

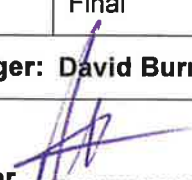


# **Tasman District Council**

# **Stormwater Activity Management Plan**

**2012 - 2022**

**July 2012**

### Quality Assurance Statement

<b>Tasman District Council</b> 189 Queen Street Private Bag 4 Richmond 7050 Telephone: (03) 543 8400 Fax: (03) 543 9524	<b>Version:</b>	V5 July 2012
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**For full Quality Assurance Statement, Refer Appendix Z**

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## 1 KEY ISSUES FOR THE STORMWATER ACTIVITY

The most important issues relating to the stormwater activity are shown below in Table 1-1.

**Table 1-1: Key Issues for the Stormwater Activity**

Key Issue	Discussion
Damage to stormwater assets from storms and heavy rainfall events.	In December 2010 and December 2011 the Tasman District experienced extremely heavy rainfall which led to flooding, slips and debris flows resulting in damage to Council infrastructure and private property. This was particularly destructive in Golden Bay in 2011 and in Murchison and Golden Bay in 2010. Both these events depleted Council's disaster funds. The full extent and cost of the damage to Council infrastructure for the December 2011 event, including stormwater utility infrastructure, is estimated to be approximately \$10.1 million. Of these costs around \$6.7 million should be recoverable from the Ministry of Civil Defence and Emergency Management or from insurance, which leaves a Council liability of around \$3.4 million. Most of the repair work will be undertaken in the current 2011/2012 year. Much of the Council funding is likely to come from existing Council disaster funds or new loans. Council has budgeted for around \$900,000 to help replenish the disaster funds in 2012/2013. Council has also decided to use \$3 million of the Port Nelson special dividend received in 2011/2012 to replenish the General Disaster Fund. This additional funding will mean there should be sufficient money available to cover the costs of the disaster recovery work.
Hydraulic modelling required.	Council has undertaken hydraulic modelling for the Richmond and Motueka Urban Drainage Areas (UDAs). However, further hydraulic modelling is required for these townships and in other areas of the district in order for Council to fully understand the stormwater needs of the district's settlements.  Some projects have been identified to address historical capacity issues. Catchment Management Plans (CMPs) and modelling will be used to identify secondary flow paths and to identify other capacity projects. There are areas that are currently unable to meet the minimum desired Level of Service of containing a 1 in 5 year storm.
Catchment management planning is needed.	Council plans to undertake Catchment Management Plans (CMPs) to enable it to fully understand the impacts of stormwater discharges on receiving environments. This planning work needs to involve the regulatory part of Council which controls discharges into the environment, and engineering staff responsible for managing stormwater infrastructure.
Impact on Council systems of stormwater received from other sources.	There is a lack of policy for the management of stormwater systems owned by others which interfere with Council systems. For example, stormwater from private land and from state highways managed by the New Zealand Transport Agency.
Infrastructure upgrades leading to rates increases.	Council is planning several major stormwater capital works projects over the coming 10 years. These projects are needed to address environmental matters by making designs and practices more sustainable, to replace ageing infrastructure, to improve the capacity of the network and to meet growth needs. This is leading to forecasted stormwater rates increases from 0.0474 cents to 0.0891 cents per dollar of capital value over the next 10 years. The stormwater debt level is also forecast to rise \$18.99 million over the ten year period, which is in turn causing loan servicing costs to increase.
Meeting growth needs.	There are a number of projects planned that are driven fully or partially by the need to cater for future growth. Council applies development contributions to these projects so that developers meet the cost of the growth component of projects rather than ratepayers. The cost of development contributions can act as a disincentive for growth. The combined effect of all the contributions has led to the stormwater development contribution being forecast to increase from \$3,013 to \$5,149 per property.
Land purchase needed.	In order to undertake some of the stormwater capital works planned over the 10 years, Council will need to purchase large amounts of land. The cost of this land is reasonably significant.

Key Issue	Discussion
Reservoir Creek Dam	The project to upgrade the spillway on the Reservoir Creek Dam has been brought forward into 2012/2013 as a result of damage done to the spillway through the December 2011 rainfall event.

## 2 ACTIVITY DESCRIPTION

### 2.1 What We Do

This activity encompasses the provision of stormwater collection, reticulation, and discharge systems in Tasman district. The assets used to provide this service include drainage channels, piped reticulation networks, tide gates, detention or ponding areas, inlet structures, discharge structures and quality treatment assets.

The stormwater sumps and road culvert assets are generally owned and managed by Council's Transportation activity or by the NZ Transport Agency (NZTA), depending upon whether they are located on local roads or state highways. This stormwater activity does not include land drains or river systems, which are covered under Council's Flood Protection and River Control Works activity. Nor does it cover stormwater systems in private ownership.

Council manages its stormwater activities under 16 Urban Drainage Areas (UDA) and one General District Area. The General District Area covers the entire district outside the UDA. Typically these systems include small communities with stormwater systems that primarily collect and convey road run-off to suitable discharge points.

A complete description of the assets included in the stormwater activity is in Appendix B.

### 2.2 Why We Do It

Council undertakes the Stormwater activity to minimise the risk of flooding of buildings and property from surface runoff, as opposed to flooding from rivers and streams which is dealt with under the Flood Protection and River Control Works activity. By providing a high-quality stormwater network, Council enables the safe and efficient conveyance and disposal of stormwater from the urban drainage areas, which improves the economic and social well-being of the district by protecting people and property from surface flooding.

Council has a duty of care to ensure that the effects of any runoff from its own properties is remedied or mitigated. Because most of its property is mainly in the form of impermeable roads in developed areas, this generally means that some level of reticulation system is constructed. The presence of this system means it also becomes the logical network for dealing with private stormwater disposal.

### 3 COMMUNITY OUTCOMES AND OUR GOAL

Council operates, maintains and improves the stormwater infrastructure assets on behalf of its ratepayers. It undertakes to meet the level of service they require to enhance community well-being by reducing the risk of flooding of buildings and property from surface runoff.

The community outcomes that the stormwater activity contributes to most are shown in Table 3-1.

**Table 3-1: Community Outcomes**

Community Outcomes	How Our Activity Contributes to the Community Outcome
Our unique natural environment is healthy and protected.	Stormwater arising within urban development areas is controlled, collected, conveyed and discharged safely to the receiving environment. This activity is managed so the impact of the discharges does not adversely affect the health and cleanliness of the receiving environment.
Our urban and rural environments are pleasant, safe and sustainably managed.	Our stormwater activity ensures our built urban and rural environments are functional, pleasant and safe by ensuring stormwater is conveyed without putting the public at risk or damaging property, businesses or essential infrastructure.
Our infrastructure is safe, efficient and sustainably managed.	The stormwater activity is considered an essential service that should be provided to all properties within urban drainage areas in sufficient size and capacity. This service should also be efficient and sustainably managed.

#### 3.1 Our Goal

Council aims to achieve an acceptable level of flood protection in each UDA and the remaining General District stormwater areas.

### 4 OPERATIONS, MAINTENANCE AND RENEWALS STRATEGY

#### 4.1 Operations and Maintenance

Day to day operational, inspection and maintenance of the stormwater systems is carried out by Downer NZ Ltd under the maintenance contract C688. This maintenance contract is administered by MWH New Zealand Ltd under the professional services contract C461.

Both of the contracts were competitively tendered on the open market (C461 in 2000 and C688 in 2007). C461 has been extended until March 2013 and C688 potentially runs until 2014, dependent on successful re-negotiations. Both contracts are primarily based on a comprehensive schedule of rates and a combination of lump sum payments. This provides all parties involved with a vested interest in optimising both pro-active and reactive maintenance requirements. Although they are not specifically set up as one, the contracts are in many respects similar to a partnering agreement with all parties working closely together with the same goal in mind, ie. Delivering a high level of service and providing value for money for the Council ratepayers.

Some of the key aspects of this contract are:

- performance based
- emphasis on proactive maintenance
- programme management
- quality management
- detailed schedule of works
- measurement of performance

- team approach to problem solving.

Operation and maintenance is discussed in detail in Appendix E.

## **4.2 Renewals**

Renewal expenditure is major work that does not increase asset design capacity but restores, rehabilitates, replaces or renews an existing asset to its original capacity. Work over and above restoring an asset to original capacity is new works expenditure.

Assets are considered for renewal as they near the end of their effective working life or where the cost of maintenance becomes uneconomical and when the risk of failure of critical assets is sufficiently high.

The renewal programme has been developed by the following.

- Taking asset age and remaining life predictions from the valuation data in Confirm, calculating when the remaining life expires and converting that into a programme of replacements based on valuation replacement costs.
- Reviewing and justifying the renewals forecasts using the accumulated knowledge and experience of asset operations and asset management staff. This incorporates the knowledge gained from tracking asset failures through the Customer Services System, the GPS locating of pipe breaks, blockages and over land flows, and contract reporting structures.
- Undertaking an optimising review to identify opportunities for bundling projects across assets, optimised replacement, timing across assets – especially between pipe upgrades and roading works, and smoothing of expenditure.

The renewal programme is reviewed in detail at each Activity Management Plan (ie. three yearly), and every year the annual renewal programme is reviewed and planned with the input of the maintenance contractor.

Renewals are discussed in detail in Appendix I.

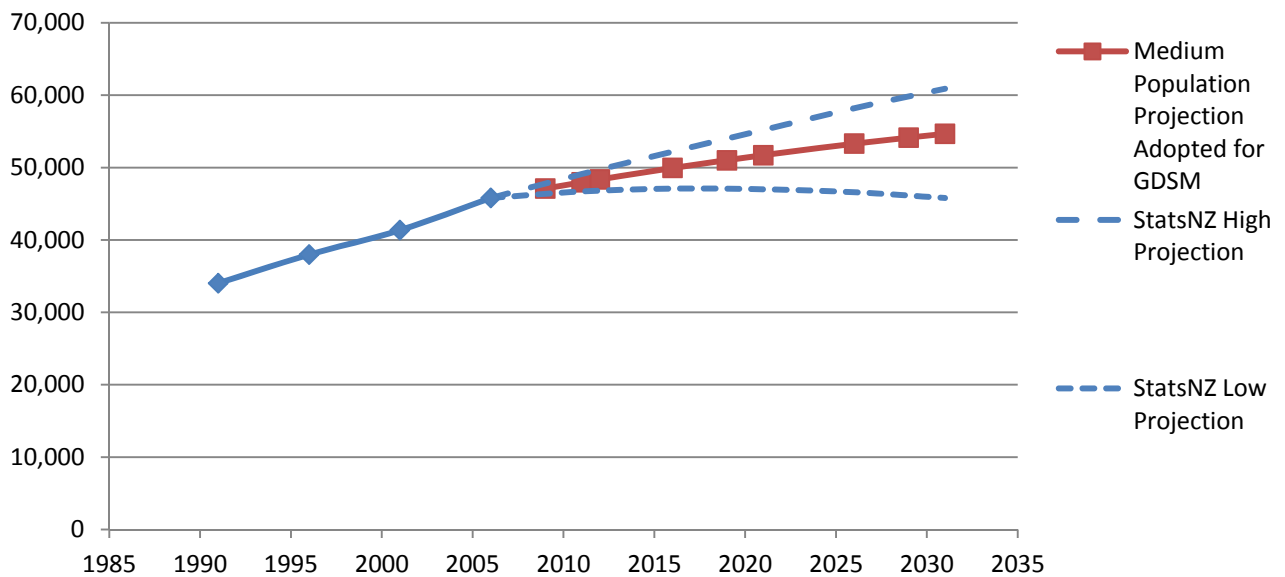
## **5 EFFECTS OF GROWTH, DEMAND AND SUSTAINABILITY**

### **5.1 Population Growth**

The Council has developed a Growth Demand and Supply Model (GDSM) to forecast the population and business growth in the district and the implications of this growth on network infrastructure. The GDSM is described in brief in Appendix F and in more detail in a separate model description report.

The ultimate outputs of the GDSM include a projection of the district's population, and forecast of where and when new dwellings and business buildings will be built and a forecast of the number of new stormwater connections. This is summarised in Appendix F. The population projection for Tasman District Council is shown in Figure 5-1 following.





**Figure 5-1: Projected Population Growth for Tasman District**

The forecast of population growth has been used to determine where and when Council infrastructure needs to be developed and at what capacity. Council has also considered the influence of changing demographics, community expectations, industrial/commercial demand, technology and legislation on the demand for this service.

As a result of the recession and general slowdown in development since 2008, Council has:

- adopted lower population projections for Richmond and Motueka (in 2008 Council adopted Statistics New Zealand high growth projections), this time they have adopted medium growth projections.
- assumed there would be no business growth until July 2012 that would have a significant demand on infrastructure.

From these analyses and assumptions, Council has a moderate forecast of growth for the district. However there are a number of projects where growth is a contributing factor and allowance has been made in the design of future works and in funding arrangements. The major growth projects are listed in Table 8-1 and are identifiable by the project driver column.

## 5.2 Sustainability

The Local Government Act 2002 requires local authorities to take a sustainable development approach while conducting its business, taking into account the social, economic and cultural well-being of people and communities, the need to maintain and enhance the quality of the environment and the reasonably foreseeable needs of future generations.

Sustainable development is a fundamental philosophy that is embraced in Council's Vision, Mission and Objectives, and that shapes the community outcomes. The levels of service and the performance measures that flow from these inherently incorporate the achievement of sustainable outcomes.

Many of the Council's cross-organisational initiatives are shaped around community well-being (economic, social, cultural and environmental) and taking into consideration the well-being of future generations. This is demonstrated in:

- Council's Integrated Risk Management approach which analyses risks and particularly risk consequences in terms of community well-being
- Council's Growth Demand and Supply Model which seeks to forecast how and where urban growth should occur taking into account opportunities and risks associated with community well-being
- Council adopting a 20 year forecast in the Activity Management Plans to ensure the long term financial implications of decisions made now are considered.

At the activity level, a sustainable development approach is demonstrated by the following:

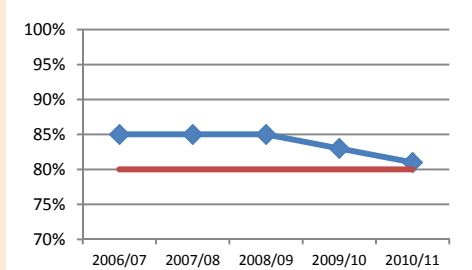
- catchment management within the Urban Drainage Areas
- taking climate change into consideration in hydraulic modelling
- consideration of low impact design where appropriate
- planning for future drainage before growth occurs.

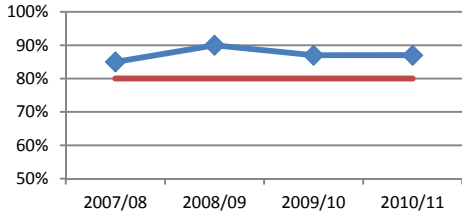
## 6 LEVEL OF SERVICE AND PERFORMANCE MEASURES

Table 6-1 summarises the levels of service and performance measures for the stormwater activity. Development of the levels of service is discussed in detail in Appendix R. The shaded rows indicate those Levels of Service and performance measures which are included in the Long Term Plan (LTP).

**Table 6-1: Levels of Service**

ID	Levels of Service (we provide)	Performance Measure (We will know we are meeting the level of service if...)	Current Performance	Future Performance			Future Performance (targets) in Year 10 2021/22
				Year 1	Year 2	Year 3	
				2012/13	2013/14	2014/15	
<b>Community Outcome: Our unique natural environment is healthy and protected.</b>							
1	<b>Our stormwater systems do not adversely affect or degrade the receiving environment.</b>	<i>Council has resource consents in place for each of the 16 stormwater UDAs. Resource consents are held in Council's Confirm database.</i>	<b>Actual</b> = Resource consents will be obtained once a Stormwater Catchment Management Plan has been developed for each UDA.	0	1/16 (Richmond)	2/16 (Richmond and Motueka)	16/16
2		<i>We have stormwater UDA management plans (SWCMPs) for each urban drainage area.</i>	<b>Actual</b> = Work has begun on the Stormwater Catchment Management Plan for Richmond. This will be complete and in place by the end of Year 1.	1/16 (Richmond)	2/16 (Richmond and Motueka)	3/16 (Richmond, Motueka and Mapua)	16/16
<b>Community Outcome: Our urban and rural environments are pleasant, safe and sustainably managed.</b>							
3	<b>Our stormwater systems collect and convey stormwater safely through urban environments, reducing the adverse effects of flooding on people and residential and commercial buildings.</b>	<i>There are no public complaints to Council of residential or commercial buildings being flooded as a result of failure of Council stormwater systems to cope with the current design capacity (this excludes capacity from rivers, private drainage failure). As measured through complaints received through Council's customer services and recorded in the Confirm database.</i>	<b>Actual</b> = This is a new measure which is not currently measured. Council needs to ensure this information is adequately recorded in Confirm.	0	0	0	0

ID	Levels of Service (we provide)	Performance Measure (We will know we are meeting the level of service if...)	Current Performance	Future Performance			Future Performance (targets) in Year 10 2021/22																																		
				Year 1	Year 2	Year 3																																			
				2012/13	2013/14	2014/15																																			
4		<i>Existing systems are capable of containing a 1 in 5 year storm event.</i>	<p><b>Actual</b> = The table below shows the % of areas capable of containing a 1 in 5 year storm. This table will be reassessed on a three yearly basis.</p> <table border="1"> <thead> <tr> <th>UDA</th> <th>≥ 1 in 5 Yr Storm</th> </tr> </thead> <tbody> <tr><td>Richmond</td><td>80%</td></tr> <tr><td>Brightwater</td><td>70%</td></tr> <tr><td>Wakefield</td><td>60%</td></tr> <tr><td>Murchison</td><td>40%</td></tr> <tr><td>St Arnaud</td><td>80%</td></tr> <tr><td>Tapawera</td><td>90%</td></tr> <tr><td>Motueka</td><td>80%</td></tr> <tr><td>Mapua/ Ruby Bay</td><td>90%</td></tr> <tr><td>Tasman</td><td>60%</td></tr> <tr><td>Kaiteriteri</td><td>80%</td></tr> <tr><td>Takaka</td><td>70%</td></tr> <tr><td>Pohara</td><td>40%</td></tr> <tr><td>Ligar Bay/Tata Beach</td><td>70%</td></tr> <tr><td>Collingwood</td><td>70%</td></tr> <tr><td>Patons Rock</td><td>30%</td></tr> <tr><td><b>Average</b></td><td><b>67%</b></td></tr> </tbody> </table>	UDA	≥ 1 in 5 Yr Storm	Richmond	80%	Brightwater	70%	Wakefield	60%	Murchison	40%	St Arnaud	80%	Tapawera	90%	Motueka	80%	Mapua/ Ruby Bay	90%	Tasman	60%	Kaiteriteri	80%	Takaka	70%	Pohara	40%	Ligar Bay/Tata Beach	70%	Collingwood	70%	Patons Rock	30%	<b>Average</b>	<b>67%</b>	75%	75%	75%	100%
UDA	≥ 1 in 5 Yr Storm																																								
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<b>Community Outcome: Our stormwater and essential services are sufficient, efficient and sustainably managed</b>																																									
5	<b>Our stormwater activities are managed at a level which satisfies the community.</b>	<i>% of customers satisfied with the stormwater service. As measured through the annual resident survey.</i>	<p><b>Actual = 81%</b></p> <p>The Communitrak™ residents survey was undertaken in May/June 2011. 81% of receivers of the service were found to be satisfied with the service they receive.</p> 	80%	80%	80%	80%																																		

ID	Levels of Service (we provide)	Performance Measure (We will know we are meeting the level of service if ...)	Current Performance	Future Performance			Future Performance (targets) in Year 10 2021/22
				Year 1	Year 2	Year 3	
				2012/13	2013/14	2014/15	
6		Number of complaints relating to health nuisance (odour, mosquitoes, noise...). As measured through complaints received through customer services and recorded in the Confirm database	<b>Actual</b> = This is a new measure which is not currently measured. Council need to ensure this information is adequately recorded in Confirm.	<10 complaints	<10 complaints	<10 complaints	<10 complaints
7		% of faults responded to within Contract time frames. (eg. Priority = clear obstructions in stormwater system in one working day) As recorded through Council's Confirm database	<b>Actual = 97%</b> The operations and maintenance contractor is required to meet a target of 90% of faults to be responded to and fixed within specified timeframes. This is monitored through Contract 688.	>90%	>90%	>90%	>90%
8	<b>We have measures in place to respond to and reduce flood damage to property and risk to the community within stormwater UDAs.</b>	All open drains are maintained in a flood ready state As measured through audits undertaken by the Engineer.	<b>Actual = 88%</b> 	80%	80%	80%	80%
9		Critical stormwater assets are maintained in a flood ready state and checked prior to any event in which weather warnings are notified. As recorded through audits carried out by the Contract Engineer.	<b>Actual = Critical assets are identified and assessed for Risk.</b> Where mitigations measures are required, they have been included for action in the AMP.	100%	100%	100%	100%

## 7 CHANGES MADE TO ACTIVITY OR SERVICE

Table 7-1 summarises the key changes for the management of the stormwater activity since the 2009 Activity Management Plan.

**Table 7-1: Key Changes**

Key Change	Reason for Change
Tasman Resource Management Plan (TRMP) Part IV Rivers and Lakes (2011).	Part IV of the TRMP constitutes the regional plan provisions controlling any activities in the beds of rivers or lakes. This may include some drains owned and maintained by Council.
Moving towards obtaining Resource Consents for stormwater discharges.	Council have a legal obligation to obtain resource consents for their stormwater discharges. This requirement is not yet enforced, but Council are looking to take a catchment management approach to stormwater through the life of this AMP. Catchment Management Plans will drive the resource consent applications.

## 8 KEY PROJECTS

Table 8-1 details the key capital and renewal work programmed for years 2012 to 2022. A full list of capital and renewal projects for the 20 year period is included in Appendix F and I respectively.

**Table 8-1: Significant Projects**

Project Name	Description	Year 1 (\$)	Year 2 (\$)	Year 3 (\$)	Years 4 to 10	Project Driver <sup>1</sup>
Brightwater - Mt Heslington Drain Diversion.	Improve Railway Diversion drain plus new Mt Heslington Stream diversion. Rintoul Place, block off 1 No. 375 dia. culvert and ditch along SH to drain towards the stock yard.				2,060,400	G/LoS
Ligar Bay - Abel Tasman Drive Culvert.	Replace culvert on north side of Leisure Lane in Ligar Bay and drain improvement work.		9,090	25,452	147,258	LoS
Mapua – Langford Drive, other small areas.	Project Scope, based on solutions proposed in Mapua Stormwater Investigations, Higgs Road report, but including pipework upgrades in James Cross Place, Langford Drive and Coutts Place.				305,820	G/LoS
Mapua - Pomona Road/Stafford Drive.	Drainage improvements at intersection of Pomona Road and Stafford Drive				318,500	LoS
Mapua – Crusader Drive.	Drainage improvements from Crusader Drive to Stafford Drive				269,598	LoS
Mapua - Seaton Valley Stream - Stage 1.	Stream widening at Senior and Evans properties	14,924	52,234	298,480	7,462	LoS
Motueka - Flap Gates.	Investigate best solution; and improve/refurbish all existing flap gates.			11,165	100,485	LoS/R
Motueka - New Development Areas.	Network upgrade to accommodate new development and upgrade existing system from the area north of King Edward Street and connecting to the Woodland Drain.				2,550,400	G/LoS

<sup>1</sup> R = Renewal, LoS = Levels of Service, G = Growth

Project Name	Description	Year 1 (\$)	Year 2 (\$)	Year 3 (\$)	Years 4 to 10	Project Driver <sup>1</sup>
Motueka - Tidal Gate Renewal.	Renewal of gates, hydraulics, control cabinets and telemetry at 2x Woodlands Drain Gates (Old Wharf Road at Woodlands Drain bridge) and at 1x Wharf Road Gates Assess condition of remaining Thorp Drain Tidal Gate.				300,000	R
Murchison - Recreation Centre.	Improve existing stream behind the recreation centre out to Fairfax Street.				192,200	LoS
Murchison - Pipe Renewals.	Fairfax Street and upgrade sumps (north and south).				350,400	LoS/R
Richmond - Richmond Land Purchase (Richmond South and Borcks Creek).	Land purchase costs for Richmond South and Richmond West (Borcks Creek).			458,250	1,833,000	G/LoS
Richmond - Hill Street.	New stormwater system from Kingsley Place to Hill Street and along to Angelus Avenue.				1,243,588	G/LoS
Richmond - Middlebank Drive.	Installation of stormwater pipe from Gladstone Road to Olympus Way to Middlebank Drive.			186,030	3,534,570	G/LoS
Richmond - Park Drive.	Increase capacity through Ridings Grove. Duplicate line in walkway reserve and upgrade Hill Street crossing to Q50. Do in two parts: Hill Street culverts, then Riding Grove pipe.				978,600	G/LoS
Richmond - Poutama Drain.	New box culvert to divert stormwater from King Street/Gladstone Road and Waverly Street/Gladstone Road to new open drain out to Borck Creek.	141,490	141,490	2,405,330	141,490	G/LoS
Richmond - Queen Street.	Intercept flows upstream junction Salisbury Road and provide additional hydraulic capacity, by replacing existing 900 dia. pipe with twin 1050 dia. pipe (over 520m) and single 900 dia. pipe over 360m.	73,752	147,504	196,672	2,040,472	G/LoS
Richmond - Sump Upgrades.	Strategy and renewals/upgrades in Richmond (Elizabeth and Darcy Streets (Across all UDAs).			20,000	180,000	LoS
Richmond - Soak Hole Upgrades.	Strategy and renewals/upgrades in Richmond (Across all UDAs). Soakage improvements on Whiting Drive/Lord Auckland Road now included in this scheme and to be highest priority.				200,000	LoS/R



Project Name	Description	Year 1 (\$)	Year 2 (\$)	Year 3 (\$)	Years 4 to 10	Project Driver <sup>1</sup>
Richmond - Salisbury Road Upgrade.	Extend network to William Street.				590,300	G/LoS
Richmond - Ranzau Road/Paton Road/White Road.	Upgrade to White Road and Ranzau Road at Paton Road intersection.	48,470	38,776	106,634	775,520	G/LoS
Richmond - Richmond Renewals.	CCTV shows areas in McGlashen Avenue, Doran Street, Waverley Street and Salisbury Road. Manhole to manhole renewal			40,000	360,000	R
Richmond - Quality Improvements.	Quality improvements as identified in the CMP.		50,750		203,000	LoS
Richmond - Reservoir Creek Dam.	New spillway.	748,674				G/LoS/R
Takaka - Waitapu Road.	New stormwater pipes.			148,799		LoS
Takaka - Meihana Street Upgrade.	New stormwater pipes.				614,481	LoS
Takaka - Commercial Street Upgrade.	New stormwater pipes	21,880	70,016	328,200	17,504	LoS
Tasman - Baldwin Road.	Remaining portion of 110m of 900mm internal diameter inclusive of a headwall for flow entry at the upstream pipe entrance and construction of 95m of open channel watercourse upstream (1m bottom width and 1m deep).	400,000				G/LoS
Wakefield - Eden Stream.	Increasing size of existing channel, capacity through 7 No. culvert crossings, Construction of 160m of channel, Construction of new box culvert to cross under SH 6.				400,012	G/LoS
Wakefield - Whitby Road to Arrow Street.	Upsize the existing stormwater pipe along Whitby Road from Arrow Street to discharge into the Pitfure Stream.				575,911	G/LoS
Wakefield - Pitfure Road.	Replace existing stormwater pipe from SH6 and Pitfure Road intersection out to an open drain into Pitfure Creek.	7,645	22,935	114,675	7,645	LoS/R

Note:

1. See Appendix F for a full detailed list of new capital works projects driven by growth (G) and or an increase in level of service (LoS).
2. See Appendix I for a full detailed list of renewal projects.

## 9 MANAGEMENT OF THE ACTIVITY

### 9.1 Demand Management

Project Stormwater is a cross-council project incorporating Engineering, Planning, and Environmental Science.

Project Stormwater is focused on improving Council's management of stormwater to achieve better stormwater values, including quality, quantity and ecological aspects. It covers many departments, affects multiple council processes and represents a fundamental change to Council philosophy regarding stormwater and associated land and activity management.

The scope of the project includes a low impact philosophy and to include various aspects of land and activity management, for example, subdivision development, that impact either directly or indirectly on stormwater values. A key goal for the project is an increasing uptake of low impact approaches and successful design and implementation of these developments amongst local developers. This will have a positive impact on demand management (capacity requirements).

All projects identified and delivered under the Stormwater Activity Management Plan are designed to Council's Engineering Standards. The Engineering Standards have been developed and revised over time to promote best practice and the use of low impact designs. The standards also promote designing to increase recreational amenity of assets and maintain environmental aspects such as natural habitats.

### 9.2 Significant Effects

The significant negative and significant positive effects are listed below in Table 9-1 and Table 9-2 respectively.

**Table 9-1: Significant Negative Effects**

Effect	Council's Mitigation Measure
Flooding (social and economic impacts).	Catchment management planning, hydraulic modelling, and operation/maintenance activities are used to identify capital works to alleviate flooding. Capital works implemented to alleviate flooding.
Cost of providing the service.	Council uses competitive tendering processes to achieve best value for money for the works it undertakes.
The discharge of stormwater and contaminants to sensitive receiving environments (environmental and cultural).	Catchment management planning is used to identify capital works to mitigate environmental impacts arising from stormwater discharges. Catchment management planning is used to support applications for discharge consents. Capital works identified in catchment management plans or required by resource consents.
The discharge of untreated wastewater to Council owned and maintained stormwater drains (environmental and cultural).	Council has an active maintenance programme on the wastewater network that minimizes risk of overflows. Council has a sewer overflow procedure including remedial actions and notifications.
Access denied to Council for maintenance of Council drains on private property, which could lead to flooding (social and economic impacts).	Council has easements in place for most drains on private property. Council has programmed to negotiate land entry agreements for drains on private property that are not currently covered by easement.
Potential to affect historic and wahi tapu sites.	Council undertakes consultation with affected parties prior to undertaking works. Council also maintains a record of known heritage sites.

**Table 9-2: Significant Positive Effects**

Effect	Description
Flooding (social benefits).	Council maintains stormwater collection and treatment systems to minimise disruption to normal community activities.
Flooding (economic benefits).	Council maintains stormwater collection and treatment systems to minimise damage to private and public assets.
Contaminant discharge (environmental and cultural benefits).	Council stormwater discharges to a receiving environment can be controlled to minimise any negative environmental impact from the discharge.
Aquatic life (environmental and cultural benefits).	Fish passage and aquatic life is considered when implementing capital projects.
Low impact design (environmental and cultural benefits).	Council's engineering standards promote the enhancement of recreational and environmental amenity value when developing new assets.
Financial Impact.	Council's management of the Stormwater activities uses best practice and competitive tendering to provide value for money for rate payers and provides jobs for contractors.

### 9.3 Assumptions

Council has made a number of assumptions in preparing the Activity Management Plan. These are discussed in detail in Appendix Q. Table 9-3 lists the most significant assumptions and briefly outlines the impact of the assumption.

**Table 9-3: Significant Assumptions**

Assumption Type	Assumption	Discussion
Financial assumptions.	That all expenditure has been stated in 1 July 2011 dollar values and no allowance has been made for inflation.	The LTP will incorporate inflation factors. This could have a significant impact on the affordability of the plans if inflation is higher than allowed for, but Council is using the best information practically available from Business and Economic Research Limited (BERL).
Asset data knowledge.	That Council has adequate knowledge of the assets and their condition so that the planned renewal work will allow Council to meet their levels of service.	There are several areas where Council needs to improve its knowledge and assessments but there is a low risk that the improved knowledge will cause a significant change to the level of expenditure required.
Growth forecasts.	That the district will grow as forecast in the Growth Demand and Supply Model (refer to Appendix F).	If the growth is significantly different it will have a significant impact. If higher, Council may need to advance capital projects. If it is lower, Council may have to defer planned works. As the figures used are projections, they need to be carefully tracked to ensure that they continue to be a reliable indicator of likely future trends.
Network capacity.	That Council's knowledge of network capacity is sufficient enough to accurately programme capital works.	If the network capacity is less than assumed. The risk of this occurring is low; however the impact on expenditure could be large. If the network capacity is greater than assumed, Council may be able to defer works. The risk of this occurring is low and is likely to have little impact.

Assumption Type	Assumption	Discussion
Timing of capital projects.	That capital projects will be undertaken when planned.	The risk of the timing of projects changing is high due to factors like, resource consents, funding and land purchase. Council tries to mitigate this issue by undertaking the consultation, investigation and design phases sufficiently in advance of the construction phase. If delays are to occur, it could have major effects on the level of service.
Stormwater discharge quality.	That no treatment will be required to stormwater discharges.	Until catchment management plans (CMPs) have been undertaken, the quality of the receiving environment is unknown, hence the quality required of stormwater discharges are unknown. At this stage, no allowance has been made for the treatment of stormwater. Individual catchments requiring stormwater treatment will be reassessed for inclusion in future AMPs.
Resource Consents.	That Council has sufficient knowledge of discharge quality and receiving environments to apply for resource consents and that it will be granted resource consents for key projects and stormwater discharges.	Catchment Management Plans will be undertaken prior to application for resource consent. Comprehensive catchment management plans will minimise the risk of failing to obtain resource consent.
Resource consent monitoring.	That the costs identified in this AMP for the monitoring of Resource Consents is sufficient.	Until CMPs have been developed and resource consents applied for, the conditions requiring monitoring are unknown. Once this information is understood, Council may need to allocate additional costs for monitoring compliance against consent conditions.
Funding of capital projects.	That the projects identified for subsidies will receive subsidy.	If subsidies are not secured, it may have significant effect on the levels of service as projects may be deferred due to lack of funding.
Council's disaster fund reserves.	That the level of funding held in Council's disaster fund reserves and available from insurance cover will be adequate to cover reinstatement following emergency events.	The risk of inadequate reserves and recovery from insurance claims would mean deferral of future capital projects to provide any financial shortfall required to cover reinstatement costs.
Accuracy of capital project cost estimates.	That the capital project cost estimates are sufficiently accurate to determine the required funding level.	The risk of large under estimation is low; however the potential impact is moderate as Council may not be able to afford the true cost of the projects. Council tries to reduce the risk by including a standard contingency based on the projects lifecycle. Inflation adjustments are provided for in the Long Term Plan budgets.
Changes in legislation and policy.	That there will be no major changes in legislation or policy, except for the need for Council to obtain resource consents for stormwater discharges.	The risk of major change is high due to the changing nature of the government and politics. If major changes occur it is likely to have an impact on the required expenditure. Council has not mitigated the effect of this.

Assumption Type	Assumption	Discussion
Network knowledge.	That Council has sufficient knowledge of discharge quality and receiving environment to apply for discharge consent	Council has projects in progress, to gather information that will support resource consent applications. If the data collected does not meet expectations Council may need to gather additional data.
Land purchase.	That Council will be able to purchase land to undertake the capital works project.	Council tries to mitigate this issue by undertaking consultation with landowners sufficiently in advance of the construction phase.

The most major capital projects and their main uncertainties are listed in Appendix Q.

#### 9.4 Risk Management

Council's risk management approach is described in detail in Appendix Q.

This approach includes risk management at an organisational level (Level 1). The treatment measures and outcomes of the organisational level risk management are included within the Long Term Plan.

At an asset group level (Level 2), Council has identified 17 high or very high risks and planned mitigations measures to reduce these risks to nine high risks. Council has planned controls for the remaining nine high risks but even with the controls, they remain high. Council has decided to accept these risks. These are listed in Table 9-4.

**Table 9-4: Significant Risks and Control Measures**

Risk Description	Current Control	Proposed Control	Target Risk Level
<b>Landowners:</b> Changing land use impacts volume and quality of water entering our systems.	TRMP and Compliance. Engineering Standards. Input to zonal changes.	Monitor.	HIGH
<b>Iwi:</b> Ineffective relationship impacts operations, maintenance and renewal works.	Regular meetings.	Monitor.	HIGH
<b>River Floods (1:400):</b> Impacts networks conveyance.	No controls in place for this level.	Monitor.	HIGH
<b>Extreme Weather (Rain):</b> Impacts networks conveyance - surface water.	Weather warnings, pre-checks in place following weather warnings, regular maintenance and inspections. Increased maintenance following warnings.	Monitor.	VERY HIGH
<b>Extreme Weather (Rain):</b> Impacts networks conveyance - soakage network.	Roading network maintenance. Development control and Standards	More frequent maintenance from roading department. Better sediment protection and assessment of soakage capacity. More input to development proposals.	HIGH

Risk Description	Current Control	Proposed Control	Target Risk Level
<b>Extreme Weather (Rain):</b> Impacts access to infrastructure.	Appropriate vehicles and resources in place.	Consider access requirements in more detail at design stage. Self cleaning units on intake structures.	HIGH
<b>Storm Surge/Tide:</b> Damages infrastructure.	Flood gates at Motueka. Early warning, increased checks and maintenance.	Better liaison with Civil Defence. Improved planning controls for development.	HIGH
<b>Storm and Tide Surge:</b> Impacts ability to discharge.	Flood gates at Motueka. Early warning, increased checks and maintenance.	Better liaison with Civil Defence. Improved planning controls for development.	HIGH
<b>Storm and Tide Surge:</b> Inundation of properties.	Flood gates at Motueka. Early warning, increased checks and maintenance.	Better liaison with Civil Defence. Improved planning controls for development.	HIGH

Council has also identified and assessed critical assets (Level 3), the physical risks to these assets and the measures in place to address the risks to the asset. This has led to a list of projects to mitigate the risks to acceptable levels. These include:

- catchment modelling
- proactive maintenance ahead of bad weather
- improved security of manholes and storm drains
- assessment of new sub-divisions for secondary flow-paths.

## 9.5 Improvement Plan

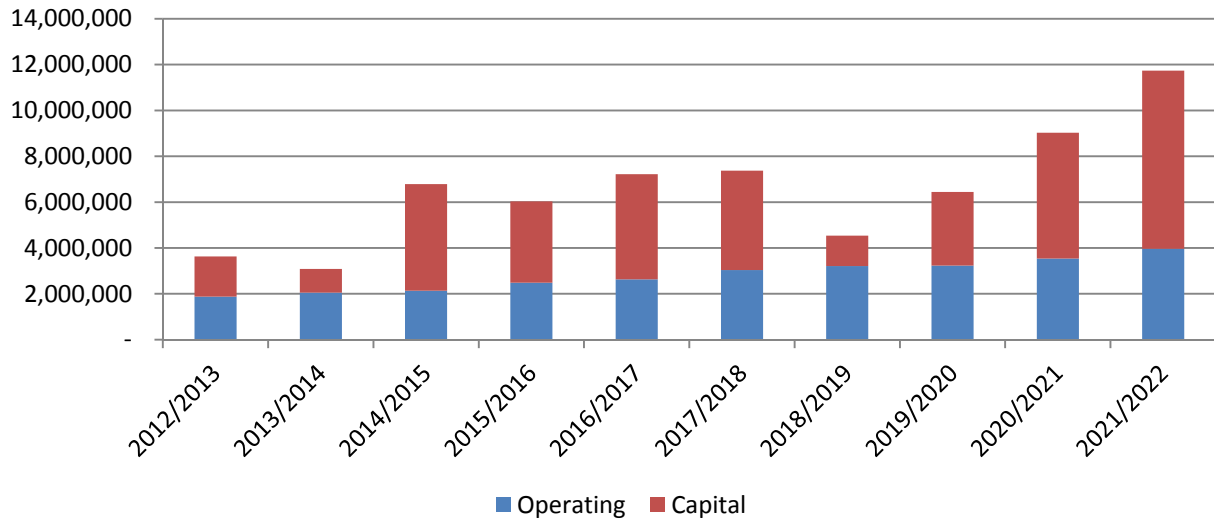
This Activity Management Plan document was subject to a peer review in its Draft format by Waugh Infrastructure Management Ltd in October 2011. The document was reviewed for compliance with the requirements of the LGA 2002. The findings and suggestions were assessed and prioritised by the asset management team and either implemented for the final version of the document or added to the Improvement Plan.

Development of the improvement plan is discussed in Appendix V. It includes a table (Table V-3) of planned improvements that are still to be implemented and information on how they have been budgeted. It is a snapshot of the improvement plan as at February 2012 and includes. It is intended that the Improvement Plan is continually updated and monitored as a live document.

Version 4 of this document and the Improvement Plan was then reviewed a final time by Waugh Infrastructure Management Ltd in May 2012. The report produced has been included in Appendix V along with key improvements that have been achieved since the 2009 AMP.

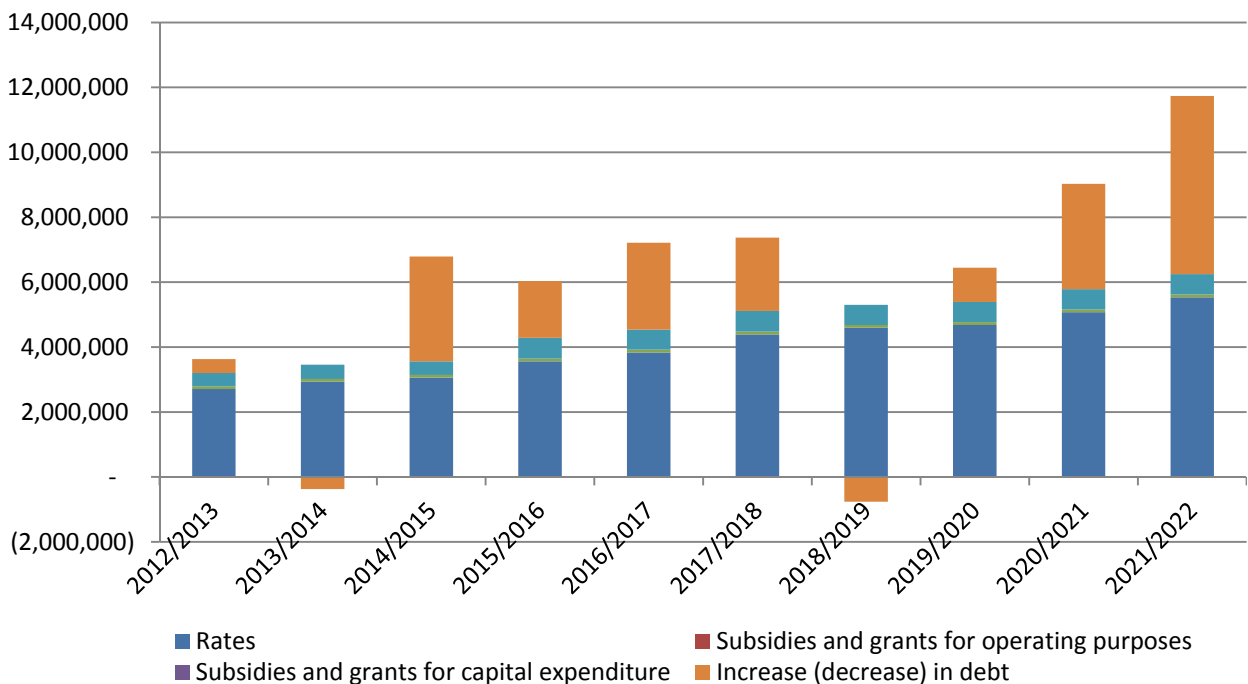
## 10 SUMMARY OF COST FOR ACTIVITY

The following figures have been generated from the Funding Impact Statement held in Appendix L and the Public Debt and Loan Servicing Cost information held in Appendix K. Further detail is held in Appendix E, F and I for operating and maintenance, new capital and renewal costs respectively. All of the following graphs include inflation.



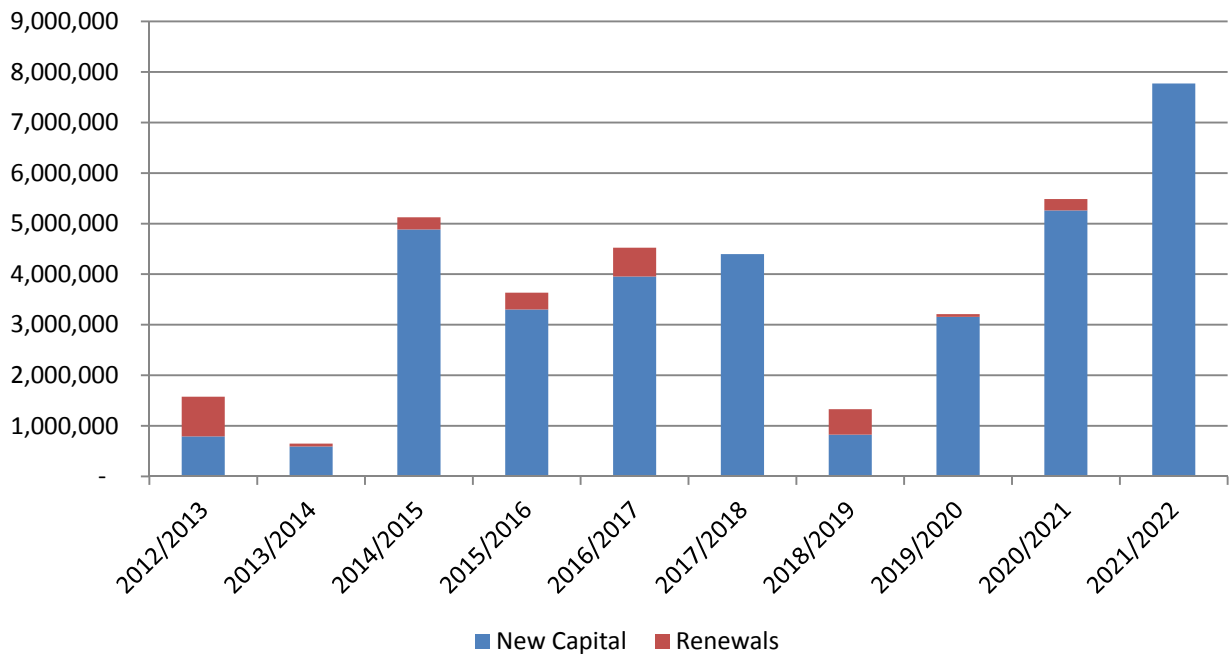
**Figure 10-1: Total Expenditure**

- Operating expenditure increases from \$2 million to \$4 million over the 10 year period. This is due to inflation, increase loan servicing costs and network growth.



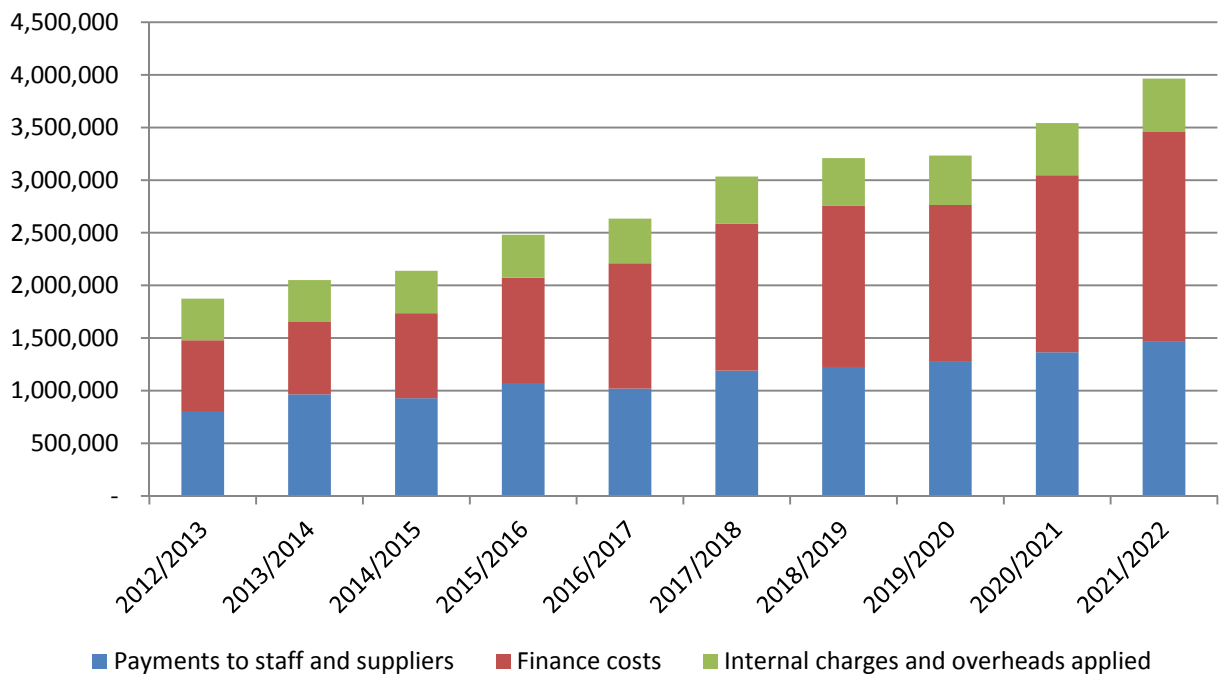
**Figure 10-2: Total Income**

- The income proposed for the next 10 years corresponds with the proposed expenditure in Figure 10-1.
- Rate increases account for the majority of the increase in income. Debt increases are in conjunction with major capital projects.



**Figure 10-3: Capital Expenditure**

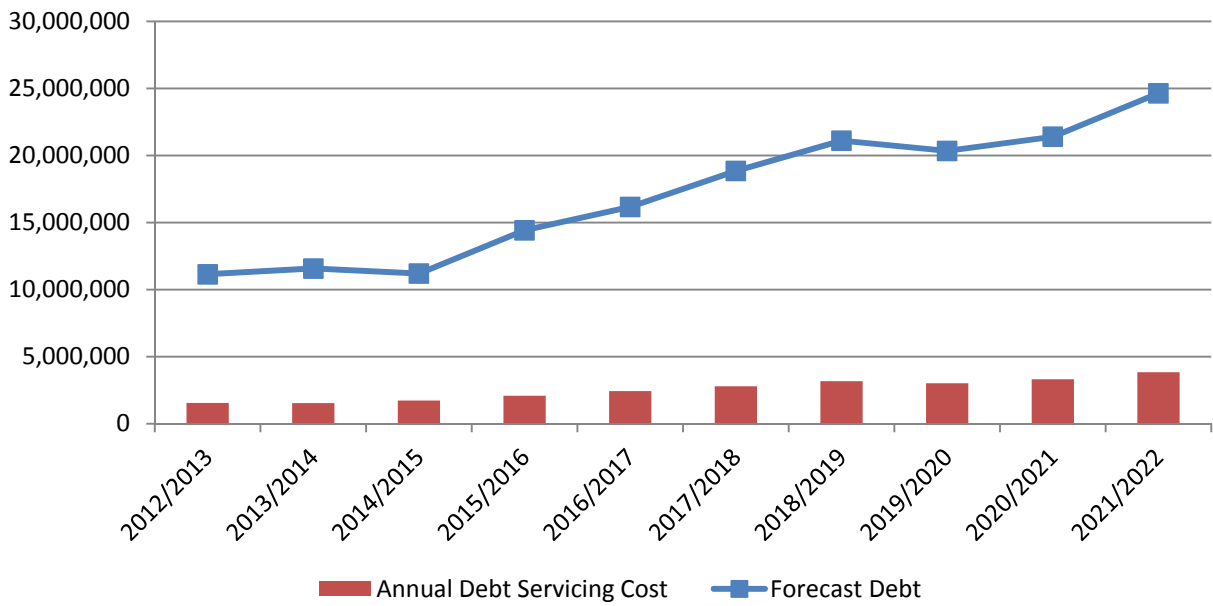
- The majority of the capital expenditure is targeted at improving the level of service of existing systems.
- The peak in expenditure in 2014/2015 is primarily accounted for by the construction of the Poutama Drain upgrade in Richmond. Other significant projects in this ten year period are detailed in Table 8-1.



**Figure 10-4: Operating Expenditure**

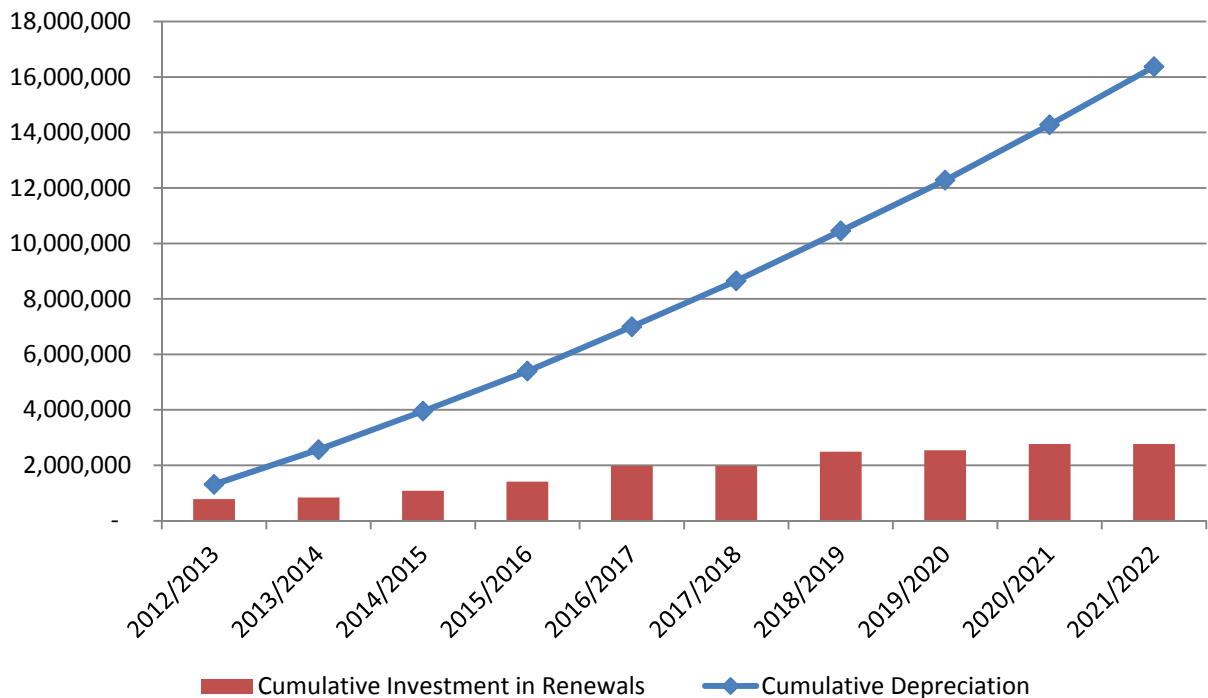
- The Payments to Staff and Suppliers includes maintenance contract costs and professional service fees.
- Finance costs increase over the next 10 years due to an increase in the level of debt shown in Figure 10-5.





**Figure 10-5: Debt**

- Council's debt associated with the Stormwater activity is forecast to increase from \$11.1 to \$24.6 million over the next 10 years. This will also increase the debt servicing costs as shown.



**Figure 10-6: Investment in Renewals**

- The investment in renewals appears to be adequate for the next 10 years. This is discussed in further detail in Appendix I.
- The above figure covers a relatively short time period when compared with the useful life span of the stormwater assets. The apparent lack of renewals will be further investigated when Council reviews its renewals strategy.