

#### Queenstown Lakes District Council

## Frankton Flats

# Infrastructure Servicing and Funding

Prepared for Queenstown Lakes District Council

By Rationale Ltd

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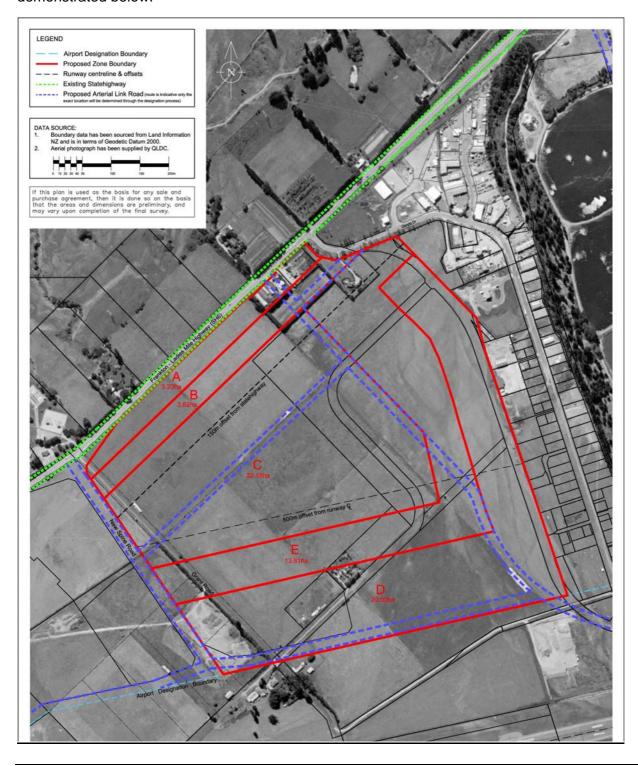
## **TABLE OF CONTENTS**

			Page
Exec	UTIVE S	UMMARY	2
1.	Intro	DUCTION	5
	1.1	Purpose	5
	1.2	Rationale's Experience in Such Matters	5
2.0	OUTL	NED PROCESS	5
3.0	Grov	/TH PROJECTIONS	5
4.0	Netw	ORK MODELLING	6
	4.1	Water Supply and Wastewater Modelling	6
	4.2	Transport Modelling	7
5.0	DEFIN	ING THE CAPITAL PROGRAMME	9
	5.1	General Consideration	10
	5.2	Specific Issues To Be Resolved	10
6.0	Fund	NG	12
Арр	endix .	A – Frankton Flats Capital Programme (2006-16 CCP)	15
Арр	endix	B – Development Contribution – Queenstown Statutory Funding Disclosures	21

## **EXECUTIVE SUMMARY**

#### Area to be Serviced

This report defines Council's twenty year infrastructure servicing needs and funding for the entire Frankton Flats area. This includes the area of Rural General zoned land subject to Council variation and situated north of the airfield between Glenda Drive and the Events Centre as demonstrated below:



#### **Population Projections**

Queenstown Lakes District Council (QLDC) completed population projections in 2004 and updated these again in 2006. These projections are applied against zone densities and existing dwelling capacities to identify where growth is likely to occur. The 2006 projections include an allowance for a plan change for the Rural General zoned land to the north of the airfield between the Glenda Drive industrial area and the Events Centre. A total of 2,400 dwelling equivalents have been applied to that area by 2026. This does not assume the zone is at capacity at this point.

In mid to late 2006 employment projections were completed for this area also. These projections assessed the future requirement for land and full time equivalent employees (FTE's) to service commercial need.

Council applies these population and employment projections to assess future demand for all activities it delivers.

#### **Asset Capacity and New Assets**

The population projections are applied to different infrastructure models to define existing and future capacity deficiencies. Asset upgrades and the acquisition of new asset are identified from this process. Council has comprehensive capacity models for water supply, wastewater and transportation. A number of stormwater catchment models exist for Queenstown. Frankton Flats requires one to be completed, which has been identified for 2006/07.

#### **Capital Expenditure**

Council has assessed capital expenditure required to upgrade existing assets or acquire new assets. Water supply and wastewater have been assessed in detail. Significant provision has been made in Council's 10 year plan, the Council Community Plan (2006-16 LTCCP), to enable Frankton Flats to be serviced for water supply and wastewater.

Council<u>'s</u> Transport and Parking Strategy, "Future Link" identified a number of projects including those to service Frankton Flats. Significant financial provision has been included in Council's 2006-16 CCP for servicing Frankton Flats. Council and Transit New Zealand have led a joint Wakatipu Transportation Study to improve the need and definition of these projects. This project is nearing completion.

A Frankton Flats stormwater catchment management plan has been identified for 2006/07 in the 2006-16 CCP. Assets maybe required as a consequence of this. The issue however does not appear to carry the same significance as the other assets at this point.

#### **Funding**

Council has a well defined policy on development and financial contributions. The Frankton Flats projects described above are all defined in the 2006-16 LTCCP and will be funded to some degree by development contributions. This will avoid burdening the existing population with the growth costs.

Council has identified significant funds to complete the Frankton Flats projects. Council takes asset planning seriously and will continue to monitor the situation regularly. Monitoring will include changes in population, asset capacity and funding analysis.

Appendix A demonstrates the Frankton Flats capital projects included in the 2006-16 CCP.

Appendix B defines the details that sit behind the development contribution calculations.

### 1. Introduction

#### 1.1 Purpose

Rationale Ltd was requested by Alyson Schuler of Queenstown Lakes District Council (QLDC) to provide comments on infrastructure servicing and funding to meet the demands of growth in the Frankton Flats area including the land proposed for rezoning. The assets considered are water supply, wastewater, stormwater and transportation.

#### 1.2 Rationale's Experience in Such Matters

Rationale Ltd has provided professional advice to QLDC for almost eight years on matters of infrastructure planning and funding. The advice focuses on demand projections, additional asset capacity, acquisition of additional assets and funding analysis including development contributions.

## 2.0 OUTLINED PROCESS

Council's infrastructure analysis has the following core components:

- 1) Growth projections and apportionment to different district plan zones and catchments.
- Undertake strategic reviews which include network modelling to assess existing asset capacity, additional asset capacity required and acquisition of new assets.
- 3) Define capital programmes for relevant asset activities and include in Council planning documents. These documents include activity management plans and Council's 2006-16 LTCCP.
- 4) Assess development contributions and other funding mechanisms.

These components in relation to Frankton Flats, and more specifically the area of land north of the airfield and between Glenda Drive and Events Centre, are detailed in the remainder of the report.

The key capital projects programmed for the Frankton Flats area are described and included in Appendix A. It should be noted that the timing of these projects are underpinned not only by the growth projections but also by assumptions of where the growth will occur. The Queenstown urban area (includes Frankton Flats) has a large number of development fronts and therefore predicting where the growth will occur can be problematic.

## 3.0 GROWTH PROJECTIONS

In recent years (since 2004) QLDC has produced its own growth projections as opposed to relying on Statistics NZ. These were first prepared by Hill Young Cooper and updated by Rationale Ltd in 2005/06. Over this time Statistic's New Zealand (SNZ) intercensal projections have aligned closer to QLDC's projections. The QLDC 2006 projections align very accurately with the 2006 census preliminary results issued by SNZ on 29 May 2006.

Council's projections detail 20 year average and peak day populations in 5 year increments. The projections include usually resident population, visitors staying in commercial accommodation, visitors staying in private residences and day visitors. Projections are provided for a variety of catchments in the district.

The projections were detailed in Volume 4 of the 2004 QLDC Council Community Plan and again in the 2006 version.

The Queenstown urban population projections are allocated to a number of smaller geographical areas (i.e. Frankton Flats). The allocation process uses the district dwelling capacity study (updated annually), which identifies where dwelling capacity remains available. Areas with the greatest dwelling capacity available are assumed to absorb the greatest proportion of the population increase. This is an essential process as it defines where growth is anticipated to occur and therefore any network infrastructure constraints.

Council is unable to control the order that zoned land will be developed, redeveloped or infilled and therefore the actual population allocation maybe significantly different from the assessment. To ensure this allocation process does not cause any significant difficulties Council maintains its population models, dwelling capacity models, GIS and hydraulic models annually.

By doing this, the process allows for flexibility, so when growth has occurred faster in a particular location work can be advanced in that area and delayed in others if necessary.

It is important to note that the projections anticipate that the land north of the airfield will be rezoned to high density. The 2006 population projections have allocated 2,400 additional dwellings to this area. This does not assume that the new zone is at capacity by 2026.

The population projections can be viewed in Volume 4 of the 2006-16 LTCCP.

Commercial land area and employment projections were completed in mid to late 2006. Due to their completion timing, they have only been used in the transportation modelling at this stage.

### 4.0 Network Modelling

Council has a water supply hydraulic model, a wastewater hydraulic model and more recently a transportation model. The water supply and wastewater models are used in the asset planning process differently from the transportation model. Therefore these processes are described separately.

Stormwater modelling has not been completed for the Frankton Flats catchment. A catchment management plan has been proposed for 2006/07. This may introduce the requirement for new assets.

### 4.1 Water Supply and Wastewater Modelling

These models are maintained and operated by two separate consulting businesses on behalf of Council. Tonkin and Taylor operates and maintains the water supply model and

Rationale Ltd the wastewater model. These models define demand and analyse pipe capacity. These pipe demands are then used to analyse non-pipe asset capacity including pumps, intakes, reservoirs and treatment. This has been completed by MWH New Zealand Ltd upon request since 1999 with the recent revision being completed in January 2006.

This process identifies upgrades over a 20 year period.

These network models also provide existing and future flow analysis for investigating upgrade options at the Shotover wastewater treatment facilities. The discharge consent for these facilities requires renewal in November 2008. A significant options study has commenced.

#### 4.2 Transport Modelling

In 2005 Council completed a Transport and Parking Strategy titled "Future Link". This document was the first attempt at using a model to define what the twenty year transportation needs will be for the district.

The transportation model (TRACKS) was updated in January 2007 and the output used in delivering the Wakatipu Transportation Study. The Wakatipu Transportation Study is focused on managing the growth in travel demand for the Wakatipu Basin which includes Frankton Flats. The January 2007 model was populated with the 2006 population projections and the employment projections. The model assessed the growth in travel demand for the twenty year period from 2006 to 2026. The modelling has included an assessment for the summer and winter AM and PM peaks.

The following level of service plots define the existing and future level of service constraints for the Queenstown urban area.

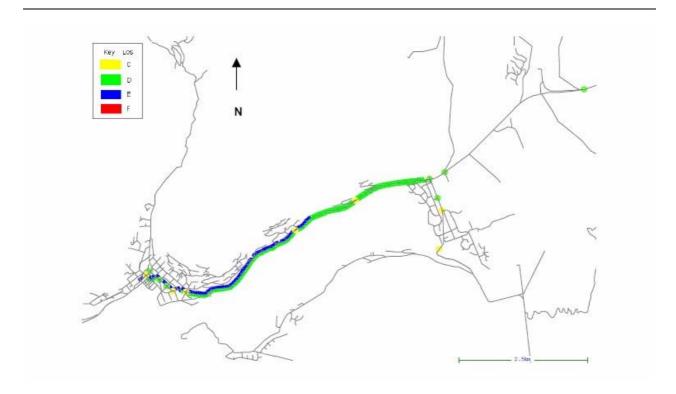
#### **Level of Service Key**

(F) Breakdown in service with extensive congestion.
(E) Capacity.
(D) Tolerable with some reduction in motorists speed.
(C) Acceptable, with near free flow.
(A&B) Stable, free flow conditions

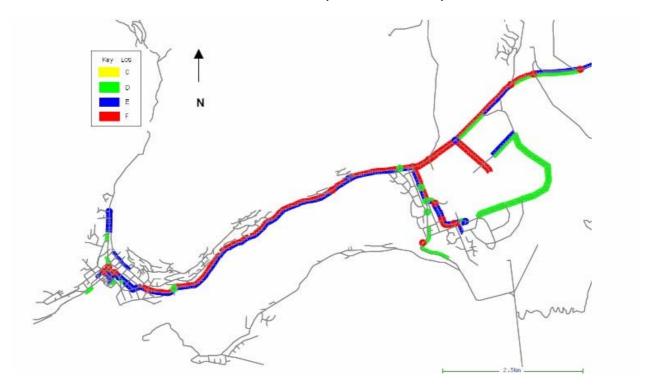
Council has defined the acceptable level of service to be:

Should generally be LOS D, being exceeded to LOS E during peaks (for short periods and not creating recurrent congestion)

2006 Queenstown Urban Level of Service (Summer PM Peak)



2026 Queenstown Urban Level of Service (Summer PM Peak)



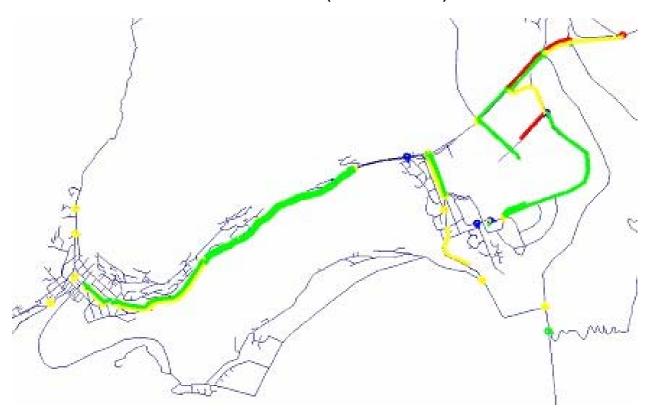
These clearly demonstrate some significant transportation constraints in the future for the Frankton Flats area.

At the date of this report, the Wakatipu Transportation Study is in its third round of consultation and has not therefore been adopted by Council. The recommended strategy is very reliant on high frequency and high quality passenger transport to accomplish mode shift away from the private motorcar. The establishment of a Frankton Flats arterial network is a key recommendation also.

The Frankton Flats area will be serviced with bus routes and most likely include park and ride for services to and from Queenstown's CBD. In addition, significant new infrastructure is required and is detailed in Section 5 Defining the Capital Programme.

Modelling results by implementing the initiatives identified return the following level of service plots.

#### 2026 Queenstown Urban Level of Service (Summer PM Peak)



## 5.0 Defining the Capital Programme

#### 5.1 General Consideration

The 2006-16 LTCCP defined the capital programme and funding for the asset groups in question. The capital programme included project cost and timing. In addition the Local Government Act 2002 (LGA) is very clear that only the growth portion of the capital expenditure can be recovered using development contributions. For this reason each capital project is broken down into the following cost drives:

- Growth
- Renewal
- Level of Service
- Statutory
- Deferred/Other

This information is readily available in the capital expenditure spreadsheets that support the 2006-16 CCP and in the recently completed version 3 activity management plans.

Since the adoption of the 2006-16 LTCCP, further work has been completed and the capital programme modified to some degree, but only for the 2007/08 annual plan.

The Frankton Flats capital programme for water supply, wastewater and stormwater has basically remained unchanged. Therefore the capital programme and funding from the 2006-16 LTCCP has been recorded in this document.

For transportation the 2006-16 LTCCP included the capital programme identified in Future Link. The thinking in Future Link has been superseded by the Wakatipu Transportation Study for the Frankton Flats area, although it is yet to be adopted by QLDC. A detailed capital programme and funding analysis of the recommendations is yet to be completed. On this basis the 2006-16 LTCCP transportation capital expenditure has been maintained. Capital expenditure of \$38M for QLDC funded transportation items for the Frankton Flats area in the next 10 years has been planned for. This figure excludes passenger transport, expenditure on state highways and internal roading to service new subdivision and development. It is suggested the expenditure identified in the 2006-16 LTCCP will provide a reasonable level of expenditure required over this period.

#### 5.2 Specific Issues To Be Resolved

The following set out characteristics of specific capital projects that service the land proposed for zone change.

#### **Water Supply**

At this stage there remains some uncertainty surrounding the following projects:

o Kelvin Heights Intake and Reservoir – At this stage this will be the primary intake and distribution for servicing Frankton Flats. It appears there is limited room for additional infrastructure at the site. A high level strategy is proposed for reviewing the number of intakes and treatment sites. This may resolve this issue.

Frankton Flats Reservoir Site – the appropriate site will likely be on private land.

#### **Wastewater**

At this stage there remains some uncertainty surrounding the following projects:

Wastewater Treatment – The Shotover oxidation ponds are nearing capacity. Council is currently considering a number of replacement options. Additional treatment measures have been identified in the 2006-16 LTCCP to extend the ponds life to 2011/12 (Frankton Oxidation Ponds Assessment Report, Glasson, Potts, Fowler Ltd. December 2005). This date is based on the wastewater generation rates derived from Council's network model. The network model has been populated with Council's population projections. These include an allowance for the rezoning and redevelopment of the land in question.

The existing discharge consent expires 1 November 2008. Council must lodge an application for a new discharge consent with the Otago Regional Council by 1 May 2008. Final treatment options will undergo public consultation in early 2008. Commissioning of the new treatment plant is anticipated in 2011/12 as per Council's 2006-16 LTCCP.

The Queenstown urban area, and therefore wastewater catchment, has sufficient land zoned to meet at least twenty years of additional population growth. On this basis, the proposed land rezoning should not generate any additional demand on the treatment facilities. This statement can only be made on the assumption that the mere rezoning of land creates no additional population growth over and above what has already been projected. This is a reasonable assumption.

 Frankton Beach to Shotover Ponds Trunk Main – It is unclear if the wastewater generated from the land in the proposed zone change will gravitate or be pumped to this soon to be upgraded asset.

#### **Stormwater**

At this stage only a catchment management plan will be prepared. This may include plans for reticulation, ground disposal and/or detention options. Forward asset acquisition has not been planned at this stage.

#### **Transportation**

The Wakatipu Transportation Study identifies a number of significant capital projects required to service the Frankton Flats area. In many instances these are essential to service the land in the proposed zone change.

A key aspect of the transportation study is to provide high frequency and high quality passenger transport. To support passenger transport, park and ride facilities in Frankton will be required. Furthermore, passenger transport hubs, nodes and other infrastructure will be required to ensure accessibility to the passenger transport system. The location of these assets is yet to de determined. This shall occur as the alignment of the transportation corridors are determined and outline plans for development are submitted.

To accommodate the additional traffic in Frankton Flats, an arterial network is need. Where possible it is desirable to separate the local Frankton Flats traffic from the longer distance traffic using the adjacent state highway. A total of six upgrade projects have been identified.

The Kawarau Bridge has been excluded from the new projects as its has already been identified by Transit and is being progressed through the State Highway programme. The six projects are: Grants Road/SH6 roundabout; SH6/Glenda Drive Intersection; SH6/SH6A Intersection Upgrade; Arterial link road covering Frankton Flats; Humphrey Street extension; potential Frankton Bypass post 2026 via Boyd Road.

The Transportation Study also recommends the protection of Hansen Road and Tuckers Beach Road connecting through to Gorge Road to provide additional road capacity to the Queenstown CBD if necessary in the future.

Appendix A identifies the capital projects that have been identified for the entire Frankton Flats area including the area of land proposed for rezoning.

### 6.0 Funding

Council will fund capital expenditure using the following sources of cash:

- Development Contributions
- Asset Sales and Cash Reserves
- Capital Grants and Subsidies
- Rates
- Borrowing

As the majority of the projects identified for Frankton Flats are growth related the development contributions and borrowing will be the key source of funds. In the vast majority of the Transportation projects, Land Transport NZ subsidies will be available.

Council intends to entirely fund the portion of capital expenditure (CAPEX) that is attributable to growth by either Financial or Development Contributions where it is legally, fairly, reasonably and practically possible to do so.

Council considers that Development and Financial Contributions are the best mechanism available to ensure the cost of growth sits with those who have created the need for that cost. Council considers it inappropriate to burden the community as a whole, by way of rating or other payment means, to meet the cost of growth.

It is important to note that Frankton Flats is within the Queenstown contributing area for water supply, wastewater and stormwater. It is in the Wakatipu ward for the purposes of defining roading contributions.

Council has basically used the same methodology for assessing contributions since 2000. The methodology can be viewed in Part 2 of the Detailed Supporting Document for the Development Contributions and Financial Contributions Policy.

The basic formula for assessing development contributions is:

Dwelling Equivalent
Development
Contribution

Sum of CAPEX for Growth Consumed In Analysis Period
Sum of New Dwelling Equivalents in Analysis Period

This is compliant with the LGA 2002.

There are a number of key issues that need a brief description, these being:

- Land Use Differentials Assessing Units of Demand
- Inflation
- Debt Levels and Interest

#### **Land Use Differentials**

Assessing the number of new dwelling equivalents (units of demand) is key in the whole process. The term used by QLDC for assessing dwelling equivalents is land use differentials. These enable non-residential demand to be described in terms of the demand created by a residential property. Land Use Differentials have three uses.

- 1) Describe growth in terms of units of demand (dwelling equivalents) Apply factors (land use differentials) to the existing or past property mix (i.e. residential, accommodation, industrial) to define all property activities as dwelling equivalents. These factors represent the average impact/benefit of a non-residential land use in terms of dwelling equivalents and will vary for different activities. Once the property mix (i.e. commercial, accommodation etc) is defined in terms of dwelling equivalents, growth percentages can be applied to assess the total units of demand in future years.
- 2) **Apportioning asset capacity** the model apportions asset capacity using the units of demand (dwelling equivalents) defined above in 1). These apportionments include surplus capacity at the start of the analysis period, capacity consumed during the analysis period and surplus capacity remaining at the end of the analysis period.
- 3) Determining the number of dwelling equivalent contributions payable at the time of subdivision or development a non-residential subdivision or development can be converted into dwelling equivalents to enable a total development contribution payable to be calculated. See Part 4 for detailed method of application.

#### Inflation

Inflation has been applied to past capital expenditure. This ensures that all contributions are assessed using present value capital figures.

#### **Debt Levels and Interest**

Anticipated debt level and interest charges have been prepared for each asset type in each contributing area: These tables demonstrate the relation between existing debt, additional future growth costs (10 Years), netted off by the anticipated future income (10 years) from development contributions. A weighting of this debt position against the growth costs determines the debt percentage, which is applied to the growth component of the capital projects.

The anticipated debt level increases have been reported in Council's 2006-16 CCP and are assumed to be manageable.

Appendix B contains tables from Council's Development Contributions and Financial Contributions Policy demonstrating funding requirements. This is the statutory level of disclosure.

## Appendix A

# FRANKTON FLATS CAPEX PROGRAMME

WATER SUPPLY
WASTEWATER
STORMWATER
ROADING

#### Water Supply – Frankton Flats CAPEX

						CAPEX COMPOSITION						
Contributing Area	Asset Type/Location	Problem Description/Location	CAPEX Value	Expenditure Date	ldeal Expenditure Date	Growth	Renewal	LOS Shift	Statutory	Existing Undercapacity (Deferred Works)		
Water Su	vlaa											
Frankton Flat												
Queenstown	Investigation	Frankton Flats reservoir	50,160	2009	2006	100%	0%	0%	0%	0%		
Queenstown	Forward Design	Frankton Flats system	432,773	2010	2007	100%	0%	0%	0%			
Queenstown	450 DI	New Frankton Flats Reservoir	1,259,306	2011	2008	100%	0%	0%	0%	0%		
Queenstown	300 mPVC	BP comer PZ link	13,961	2011	2008	100%	0%	0%	0%	0%		
Queenstown	250 Valve	Frankton Flats pressure management scheme PC sum	121,800	2011	2008	100%	0%	0%	0%	0%		
Queenstown	375 mPVC	Kawarau Falls to Town Centre	465,431	2011	2008	100%	0%	0%	0%	0%		
Queenstown	375 mPVC	Kawarau Falls to BP comer	938,956	2011	2008	100%	0%	0%	0%	0%		
Queenstown	300 mPVC	A erial over Kawarau Falls bridge	107,503	2011	2008	100%	0%	0%	0%	0%		
Queenstown	Intake for FF	New System	88,461	2011	2008	100%	0%	0%	0%	0%		
Queenstown	Treatment for FF reservoir	New System	115,140	2011	2008	100%	0%	0%	0%	0%		
Queenstown	Kelvin Heights Intake to FF Res	New System	487,591	2011	2008	100%	0%	0%	0%	0%		
Queenstown	Kelvin Heights to FF RM	New System	2,414,121	2011	2008	100%	0%	0%	0%	0%		
Queenstown	Frankton Flats Reservoir	New System	1,009,563	2011	2008	100%	0%	0%	0%	0%		
Queenstown	Frankton Flats Reservoir - Additional Land	New System	850,000	2011	2008	100%	0%	0%	0%	0%		
Queenstown	300 mPVC	Frankton Flats ring mains	468,406	2012	2009	100%	0%	0%	0%	0%		
Queenstown	250 mPVC	Frankton Flats ring mains	427,994	2012	2009	100%	0%	0%	0%	0%		
Queenstown	200 mPVC	Frankton Flats ring mains	692,443	2012	2009	100%	0%	0%	0%	0%		
Queenstown	Forward Design	Frankton Flats reservoir upgrade	84,991	2019	2019	100%	0%	0%	0%	0%		
Queenstown	Frankton Flats Reservoir	Insufficient capacity in existing system	995,529	2020	2020	100%	0%	0%	0%	0%		
Queenstown	300 mPVC	Frankton town centre	220,591	2021	2021	100%	0%	0%	0%	0%		
Queenstown	200 mPVC	Woodbury Park	170,007	2021	2021	100%	0%	0%	0%	0%		
			11,414,727									

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#### Wastewater – Frankton Flats CAPEX

				Expenditure Date			CAPEX COMPOSITION			
Contributing Area	Asset Type/Location	Problem Description/Location	CAPEX Value		Ideal Expenditure Date	Growth	Renewal	LOS Shift	Statutory	Existing Undercapacity (Deferred Works)
Wastewat	ter									
Kawarau Fall	s PS RM to Boyes Crescent			2006	2006					
Queenstown	Forward Design	Kawarau Falls PS upgrade	118,496	2006	2006	65%	35%	0%	0%	09
Queenstown	Boyes Cr to Lake Ave Trunkmain	120915	102,970	2006	2006	63%	37%	0%	0%	09
Queenstown	Kawarau Falls PS RM		344,833	2007	2006	100%	0%	0%	0%	09
Queenstown	Kawarau Falls PS	Currently has temporary pumping solution in place.	130,061	2007	2006	78%	22%	0%	0%	
Queenstown	Robertston Street Trunkmain	120938 to 123405	297,819	2013	2009	42%	58%	0%	0%	09
Queenstown	Robertston Street to Boyes Cr Trunkmain	120935 to 120925	177,498	2013	2009	49%	51%	0%	0%	09
Queenstown	Boyes Cr Trunkmain (ex Kawarau Falls PS)	120926 to 120913	116,253	2007	2006	57%	43%	0%	0%	09
Riverside Roa	ad to Remarkables Park PS1			2006	2006					
Queenstown	Forward Design	Riverside Road reticulation upgrade	130,736	2011	2009	76%	24%	0%	0%	0%
Queenstown	Tex Smith Road to Riverside Road Trunkmain	124429 to 122310	375,768	2012	2010	76%	24%	0%	0%	0%
Queenstown	Riverside Road to Magnolia Place Trunkmain	122336 to 122332	342,612	2012	2010	76%	24%	0%	0%	0%
Queenstown	Magnolia Place to Remarkables Park PS1 Trunkmain	122333 to 120972	251,982	2012	2010	76%	24%	0%	0%	0%
Queenstown	Elm Tree Avenue to Magnolia Place Trunkmain	122319 to 122330	206,262	2012	2010	76%	24%	0%	0%	09
Remarkables	Park PS1			2006	2006					
Queenstown	Forward Design	Remarkables Park PS1 upgrade	60,664	2007	2006	89%	11%	0%	0%	09
Queenstown	Remarkables Park PS1		150,980	2008	2007	86%	14%	0%	0%	09
Queenstown	Remarkables Park PS1 RM		394,997	2008	2007	100%	0%	0%	0%	09
Queenstown	Riverside Road to Kawarau Place Trunkmain	120966 to 123411	159,730	2019	2019	70%	30%	0%	0%	09
Queenstown	Remarkables Park PS1 - Emergency Storage		33,280	2020	2020	100%	0%	0%	0%	0%
Remarkables	Park PS2			2006	2006					
Queenstown	Forward Design	Remarkables Park PS2 upgrade	242,506	2014	2014	100%	0%	0%	0%	
Queenstown	Pump Station - Remarkables Park PS2		331,264	2015	2015	100%	0%	0%	0%	09
Queenstown	Rising Main - Remarkables Park PS2		1,257,565	2015	2015	100%	0%	0%	0%	
Queenstown	Remarkables Park PS2 WW		106,680	2015	2015	100%	0%	0%	0%	
Queenstown	Remarkables Park PS2 - Emergency Storage		487,045	2015	2015	100%	0%	0%	0%	
Queenstown	Remarkables Park PS2 - Additional Land		60,000	2015	2015	100%	0%	0%	0%	09

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#### Continued .......Wastewater - Frankton Flats

							CAPEX COMPOSITION				
Contributing Area	Asset Type/Location	Problem Description/Location	CAPEX Value	Expenditure Date	Ideal Expenditure Date	Growth	Renewal	LOS Shift	Statutory	Existing Undercapacity (Deferred Works)	
Frankton Bea	ch to Shotover Ponds			2006	2006						
Queenstown	Frankton Beach WW		44,813	2006	2006	100%	0%	0%	0%	0%	
Queenstown	Forward Design	Frankton Beach PS upgrade	174,651	2007	2007	79%	21%	0%	0%	0%	
Queenstown	Frankton Beach PS		390,027	2008	2008	75%	25%		0%	0%	
Queenstown	Frankton Beach Emergency Generator		566,077	2008	2008	86%	14%	0%	0%	0%	
Queenstown	Frankton Beach to Shotover Ponds		1,800,000	2006	2006	54%	15%	15%	15%	0%	
Queenstown	Frankton Beach PS RM		615,753	2013	2011	100%	0%	0%	0%	0%	
Shotover Pon	ds			2006	2006						
Queenstown	Treatment Facilities	Carryover	57,420	2006	2006	54%	0%	46%	0%	0%	
Queenstown	Treatment Facilities		152,340	2006	2006	54%	0%	46%	0%	0%	
Queenstown	Treatment Facilities		198,180	2007	2007	52%	0%	48%	0%	0%	
Queenstown	Interim measures	To increase capacity	613,360	2006	2006	54%	0%	46%	0%	0%	
Queenstown	Security Fencing		89,760	2008	2006	51%	0%	49%	0%	0%	
Queenstown	Telemetry / SCADA		239,800	2008	2006	51%	0%	49%	0%	0%	
Queenstown	Resource Consent		51,480	2006	2006	0%	100%	0%	0%	0%	
Queenstown	Resource Consent		51,480	2007	2007	0%	100%	0%	0%	0%	
Queenstown	Forward Design	Shotover Ponds Plant Upgrade	551,720	2009	2009	46%	0%	54%	0%	0%	
Queenstown	Treatment - Queenstown		1,655,403	2010	2010	47%	0%	53%	0%	0%	
Queenstown	Treatment - Queenstown	Plant Upgrade	3,310,076	2011	2011	45%	0%	55%	0%	0%	
			16,442,338								

#### Stormwater – Frankton Flats CAPEX

							C	CAPEX COM	POSITION		
Contributing Area	Asset Type/Location	Problem Description/Location	CAPEX Value	Expenditure Date	ldeal Expenditure Date	Grov	rth R	tenewal	LOS Shift	Statutory	Existing Undercapacity (Deferred Works)
Stormwat	ter										
Frankton Flats	s										
Queenstown	Frankton Flats Catchment Management Plan		11,880		2006		46%	27%	27%	0%	0%
			11,880								

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Roading - Frankton Flats CAPEX

								CAPEX COM	POSITION	
Contributing Area	Asset Type/Location	Problem Description/Location	CAPEX Value	Expenditure Date	ldeal Expenditure Date	Growth	Renewal	LOS Shift	Statutory	Existing Undercapacity (Deferred Works
Roading										
Frankton Flat	s									
New Roads a	nd Bridges									
VVakatipu	Future Link Property Purchases.	Unspecified land purchases - Projects Include CBD By-Pass, Frankton Flats Rings Road, SH6A Alternative Route and Kelvin Peninsula Duplication	1,000,000	2006		80%	0%	20%	0%	0
VVakatipu	Future Link Property Purchases.	Unspecified land purchases - Projects Include CBD By-Pass, Frankton Flats Rings Road, SH6A Alternative Route and Kelvin Peninsula Duplication	1 ,000 ,000	2007		80%	0%	20%	0%	0
Wakatipu	Future Link Property Purchases.	Unspecified land purchases - Projects Include CBD By-Pass, Frankton Flats Rings Road, SH6A Alternative Route and Kelvin Peninsula Duplication	1,000,000	2008		80%	0%	20%	0%	0
Wakatipu	Future Link Property Purchases.	Unspecified land purchases - Projects Include CBD By-Pass, Frankton Flats Rings Road, SH6A Alternative Route and Kelvin Peninsula Duplication	1,000,000	2009		80%	0%	20%	0%	0
Wakatipu	Frankton Flats Ring Road - New Roads and Bridges	Investigation and Design. Frankton Link Road, SH6 upgrades and feeder construction - A long term project to upgrade SH6, reduce projected demand on SH6 by providing internal circlation and to feed SH6 afternative route.	360,000	2010		35%	33%	33%	0%	0
Wakatipu	Future Link Property Purchases.	Unspecified land purchases - Projects Include CBD By-Pass, Frankton Flats Rings Road, SH6A Alternative Route and Kelvin Peninsula Duplication	2,000,000	2010		80%	0%	20%	0%	0
Wakatipu	Frankton Flats Ring Road - New Roads and Bridges	Construction stage 1. Frankton Link Road, SH6 upgrades and feeder construction - A long term project to upgrade SH6, reduce projected demand on SH6 by providing internal circlation and to feed SH6 alternative route.	3,650,000	2011		80%	0%	20%	0%	0
Wakatipu	Future Link Property Purchases.	Unspecified land purchases - Projects Include CBD By-Pass, Frankton Flats Rings Road, SH6A Alternative Route and Kelvin Peninsula Duplication	2,000,000	2011		80%	0%	20%	0%	0
Wakatipu	Frankton Flats Ring Road - New Roads and Bridges	Construction stage 2. Frankton Link Road, SH6 upgrades and feeder construction - A long term project to upgrade SH6, reduce projected demand on SH6 by providing internal circlation and to feed SH6 alternative route.	3,650,000	2012		80%	0%	20%	0%	0
Wakatipu	Future Link Property Purchases.	Unspecified land purchases - Projects Include CBD By-Pass, Frankton Flats Rings Road, SH6A Alternative Route and Kelvin Peninsula Duplication	2,000,000	2012		80%	0%	20%	0%	0
Wakatipu	Frankton Flats Ring Road - New Roads and Bridges	Construction stage 3. Frankton Link Road, SH6 upgrades and feeder construction - A long term project to upgrade SH6, reduce projected demand on SH6 by providing internal circlation and to feed SH6 alternative route.	3,650,000	2013		80%	0%	20%	0%	0

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Continued.....Roading - Frankton Flats CAPEX

				1				CAPEX COM	POSITION	
Contributing Area	Asset Type/Location	Problem Description/Location	CAPEX Value	Expenditure Date	ldeal Expenditure Date	Growth	Renewal	LOS Shift	Statutory	Existing Undercapacity (Deferred Works)
Wakatipu	Future Link Property Purchases.	Unspecified land purchases - Projects Include CBD By-Pass, Frankton Flats Rings Road, SH6A Alternative Route and Kelvin Peninsula Duplication	2,000,000	2013		80%	0%	20%	0%	0%
Wakatipu	Frankton Flats Ring Road - New Roads and Bridges	Construction stage 4. Frankton Link Road, SH6 upgrades and feeder construction - A long term project to upgrade SH6, reduce projected demand on SH6 by providing internal circlation and to feed SH6 alternative route.	3,650,000	2014		80%	0%	20%	0%	09
Wakatipu	Future Link Property Purchases.	Unspecified land purchases - Projects Include CBD By-Pass, Frankton Flats Rings Road, SH6A Alternative Route and Kelvin Peninsula Duplication	2,000,000	2014		80%	0%	20%	0%	09
Wakatipu	Frankton Flats Ring Road - New Roads and Bridges	Construction stage 5. Frankton Link Road, SH6 upgrades and feeder construction - A long term project to upgrade SH6, reduce projected demand on SH6 by providing internal circlation and to feed SH6 alternative route.	3,650,000	2015		80%	0%	20%	0%	09
Wakatipu	Future Link Property Purchases.	Unspecified land purchases - Projects Include CBD By-Pass, Frankton Flats Rings Road, SH6A Alternative Route and Kelvin Peninsula Duplication	2,000,000	2015		80%	0%	20%	0%	0%
Wakatipu	Future Link Property Purchases.	Unspecified land purchases - Projects Include CBD By-Pass, Frankton Flats Rings Road, SH6A Alternative Route and Kelvin Peninsula Duplication	2,000,000	2016		80%	0%	20%	0%	09
Travel Demar	nd									
Wakatipu	Transportation Studies	From travel demand strategy develop Public Transport Strategy including investment programme to meet desired traffic reduction. Strategy wil include hubs, corridors, network infrastructure (bus shelters), network operation, afordability, long term bus parking and park and ride facilities. Otgo Regional Council Input is required.	125,000	2006		80%	0%	20%	0%	0%
Wakatipu	Public Transport Infrastructure	Public Transport Network Development - Management Fees	200,000	2006		20%	0%	80%	0%	0%
Wakatipu	Public Transport Infrastructure	Public Transport Network Development - Wakatipu Basin including Arrowtown. Transport hubs construction. Lead time sufficient for adequate traffic demand reduction on SH6A to avoid significant redction in level of service.	1,000,000	2007		20%	0%	80%	0%	09
Wakatipu	Public Transport Infrastructure	Public Transport Network Development.	1,000,000	2008		20%	0%		0%	0%
Wakatipu	Public Transport Infrastructure	Public Transport Network Development.	1,000,000			20%			0%	09
Wakatipu	Public Transport Infrastructure	Public Transport Network Development	500,000			20%			0%	09
Wakatipu	Public Transport Infrastructure	Public Transport Network Development	500,000			20%			0%	09
Wakatipu	Public Transport Infrastructure	Public Transport Network Development	500,000			20%			0%	09
Wakatipu	Public Transport Infrastructure	Public Transport Network Development	500,000			20%			0%	09
Wakatipu	Public Transport Infrastructure	Public Transport Network Development	500,000			20%			0%	09
Wakatipu	Public Transport Infrastructure	Public Transport Network Development	500,000			20%			0%	09
Wakatipu	Public Transport Infrastructure	Public Transport Network Development	250,000			20%			0%	09
Wakatipu	Public Transport Infrastructure	Public Transport Network Development	250,000			20%			0% 0%	09 09
Wakatipu	Public Transport Infrastructure	Public Transport Network Development	250,000							
Wakatipu	Public Transport Infrastructure	Public Transport Network Development	250,000			20% 20%			0% 0%	09 09
Wakatipu Wakatipu	Public Transport Infrastructure Public Transport Infrastructure	Public Transport Network Development Public Transport Network Development	250,000 250,000			20%			0%	09
			44.435.000							

## Appendix B

## **DEVELOPMENT CONTRIBUTIONS**

# QUEENSTOWN STATUTORY FUNDING DISCLOSURES

## Water Supply Contribution Analysis A) Capital Programme and Consumption

		Capital Cost					_
Project Summaries	10 Year Total Capital Cost	(2rowth Funded		Percentage Attributable to Growth	Growth Cost (Capacity) Consumed in 10 Year Period - Inc Interest	Weighted Average No of Dwelling Equivalents Apportioning Growth Cost Over 10 Year Period	Contribution Per Lot
WATER SUPPLY – QUEENSTOWN							
Reticulation	17,628,355	17,617,284	11,071	100%	6,132,619	3,218	1,906
Pump Stations	2,843,670	2,420,596	423,074	85%	1,283,254	3,218	399
Intakes	260,322	251,945	8,377	97%	112,098	3,218	35
Storage	6,946,460	6,946,460	-	100%	3,003,664	3,218	933
Emergency Conveyance	=	-	-	0%	28,133	3,218	9
Conveyance	=	-	-	0%	-	3,218	-
Treatment Facilities	575,079	235,881	339,198	41%	196,636	3,218	61
Flow Metering	24,596	24,596	-	100%	76,012	3,218	24
Asset Management Systems	1,287,853	218,481	1,069,373	17%	282,308	3,218	88
Renewals	6,169,641	-	6,169,641	0%	-	3,218	-
Unspecified Expenditure	-	-	-	0%	58,196	3,218	18
Total Water Supply – Queenstown	35,735,976	27,715,243	8,020,734		11,172,921		3,472

#### B) Debt Ratio - 7% Interest Rate Applied

Contributing Area  QUEENSTOWN	Year	CAPEX	CAPEX for Growth	Cumulative Growth Cost	New Dwelling Equivalents	Contributions Received	Cumulative Contributions Received	Net Debt	Debt %
QT	Existing Debt			2,272,896					
QT	2006	967,102	358,200	2,631,096	297	1,030,284	1,030,284	1,600,812	6%
QT	2007	4,067,067	2,858,167	5,489,262	309	1,072,434	2,102,718	3,386,544	12%
QT	2008	1,020,492	513,699	6,002,962	322	1,116,308	3,219,026	2,783,936	10%

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Contributing Area	Year	CAPEX	CAPEX for Growth	Cumulative Growth Cost	New Dwelling Equivalents	Contributions Received	Cumulative Contributions Received	Net Debt	Debt %
QUEENSTOWN									
QT	2009	2,317,293	1,540,254	7,543,216	335	1,161,977	4,381,003	3,162,213	11%
QT	2010	3,657,512	2,877,167	10,420,382	348	1,209,514	5,590,517	4,829,865	17%
QT	2011	9,451,942	8,648,397	19,068,779	301	1,043,302	6,633,819	12,434,960	45%
QT	2012	3,620,365	2,843,123	21,911,902	311	1,078,672	7,712,491	14,199,411	51%
QT	2013	3,374,605	2,597,368	24,509,270	321	1,115,241	8,827,732	15,681,538	57%
QT	2014	3,164,523	2,261,018	26,770,288	332	1,153,049	9,980,781	16,789,507	61%
QT	2015	4,095,076	3,217,851	29,988,139	343	1,192,140	11,172,921	18,815,218	68%
			27,715,243				Queenstown Weighted	Debt Funding Ratio	50%

Wastewater Contribution Analysis

A) Capital Programme and Consumption

		Capital Cost					
Project Summaries	10 Year Total Capital Cost	(2rowth Funded		Percentage Attributable to Growth	Growth Cost (Capacity) Consumed in 10 Year Period - Inc Interest	Weighted Average No of Dwelling Equivalents Apportioning Growth Cost Over 10 Year Period	Contribution Per Lot
WASTEWATER QUEENSTOWN						1 61164	
Reticulation	9,472,919	5,912,897	3,560,022	62%	2,391,210	3,060	781
Pump Stations	15,575,773	14,917,161	658,612	96%	6,393,217	3,060	2,089
Treatment Facilities	6,971,019	3,202,543	3,768,476	46%	1,621,357	3,060	530
Management	660,218	212,331	447,888	32%	241,641	3,060	79
Renewals	1,459,012	-	1,459,012	0%	-	3,060	=
Unspecified Expenditure	=	-	-	0%	910,938	3,060	298
Total WASTEWATER - Queenstown	34,138,941	24,244,932	9,894,010		11,558,363		3,777

Debt Ratio - 7% Interest Rate Applied B)

Contributing Area	Year	CAPEX	CAPEX for Growth	Cumulative Growth Cost	New Dwelling Equivalents	Contributions Received	Cumulative Contributions Received	Debt Balance	Debt %
QUEENSTOWN									
QT	Existing Debt			2,465,189					
QT	2006	6,957,482	5,372,900	7,838,089	281	1,060,102	1,060,102	6,777,987	28%
QT	2007	6,880,349	5,799,454	13,637,543	293	1,106,428	2,166,530	11,471,013	47%
QT	2008	2,474,664	1,528,280	15,165,824	306	1,154,779	3,321,309	11,844,515	49%
QT	2009	1,097,681	374,399	15,540,223	319	1,205,243	4,526,552	11,013,671	45%
QT	2010	3,326,002	1,698,467	17,238,690	333	1,257,912	5,784,464	11,454,226	47%
QT	2011	4,808,639	2,476,259	19,714,949	285	1,075,040	6,859,504	12,855,445	53%
QT	2012	1,376,557	931,165	20,646,114	295	1,113,509	7,973,013	12,673,101	52%
QT	2013	1,639,154	1,049,704	21,695,818	305	1,153,354	9,126,366	12,569,452	52%
QT	2014	534,049	282,324	21,978,142	316	1,194,624	10,320,991	11,657,152	48%
QT	2015	5,044,365	4,731,979	26,710,121	328	1,237,372	11,558,363	15,151,758	62%
			24,244,932			Que	eenstown Weighted I	Debt Funding Ratio	50%

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# Stormwater Contribution Analysis A) Capital Programme and Consumption

Project Summaries STORMWATER - QUEENSTOWN	10 Year Total Capital Cost	Capital Cost  Growth Funded	Funded by Other Sources	Percentage Attributable to Growth	Growth Cost (Capacity) Consumed in 10 Year Period - Inc Interest	Weighted Average No of Dwelling Equivalents Apportioning Growth Cost Over 10 Year Period	Contribution Per Lot
Sunshine Bay - Upgrades	133,000	69,181	63,819	52%	363,730	3,492	104
Fernhill - Upgrades	61,000	28,060	32,940	46%	135,653	3,492	39
Queenstown - Frankton - Upgrades	-	-	=	0%	35,057	3,492	10
Frankton - Upgrades	131,880	60,665	71,215	46%	103,754	3,492	30
Lake Hayes - Upgrades	5,880	1,530	4,351	26%	941	3,492	-
Queenstown - Upgrades	175,321	57,492	117,829	33%	569,422	3,492	163
Horne Creek Catchment - Upgrades	200,000	82,617	117,383	41%	66,563	3,492	19
Kelvin Peninsula - Upgrades	260,000	134,400	125,600	52%	309,563	3,492	89
Minor Works, Projects, GIS	1,631,755	-	1,631,755	0%	21,968	3,492	6
Treatment Facilities	499,520	231,569	267,951	46%	112,075	3,492	32
Flood Protection	-	-	=	0%	287,483	3,492	82
Asset Management	557,192	251,957	305,235	45%	136,727	3,492	39
Investigations	7,615	599	7,016	8%	36,950	3,492	11
TOTAL STORMWATER - QUEENSTOWN	3,663,164	918,071	2,745,093		2,179,885		624

#### B) Debt Ratio - 7% Interest Rate Applied

Contributing Area	Year	CAPEX	CAPEX for Growth	Cumulative Growth Cost	New Dwelling Equivalents	Contributions Received	Cumulative Contributions Received	Debt Balance	Debt %
QUEENSTOWN									
QT	Existing Debt			1,670,111					
QT	2006	710,745	292,706	1,962,816	319	198,870	198,870	1,763,946	192%
QT	2007	497,302	178,831	2,141,648	333	207,754	406,624	1,735,023	189%
QT	2008	401,798	111,355	2,253,002	348	217,035	623,660	1,629,342	177%
QT	2009	321,938	66,597	2,319,599	363	226,731	850,391	1,469,208	160%
QT	2010	286,770	47,059	2,366,658	379	236,860	1,087,251	1,279,406	139%

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QT	2011	298,420	52,781	2,419,439	325	203,079	1,290,330	1,129,109	123%
QT	2012	283,556	42,336	2,461,775	337	210,525	1,500,855	960,920	105%
QT	2013	283,210	40,901	2,502,676	350	218,244	1,719,099	783,577	85%
QT	2014	296,935	47,587	2,550,263	362	226,245	1,945,344	604,919	66%
QT	2015	282,489	37,918	2,588,181	376	234,541	2,179,885	408,296	44%
			918.071				Queenstown Weighted D	ebt Funding Ratio	100%

Roading Contribution Analysis

A) Capital Programme and Consumption

A) Capital Programme and Const	İ	Capital Cost					
Project Summaries	10 Year Total Capital Cost (QLDC)	Growth Funded	Funded by Other Sources	Percentage Attributable to Growth	Growth Cost (Capacity) Consumed in 10 Year Period - Inc Interest	Weighted Average No of Dwelling Equivalents Apportioning Growth Cost Over 10 Year Period	Contribution Per Lot
WAKATIPU							
Bridge Renewals	310,000	151,200	158,800	49%	55,295	6,853	8
Cycleway Construction	983,240	344,134	639,106	35%	343,948	6,853	50
Walking and Cycling Strategies	9,200	3,220	5,980	35%	8,930	6,853	1
Emergency Works Contingency	1,400,000	0	1,400,000	0%	-	6,853	0
Footpath Construction	2,160,000	756,000	1,404,000	35%	1,078,774	6,853	157
Kerb & Channel Construction	2,040,064	714,023	1,326,042	35%	873,630	6,853	127
Maintenance Chip Seals	2,303,977	575,994	1,727,983	25%	915,046	6,853	134
General Maintenance (Metalling Programme)	126,900	19,035	107,865	15%	13,323	6,853	2
Rehabilitations	0	0	0	0%	-	6,853	0
Minor Safety Projects	2,384,516	596,129	1,788,387	25%	605,623	6,853	88
New Roads	6,433,125	5,146,500	1,286,625	80%	1,254,686	6,853	183
Other Structures	0	0	0	0%	1,909	6,853	0
Advanced Property Purchase	7,802,000	6,241,600	1,560,400	80%	2,279,376	6,853	333
Professional Services (Investigations)	1,372,401	480,340	892,061	35%	343,892	6,853	50
Pavement Smoothing	6,974,303	2,092,291	4,882,012	30%	1,690,557	6,853	247
Passenger Transport	2,914,000	582,800	2,331,200	20%	249,397	6,853	36
Roading General	1,185,000	296,250	888,750	25%	746,026	6,853	109
Road Reconstruction	10,825,693	3,788,992	7,036,700	35%	1,646,020	6,853	240
Reseals	0	0	0	0%	-	6,853	0
Seal Extension	4,615,050	2,307,525	2,307,525	50%	1,783,809	6,853	260
Street Furniture	589,500	147,375	442,125	25%	63,499	6,853	9
Streetlighting	1,046,500	261,625	784,875	25%	186,816	6,853	27
Strategic Studies	18,975	15,180	3,795	80%	15,310	6,853	2
Seal Widening	250,000	75,000	175,000	30%	44,481	6,853	6

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Thin Asphaltic Surfacing	5,234,206	1,308,551	3,925,654	25%	1,328,702	6,853	194
Town Centre Improvements	11,000,000	2,750,000	8,250,000	25%	1,549,868	6,853	226
Traffic Management	249,100	199,280	49,820	80%	285,298	6,853	42
Transportation Studies	56,350	45,080	11,270	80%	140,958	6,853	21
Traffic Services	0	0	0	0%	1,798	6,853	0
Power Reticulation Undergrounding	1,750,000	0	1,750,000	0%	-	6,853	0
	74,034,101	28,898,125	45,135,976				2,555

#### B) Debt Ratio – 7% Interest Rate Applied

Contributing Area	Year	CAPEX (QLDC)	CAPEX for Growth	Cumulative Growth Cost	New Dwelling Equivalents	Contributions Received	Cumulative Contributions Received	Net Cost Balance	Debt %
WAKATIPU									
Wakatipu	Existing Debt			3,982,143					
Wakatipu	2006	6,383,920	2,313,705	6,295,848	630	1,608,379	1,608,379	4,687,468	16%
Wakatipu	2007	6,838,319	2,258,734	8,554,582	656	1,675,940	3,284,319	5,270,263	18%
Wakatipu	2008	6,321,503	2,104,346	10,658,927	684	1,746,340	5,030,659	5,628,269	19%
Wakatipu	2009	5,485,256	1,733,330	12,392,257	712	1,819,696	6,850,355	5,541,902	19%
Wakatipu	2010	7,486,687	2,766,159	15,158,417	742	1,896,134	8,746,488	6,411,928	22%
Wakatipu	2011	9,032,907	3,930,059	19,088,476	640	1,634,485	10,380,973	8,707,502	30%
Wakatipu	2012	8,184,315	3,514,182	22,602,657	662	1,691,283	12,072,256	10,530,402	36%
Wakatipu	2013	7,794,732	3,346,743	25,949,400	685	1,750,054	13,822,310	12,127,090	42%
Wakatipu	2014	8,114,132	3,483,155	29,432,555	709	1,810,868	15,633,178	13,799,377	48%
Wakatipu	2015	8,392,332	3,447,713	32,880,268	733	1,873,795	17,506,973	15,373,296	53%
		74,034,101	28,898,125				Wakatipu Weighte	d Debt Funding Ratio	36%

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Page: 28 Status: Draft