is to recover some of the investment the City is forced to make in extending and upgrading a service to accommodate population growth and the development which accompanies it. **There is a relatively direct correlation between population growth and the impacts to water, sanitary sewer, roads and parks services.**

Since it is not feasible to charge a DCC directly on population, the City has adopted a system based on **equivalent units**.

Equivalent units are an **indirect but effective way of representing population**. To facilitate DCC calculations, the Planning staff projects population growth in terms of both residential and non-residential development. Since the unit of development for each land use category differs (houses for single family residential, apartments for multi-family residential and floor area for commercial and institutional), each Development Unit is converted to a common reference unit called an Equivalent Unit.

Currently, the impact of one (1) Equivalent Unit on a service is defined to be equivalent to the impact of one (1) single family residence. That is:

One (1) Equivalent Unit = 1 S.F. Residential Unit

Development Units for land use categories other than Single Family Residential are converted to Equivalent Units according to the overall average impact of each different type of Development Unit.

Expressing projected population growth in terms of Development Units, and then converting these to Equivalent Units has worked reasonably well for the **water, sanitary sewer, roads and parks services.**

5. Table of Growth by Development Area - By Service Type

The number of growth units, when converted to the single family residential equivalent, differ for different services for the following reasons:

- Not all of the growth units as projected by the Planning Department will be serviced by **sanitary sewer services**. Sanitary sewer services are based on the assumption that growth in the South East Kelowna sector will be serviced by septic disposal or by a batch treatment plant (Gallaghers Canyon) with field disposal of effluent.

- **Not all growth units will be serviced by the City's water system**. This plan assumes that Irrigation Districts will service all growth units within their service boundaries. **Irrigation Districts** which will provide water service to support the growth plan are South East Kelowna Irrigation District, Black Mountain Irrigation District, Rutland Water Works and the Glenmore-Ellison Irrigation District.

- As previously detailed, the demand on services as **equated to a single family residential unit**, is different for each service. This will result in a different number of equivalent residential units for purposes of cost-sharing of program costs for each service.

The following is a table detailing the number of **equivalent single family residential units for each service** which have been used to calculate the Development Cost Charge unit cost for program costs which are attributable to new growth:

Land Use	Arterial Roads	Water	Sewer Trunks	Sewer Treatment	Parks
Residential 1	11,180	6,164	10,676	10,676	11,180
Residential 2	3,813	1,915	3,914	3,914	4,766
Residential 3	4,035	2,515	4,108	4,108	7,336
Residential 4	1,174	682	1,219	1,219	2,257
Commercial	1,839	1,398	2,291	2,291	n/a
Institutional	613	547	1,010	1,010	n/a
Industrial	200	182	462	462	n/a
Total Equiv. Units	**22,854**	**13,403**	**23,681**	**23,681**	**25,539**

The following tables provide growth details by service type and sector:

CITY OF KELOWNA
GROWTH RECONCILIATION BY SERVICE
ROADS

SECTOR 'A' - S.E. KELOWNA

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	504	1.00	504
RESIDENTIAL 2	UNIT	50	0.80	40
RESIDENTIAL 3	UNIT	0	0.55	0
RESIDENTIAL 4	UNIT	0	0.52	0
SUB-TOTAL RESIDENTIAL		554		544
COMMERCIAL	SQ. FT.	30,000	3,250.00	9
TOTAL INSTITUTIONAL	SQ. FT.	20,000	3,250.00	6
LESS: INST. TO GRADE 12	SQ. FT.	(20,000)	3,250.00	(6)
NET INSTITUTIONAL	SQ. FT.	0	3,250.00	0
INDUSTRIAL	ACRES	0	1.00	0
TOTAL EQUIVALENT POPULATION				**553**

SECTOR 'B' - SOUTH MISSION

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	3,111	1.00	3,111
RESIDENTIAL 2	UNIT	680	0.80	544
RESIDENTIAL 3	UNIT	0	0.55	0
RESIDENTIAL 4	UNIT	0	0.52	0
SUB-TOTAL RESIDENTIAL		3,791		3,655
COMMERCIAL	SQ. FT.	150,000	3,250.00	46
TOTAL INSTITUTIONAL	SQ. FT.	170,000	3,250.00	52
LESS: INST. TO GRADE 12	SQ. FT.	(170,000)	3,250.00	(52)
NET INSTITUTIONAL	SQ. FT.	0	3,250.00	0
INDUSTRIAL	ACRES	0	1.00	0
TOTAL EQUIVALENT POPULATION				**3,701**

SECTOR 'C' - N.E. RUTLAND

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	691	1.00	691
RESIDENTIAL 2	UNIT	111	0.80	89
RESIDENTIAL 3	UNIT	0	0.55	0
RESIDENTIAL 4	UNIT	0	0.52	0
SUB-TOTAL RESIDENTIAL		802		780
COMMERCIAL	SQ. FT.	5,000	3,250.00	2
TOTAL INSTITUTIONAL	SQ. FT.	0	3,250.00	0
LESS: INST. TO GRADE 12	SQ. FT.	0	3,250.00	0
NET INSTITUTIONAL	SQ. FT.	0	3,250.00	0
INDUSTRIAL	ACRES	0	1.00	0
TOTAL EQUIVALENT POPULATION				**781**

SECTOR 'D1' - E. OF INNER CITY (NE HWY 33)

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	1,000	1.00	1,000
RESIDENTIAL 2	UNIT	0	0.80	0
RESIDENTIAL 3	UNIT	0	0.55	0
RESIDENTIAL 4	UNIT	0	0.52	0
SUB-TOTAL RESIDENTIAL		1,000		1,000
COMMERCIAL	SQ. FT.	0	3,250.00	0
TOTAL INSTITUTIONAL	SQ. FT.	0	3,250.00	0
LESS: INST. TO GRADE 12	SQ. FT.	0	3,250.00	0
NET INSTITUTIONAL	SQ. FT.	0	3,250.00	0
INDUSTRIAL	ACRES	0	1.00	0
TOTAL EQUIVALENT POPULATION				**1,000**

SECTOR 'D2' - E. OF INNER CITY (SW HWY 33)

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	778	1.00	778
RESIDENTIAL 2	UNIT	0	0.80	0
RESIDENTIAL 3	UNIT	0	0.55	0

RESIDENTIAL 4	UNIT	0	0.52	0
SUB-TOTAL RESIDENTIAL		778		778
COMMERCIAL	SQ. FT.	75,000	3,250.00	23
TOTAL INSTITUTIONAL	SQ. FT.	40,000	3,250.00	12
LESS: INST. TO GRADE 12	SQ. FT.	(40,000)	3,250.00	(12)
NET INSTITUTIONAL	SQ. FT.	0	3,250.00	0
INDUSTRIAL	ACRES	0	1.00	0
TOTAL EQUIVALENT POPULATION				**801**

SECTOR 'E' - N. OF INNER CITY

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	956	1.00	956
RESIDENTIAL 2	UNIT	398	0.80	318
RESIDENTIAL 3	UNIT	748	0.55	411
RESIDENTIAL 4	UNIT	0	0.52	0
SUB-TOTAL RESIDENTIAL		2,102		1,686
COMMERCIAL	SQ. FT.	280,000	3,250.00	86
TOTAL INSTITUTIONAL	SQ. FT.	1,061,000	3,250.00	326
LESS: INST. TO GRADE 12	SQ. FT.	(40,000)	3,250.00	(12)
NET INSTITUTIONAL	SQ. FT.	1,021,000	3,250.00	314
INDUSTRIAL	ACRES	75	1.00	75
TOTAL EQUIVALENT POPULATION				**2,161**

SECTOR 'I' - INNER CITY

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	4,140	1.00	4,140
RESIDENTIAL 2	UNIT	3,527	0.80	2,822
RESIDENTIAL 3	UNIT	6,588	0.55	3,623
RESIDENTIAL 4	UNIT	2,257	0.52	1,174
SUB-TOTAL RESIDENTIAL		16,512		11,759
COMMERCIAL	SQ. FT.	5,437,000	3,250.00	1,673
TOTAL INSTITUTIONAL	SQ. FT.	1,422,000	3,250.00	438
LESS: INST. TO GRADE 12	SQ.	(450,000)	3,250.00	(138)

	FT.			
	SQ.			
NET INSTITUTIONAL	FT.	972,000	3,250.00	299
	ACRE			
INDUSTRIAL	S	125	1.00	125
TOTAL EQUIVALENT POPULATION				**13,856**

TOTAL ROADS - ALL SECTORS

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	11,180	1.00	11,180
RESIDENTIAL 2	UNIT	4,766	0.80	3,813
RESIDENTIAL 3	UNIT	7,336	0.55	4,035
RESIDENTIAL 4	UNIT	2,257	0.52	1,174
SUB-TOTAL RESIDENTIAL		25,539		20,201
	SQ.			
COMMERCIAL	FT.	5,977,000	3,250.00	1,839
	SQ.			
TOTAL INSTITUTIONAL	FT.	2,713,000	3,250.00	835
	SQ.			
LESS: INST. TO GRADE 12	FT.	(720,000)	3,250.00	(222)
	SQ.			
NET INSTITUTIONAL	FT.	1,993,000	3,250.00	613
	ACRE			
INDUSTRIAL	S	200	1.00	200
TOTAL EQUIVALENT POPULATION				**22,854**

CITY OF KELOWNA
GROWTH RECONCILIATION BY SERVICE
WATER

SECTOR 'A' - CENTRAL

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	1,315	1.00	1,315
RESIDENTIAL 2	UNIT	1,558	0.67	1,044
RESIDENTIAL 3	UNIT	5,041	0.48	2,420
RESIDENTIAL 4	UNIT	2,007	0.34	682

SUB-TOTAL RESIDENTIAL		9,921		5,461
COMMERCIAL	SQ. FT.	3,450,000	2,600.00	1,327
INSTITUTIONAL	SQ. FT.	1,212,000	2,600.00	466
INDUSTRIAL	ACRES	65	2.80	182
TOTAL EQUIVALENT POPULATION				**7,436**

SECTOR 'B' - SOUTH MISSION

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	3,111	1.00	3,111
RESIDENTIAL 2	UNIT	680	0.67	456
RESIDENTIAL 3	UNIT	0	0.48	0
RESIDENTIAL 4	UNIT	0	0.34	0
SUB-TOTAL RESIDENTIAL		3,791		3,567
COMMERCIAL	SQ. FT.	150,000	2,600.00	58
INSTITUTIONAL	SQ. FT.	170,000	2,600.00	65
INDUSTRIAL	ACRES	0	2.80	0
TOTAL EQUIVALENT POPULATION				3,690

SECTOR 'D' - CLIFTON

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	1,738	1.00	1,738
RESIDENTIAL 2	UNIT	620	0.67	415
RESIDENTIAL 3	UNIT	199	0.48	96
RESIDENTIAL 4	UNIT	0	0.34	0
SUB-TOTAL RESIDENTIAL		2,557		2,249
COMMERCIAL	SQ. FT.	35,000	2,600.00	13
INSTITUTIONAL	SQ. FT.	40,000	2,600.00	15
INDUSTRIAL	ACRES	0	2.80	0
TOTAL EQUIVALENT POPULATION				**2,278**

TOTAL WATER - ALL SECTORS

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS

RESIDENTIAL 1	UNIT	6,164	1.00	6,164
RESIDENTIAL 2	UNIT	2,858	0.67	1,915
RESIDENTIAL 3	UNIT	5,240	0.48	2,515
RESIDENTIAL 4	UNIT	2,007	0.34	682
SUB-TOTAL RESIDENTIAL	UNIT	16,269		11,276
COMMERCIAL	SQ. FT.	3,635,000	2,600.00	1,398
INSTITUTIONAL	SQ. FT.	1,422,000	2,600.00	547
INDUSTRIAL	ACRES	65	2.80	182
TOTAL EQUIVALENT POPULATION				**13,403**

CITY OF KELOWNA
GROWTH RECONCILIATION BY SERVICE
SEWER TRUNKS

SECTOR 'A' - CENTRAL

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	7,565	1.00	7,565
RESIDENTIAL 2	UNIT	4,036	0.83	3,350
RESIDENTIAL 3	UNIT	7,336	0.56	4,108
RESIDENTIAL 4	UNIT	2,257	0.54	1,219
SUB-TOTAL RESIDENTIAL		21,194		16,242
COMMERCIAL	SQ. FT.	5,807,000	2,600.00	2,233
INSTITUTIONAL	SQ. FT.	2,457,000	2,600.00	945
INDUSTRIAL	ACRES	165	2.80	462
TOTAL EQUIVALENT POPULATION				**19,882**

SECTOR B - SOUTH MISSION

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	3,111	1.00	3,111
RESIDENTIAL 2	UNIT	680	0.83	564
RESIDENTIAL 3	UNIT	0	0.56	0
RESIDENTIAL 4	UNIT	0	0.54	0
SUB-TOTAL RESIDENTIAL		3,791		3,675
COMMERCIAL	SQ.	150,000	2,600.00	58

INSTITUTIONAL	FT. SQ. FT.	170,000	2,600.00	65
INDUSTRIAL	ACRES	0	2.80	0
TOTAL EQUIVALENT POPULATION				**3,798**

TOTAL SEWER TRUNKS - ALL SECTORS

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	10,676	1.00	10,676
RESIDENTIAL 2	UNIT	4,716	0.83	3,914
RESIDENTIAL 3	UNIT	7,336	0.56	4,108
RESIDENTIAL 4	UNIT	2,257	0.54	1,219
SUB-TOTAL RESIDENTIAL		24,985		19,917
COMMERCIAL	SQ. FT.	5,957,000	2,600.00	2,291
INSTITUTIONAL	SQ. FT.	2,627,000	2,600.00	1,010
INDUSTRIAL	ACRES	165	2.80	462
TOTAL EQUIVALENT POPULATION				**23,681**

CITY OF KELOWNA
GROWTH RECONCILIATION BY SERVICE
TREATMENT

SECTOR 'A' - CENTRAL

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	10,676	1.00	10,676
RESIDENTIAL 2	UNIT	4,716	0.83	3,914
RESIDENTIAL 3	UNIT	7,336	0.56	4,108
RESIDENTIAL 4	UNIT	2,257	0.54	1,219
SUB-TOTAL RESIDENTIAL		24,985		19,917
COMMERCIAL	SQ. FT.	5,957,000	2,600.00	2,291
INSTITUTIONAL	SQ. FT.	2,627,000	2,600.00	1,010
INDUSTRIAL	ACRES	165	2.80	462
TOTAL EQUIVALENT POPULATION				**23,681**

CITY OF KELOWNA
GROWTH RECONCILIATION BY SERVICE
PARKS

SECTOR 'A' - CITY-WIDE

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	11,180	1.00	11,180
RESIDENTIAL 2	UNIT	4,766	1.00	4,766
RESIDENTIAL 3	UNIT	7,336	1.00	7,336
RESIDENTIAL 4	UNIT	2,257	1.00	2,257
TOTAL EQUIVALENT POPULATION				**25,539**

IV. MAJOR SERVICING REQUIREMENTS - BY SERVICE TYPE

The **purpose of this section** of the 20 year servicing plan and financing strategy is to provide a brief overview for each major service providing summary information such as a general description of physical works, general area of the city serviced by the capital works, overall cost of the program along with an overall summary of the cost of all services.

This section also includes a map which details the infrastructure to be added during the 20 year planning horizon.

1. Arterial/Collector Roads Network

The total cost of the Arterial/Collector Roads program is estimated to be **$329.1 Million**. The program represents an **average** annual expenditure of **$16.5 Million** over the 20 year planning horizon.

The arterial roads program as developed represents the required infrastructure needs to service the new population growth over the next 20 years.

The following servicing assumptions have been incorporated into the transportation plan:

- A bridge across Okanagan Lake will be **expanded to provide five-lane capacity.**
- **TDM measures** will reduce single vehicle auto travel by **10-15%** by the end of the planning horizon which compares to approximately 4% today.
- The arterial roads will not be upgraded, and their capacity expanded until the traffic congestion has increased to the point where "level of service" has deteriorated from service level "E" to "F".
- The **North End Connector** will not be constructed to greater than a four lane capacity during the current 20 year planning horizon.
- **Highway 97** will be expanded to a **six lane capacity** from the bridge to Highway 33.
- No traffic growth has been projected outside of municipal boundaries in S.E. Kelowna.
- Every effort will be made to **optimize the Arterial Network capacity** by:
    - Restricted on-street parking
    - Restricted minor street access and private driveway access

- Raised centre medians to control turning movements and improve safety
- Intersections may include additional traffic lanes and traffic signal treatments.

- **Target quarters** have been provided for arterial roads construction and upgrading, although the actual year of construction will be determined by a combination of **growth, service levels, availability of funds from development and the availability of Provincial funding** where identified in the plan.

- **Development driven roads** identified in the plan will only be constructed if development proceeds and costs are "front-ended" by development within the area. If, for purposes of overall traffic management, it is necessary to construct key roads prior to development occurring it will be necessary to revise the plan accordingly.

New developments will provide the funding, or undertake the following works, without D.C.C. credits:

- If the development flanks an existing arterial, dedicate up to a 20 meter right-of-way and complete road upgrading to the standard indicated in the arterial roads program
- If a new arterial road is required through the development, dedicate a 20 meter right-of-way and construct a two lane road to the standard indicated in the arterial roads program

- **Construction costs** have been estimated on the basis of costs experienced on similar projects undertaken over the past several years and construction contingency of 25% has been added to projects to reflect the level of engineering effort ('Class C' estimate) incorporated into the plan. The contingency on projects which have had preliminary engineering design completed ('Class B' estimate) will be reduced to 15%. It should be noted that lower levels of contingency do not translate into lower construction cost estimates, but do reflect a higher level of confidence in the cost estimates calculated.

This program primarily covers the Arterial Network improvements and thus is only one element of the City's roads infrastructure needs. Examples of other programs which must be undertaken over the 20 year planning horizon are:

- Road Rehabilitation/Overlay program
- Local Improvement programs
- Sidewalk network program
- Safety and Operation improvements
- Bike Lane/Shoulder improvement program
- Bridge Rehabilitation not related to new growth
- Street Light/Traffic Signal Upgrades

Details of these programs **will be included in the City's 10 year capital improvement plan** along with an appropriate financing strategy.

Two maps have been attached, providing the following information:

- **Map R-1** - Roads projects to be completed over the next 20 years
- **Map R-2** - Projected Road network at the end of the 20 year planning horizon

2. Water Pumping/Distribution/Reservoirs

The total cost of the Water program is estimated to be **$29.1 Million**. The program represents an average annual expenditure of **$1.5 Million** over the 20 year planning horizon.

The water program as developed represents the required infrastructure needs to service the new population growth over the next 20 years. The projected works include the following:

- Improvements to the pumping capacity and pipelines at the **Poplar Point water pumphouse, Eldorado pump station and new Cedar Creek Pump Station.**
- Extension and or improvements of the water distribution system primarily to provide for **increased density** in the Downtown, Skyline and Crawford Road areas.
- Construction of an additional **pumping system to provide capacity to the Clifton Road/Glenmore Highlands area** of the city.

The following servicing assumptions have been incorporated into the water system:

- **Water Improvement Districts**, that operate within the municipal boundaries, will provide water service to growth projected to occur within their service boundaries, to the same design standards as used by the City.

- The City will **purchase bulk water** from **Lake Country** for resale to Industrial lands at the extreme north boundary of the city.

- The major water system for the **South Mission area** of the city has been constructed and financed by developers on a staged basis and recovery for excess capacity provided is to be recovered from benefiting property owners via an **"area" latecomer levy**. Costs for this system **have not** been included in this program.

- The **link between** the South Mission water system and the Poplar Point system will not be achieved until late in the 20 year planning horizon.

- Further expansion of the High Level water system to the Glenmore Highlands will be "front-ended" by development in that area with recovery via D.C.C. credits.

- No costs have been included in the program to **treat water** beyond the current standards of chlorinating and fluoridation.

- **Construction costs** have been estimated on the basis of costs experienced on similar projects undertaken over the past several years and construction contingency of 25% has been added to projects to reflect the level of engineering effort ('Class C' estimate) incorporated into the plan. The contingency on projects which have had preliminary engineering design completed ('Class B' estimate) will be reduced to 15%. It should be noted that lower levels of contingency do not translate into lower construction cost estimates, but do reflect a higher level of confidence in the cost estimates calculated.

The water program is only one element of the City's water infrastructure needs. Other programs which must be undertaken over the 20 year planning horizon are:

- Replacement of **cast iron water mains** which deteriorate over time.
- Replacement of **undersized water mains** to provide increased fire flow protection
- Provision of water service to **existing developed areas** which would normally be accomplished by formation of a Specified Area.

Details of this program have been included in the City's Water Utility model for the purpose of projecting the impact on rates over the next 10 years.

In addition to a summary listing of the projects included in the water program, the following map has been included in this document:

- **Map W-1** details the water projects which are to be completed over the next 20 years in accordance with the plan.

3. Wastewater Trunk Mains/Lift Stations

The total cost of the Wastewater Trunk Main and Lift Station program is estimated to be **$24.5 Million.** The program represents an average annual expenditure of **$1.2 Million** over the 20 year planning horizon.

The sewer trunk and lift station program as developed represents the required infrastructure needs to service the new population growth over the next 20 years.

Some of the more significant works included are as follows:

- **Extension** of a **major sewer trunk main** to the South Mission area to service new growth units as per the South Mission Sector Plan.
- **Extension of a major trunk main** from the sewage treatment plant to the **north and east area** of the city to handle additional flows that cannot be accommodated in the North East Trunk main which runs from Highway 33 Highway 97, back to the treatment plant .

The following servicing assumptions have been incorporated into the sewer trunk and lift station system:

- The **South East Kelowna** and **North McKinley** areas of the city will not be serviced by the city's sanitary sewer system within this planning horizon.

- All development in the **remainder of the city** will be serviced by the city's sanitary sewer system.

- Not all of the improvements to sanitary sewer lift stations are the responsibility of new growth and costs have been apportioned accordingly.

- The **urbanized areas of Rutland** will be totally serviced by the sanitary sewer system within the 20 year planning horizon.

- **Construction costs** have been estimated on the basis of costs experienced on similar projects undertaken over the past several years and construction contingency of 25% has been added to projects to reflect the level of engineering effort ('Class C' estimate) incorporated into the plan. The contingency on projects which have had preliminary engineering design completed ('Class B' estimate) will be reduced to 15%. It should be noted that lower levels of contingency do not translate into lower construction cost estimates, but do reflect a higher level of confidence in the cost estimates calculated.

The sanitary sewer trunk and lift station program is only one element of the City's sewer infrastructure needs. Other programs which must be undertaken over the 20 year planning horizon are:

- Replacement of **wood stave and clay tile** sanitary sewer mains which have deteriorated over time.
- Upgrade of sanitary **sewer lift stations** which are not directly attributable to new growth.
- Provision of sewer service to **existing developed areas** which would normally be accomplished by formation of a Specified Area.

Details of this program have been included in the City's **Sewer Utility rate model** for the purpose of projecting the impact on rates over the next 10 years.

In addition to a summary listing of the projects included in the sewer program, the following map has been included in this document:

- **Map S-1** details the sewer projects which are to be completed over the next 20 years in accordance with the plan.

4. Wastewater Treatment and Disposal

The total cost of the Wastewater Treatment and Disposal program is estimated to be **$43.9 Million.** The program represents an average annual expenditure of **$2.2 Million** over the 20 year planning horizon.

The wastewater treatment and disposal program as developed represents the required infrastructure needs to service the new population growth over the next 20 years.

Some of the more significant works included are as follows:

- **A major expansion** to the existing sewage treatment facility providing capacity for a approximately **145,000 to 150,000 population** which generally matches the projected population to be serviced by the plant by the end of the 20 year planning horizon.

- Further expansion to the City's Wastewater Treatment and Disposal program includes the staged construction of a **composting facility** to adequately deal with de-watered sludge from the treatment facility.

Although it is anticipated that the requirement for an **additional wastewater treatment facility** site is beyond the 20 year planning horizon, the land purchase is scheduled for 2015. The cost sharing model currently allocates the estimated cost to existing users. When sufficient engineering information is available identifying the year the new site will be needed, a proportionate share will be allocated to new growth and reflected in future DCC revisions.

The following servicing assumptions have been incorporated into the sewer treatment and disposal system:

- The **South East Kelowna** area of the city will not be serviced by the city's sanitary sewer system. The North McKinley area and extreme northern areas of Glenmore, are also not anticipated to be serviced with sewer within 20 years.

- All development in the remainder of the city will be serviced by the city's sanitary sewer system.

- All units, within future sewer area boundaries will be **levied a Wastewater Treatment Development Cost Charge levy** on the assumption that they will be connected to the plant within 20 years.

- **Construction costs** have been estimated on the basis of recent engineering studies which have been completed by outside consulting firms. Detailed design has not yet been done on the Stage 2 upgrading of the treatment plant.

5. Storm Drainage Systems

The separate Storm Drainage program has been removed from the 20 Year Servicing Plan. Road drainage requirements have been included in the roadway costs and the remaining drainage requirements will be included in the 10 Year Capital Plan.

6. Parks/Open Space Acquisition

The total cost of the Parkland Acquisition program is estimated to be **$64.4** Million. The program represents an average annual expenditure of **$3.2** Million over the 20 year planning horizon.

The Parkland Acquisition program represents the costs of acquisition of city-wide, district, community and neighbourhood parks required to service the projected additional population over the 20 year planning horizon.

Based on a standard of **2.2 hectares per 1,000 population**, the city will need to acquire **125 hectares** of park over the next 20 years.

The following servicing assumptions have been incorporated into the park land acquisition program:

- In order to accommodate the higher density form of new growth projected in the Official Community Plan, there will be a need to **acquire some land with existing improvements on the land**. This will provide neighbourhood parks in close proximity to growth areas and will increase the average value of land as compared to purchasing vacant land.

- The cost of purchasing some waterfront parkland has been included in the calculations for City Wide park requirements.

- **Acquisition costs** are based on the current values of actual identified properties and estimated future acquisitions, by park type and by growth area.

- The Parks Land Acquisition program **does not include any park development** or provision of park amenities. Parks development costs can be recovered directly from new growth but, consistent with the previous program, has not been included.

- Other park amenities such as **linear parks, creek corridors and natural open space** will be acquired, however costs of these amenities will not form a part of the standard of 2.2 hectares per thousand and will not be recovered directly from new growth.

The inclusion of linear parks and creek corridors would necessitate an increase in the current standard. It has been determined that these spaces relate to urban form and

a desire to protect natural features within the community rather than to population growth and it would be impractical to set a standard based on acreages.

7. Overall Summary

The total cost of the Major Servicing program, as detailed above, is estimated to be **$491.0** Million.

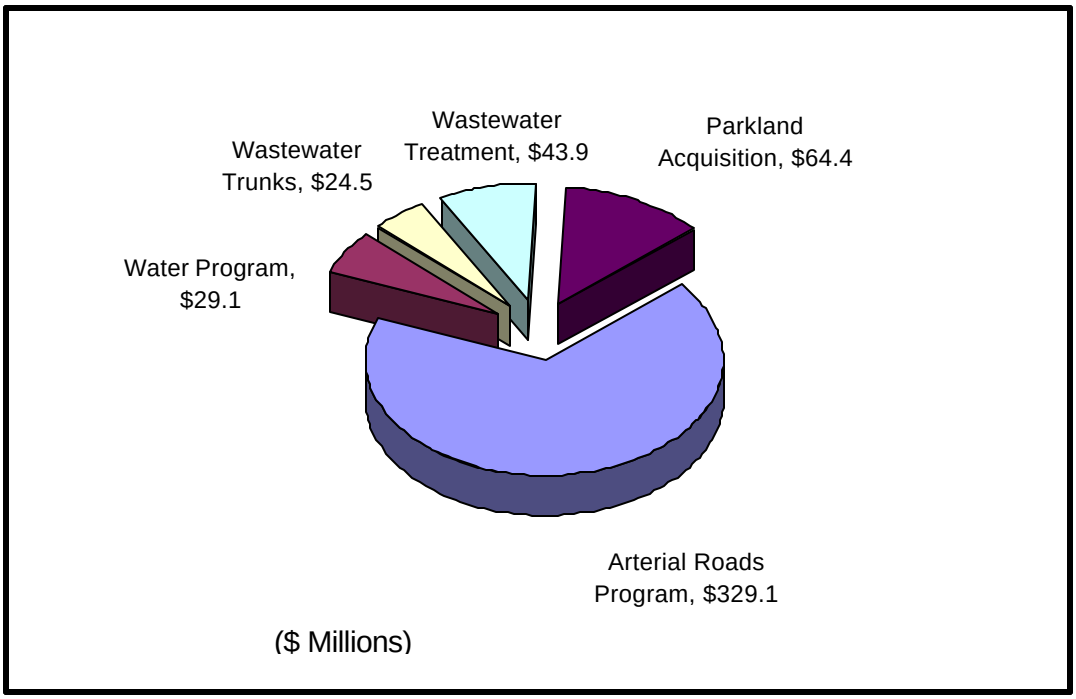
To summarize, the cost of the program is as follows:

Arterial Roads Program	**$329.1**
Water Pumping/Distribution/Reservoir	**29.1**
Sewer Collection/Lift Station System	**24.5**
Sewer Treatment/Disposal System	**43.9**
Parkland Acquisition Program	**64.4**
	$491.0

The above costs **do not** reflect the cost of capital improvements to water systems, by the Water Improvement Districts, to accommodate growth which is to occur within their service delivery boundaries.

The servicing costs of individual development improvements such as internal roads, water and sewer collection systems, storm drainage and street lighting **are the responsibility of the developer** and no attempt has been made to estimate the costs of these servicing requirements in this document.

City of Kelowna
20 Year Servicing Plan Expenditures
Total Program $491.0 Million


Wastewater Treatment, $43.9
Parkland Acquisition, $64.4
Wastewater Trunks, $24.5
Water Program, $29.1
Arterial Roads Program, $329.1
($ Millions)

V. ANALYSIS OF COST SHARING - MAJOR SERVICES - BY SERVICE TYPE

The **purpose of this section** is to provide a more detailed **financial impact analysis** of each major service category including the **principles applied in development of the cost sharing methodology for each service** and how those principles differ from those applied in previous plans.

For each service, a **cost sharing model** has been developed which itemizes each capital project included in the plan and how the cost of each project is to be financed over the 20 year planning horizon.

The individual capital project costs have been developed on the best information available and in most cases without the benefit of detailed engineering design work which would be unrealistic for a long range plan of this type.

1. Arterial Roads

Exhibit "A" - 20 Year Off-Site Road Servicing Plan & Financing Strategy - Cost Sharing Model, attached, provides all of the detailed calculations for each capital project and how each project is shared between existing taxpayers and new growth within the 20 year planning horizon.

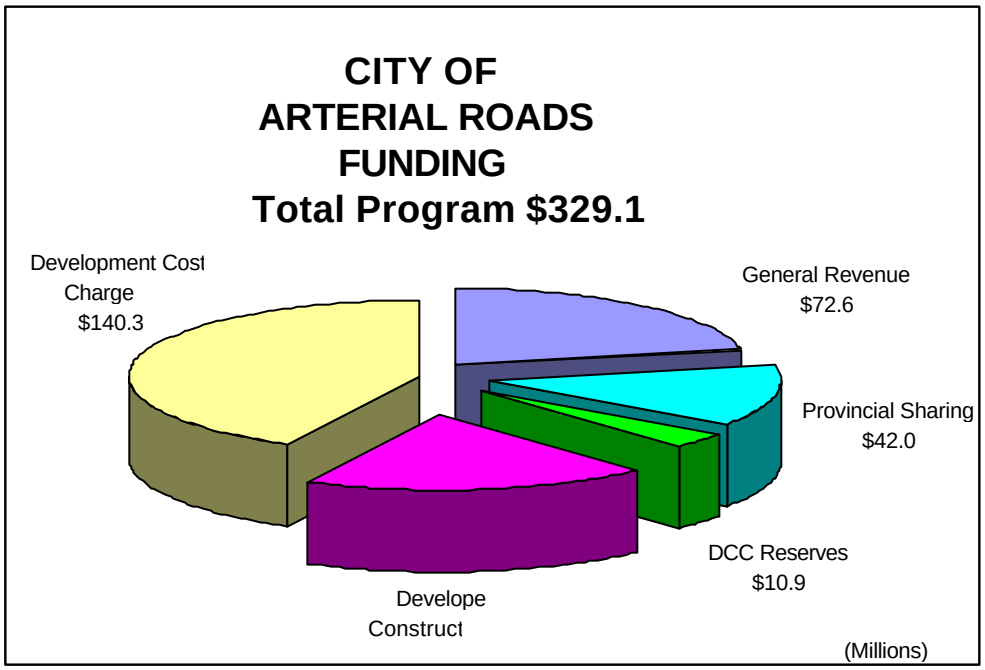
The model provides a further breakdown of how each new growth project is cost shared between benefiting sectors of the city.

The total cost of the Arterial Roads program, over the 20 year planning horizon, is **$329.1 Million**. A major cost factor in the program is the purchase of required **rights-of-way** to achieve widening of existing roads as well as the construction of new arterial roads where those roads are not on developable lands.

The cost of rights-of-way acquisition included in this program is **$52.6 Million.**

The following is a summary of the funding sources for the roads program based on the cost sharing principles and assumptions which have been incorporated in the cost sharing model for roads:

Total Program Cost	**$329.1**	**%**
Provincial Grants	$ 42.0	12.8
General Tax (Assist/General Benefit)	72.6	22.1
Development Cost Charge	140.3	42.6
Developer Construct	63.3	19.2
Development Cost Charge Reserves	10.9	3.3



Cost Sharing Principles and Assumptions

- **Developers will continue to be responsible** for the dedication of 20 meters of right-of-way for arterial roads **through their development lands** and will be responsible for the **construction of two lanes** of the arterial road.

- **Unconditional Provincial Grants** for qualifying projects under Provincial Revenue Sharing have been forecast at $150,000 per year based on the most recent experience. This is similar to the annual revenue forecast in the previous plan.

- A number of major arterial roads projects have been identified as **requiring Provincial Assistance** before proceeding and those projects are the North End Connector, Highway 33, Enterprise Road, Highway 97 and University 2. These major roads projects, with the exception of Enterprise Road, reflect program costs that have been reduced by **50% to reflect the level of Provincial funding** included in the program.

- Road improvements which have been identified as providing a **general city-wide benefit** have been cost shared between existing taxpayers and new growth based on the ratio of current population to projected total population at the end of the planning horizon, 2020. This result is a 62.5/37.5% ratio for cost allocation purposes. The principle of applying this ratio to two lane rural roads being improved to two lane urban roads, sidewalks on arterial roads, bicycle paths on arterial roads and one half of bridge costs where there is an existing bridge in place is a continuation of the current Development Cost Charge cost allocation process.

- **Standards changes** since the last Plan result in requirements for an additional 1" of asphalt and this cost is to be paid by taxation for all road sectors but excluding developer construct roads.

- **New enhancements** to the roadway (stamped asphalt, median treatment, boulevard trees and irrigation) as requested by the community will also be paid for by taxation for all of the inner city roads.

- **Additional taxation** cost sharing is included on **Swamp Road, Beaver Lake Road, McKinley 1, and Rutland Road** to reflect the benefit to existing residents from these new or improved roads.

- Road costs will continue to be cost shared using a **sector approach** which recognizes that the cost of providing a road network in one area of the City may be more expensive than in other areas.

  The sector approach has been expanded in this plan to seven (7) sectors with the **division of sector D into two** in the east Highway 33 area of the City.

- **Common roads**, classified primarily as roads within the larger **Inner City area**, will continue to be **shared on a prorata basis** by the total number of units projected to be achieved within each sector. **Roads which are specifically required to service growth within each of the outlying areas will be paid for entirely by growth in that sector.**

- **Sector I (Inner City) will contribute** towards Swamp Road, Highway 33, and Sector E Roads (North of Inner City) based on the common use of these roadways by all of the community.

The Development Cost Charge rate for each outlying sector will be comprised of that sector's share of the common roads costs as well as the roads costs within that specific sector.

- Some of the growth in the new development plan will occur on land which is governed by a **Land Use Contract (Dilworth Mountain)** for which Development Cost Charges are not payable.

- **No consideration** has been given for **potential excess capacity** which exists in the arterial road network and conversely no consideration has been given for potential excess capacity which will exist at the end of the current planning horizon.

- Arterial roads costs which are required primarily for new growth, have been reduced by **15%** to reflect the recognized benefit that new or expanded roads will be to existing taxpayers. This is known as the **"assist" factor** and has not changed from the previous plan.

- Costs of achieving the arterial road network, which is the responsibility of projected growth in the South Mission Sector, **have been included** in this financial analysis. Developers in this area are responsible for the entire program.

Financial Impacts

- The program, based on the timing of the projects outlined in the plan and the projected cash inflow from Development Cost Charge levies, may result in the **need to borrow funds** of plan. If borrowing is required, it will be necessary to debt finance and repay a portion of the debt with future DCC revenue.

Debt Financing on roads projects cannot form a part of the Development Cost Charge calculation and, therefore, any shortfall from DCC revenues will result in an additional tax burden for existing taxpayers. There is a need to manage the program to minimize the level of borrowing and long term debt financing to the extent possible.

- A **portion of the re-development** which is to occur over the 20 year planning horizon **will be exempt** from the payment of Development Cost Charges by virtue of the Local Government Act and this cost must be recognized as a general taxpayer obligation.

- **General Taxpayer obligations** resulting from a combination of the assist factor, land use contract obligations, shared benefit roads and demand placed on services by new growth for which a Development Cost Charge cannot be collected, must be included in the **annual pay-as-you-go capital program.**

- Cash inflow from Development Cost Charges is impacted by Municipal Act regulations which provide protection from increased levies for one year from the date of application. **In a period of high growth the reduction in revenue can present a significant financial burden on existing taxpayers.**

CITY OF KELOWNA
2020 OFF-SITE ROAD SERVICING PLAN & FINANCING STRATEGY
COST SHARING MODEL

EXHIBIT "A" - ARTERIAL ROADS

($000 Dollars X 1000)

Stages Quarter	Sector	NAME	LOCATION	Description	TOTAL CAPITAL COSTS	NON DCC REVENUE SOURCES By Devlp'r	Highways Assist	MOTH Max Lmt 150/yr	By TAX'N	LUC "I" Inner	NET FOR DCC BASED CALC'n	DCC SECTOR ALLOCATIONS A S.E. Kelowna	B South Mission	C NE of Inner City	D1 North of Hwy 33	D2 South of Hwy 33	E North of Inner City	I COMMON
		Growth Units:								395	22,458	553	3,701	783	1,000	801	2,161	22,853
Q3	A	Gulley 2	Spiers to Hart		875.4				48.2		827.2	827.2						
Q2	A	Hollywd 2	East Kelowna Road - Springfield	RAUL	1,563.9				39.0		1,524.9	1,524.9						
Q2	A	Hollywd 2b	Mission Creek - Crossing	RAUL	2,741.9						2,741.9	2,741.9						
Q2	A	McCulloch	Various		1,500.0						1,500.0	1,500.0						
					6,681.3				87.2		6,594.0	6,594.0						
Q2	B	Barnaby 1	Lakeshore to Gordon	RAUL	2,850.3				73.1		2,777.2		2,777.2					
CPLT	B	Chute Lake 1	Frost Rd to South Perimeter Rd	RAUL	901.5						901.5		901.5					
Q2	B	Chute Lake 2	Barnaby Rd to Frost Rd	RAUL	1,144.9				12.8		1,132.1		1,132.1					
Q2	B	Frost 1	Chute Lake Road - Killdeer Road	UCUL	970.1				40.9		929.2		929.2					
Q2	B	Frost 1b	Frost - Frost	UCUL	78.5						78.5		78.5					
CPLT	B	Frost 2	Killdeer to ending of Existing Frost	UCUL	641.8						641.8		641.8					
Q2	B	Frost 3	End of Existing Frost to Gordon Dr	UCUL	672.6				17.9		654.6		654.6					
Q2-4	B	Gordon 1	Perimeter to Bellevue Creek	UAUL	7,885.8	318.0			238.0		7,329.8		7,329.8					
CPLT	B	Killdeer	Chute Lake Road - Frost Road	UCUL	515.8						515.8		515.8					
Q1	B	Lakshr 1A	Vintage Terrace Rd to Barnaby Rd	UAUL	476.7				7.9		468.8		468.8					
Q4	B	Lakshr 1B (4L)	Vintage Terrace Rd to Barnaby Rd	UAUL	1,745.2				78.0		1,667.3		1,667.3					
Q1	B	S. Perimeter 1	Gordon Dr to Stewart 1	UAUL	6,886.9				149.9		6,737.0		6,737.0					
Q1	B	S. Per. 2 (pc)	Lebanon Creek to Chute 1	UAUL	3,292.3				84.8		3,207.5		3,207.5					
Q1	B	Stewart Rd 1	Perimeter Rd to WFP R.O.W.	RAUL	72.3				4.8		67.5		67.5					
Q1	B	Stewart Rd 2	WFP R.O.W. to Crawford	RAUL	250.8				12.3		238.4		238.4					
					28,385.4	318.0			720.4		27,347.0		27,347.0					
Q4	*B	Casorso 1	Benvoulin Road - Swamp	RAD4L	1,116.4				144.8		971.6		971.6					
Q2	*B	Dehart 1	Lakeshore Road - Gordon Drive	RCUL	95.6						95.6		95.6					
Q3	*B	Dehart 2	Lakeshore Road - Gordon Drive	UAUL	872.4				142.6		729.8		729.8					
Q2	*B	Dehart 3	Gordon Rd to Swamp	RAUL	2,157.6				261.7		1,895.9		1,895.9					
Q2	*B	Gordon 2b	Crossing - Bellevue Creek		490.3				273.5		216.8		216.8					
Q2	*B	Gordon 2	Bellevue Cr. - Dehart	UAUL	1,790.5				104.9		1,685.6		1,685.6					
Q2	*B	Gordon 3	Dehart Rd to Old Meadows Rd	UAUL	1,535.3				280.4		1,255.0		1,255.0					
Q3	*B	Lakshr 1C (4L)	Dehart Rd to Vintage Terrace	UAD4L	4,329.1				533.1		3,796.0		3,796.0					
Q4	*B	Lakshr 2 (4L)	Old Meadows to DeHart	UAD4L	2,466.6				446.3		2,020.3		2,020.3					
Q4	*B	OldMws (4L)	Gordon Drive - Lakeshore Road	UCUL	912.1				100.1		812.0		812.0					
Q3	*B	Stewart Rd 3	Crawford Rd to Swamp	RAUL	5,224.5				186.9		5,038.6		5,038.6					
Q2	*B	Swamp 1	DeHart Rd to Casorso	RAUL	3,340.6				2,193.3		1,147.3		917.8					229.5
					24,330.9				4,666.5		19,664.4		19,434.9					229.5
Q2	C	McCurdy 4	Craig Road - Town Ranch	RCUL	2,483.4				127.9		2,355.6			2,355.6				
Q1-2	D2	Gallagher 1	Existing southwind - Highway 33	UCUL	6,389.7	5,779.7			15.6		594.4					594.4		
Q1	D2	Gallagher 1b	Creek - Crossing - Crossing	UCUL	17.9	17.9												
					6,407.6	5,797.6			15.6		594.4					594.4		
Q2	D1	Gallagher 3	Highway 33 - Tiokhop Road	UCUL	5,187.3	5,187.3												
Q2	D1	Lone Pine	Highway 33 - 500m east	UCUL	2,529.4				29.4		2,500.0				2,500.0			
					7,716.7	5,187.3			29.4		2,500.0				2,500.0			
Q2	D1,2	Hwy 33 2	Mckenzie - Springfield	RAD4L	2,674.0		1,337.0		176.2		1,160.8				494.2	398.3		270.3

Q2	D1,2	**Hwy 33 3**	Springfield Road - Garner Road	FA/AC4L	**5,828.6**		2,914.3		401.8		**2,512.5**				1,071.0	858.7		582.8
Q2	D1,2	**Hwy 33 4**	Garner Road - Gallagher Road	UAC4L	**3,936.7**		1,968.4		339.3		**1,629.0**				698.8	560.3		369.9
					12,439.3		**6,219.7**		**917.3**		**5,302.3**				**2,264.0**	**1,815.3**		**1,223.0**
Q2	E	**Airport**	Hollywood Road - Highway 97	UAC4L	**811.7**	811.7												
Q4	E	**Beaver Lake Rd**	City Limits - East Connector	UAL2L	**2,232.3**	662.3			1,570.0		**0**						(0.3)	
Q4	E	**Hollywd 7**	Sexsmith Road - Appaloosa	UAL2L	**1,940.4**	817.2			80.6		**1,042.6**						781.9	260.6
Q1-4	E	**Hollywd 8**	Lougheed - Lochrem	UAL2L	**9,691.9**	5,643.8			647.1		**3,401.0**						2,550.7	850.2
Q3	E	**McKinley 1**	Glenmore Road - Highway 97	RAL2L	**7,084.2**				4,489.5		**2,594.6**						2,594.6	
Q3	E	**University 1**	Hollywood Road - Highway 97	UAC4L	**957.7**				40.2		**917.4**						691.3	226.1
Q3	E	**University 2**	Hollywood Road - Bulman Road	UAC4L	**7,596.6**		3,798.3		115.0		**3,683.3**						2,762.5	920.8
Q3	E	**University 2b**	Mill Creek - Crossing	UAC4L	**324.6**						**324.6**						243.5	81.2
Q3	E	**University 3**	Highway 97 - University Way		**1,175.3**						**1,175.3**						881.5	293.8
					31,814.8	**7,935.1**	**3,798.3**		**6,942.6**		**13,138.5**						**10,505.7**	**2,632.8**
Q2	I	**Begbie Road**	Glenmore Highlands - Glenmore Rd	RO,2L	**1,818.2**	1,818.2												
Q3	I	**Benvoulin 1**	Casorso Road - KLO Road	RAC4L	**3,811.3**				739.2	87.6	**2,984.6**							2,984.6
Q1	I	**Benvoulin 2**	Cooper Road - Springfield Avenue	FA/AC4L	**4,649.7**	1,941.7			610.6	59.8	**2,037.6**							2,037.6
Q3	I	**Bernard 2**	Richmond Street - Burtch Road	UAL4L	**1,198.3**				92.4	31.5	**1,074.3**							1,074.3
Q3	I	**Burtch 1**	Benvoulin Road - KLO Road	RAL2L	**755.1**				58.3	19.9	**676.9**							676.9
Q3	I	**Burtch 2**	KLO Road - Byrns Road	FA/AC2L	**3,119.0**	364.3			457.1	65.5	**2,232.0**							2,232.0
Q4	I	**Burtch 4**	Sutherland Road - Highway 97	UAC4L	**795.7**				45.6	21.4	**728.7**							728.7
Q1	I	**Burtch 5**	Highway 97 - Kalglen	UAL2L	**172.2**	22.6			132.2	0.5	**16.8**							16.8
Q1	I	**Clement 1**	Ellis - Gordon	UED4L_Rec	**4,470.3**	967.9			789.3	77.9	**2,655.2**							2,655.2
Q2	I	**Clifton 1**	MacLeay - Clifton (existing)	UAL2L	**1,798.3**	384.3			348.5	30.4	**1,035.1**							1,035.1
Q1	I	**Enterprise 1**	Banks Road - Leathead Road	UAC2L	**3,497.4**	966.9	1,060.5		343.8	32.1	**1,094.1**							1,094.1
Q1	I	**Ethel 2**	Springfield -Lawson	UC4L	**3,897.1**	301.1			576.3	86.1	**2,933.6**							2,933.6
CPLT	I	**Glenmore 1**	High Road - Glen Meadows	UAC4L	**1,332.7**	895.3			212.1	6.7	**228.6**							228.6
Q1	I	**Glenmore 1**	Glen Meadows - Dallas Road	RAL4L	**3,172.7**	2,285.5			209.9	19.3	**658.0**							658.0
Q3	I	**Glenmore 2**	Dallas Road - Union Road	RAL4L	**3,127.1**	1,902.5			190.9	29.9	**1,014.1**							1,014.1
Q3	I	**Glenmore 3**	Union Road - Scenic Road	RAL2L	**1,682.7**				135.1	44.1	**1,503.5**							1,503.5
Q1	I	**Gordon 4**	Old Meadows Rd - Mission Creek	FA/AC4L	**1,747.9**	1,124.9			622.8	0.0	**0.1**							0.1
Q2	I	**Gordon 5**	Mission Creek - Casorso	FA/AC2L	**1,710.4**	56.1			431.8	34.9	**1,187.7**							1,187.7
Q2	I	**Gordon 6**	Casorso Road - Lanfranco Road	FA/AC4L	**1,611.9**	237.7			520.5	24.3	**829.4**							829.4
Q2	I	**Gordon Bridge**	Mission Creek Crossing	2 Lane	**475.0**					13.5	**461.5**							461.5
Q2	I	**Guisachan 2**	Gordon Drive - Burtch Road	UAL2L	**1,276.8**	424.7			837.8	0.4	**13.9**							13.9
Q2	I	**High 1**	North Connector - Mountain Drive	UAC4L	**2,641.3**				354.1	65.2	**2,222.0**							2,222.0
Q2	I	**High 2**	Mountain Drive - Lynwood Cresent	UAL4L	**680.4**				60.6	17.7	**602.1**							602.1
Q3	I	**Hollywd 3**	McCurdy Road - Stremel	UAL2L	**1,756.8**				189.8	44.7	**1,522.4**							1,522.4
Q3	I	**Hollywd 4**	Stremel - Highway 97	UAL2L	**1,426.6**	197.0			1,100.5	3.7	**125.4**							125.4
Q3	I	**Hollywd 4b**	Francis Creek - Crossing	UC2L	**18.3**				5.7	0.4	**12.2**							12.2
Q4	I	**Hollywd 5**	Highway 97 - Cambrio	UAL2L	**1,456.0**	200.6			247.3	28.7	**979.4**							979.4
Q4	I	**Hollywd 5b**	Mill Creek - Crossing	UAL2L	**461.4**				144.4	9.0	**308.0**							308.0
Q4	I	**Hollywd 6**	extg. South end - Sexsmith Road	UAL2L	**561.3**	102.7			396.8	1.8	**60.0**							60.0
Q2	I	**Hwy 33 1**	NEC - Highway 97	UAC4L	**3,738.3**		1,869.1		444.7	40.6	**1,383.8**							1,383.8

Q1	I	**Hwy 97 1**	Gordon Drive - Highway 33	UAD6L	**5,458.1**	766.7	2,345.7		1,844.3	14.3	**487.1**								487.1
Q3	I	**Hwy 97 2**	Highway 33 - Sexsmith	UAD4L	**6,071.0**	2,449.8	1,810.6		1,482.2	9.4	**319.1**								319.1
Q1	I	**KLO**	Gordon Drive - Benvoulin Road	UAD4L	**4,163.4**	439.7			924.8	79.8	**2,719.2**								2,719.2
Q3	I	**Lkshore 3**	Richter Street - Old Meadows Road	UAD4L	**13,404.1**	2,109.1			2,011.0	264.7	**9,019.4**								9,019.4
Q3	I	**Lkshore 3b**	Mission Creek - Crossing	UAD4L	**2,379.3**					67.8	**2,311.5**								2,311.5
Q3	I	**Lkshore 3c**	Wilson Creek - Crossing	UAD4L	**302.8**					8.6	**294.2**								294.2
Q2	I	**Lkshore 4**	Lanfranco Road - Richter Street	UAL3L	**595.9**	75.6			175.9	9.8	**334.5**								334.5
Q4	I	**McCurdy 1**	Dilworth - NEC	RAL2L	**3,443.2**	607.4			218.0	74.6	**2,543.3**								2,543.3
Q2	I	**McCurdy 2**	NEC - Highway 97	RAL2L	**1,241.8**	318.1			127.9	22.7	**773.1**								773.1
Q4	I	**McCurdy 2b**	Mill Creek - Crossing	UAL2L	**396.6**				124.1	7.8	**264.7**								264.7
Q4	I	**McCurdy 3**	Highway 97 - Hollywood Road	UAD4L	**3,040.9**				647.9	68.2	**2,324.8**								2,324.8
Q1	I	**NEC - A**	Gordon - Clifton	UAD4L_Re	**9,522.3**		4,761.1		437.5	123.3	**4,200.4**								4,200.4
Q1	I	**NEC 1**	Clifton - Spall	UAD4L	**5,639.6**		2,819.8		1,015.3	51.4	**1,753.1**								1,753.1
Q2	I	**NEC 2**	Spall Road - Highway 33	UAD4L	**23,225.1**		11,612.6		1,871.8	277.7	**9,463.1**								9,463.1
Q2	I	**NEC 3**	Highway 33 - McCurdy Road	RAL2L	**5,456.0**	2,525.1	2,728.0		175.3	0.8	**26.8**								26.8
Q4	I	**Pandosy 1**	Raymer Avenue - Royal Avenue	UAL2L	**848.1**				250.3	17.0	**580.7**								580.7
Q1	I	**Pandosy 2**	Royal Avenue - Lake Avenue	UAL3L	**2,053.8**				384.5	47.6	**1,621.8**								1,621.8
Q1	I	**Pandosy 3**	Lake Avenue - Highway 97	UAL2L	**3,199.8**				111.1	88.1	**3,000.7**								3,000.7
Q1	I	**Pandosy 3b**	Creek - Crossing	UAL2L	**600.0**					17.1	**582.9**								582.9
Q3	I	**Richter 1**	KLO Road - Sutherland Avenue	UAL3L	**3,416.8**				1,009.5	68.7	**2,339.6**								2,339.6
Q1-4	I	**Ridge**	Cara Glen Way - Sexsmith Road	UAL2L	**13,303.1**	13,303.1													
Q2	I	**Rio 1**	Clifton Road - Highlands	UCL2L	**631.2**	631.2													
Q2	I	**Rio 2**	Highlands - Internal Road C1	UCL2L	**921.9**	921.9													
Q2	I	**Rutland 1**	Leathead Road - Cornish Road	UAL4L	**9,034.9**	621.7			3,383.3	143.4	**4,886.5**								4,886.5
Q2	I	**Rutland 2**	Cornish Road - Old Vernon Road	UAD4L	**2,037.5**	428.8			713.1	25.5	**870.1**								870.1
Q1	I	**Sexsmith 1**	Ridge Road - Millard Road	UAL2L	**3,394.1**	3,394.1				0.0	**0.0**								0.0
Q3	I	**Sexsmith 2**	Glenmore old - Glenmore Bypass	RAL2L	**415.2**	132.2			283.0	(0.0)	**(0.0)**								(0.0)
Q3	I	**Sexsmith 3**	Glenmore Bypass - Valley Road	RAL2L	**1,271.5**	518.8			180.1		**572.6**								572.6
Q4	I	**Sexsmith 4**	Valley - Longhill	RAL2L	**4,571.3**				940.5	103.5	**3,527.3**								3,527.3
Q3	I	**Sexsmith 5**	Longhill - Rutland Road	RAL4L	**6,480.2**	668.3			1,515.9	122.5	**4,173.5**								4,173.5
Q3	I	**Springfield 1**	Richter Street - Ethel Street	UAD4L	**3,059.9**				257.0	79.9	**2,723.0**								2,723.0
CPLT	I	**Springfield 2**	Ziprick Road -Hollywood Road	UAL4L	**4,077.2**				657.9	100.3	**3,419.0**								3,419.0
Q3	I	**Springfield 3**	Hollywood Road - Rutland Road	UAL4L	**4,693.7**				461.9	120.6	**4,111.3**								4,111.3
					207,210.5	44,095.7	29,007.4		31,371.1	2,912.4	99,823.9								103,909.1
		Annual MOTH						(3,000.0)			**(3,000.0)**								(3,000.0)
	Subtotal A				**327,469.9**	63,333.7	39,025.4	(3,000.0)	44,878.0	2,912.4	174,320.0	6,594.0	46,781.9	2,355.6	4,764.0	2,409.7	10,505.7	100,909.1
	Carry Over (09-12-31 Reserve Balance):										(10,909.8)	(3,078.2)	(300.0)		(384.2)	(384.2)	(990.9)	(5,772.3)
	Subtotal B				**327,469.9**	63,333.7	39,025.4	(3,000.0)	44,878.0	2,912.4	163,410.2	3,515.8	46,481.9	2,355.6	4,379.9	2,025.5	9,514.7	95,136.8
	Add LUC Portion of Costs back to Common:									(2,912.4)								2,912.4
	Subtotal C				**327,469.9**	63,333.7	39,025.4	(3,000.0)	44,878.0		163,410.2	3,515.8	46,481.9	2,355.6	4,379.9	2,025.5	9,514.7	98,049.3
					1,634.1	**Engineering/Administ**		**1.00%**			**1,634.1**	**35.2**	**464.8**	**23.6**	**43.8**	**20.3**	**95.1**	**980.5**
					329,104.0	**Subtotal D**					**165,044.3**	**3,551.0**	**46,946.7**	**2,379.1**	**4,423.7**	**2,045.8**	**9,609.9**	**99,029.8**

Less Assist	15.00%		(24,756.7)	(532.6)	(7,042.0)	(356.9)	(663.6)	(306.9)	(1,441.5)	(14,854.5)
Total for DCC			140,287.7	3,018.3	39,904.7	2,022.3	3,760.1	1,738.9	8,168.4	84,175.3
Residential 1:		Sector	5,458	10,782	2,589	3,760	2,171	3,780		
		Common	3,683	3,683	3,683	3,683	3,683	3,683		
		Total Roads	9,141	14,465	6,273	7,443	5,854	7,463		
Residential 2:		Sector	4,366	8,626	2,071	3,008	1,737	3,024		
		Common	2,947	2,947	2,947	2,947	2,947	2,947		
		Total Roads	7,313	11,572	5,018	5,955	4,683	5,971		
Residential 3:		Sector	3,002	5,930	1,424	2,068	1,194	2,079		
		Common	2,026	2,026	2,026	2,026	2,026	2,026		
		Total Roads	5,028	7,956	3,450	4,094	3,220	4,105		
Residential 4:		Sector	2,838	5,607	1,346	1,955	1,129	1,966		
		Common	1,915	1,915	1,915	1,915	1,915	1,915		
		Total Roads	4,754	7,522	3,262	3,871	3,044	3,881		
Lodging House or G		Sector	4,366	8,626	2,071	3,008	1,737	3,024		
		Common	2,947	2,947	2,947	2,947	2,947	2,947		
		Total Roads	7,313	11,572	5,018	5,955	4,683	5,971		
Commercial - Per 1,(		Sector	1,679	3,318	797	1,157	668	1,163		
		Common	1,133	1,133	1,133	1,133	1,133	1,133		
		Total Roads	2,813	4,451	1,930	2,290	1,801	2,296		
Industrial - Per Acre		Sector	5,458	10,782	2,589	3,760	2,171	3,780		
		Common	3,683	3,683	3,683	3,683	3,683	3,683		
		Total Roads	9,141	14,465	6,273	7,443	5,854	7,463		
Institutional - Per 1,(		Sector	1,679	3,318	797	1,157	668	1,163		
		Common	1,133	1,133	1,133	1,133	1,133	1,133		
		Total Roads	2,813	4,451	1,930	2,290	1,801	2,296		

2. Water Pumping and Distribution Systems

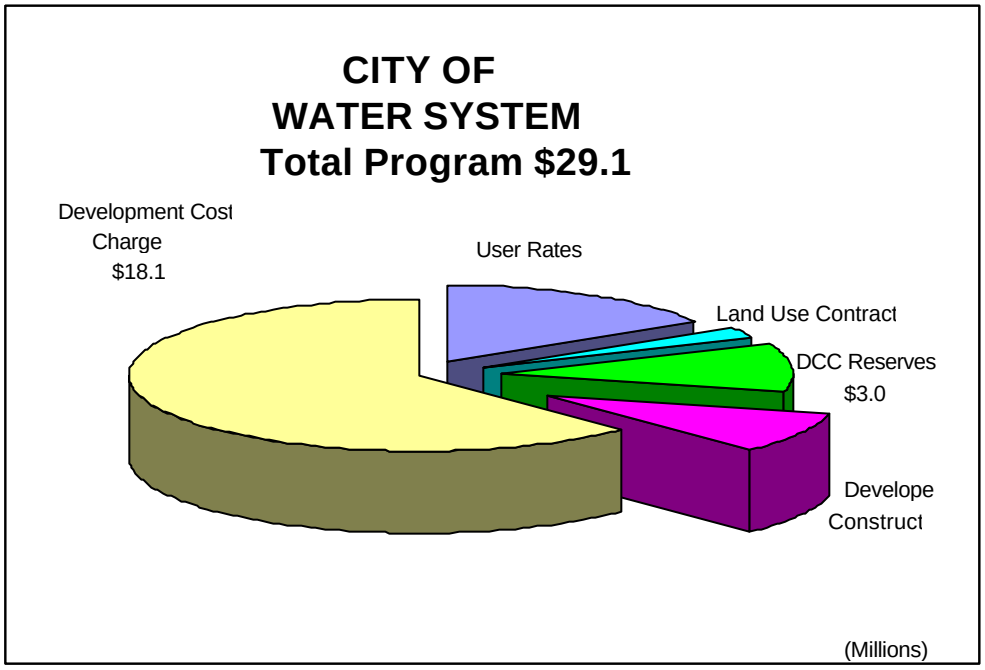
Exhibit "B" - 20 Year Off-Site Water Servicing Plan & Financing Strategy - Cost Sharing Model, attached, provides the cost for each capital project and how the cost of the program is shared between existing taxpayers and new growth within the 20 year planning horizon.

The model provides a further breakdown of how each new growth project is cost shared between benefiting sectors of the city.

The total cost of the Water Servicing program, over the 20 year planning horizon, is **$29.1 Million**.

The following is a summary of the funding sources for the water program based on the cost sharing principles and assumptions which have been incorporated in the cost sharing model for the water system:

Total Program Cost	**$29.1**	**%**
User Rates (Assist/Gen Benefit/Oversize)	$ 4.7	16.2
Development Cost Charge	18.1	62.2
Developer Construct	2.6	8.9
Development Cost Charge Reserves	3.0	10.3
Land Use Contract Revenue	.7	2.4



Cost Sharing Principles and Assumptions

- Capital improvements which have been identified as correcting existing deficiencies or where there is an overall general water utility benefit, have been **cost shared between existing rate payers and new growth**.

- The cost of capital improvements which **provide excess capacity** for growth beyond the 20 year planning horizon have not been allocated to new growth.

- A **sector approach** has been used to allocate capital project costs to distinctly different water service areas. The main city water system, serviced from the Poplar Point water intake, the Skyline/Clifton water system, which is serviced by a supplementary booster system and the South Mission water system which is serviced from a separate water intake in that area make up the three water service sectors.

- Maximum day demand for the system is significantly less than forecasted.

- A reduction in customer consumption is occurring due to water metering, customer education and conservation programs.

Financial Implications

- **Extensive financial modeling of the water utility** has been done to project the impact on user rates over the next 10 year planning horizon. **User rates** are impacted by a combination of providing for existing deficiencies in the water system, provision of excess capacity to service new growth and replacing aging infrastructure within the existing water supply system.

- **Installation of water meters** has reduced consumption substantially since it's introduction and has contributed to a reduction in the cost of the Water DCC program.

CITY OF KELOWNA

2020 WATER SERVICING PLAN & FINANCING STRATEGY

COST SHARING MODEL

EXHIBIT "B" - WATER

Target Year	PROJECT	DESCRIPTION	TOTAL CAPITAL COST	NON-DCC REVENUE SOURCES							NET FOR DCC CALC'S	DCC SECTOR ALLOCATIONS		
				By Dev'p't	Spec Area	Prov'l Assist	Benefit Existing	Oversize	Net By Utility	& LUC CREDIT		A Central	B South Mission	D Clifton
			Total Growth Units:							395	13,009	7,041	3,690	2,278
Comp	Sky PS 1	Skyline/High Booster Pumps	607.0								607.0			607.0
2006	BRDWY PP	Broadway - P. Pt. Drive	549.5							19.6	529.9	355.0		174.9
2006	BRDWY TRNK	Broadway Trunk 1350 mm	1,723.9							61.4	1,662.5	1,113.9		548.6
2006	BRDWY VC	Broadway Valve Chamber	210.0							7.5	202.6	135.7		66.8
2006	CAMB VC	Cambridge Valve Chamber	210.0							7.5	202.6	135.7		66.8
2016	CEDAR PMP	Mission - 2 x 800 hp pumps	1,258.0				729.6		729.6		528.3		528.3	
2004	CEDAR PS	New Cedar Cr. PS - 2 Pumps &	2,317.4				200.0		200.0		2,117.4		2,117.4	
2011	CLEMENT	Clement Ave pipe -(Ethel-Rich	290.2							15.4	274.8	274.8		
2014	CRAWFORD 3	Crawford - 3x100 hp Pumps	536.2	428.9			107.2		107.2	0.0	0.0	0.0		
2014	CRAWFORD 4	Crawford 2 Trunk 300 mm pipe	552.4	441.9			110.5		110.5					
2014	CRAWFORD 5	Crawford Trunk - 300mm pipe	274.0	219.2			54.8		54.8	0.0	0.0	0.0		
2014	CRAWFORD 6	Expand Crawford Reservoir	341.5	273.2			68.3		68.3	0.0	0.0	0.0		
2010	DAON PS	125 hp Pump-Daon PS	421.4	421.4										
2010	DILWORTH	Twin Dilworth Trunk-300mm pi	523.3	523.3										
2010	ELDRDO PS	Eldorado Pump Stn Refrbsh	304.6							16.2	288.4	288.4		
2014	ELLIS	North Ellis - Pipe 500 mm	350.0							18.6	331.4	331.4		
2011	ETHEL TRNK	Ethel St Trunk-(Weddel-Cleme	479.1							25.5	453.7	453.7		
2013	HARVEY	Hwy 97-Gordon -Chandler-Pip	412.7							21.9	390.8	390.8		
2006	KNOX TRNK	Knox Trunk 1200 mm	2,991.9							106.5	2,885.4	1,933.2		952.2
2006	KNOX VC	Knox Valve Chamber	210.0								210.0	140.7		69.3
2016	LKSHR PRV	Lakeshore Trunk - PRV Statio	210.0				121.8		121.8	4.7	83.5	83.5		
2016	LKSHR TRNK	Lakeshore Trunk 500 mm	5,142.2				2,982.5		2,982.5	114.7	2,045.0	2,045.0		
2004	PP INTAKE	1,066 mm intake - Poplar Pt	456.8							16.3	440.6	295.2		145.4
2004	PP POWR	Upgrade Power Supply Poplar	366.0							13.0	353.0	236.5		116.5
2004	PP TURB	2x 500hp Turbines - Poplar Pt	456.8							16.3	440.6	295.2		145.4
2004	PP VALVE	Upgrade Valve Chmbr Poplar	823.3							29.3	794.0	532.0		262.0
2011	RICHTER	1085 m 300 mm pipe-Richter	777.4							41.3	736.1	736.1		
2007	SKY PMP	Skyline - new 600hp pump	228.4								228.4			228.4
2007	SKY ST	Skyline Suction Trunk 450 mm	586.4								586.4			586.4
2010	SKY TRK1	Skyline Trk - 200mm to 350mm	380.8				99.0		99.0		281.8			281.8
2010	SKY TRK2	Skyline Trk - 200mm to 300mm	629.3				163.6		163.6		465.7			465.7
2007	SKY VC	Skyline Valve Chamber	157.5								157.5			157.5
2010	SUMMIT PH	Summit PH Extension	76.1	76.1										
2010	SUMMIT PS	2-50hp pumps @Summit PS	168.6	168.6										
2009	TRNCH TRNK	Trench Place Trunk 900 mm	2,466.0							87.8	2,378.2	1,593.4		784.8
2010	WEDDELL VC	Weddel Valve Chamber	262.6							9.3	253.2	169.6		83.6
Annl	ANNL OS	Annual Oversizing Componen	1,200.0							63.7	1,136.3	1,136.3		
		SUBTOTAL A	28,951.5	2,552.7			4,637.4		4,637.4	696.3	21,065.1	12,676.2	2,645.8	5,743.1

Less: Land Use Credits										
SUBTOTAL B	28,951.5	2,552.7	4,637.4	4,637.4	696.3	21,065.1	12,676.2	2,645.8	5,743.1
Carry Over(Reserve Balances)						(2,981.6)	(2,866.4)	(78.7)	(36.5)
SUBTOTAL C	28,951.5	2,552.7	4,637.4	4,637.4	696.3	18,083.5	9,809.8	2,567.1	5,706.6
	180.8	Engineering/Administration			1.00%	180.8	98.1	25.7	57.1
	29,132.4	Subtotal D				18,264.4	9,907.9	2,592.8	5,763.7
		Less Assist		@	1.00%	(182.6)	(99.1)	(25.9)	(57.6)
		Total for DCC				18,081.7	9,808.8	2,566.8	5,706.1

NET UNIT DCC FOR:

Residential 1:	1,393	696	2,505
Residential 2:	933	466	1,678
Residential 3:	669	334	1,202
Residential 4:	474	237	852
Lodging House or Group Home:	1,393	696	2,505
Commercial - Per 1,000 Sq. Ft.:	536	268	963
Industrial - Per Acre:	3,901	1,948	7,014
Institutional - Per 1,000 Sq. Ft.:	536	268	963

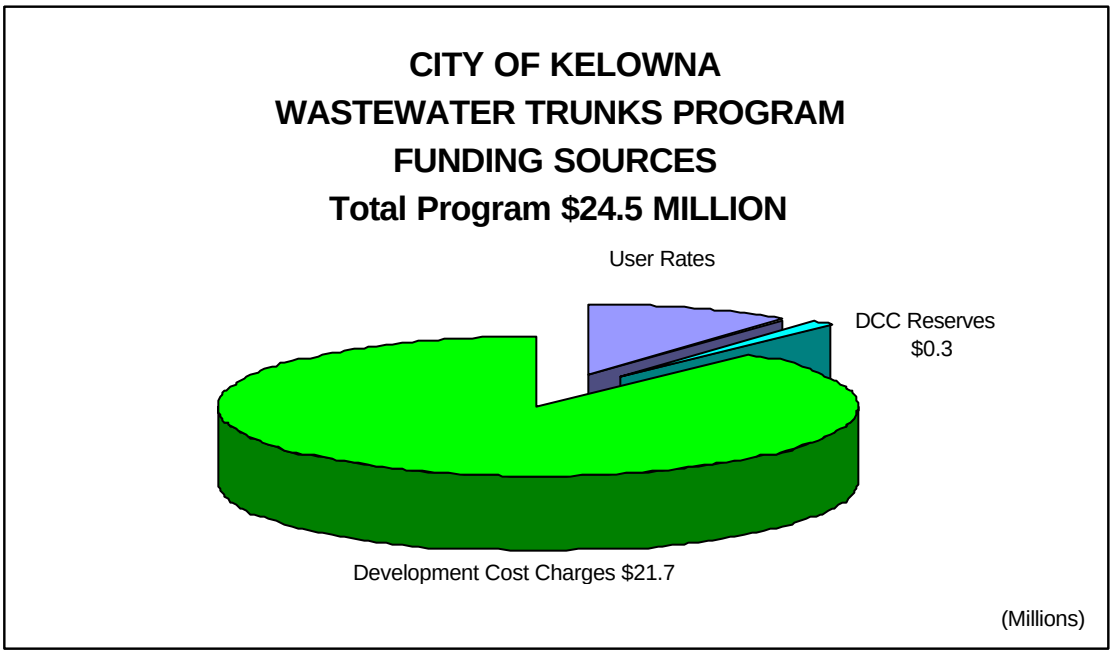
3. Wastewater Collection System

Exhibit "C" - 20 Year Off-Site Wastewater Trunk Servicing Plan & Financing Strategy - Cost Sharing Model, attached, provides all of the detailed calculations for each capital project and how the cost of the program is shared between existing taxpayers and new growth within the 20 year planning horizon. The model provides a further breakdown of how each new growth project is cost shared between the benefiting sectors of the city.

The total cost of the Wastewater Trunk Servicing program, over the 20 year planning horizon, is **$24.5 Million**.

The following is a summary of the funding sources for the sanitary sewer trunk program based on the cost sharing principles and assumptions which have been incorporated in the cost sharing model for sanitary sewer trunks:

Total Program Cost	**$24.5**	**%**
User Rates (Assist/Gen Benefit/Oversize)	2.5	10.2
Development Cost Charge	21.7	88.6
Development Cost Charge Reserves	0.3	1.2



Cost Sharing Principles and Assumptions

- The program includes a **major extension of wastewater services to the Hall Road area**, a major portion of which is to be financed by establishment of a Specified Benefiting Area with cost recovery from existing property owners in that area. **A portion of the cost will be recovered from new growth in the same area.**

- The cost of capital improvements which **provide excess capacity** for growth beyond the 20 year planning horizon have not been allocated to new growth. If the project is completed early in the planning horizon this represents a significant up-front investment by the general wastewater utility.

- Project costs are shared between 2 sectors with the Southwest Mission now including **all neighbourhoods**.

- Cost sharing is based **on the % of new units** in each sector.

- The **assist factor** remains at 1%.

Financial Impacts

- **Extensive financial modeling** of the sewer utility has been done to project the impact on user rates over the next 10 year planning horizon. User rates are impacted by a combination of providing for existing deficiencies in the sewer system, provision of excess capacity to service new growth and replacing aging infrastructure within the existing water supply system.

- The major impact on the sewer utility is the **provision of sewage treatment facilities** which will be dealt with in more detail in the next section of this document.

CITY OF KELOWNA

2020 WASTEWATER TRUNKS PLAN & FINANCIAL STRATEGY

EXHIBIT "C" - WASTEWATER TRUNKS

COST SHARING MODEL

(2000 Dollars x 1000)

Target Year	PROJECT	FROM - TO	TOTAL CAPITAL COST	NON DCC REVENUE SOURCES					NET FOR DCC CALC'S	ALLOCATIONS	
				By Devlp'r	Prov'l Assist	Benefit Existing	Oversize By Utility	LUC Not South Mission		NOT South Mission	South Mission
		Total Growth Units:						395	23,285	19,487	3,798
COMP	O/S GLNMR MS	Glenmore Trk 5, Mission Trk	550.3						**550.3**	550.3	
COMP	MF OVERSIZE	Oversize for South Mission F	500.0						**500.0**		500.0
COMP	O/S MS1 LKSHF	Outstanding Credit	492.9						**492.9**		492.9
2001	O/S WATER FM	Outstanding Pymnt	414.3						**414.3**	414.3	
2002	L. N HARVEY	Ellis - Richter - Leon	303.0			151.5		2.5	**149.0**	149.0	
2002	SPRGZIP	Hollywood S- Ziprick - Baron	1,227.5			51.5		19.6	**1,156.4**	1,156.4	
2003	BYRNSBAR 1	Ziprick to Burtch	3,024.7			206.8		47.0	**2,770.9**	2,770.9	
2003	MILLSBAR	HWY 97 to Baron	1,019.7			87.5		15.5	**916.7**	916.7	
2004	6B CROSS	Glenmore - Valley	555.3					9.3	**546.0**	546.0	
2005	KLO	KLO - Swordy	502.8					8.4	**494.4**	494.4	
2005	SPRGBLK	Belgo - Hollywood S	1,326.4			74.0		20.9	**1,231.5**	1,231.5	
2005	BIRCH ELS	@ Richter	425.0					7.1	**417.9**	417.9	
2005	GUY ELS	@ Bay	251.6			137.2		1.9	**112.5**	112.5	
2006	GLENMORE 7C	Yates - 700m North	724.6					12.1	**712.5**	712.5	
2007	GYRO FM	Gyro LS - KPCC	964.8					16.1	**948.7**	189.7	759.0
2008	GORDON ELS	@ Raymer	457.5					7.6	**449.9**	449.9	
2008	WATER FM	Pandosy to Ethel	522.1					8.7	**513.4**	513.4	
2008	RAYMER ELS	@ Curts	457.5					7.6	**449.9**	449.9	
2008	BYRNSBAR 2	Burtch to KPCC	2,739.6			213.5		42.1	**2,484.0**	2,484.0	
2010	ETHEL 3	Gordon - Richmond- Orchard	787.2					13.1	**774.1**	774.1	
2015	HALL	KLO - Benvoulin	674.8			549.0		2.1	**123.7**	123.7	
2015	RUTLAND	Mayden Rd	865.1					14.4	**850.7**	850.7	
2017	SOUTH GORDO	Old Meadows to KPCC	4,344.5				634.1		**3,710.4**	742.1	2,968.3
2001/20	OVERSIZE	Oversize Component - $60/y	1,200.0					20.0	**1,180.0**	1,180.0	

CITY OF KELOWNA

2020 WASTEWATER TRUNKS PLAN & FINANCIAL STRATEGY

EXHIBIT "C" - WASTEWATER TRUNKS

COST SHARING MODEL

(2000 Dollars x 1000)

Target Year	PROJECT	FROM - TO	TOTAL CAPITAL COST	NON DCC REVENUE SOURCES					NET FOR DCC CALC'S	ALLOCATIONS	
				By Devlp'r	Prov'l Assist	Benefit Existing	Oversize By Utility	LUC Not South Mission		NOT South Mission	South Mission
		Total Growth Units:						395	23,285	19,487	3,798
		SUBTOTAL A	24,331.2			1,471.0	634.1	276.2	21,949.9	17,229.7	######
		Less: Land Use Credits									
		SUBTOTAL B	24,331.2			1,471.0	634.1	276.2	21,949.9	17,229.7	######
		Carry Over(2000-12-31 Reserve Balances)							(287.7)	(197.0)	(90.7)
		SUBTOTAL C	24,331.2			1,471.0	634.1	276.2	21,662.2	17,032.7	######
			216.6	Engineering/Administration				1.00%	216.6	170.3	46.3
			24,547.8	Subtotal D					21,878.8	17,203.0	######
			Less Assist				@	1.00%	(218.8)	(172.0)	(46.8)
			Total for DCC						21,660.0	17,031.0	######

NET UNIT DCC FOR:

Residential 1:	874	1,219
Residential 2:	725	1,012
Residential 3:	489	683
Residential 4:	472	658
Lodging House or Group Home:	874	1,219
Commercial - Per 1,000 Sq. Ft.:	336	469
Industrial - Per Acre:	2,447	3,413
Institutional - Per 1,000 Sq. Ft.:	336	469

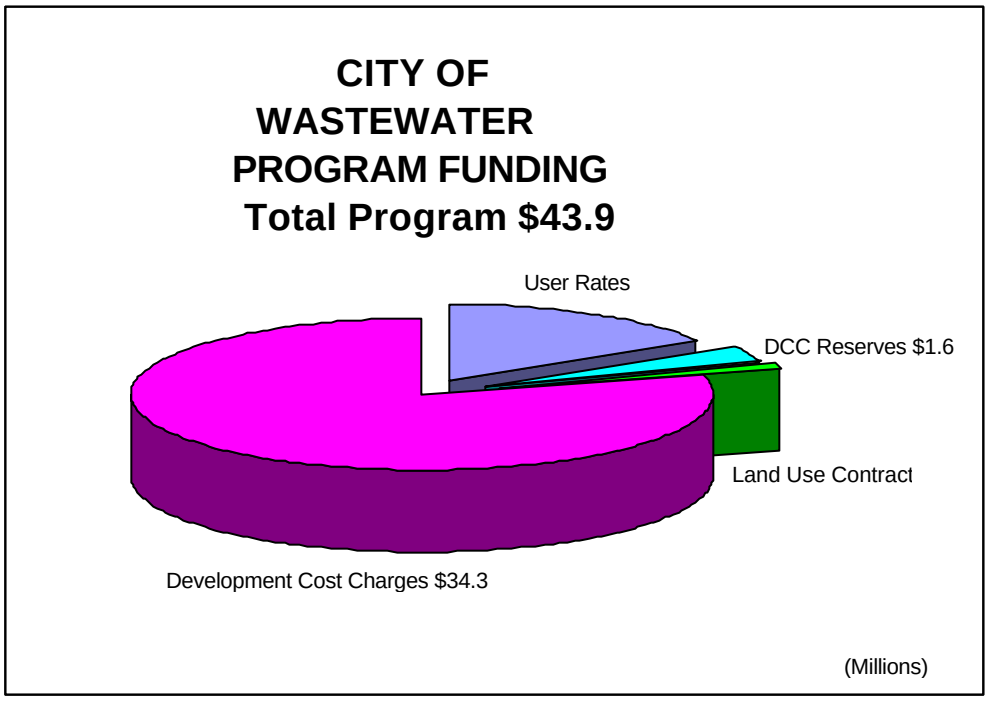
4. Wastewater Treatment and Disposal

Exhibit "D" - 20 Year Wastewater Treatment and Disposal Servicing Plan & Financing Strategy - Cost Sharing Model, attached, provides all of the detailed calculations for each capital project and how the cost of the program is shared between existing taxpayers and new growth within the 20 year planning horizon. The model provides a further breakdown of how each new growth project is cost shared between the benefiting sectors of the city.

The total cost of the Sewer Treatment and Disposal Servicing program, over the 20 year planning horizon, is **$43.9 Million**.

The following is a summary of the funding sources for the sewer treatment program based on the cost sharing principles and assumptions which have been incorporated in the cost sharing model for sewer treatment:

Total Program Cost	**$43.9**	**%**
User Rates (Assist/Gen Benefit/Oversize)	7.5	17.1
Development Cost Charge	34.3	78.2
Development Cost Charge Reserve	1.6	3.6
Land Use Contract Revenue	.5	1.1



Cost Sharing Principles and Assumptions - Long Term Financing Costs

- Based on the preliminary engineering design report, engineering and construction of **Stage 2 of the Treatment Plant** is estimated to cost $28.9 Million, with commencement of design in 2012 and construction over a three year period.

The municipality will face a major expenditure during this time which will increase the capacity of the plant from an estimated **95,000 population to 150,000.**

Under the normal Development Cost Charge calculation model, the long term debt financing costs to carry this excess capacity while awaiting payment from future growth, will have a significant impact on sewer utility user rates in the future.

Cost Sharing Principles and Assumptions - Other

- **$7.6 Million or 17.5% of the program has been allocated to existing utility rate payers** to reflect the cost of capital improvements which provide excess capacity for growth beyond the 20 year planning horizon or provide capacity for existing properties not yet connected to the Treatment Plant but are planned to be connected within 20 years.

- The existing **Dilworth Land Use Contract**, under terms of the agreement provides for payment of a Sewer Development levy of $600 per unit as a contribution towards the Sewer Treatment Plant.

- Although it is anticipated that the requirement for an **additional sewage treatment facility** site is beyond the 20 year planning horizon, the land purchase is scheduled for 2015. The cost sharing model currently allocates the estimated cost to existing users. When sufficient engineering information is available identifying the year the new site will be needed, a proportionate share will be allocated to new growth and reflected in future DCC revisions.

Financial Impacts

- Extensive financial modeling of the sewer utility has been done to project the impact on user rates over the next 10 year planning horizon. User rates have been projected on the basis of the **incorporation of an interest component into the formulation of the Development Cost Charge levy.**

- There is a **significant risk factor** associated with the construction of infrastructure components that involve “lumpy” investments, particularly if population growth immediately following the major investment does not materialize as projected.

- The indirect effects of increases in **real interest rates are also relevant**. Increase in real interest rates increase the cost of maintaining the over capacity that is built in the existing services systems of growing cities.

CITY OF KELOWNA

2020 WASTEWATER TREATMENT PLAN & FINANCING STRATEGY

COST SHARING MODEL

EXHIBIT "D" -

(2000 Dollars x 1000)

YEAR	PROJECT	TOTAL PROJECT COST	PROVINCIAL ASSIST	NET REMAINING	BENEFIT EXISTING	OVERSIZE (2020+)	NET BY UTILITY	LUC Credit	NET FOR DCC CALCULATIONS
		Total Growth Units:		23,681				395	23,286
2001	Stage 1 - Completion	749.3		749.3					749.3
2001	Existing Debt Commitment	4,666.6		4,666.6					4,666.6
2005	Compost Facility - Part A	4,000.0		4,000.0	2,500.0		2,500.0	25.0	1,475.0
2012	Compost Facility - Part B	66.7		66.7	41.7		41.7	0.4	24.6
2012	Stage 2 - Design	2,000.0		2,000.0				33.4	1,966.6
2013	Stage 2 - Construction	12,000.0		12,000.0				200.2	11,799.8
2014	Compost Facility - Part C	166.7		166.7	104.2		104.2	1.0	61.5
2014	Stage 2 - Construction	14,000.0		14,000.0				233.5	13,766.5
2015	Compost Facility - Part D	1,333.3		1,333.3	833.3		833.3	8.3	491.6
2015	Stage 2 - Completion	921.2		921.2				15.4	905.8
2015	Land Acquisition	3,625.0		3,625.0		3,625.0	3,625.0		
	SUBTOTAL A	43,528.8		43,528.8	3,479.2	3,625.0	7,104.2	517.2	35,907.4
	Less: Land Use Credits								
	SUBTOTAL B	43,528.8		43,528.8	3,479.2	3,625.0	7,104.2	517.2	35,907.4
	Carry-Over (2000-12-31 Reserve Balance)								(1,555.0)
	SUBTOTAL C	43,528.8		43,528.8	3,479.2	3,625.0	7,104.2	517.2	34,352.4
		343.5		Engineering/Administration			1.00%		343.5
		43,872.3		Subtotal D					34,695.9
				Less Assist		@	1.00%		(347.0)
				Total for DCC					34,348.9

NET UNIT DCC FOR:	
Residential 1:	1,475
Residential 2:	1,224
Residential 3:	826
Residential 4:	797
Lodging House or Group Home:	1,475
Commercial - Per 1,000 Sq. Ft.:	567
Industrial - Per Acre:	4,130
Institutional - Per 1,000 Sq. Ft.:	567

5. Park Land Acquisition

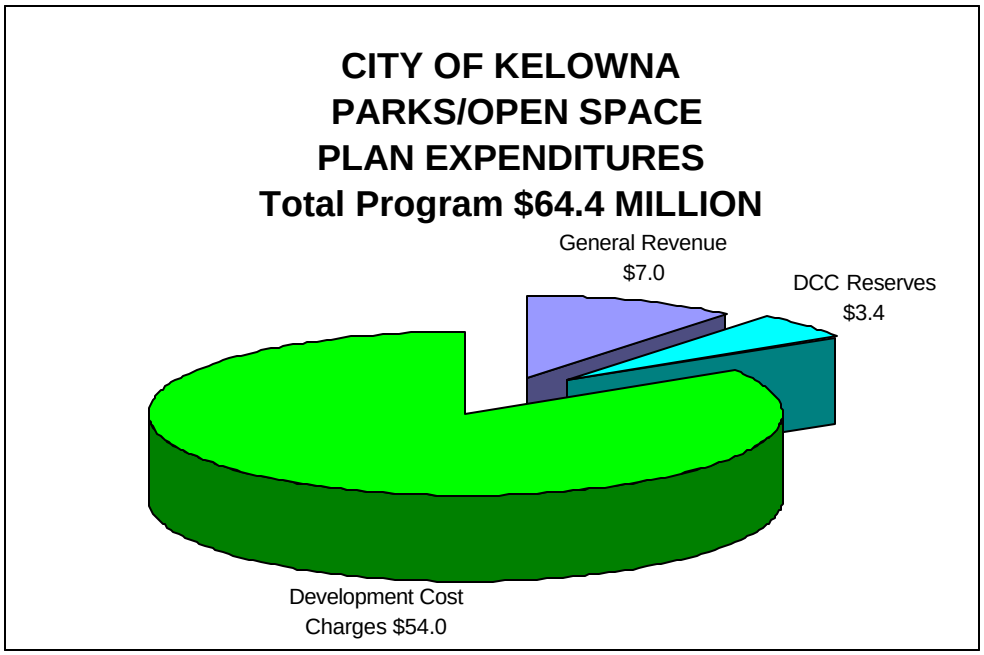
Exhibit "E" - 20 Year Parks Acquisition Plan & Financing Strategy - Cost Sharing Model, attached, provides the calculations used to develop the average cost per equivalent residential unit for park land acquisition based on the standard of **2.2 hectares per 1,000 population** and the cost per hectare for land required to service growth as detailed in the Official Community Plan.

All of the park land required on the basis of the formula provided in the model is required for new growth and has been allocated accordingly.

The total cost of the Park Land Acquisition program, over the 20 year planning horizon, is **$64.4 Million**.

The following is a summary of the funding sources for the park land acquisition program based on the cost sharing principles and assumptions which have been incorporated in the cost sharing model for park land:

Total Program Cost	**$64.4**	**%**
General Taxpayer (Assist/Gen Benefit/Oversize)	$ 7.0	10.9
Development Cost Charge	54.0	83.8
Development Cost Charge Reserve	3.4	5.3



Cost Sharing Principles and Assumptions

- Acquisition of Park Land is assumed to be of primary benefit to residential growth and the cost of the program, therefore, is applied only to residential growth units.

- Required land and costs are based on a standard of 2.2 hectares per 1,000 population.

- DCC value now based on population growth and **specific lands to be acquired**.

- A **single sector approach** has been used for the entire city which is consistent with the cost sharing methodology used in the previous plan.

- To determine the land values, developed areas were included where appropriate and limited provision was made for the acquisition of waterfront properties from new growth directly.

- The municipality, at its option, may require the developer to **dedicate 5% of the land to be subdivided**, in a location satisfactory to the city. The developer who dedicates land will receive credit for a portion (usually neighbourhood park component) of the Development Cost Charge.

The municipality may exercise this option only when it deems that the value of the dedicated land is **equal to or exceeds the value** of the Development Cost Charge credit.

- An **"assist" factor of 10%** has been used to develop the charge applicable to new growth which is the same rate used in the previous plan. The assist factor represents the deemed benefit to existing taxpayers of the acquisition of additional parks.

Financial Impacts

- Significant parks development costs are not included in the formulation of the Development Cost Charge levy and must be considered when developing the 10 Year Capital Plan.

- The purchase of linear parks, creek corridors and natural open space which is not achieved through re-development, will be purchased from general taxation.

CITY OF KELOWNA

2020 PARKS ACQUISITION PLAN & FINANCING STRATEGY

COST SHARING MODEL

EXHIBIT "E" - PARKS

(2000 Dollars x 1000)

PERIOD	ACQUISITIONS	TOTAL CAPITAL COST	NON-DCC REVENUE SOURCES						NET FOR DCC CALCULATIONS
			BY DEVELOPER	PROVINCIAL ASSIST	NET REMAINING	LUC	OVERSIZE (2020+)	NET BY UTILITY	
		Total Growth Units:			25,539	395			25,144
1	29 hectares (71 acres)	14,573.6			14,573.6	225.4			14,348.2
2	30 hectares (75 acres)	15,568.8			15,568.8	240.8			15,328.0
3	32 hectares (80 acres)	16,445.3			16,445.3	254.4			16,190.9
4	34 hectares (83 acres)	17,172.4			17,172.4	265.6			16,906.9
SUBTOTAL A	125 hectares (309 acres)	63,760.0			63,760.0	986.1			62,774.0
Less: Land Use Credits:									
SUBTOTAL B		63,760.0			63,760.0	986.1			62,774.0
Carry Over (00-12-31 Reserve Balance - Committments)									(3,379.3)
SUBTOTAL C		63,760.0			63,760.0	986.1			59,394.6

Plus Administration/Engineering	@	1.00%	593.9
Subtotal D			59,988.6
Less Assist	@	10.00%	(5,998.9)
Total for DCC			53,989.7

NOTE:
Period 1 = (2001 - 2005)
Period 2 = (2006 - 2010)
Period 3 = (2011 - 2015)
Period 4 = (2016 - 2020)

NET UNIT DCC FOR:

Residential 1:	2,147
Residential 2:	2,147
Residential 3:	2,147
Residential 4:	2,147
Lodging House or Group Home:	2,147
Commercial - Per 1,000 Sq. Ft.:	N/A
Industrial - Per Acre:	N/A
Institutional - Per 1,000 Sq. Ft.:	N/A

VI. SUMMARY OF REQUIRED D.C.C. RATES - BY LAND USE TYPE

The **purpose of this section** is to summarize the required Development Cost Charge levies to support the growth plan and servicing plan as detailed in previous sections of this document.

For each different land use type, a comparative analysis has been included by service type and by different geographical area of the city.

The required rates are **based on assumptions** regarding growth rate, housing mix, growth areas in combination with principles used for cost sharing between existing taxpayers and new population growth. Cost sharing methodologies, described in previous sections of this report, have also been included in the calculations to determine how costs will be **shared between different land uses.**

1. Residential 1 - Single Family Development - by growth area - by service type

Comparison to existing rates

	Sector / Rate						
GROWTH AREA	**Roads**	**Water**	**Sewer Trunks**	**Treatment**	**Drainage**	**Parks**	**Total**
City Centre	I 3,683	A 1,393	A 874	A 1,475	0	A 2,147	**9,572**
Existing	*I 2,745*	*A 2,309*	*A 706*	*A 1,388*	*709*	*A 2,290*	***10,147***
Clifton/Glenmore Hghld	I 3,683	D 2,505	A 874	A 1,475	0	A 2,147	**10,684**
Existing	*I 2,745*	*D 2,521*	*A 706*	*A 1,388*	*709*	*A 2,290*	***10,359***
Glenmore Valley	I 3,683	GEID	A 874	A 1,475	0	A 2,147	**8,179**
Existing	*I 2,745*	*GEID*	*A 706*	*A 1,388*	*709*	*A 2,290*	***7,838***
Rutland	I 3,683	RWW	A 874	A 1,475	0	A 2,147	**8,179**
Existing	*I 2,745*	*RWW*	*A 706*	*A 1,388*	*709*	*A 2,290*	***7,838***
North East Rutland	C 6,273	BMID	A 874	A 1,475	0	A 2,147	**10,769**
Existing	*C 6,093*	*BMID*	*A 706*	*A 1,388*	*709*	*A 2,290*	***11,186***

Hwy 33 - North East	D1	7,443	BMID	A	874	A	1,475	0	A	2,147	**11,939**
Existing	*D*	*6,786*	*BMID*	*A*	*706*	*A*	*1,388*	*709*	*A*	*2,290*	***11,879***
Hwy 33 - South West	D2	5,854	BMID	A	874	A	1,475	0	A	2,147	**10,350**
Existing	*D*	*6,786*	*BMID*	*A*	*706*	*A*	*1,388*	*709*	*A*	*2,290*	***11,879***
University / Airport	E	7,463	GEID	A	874	A	1,475	0	A	2,147	**11,959**
Existing	*E*	*4,508*	*GEID*	*A*	*706*	*A*	*1,388*	*709*	*A*	*2,290*	***9,601***
McKinley	E	7,463	GEID		N/A		N/A	0	A	2,147	**9,610**
Existing	*E*	*4,508*	*GEID*		*N/A*		*N/A*	*709*	*A*	*2,290*	***7,507***
Hall Road	I	3,683	SEKID	A	874	A	1,475	0	A	2,147	**8,179**
Existing	*I*	*2,745*	*SEKID*	*A*	*706*	*A*	*1,388*	*709*	*A*	*2,290*	***7,838***
Southeast Kelowna	A	9,141	SEKID		N/A		N/A	0	A	2,147	**11,288**
Existing	*A*	*8,385*	*SEKID*		*N/A*		*N/A*	*709*	*A*	*2,290*	***11,384***
S.W. Mission	B	14,465	B	696	B	1,219	A	1,475	0	A	2,147	**20,002**

Existing	*B 11,186*	*B 575*	*K 1,323*	*A 1,388*	*709*	*A 2,290*	***17,471***

BMID Serviced by Black Mountain Irrigation District
RWW Serviced by Rutland Water Works
SEKID Serviced by South East Kelowna Irrigation District
GEID Serviced by Glenmore Ellison Irrigation District
N/A Not Applicable as Sewer will not be in that area within the 20 Year period

2. Residential 3 - Apartments up to 4 Storeys - by growth area - by service type

Comparison to existing rates

	Sector / Rate						
GROWTH AREA	**Roads**	**Water**	**Sewer Trunks**	**Treatment**	**Drainage**	**Parks**	**Total**
City Centre	I 2,026	A 669	A 489	A 826	0	A 2,147	**6,157**
Existing	*I 2,059*	*A 1,616*	*A 494*	*A 972*	*350*	*A 2,290*	***7,781***
Clifton/Glenmore Hghld	I 2,026	D 1,202	A 489	A 826	0	A 2,147	**6,690**
Existing	*I 2,059*	*D 1,765*	*A 494*	*A 972*	*350*	*A 2,290*	***7,930***
Glenmore Valley	I 2,026	GEID	A 489	A 826	0	A 2,147	**5,488**
Existing	*I 2,059*	*GEID*	*A 494*	*A 972*	*350*	*A 2,290*	***6,165***
Rutland	I 2,026	RWW	A 489	A 826	0	A 2,147	**5,488**
Existing	*I 2,059*	*RWW*	*A 494*	*A 972*	*350*	*A 2,290*	***6,165***
North East Rutland	C 3,450	BMID	A 489	A 826	0	A 2,147	**6,912**
Existing	*C 4,570*	*BMID*	*A 494*	*A 972*	*350*	*A 2,290*	***8,676***

Hwy 33 - North East	D1	4,094		BMID	A	489	A	826	0	A	2,147	**7,556**
Existing	*D*	*5,089*		*BMID*	*A*	*494*	*A*	*972*	*350*	*A*	*2,290*	***9,195***
Hwy 33 - South West	D2	3,220		BMID	A	489	A	826	0	A	2,147	**6,682**
Existing	*D*	*5,089*		*BMID*	*A*	*494*	*A*	*972*	*350*	*A*	*2,290*	***9,195***
University / Airport	E	4,105		GEID	A	489	A	826	0	A	2,147	**7,567**
Existing	*E*	*3,381*		*GEID*	*A*	*494*	*A*	*972*	*350*	*A*	*2,290*	***7,487***
McKinley	E	4,105		GEID		N/A		N/A	0	A	2,147	**6,252**
Existing	*E*	*3,381*		*GEID*		*N/A*		*N/A*	*350*	*A*	*2,290*	***6,021***
Hall Road	I	2,026		SEKID	A	489	A	826	0	A	2,147	**5,488**
Existing	*I*	*2,059*		*SEKID*	*A*	*494*	*A*	*972*	*350*	*A*	*2,290*	***6,165***
Southeast Kelowna	A	5,028		SEKID		N/A		N/A	0	A	2,147	**7,175**
Existing	*A*	*6,289*		*SEKID*		*N/A*		*N/A*	*350*	*A*	*2,290*	***8,929***
S.W. Mission	B	7,956	B	334	B	683	A	826	0	A	2,147	**11,946**

Existing	*B 8,389*	*B 403*	*K 926*	*A 972*	*350*	*A 2,290*	***13,330***

BMID Serviced by Black Mountain Irrigation District
RWW Serviced by Rutland Water Works
SEKID Serviced by South East Kelowna Irrigation District
GEID Serviced by Glenmore Ellison Irrigation District
N/A Not Applicable as Sewer will not be in that area within the 20 Year period

3. Commercial - rate per 1,000 Sq.Ft. - by growth area - by service type

Comparison to existing rates

	Sector / Rate						
GROWTH AREA	**Roads**	**Water**	**Sewer Trunks**	**Treatment**	**Drainage**	**Parks**	**Total**
City Centre	I 1,133	A 536	A 336	A 567	0	N/A	**2,572**
Existing	*I 845*	*A 888*	*A 272*	*A 534*	*209*	*N/A*	***2,748***
Clifton/Glenmore Hghld	I 1,133	D 963	A 336	A 567	0	N/A	**2,999**
Existing	*I 845*	*D 970*	*A 272*	*A 534*	*209*	*N/A*	***2,830***
Glenmore Valley	I 1,133	GEID	A 336	A 567	0	N/A	**2,036**
Existing	*I 845*	*GEID*	*A 272*	*A 534*	*209*	*N/A*	***1,860***
Rutland	I 1,133	RWW	A 336	A 567	0	N/A	**2,036**
Existing	*I 845*	*RWW*	*A 272*	*A 534*	*209*	*N/A*	***1,860***
North East Rutland	C 1,930	BMID	A 336	A 567	0	N/A	**2,833**
Existing	*C 1,875*	*BMID*	*A 272*	*A 534*	*209*	*N/A*	***2,890***
Hwy 33 - North East	D1 2,290	BMID	A 336	A 567	0	N/A	**3,193**
Existing	*D 2,088*	*BMID*	*A 272*	*A 534*	*209*	*N/A*	***3,103***
Hwy 33 - South West	D2 1,801	BMID	A 336	A 567	0	N/A	**2,704**

Existing	*D*	*2,088*	*BMID*	*A*	*272*	*A*	*534*	*209*	*N/A*	***3,103***
University / Airport	E	2,296	GEID	A	336	A	567	0	N/A	**3,199**
Existing	*E*	*1,387*	*GEID*	*A*	*272*	*A*	*534*	*209*	*N/A*	***2,402***
McKinley	E	2,296	GEID		N/A		N/A	0	N/A	**2,296**
Existing	*E*	*1,387*	*GEID*		*N/A*		*N/A*	*209*	*N/A*	***1,596***
Hall Road	I	1,133	SEKID	A	336	A	567	0	N/A	**2,036**
Existing	*I*	*845*	*SEKID*	*A*	*272*	*A*	*534*	*209*	*N/A*	***1,860***
Southeast Kelowna	A	2,813	SEKID		N/A		N/A	0	N/A	**2,813**
Existing	*A*	*2,580*	*SEKID*		*N/A*		*N/A*	*209*	*N/A*	***2,789***
S.W. Mission	B	4,451	B 268	B	469	A	567	0	N/A	**5,755**
Existing	*B*	*3,442*	*B 221*	*K*	*509*	*A*	*534*	*209*	*N/A*	***4,915***

BMID Serviced by Black Mountain Irrigation District
RWW Serviced by Rutland Water Works
SEKID Serviced by South East Kelowna Irrigation District
GEID Serviced by Glenmore Ellison Irrigation District
N/A Not Applicable as Sewer will not be in that area within the 20 Year period

NOTE: Institutional rate is the same as commercial except the existing drainage charge is $70 less and Schools to grade 12 and College Residences are not charged Roads DCC.

4. Industrial - rate per acre - by growth area - by service type

Comparison to existing rates

	Sector / Rate													
SERVICE AREA		**Roads**		**Water**		**Sewer Trunks**		**Treatment**		**Drainage**		**Parks**	**Total**
City Centre	I	3,683	A	3,901	A	2,447	A	4,130		0		N/A	**14,161**
Existing	*I*	*2,745*	*A*	*6,465*	*A*	*1,977*	*A*	*3,886*		*8,101*		*N/A*	***23,174***
Clifton/Glenmore Hghld	I	3,683	D	7,014	A	2,447	A	4,130		0		N/A	**17,274**
Existing	*I*	*2,745*	*D*	*7,059*	*A*	*1,977*	*A*	*3,886*		*8,101*		*N/A*	***23,768***
Glenmore Valley	I	3,683		GEID	A	2,447	A	4,130		0		N/A	**10,260**
Existing	*I*	*2,745*		*GEID*	*A*	*1,977*	*A*	*3,886*		*8,101*		*N/A*	***16,709***
Rutland	I	3,683		RWW	A	2,447	A	4,130		0		N/A	**10,260**
Existing	*I*	*2,745*		*RWW*	*A*	*1,977*	*A*	*3,886*		*8,101*		*N/A*	***16,709***
North East Rutland	C	6,273		BMID	A	2,447	A	4,130		0		N/A	**12,850**
Existing	*C*	*6,093*		*BMID*	*A*	*1,977*	*A*	*3,886*		*8,101*		*N/A*	***20,057***
Hwy 33 - North East	D1	7,443		BMID	A	2,447	A	4,130		0		N/A	**14,020**
Existing	*D*	*6,786*		*BMID*	*A*	*1,977*	*A*	*3,886*		*8,101*		*N/A*	***20,750***
Hwy 33 - South West	D2	5,854		BMID	A	2,447	A	4,130		0		N/A	**12,431**

Existing	*D*	*6,786*	*BMID*	*A*	*1,977*	*A*	*3,886*	*8,101*	*N/A*	***20,750***
University / Airport	E	7,463	GEID	A	2,447	A	4,130	0	N/A	**14,040**
Existing	*E*	*4,508*	*GEID*	*A*	*1,977*	*A*	*3,886*	*8,101*	*N/A*	***18,472***
McKinley	E	7,463	GEID		N/A		N/A	0	N/A	**7,463**
Existing	*E*	*4,508*	*GEID*		*N/A*		*N/A*	*8,101*	*N/A*	***12,609***
Hall Road	I	3,683	SEKID	A	2,447	A	4,130	0	N/A	**10,260**
Existing	*I*	*2,745*	*SEKID*	*A*	*1,977*	*A*	*3,886*	*8,101*	*N/A*	***16,709***
Southeast Kelowna	A	9,141	SEKID		N/A		N/A	0	N/A	**9,141**
Existing	*A*	*8,385*	*SEKID*		*N/A*		*N/A*	*8,101*	*N/A*	***16,486***
S.W. Mission	B	14,465	B	1,948	B	3,413	A	4,130	0	N/A	**23,956**
Existing	*B*	*11,186*	*B*	*1,610*	*K*	*3,704*	*A*	*3,886*	*8,101*	*N/A*	***28,487***

BMID Serviced by Black Mountain Irrigation District
RWW Serviced by Rutland Water Works
SEKID Serviced by South East Kelowna Irrigation District
GEID Serviced by Glenmore Ellison Irrigation District
N/A Not Applicable as Sewer will not be in that area within the 20 Year period

5. Proposed Development Cost Charge Rates

ARTERIAL ROADS

Development Cost Charges Applicable to Development Within the Municipality

Development Type	Sector A SE Kelowna	Sector B South Mission	Sector C NE of Inner City	Sector D1 N of Hwy 33	Sector D2 S of Hwy 33	Sector E N of Inner City	Sector I Inner City
Residential 1	**9,141**	**14,465**	**6,273**	**7,444**	**5,854**	**7,463**	**3,683**
Residential 2	**7,313**	**11,572**	**5,018**	**5,955**	**4,683**	**5,971**	**2,947**
Residential 3	**5,028**	**7,956**	**3,450**	**4,094**	**3,220**	**4,105**	**2,026**
Residential 4	**4,754**	**7,522**	**3,262**	**3,871**	**3,044**	**3,881**	**1,915**
Commercial - Per 1,000 sq ft	**2,813**	**4,451**	**1,930**	**2,290**	**1,801**	**2,296**	**1,133**
Institutional A - Per 1,000 sq ft	**2,813**	**4,451**	**1,930**	**2,290**	**1,801**	**2,296**	**1,133**
Institutional B - Per 1,000 sq ft	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Industrial/Campground Per Acre	**9,141**	**14,465**	**6,273**	**7,444**	**5,854**	**7,463**	**3,683**

Current Single Family Res. Rate	**8,385**	**11,186**	**6,093**	**6,786**	**6,786**	**4,508**	**2,745**

WATER

Development Cost Charges Applicable to Development Within the Municipality

Development Type	Sector A Inner City	Sector B South Mission	Sector D Glenmore / Clifton
Residential 1	**1,393**	**696**	**2,505**
Residential 2	**933**	**466**	**1,678**
Residential 3	**669**	**334**	**1,202**
Residential 4	**474**	**237**	**852**
Commercial - Per 1,000 sq ft	**536**	**268**	**963**
Institutional A - Per 1,000 sq ft	**536**	**268**	**963**
Institutional B - Per 1,000 sq ft	**536**	**268**	**963**
Industrial/Campground Per Acre	**3,901**	**1,948**	**7,014**

Current Single Family Res. Rate	**2,309**	**575**	**2,521**

WASTEWATER TRUNK MAINS

Development Cost Charges Applicable to Development Within the Municipality

Development Type	Sector A Inner City	Sector B South Mission
Residential 1	**874**	**1,219**
Residential 2	**725**	**1,012**
Residential 3	**489**	**683**
Residential 4	**472**	**658**
Commercial - Per 1,000 sq ft	**336**	**469**
Institutional A - Per 1,000 sq ft	**336**	**469**
Institutional B - Per 1,000 sq ft	**336**	**469**
Industrial/Campground Per Acre	**2,447**	**3,413**

Current Single Family Res. Rate	**706**	**1,323**

WASTEWATER TREATMENT

Development Cost Charges Applicable to Development Within the Municipality

Development Type	Sector A All City
Residential 1	**1,475**
Residential 2	**1,224**
Residential 3	**826**
Residential 4	**797**
Commercial - Per 1,000 sq ft	**567**
Institutional A - Per 1,000 sq ft	**567**
Institutional B - Per 1,000 sq ft	**567**
Industrial/Campground Per Acre	**4,130**

Current Single Family Res. Rate	**1,388**

PARKLAND - PUBLIC OPEN SPACE

Development Cost Charges Applicable to Development Within the Municipality

Development Type	Sector A All City
Residential 1	**2,147**
Residential 2	**2,147**
Residential 3	**2,147**
Residential 4	**2,147**
Commercial - Per 1,000 sq ft	**-**
Institutional A - Per 1,000 sq ft	**-**
Institutional B - Per 1,000 sq ft	**-**
Industrial/Campground Per Acre	**-**

Current Single Family Res. Rate	**2,290**