Stormwater Asset Management Plan

2021-2031

Waimate District Council

Waimate
District Council

Quality Record Sheet

Waimate District Council

Stormwater AMP

2021-2031

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2.0	16/03/18	General Update	Dan Mitchell	
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1.0 EXECUTIVE SUMMARY

STORMWATER 	The stormwater activity is a core Council activity that contributes towards the provision of good quality infrastructure and helps ensure public health and safeguards the environment. The stormwater system comprises pipes, manholes, open drains and other assets that represent a significant council investment over many years.
FOCUS 	**New Capital and Growth** – to improve stormwater collection, treatment and disposal across the district and comply with the ever-increasing environmental compliance framework -to provide capacity to meet the required standards, future demand and support the expansion of development areas as identified by Council. **Renewals** – develop and implement a renewals strategy; including condition and criticality assessments. Ensure appropriate budgets are available to replace aging and/or deteriorating assets and align renewals with other infrastructure upgrades/renewals.
COMPLIANCE	**Resource Consents** - Council has a number of stormwater related resource consents and aims to achieve compliance with all resource consent conditions. Regular compliance monitoring and reporting is undertaken
SERVICE DELIVERY 	**Service Delivery** - the stormwater activity is delivered via a combination of in-house resources and contracted services with the operation and maintenance activities undertaken by inhouse resources. Operation and maintenance costs will increase due to: • increased environmental compliance requirements including erosion and sediment control, • response to climate change impacts, • expanding asset base, • increased community expectations
PERFORMANCE	**Performance** - a comprehensive performance monitoring and reporting framework ensures that legislative requirements and other KPIs are regularly assessed and reported on.
RISK & RESILIENCE	The ability to deliver capital projects on time may be affected by the skills shortage and increased consultation processes required as part of Te Mana o te Wai processes **Understand** our communities, the hazards and risks and acknowledge that failure will occur. **Ensure** early detection and recovery through connecting communities, supporting community organisations and robust infrastructure assets.

1.1 What are we doing

Council owns and operates stormwater systems in four community areas in the Waimate District which provide a degree of protection against rainfalls of a moderate intensity (Typically between 10 – 20% AEP). There is one significant system servicing:

- Waimate township

Three very minor systems (kerb and channel and minor pipework) servicing:

- St Andrews
- Makikihi
- Morven

Council supports this service by:

- Providing, operating and maintaining of the stormwater infrastructure
- Responding to call outs and service disruptions quickly and efficiently
- Planning for future development and needs.

The stormwater activity excludes roads, kerb and channels, road catchpits and the infrastructure necessary to connect these items to the stormwater drains, as these form part of the Roading activity.

1.2 Why are we doing it?

Council has a legal obligation under the Health Act 1956 to improve, promote, and protect public health within the District. This includes identifying the need for stormwater services and either providing these directly or to oversee the service if it is provided by others. The Local Government Act 2002 requires ongoing stormwater services unless specific approval is sought to withdraw from this. Council-issued building consents require that plans comply with the Building Regulations for drainage, which specify standards for protection of buildings against flood inundation. Council owned stormwater assets in urban areas must also comply with the Building Regulations.

Council's stormwater activity contributes primarily to the following community outcomes

Community outcome	How it contributes
Thriving Community – A District that provides infrastructure for economic activity	The timely provision of utility services is essential to supporting growth
Safe and Healthy People A place where people are safe in their homes, work and public spaces Our services, infrastructure and environment enhance quality of life	Flooding is adequately managed within urban areas We have reliable, efficient and well planned water, wastewater, stormwater and solid waste infrastructure that meet the needs of residents
Sustainable District and Environment We value the natural environment, biodiversity and landscapes	We preserve the environment by ensuring the quality and quantity of discharges to the environment

Council identified a number of negative effects that the stormwater activity may have on the well being of the community and the environment. Council developed appropriate mitigation measures to eliminate or minimise these effects.

1.3 Where are we headed?

Council's strategic goals for stormwater over the next ten years is:

- To ensure that adequate Stormwater drainage is provided and maintained for the wellbeing of the public
- To demonstrate responsible management in the operation, maintenance, renewal and disposal of Council owned Stormwater assets

There are a number of key issues facing Council over the next ten years and beyond:

- Environmental compliance – Historically Council operated the stormwater systems as permitted activities. Increased environmental standards as a result of the Canterbury Land and Water Regional Plan required Council to obtain a resource consent for Waimate stormwater systems. This consent applies to stormwater collection and discharge and requires:
    - an approved Stormwater Management Plan
    - stormwater discharges to meet regional rules and water quality parameters
    - appropriate Erosion and Sediment Control measures
    - minimising adverse effects of stormwater discharges on the environment
- Central Government's 3 Waters Reform Programme and funding package to provide immediate post COVID 19 stimulus to local authorities to maintain and improve three waters infrastructure.
- Central Government's 3Waters Review is considering
    - New obligations on wastewater and stormwater network operators to implement a risk management plan
    - Nationally consistent monitoring and reporting requirements for wastewater and stormwater networks
    - Stronger Central oversight
    - Network operators to
        - adopt industry good practices and minimising risks to public health and the environment, while meeting local community/iwi values
        - implement a certified risk management plan that specifies how they will: –
            - Operate and maintain networks to meet current and future regulatory requirements; e.g. freshwater objectives and limits
            - Proactively manage risks to public health and environment
            - Address community and Māori cultural expectations for wastewater disposal
            - Support integrated planning of stormwater networks and land-use
- The paradigm shift in stormwater management moves from "to collect, convey, discharge" to a more integrated approach of "slow it down, spread it out, and soak it in". This approach includes quantity and quality considerations, multiple use facilities, riparian corridors, recreation, wetland preservation and groundwater recharge. This introduce a range of issues including changes in stormwater planning, design, operation and maintenance, construction, and financing.
- Climate Change –Greater intensity and frequency of events are expected and appropriate response is to be developed. The potential impacts and the appropriate mitigation measures are yet to be defined.
- Separated wastewater and stormwater systems (inflow/infiltration/exfiltration)
- Increased Community Expectation – the community has an increased expectation on Council's responsibility to provide adequate protection on properties through either improved infrastructure, improved planning, or both.
- Ensure adequate in-house staff resource capacity and capability

The stormwater system represents a significant community investment. With age, asset condition and service potential reduce, and an important aspect of asset management is determining the right time and right level of renewals investment in order to maintain the agreed levels of service over the long term. Council will continue implementing the appropriate intervention strategies i.e. a combination of maintenance, repair and renewal activities to maintain the service.

1.4 How will we get there?

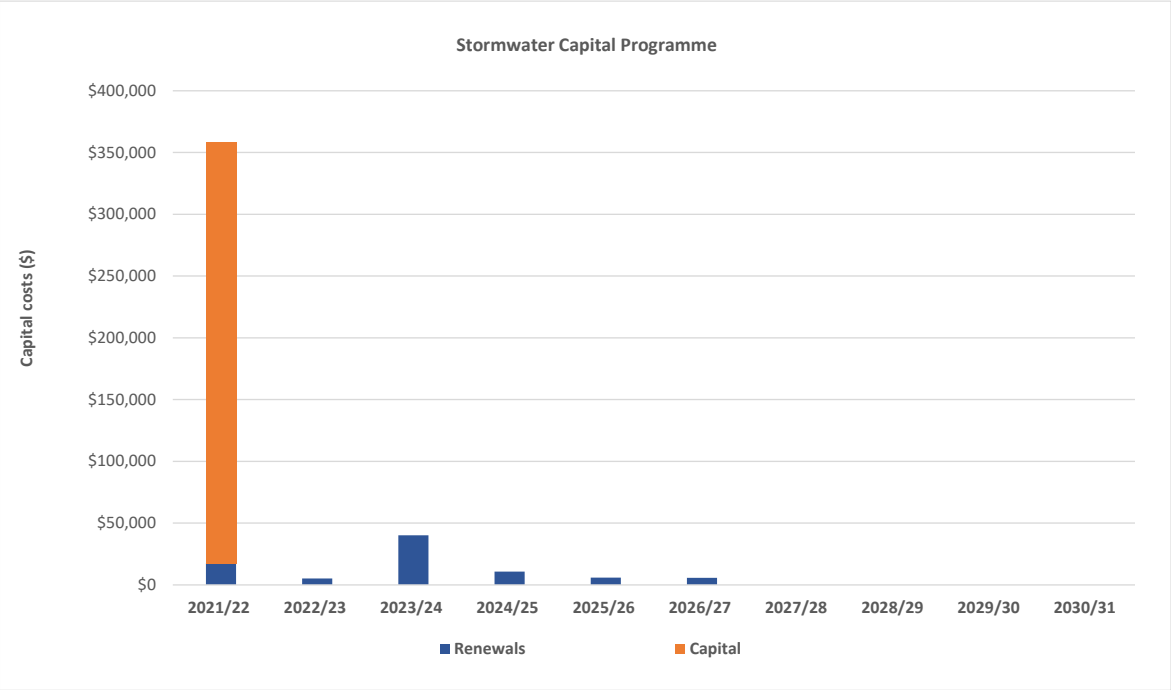
Council plans to maintain current levels of service for the life of this plan, unless legislation, consent conditions, or community expectations change. Over the next ten years Council plans to:

- Continue to collect, treat, and dispose of stormwater
- Separate stormwater and wastewater systems
- Upgrade systems to meet the required standards (minimum 20% AEP)
- Implement appropriate Erosion & Sediment Control measures
- Develop Risk Management Plans (MfE - Action for Healthy Waterways)
- Plan for future development and needs
- Protect the environment through resource consent compliance
- Consult with the community on issues such as health and legislative compliance issues

This vision is supported by a detailed stormwater asset management plan.

Significant projects and their funding sources are summarised in the following table and chart:

Project Description	Year	Amount
New Capital works -		
Queen Street Upgrade	2021/22	341,167
Total		**$341,167**
Renewals		
Belt Street main renewal	2021/22	12,200
CCTV Assessment of Mains	2021/22	5,265
	2022/23	5,170
	2024/25	5,400
	2026/27	5,668
Manse Street crossing renewal	2023/24	40,117
SW Manhole SW171 Replacement	2024/25	5,400
	2025/26	5,762
Total		**$84,982**



Key projects:

- Upgrades
  - Queen Street ($341,167)
- Renewals – refurbishment, replacement of stormwater assets estimated to be $84,982 over the next 10 years. All stormwater system renewal work will be funded by the annual depreciation provision where funds are available

To ensure on-going affordability of the stormwater service Council will continue to consider options in delivering the service.

1.5 How well are we doing and how well do we measure progress?

Council will continue to report on the non financial performance measures, in accordance with 261B of the Local Government Act 2002, as this covers the key expectations in terms of the delivery of the service.

Council have reviewed and updated its systems and processes to ensure alignment and compliance with these rules.

The linkage between community outcomes, how the activity contributes, levels of service and performance measurement is shown in the following table.

Community outcome	Level of Service	Performance Measure
Thriving Community – A District that provides infrastructure for economic activity	Council respond to problems quickly	Response & Resolution times (NFPM3)
Safe and Healthy People A place where people are safe in their homes, work and public spaces Our services, infrastructure and environment enhance quality of life	Council provide reliable and efficient stormwater disposal systems	Number of complaints (NFPM4) Number of flooding events (NFPM1)
Sustainable District and Environment We value the natural environment, biodiversity and landscapes	Council provide stormwater systems that protect the natural environment	Compliance with Resource Consent conditions (NFPM 2)

1.6 What resources do we have and what resources do we need?

People –
The Water and Waste Unit has seven full time equivalent staff, including operational staff. The Water and Wastes Unit provides management and engineering expertise to the Asset Group. The Unit utilises Council in-house unit and contractors to maintain, renew, and construct assets through various contractual agreements. The Unit augments its skill base through the engagement of specialist consultants as required to undertake specific projects and works. The Waters and Wastes Unit is adequately resourced but the outcomes of the new regulatory framework and Government 3Waters Review will place even greater demands on already stretched resources.

It is likely that a shortage of technically skilled people to design, construct and manage water assets will continue to have an impact on this activity in future years. This is a global issue which is also affecting other local authorities.

Physical Assets -
Council manages four urban drainage systems. These systems consist of pipes, pump stations, open waterways, retention/treatment systems and other assets.

Length of stormwater mains = 10.4km
Length of open drains = 5.1km
Number of manholes = 65
Number of pump stations = zero

The latest valuation, August 2020, estimates the replacement value of the stormwater system to be $6.2m.

1.7 Who pays for it?

This activity is funded by targeted rates from properties that have access to stormwater systems.

2.0 INTRODUCTION

This section sets out the scope and objectives of this Asset Management Plan (AMP), describes the interrelationships with other planning documents of the Waimate District Council (Council) and shows the plan framework and describes the asset management progress over the last 15 years.

2.1 Purpose of the Plan

The purpose of this AMP is to outline and to summarise in a coordinated manner the Council's long-term management approach (more commonly called Asset Management) for the provision and maintenance of Stormwater Services throughout the District.

This AMP demonstrates how Council will:

- Detail the extent and quality of services demanded (or required) by the community and legislation now and in the future
- Have clear linkage to community agreed outcomes and the agreed Levels of Service
- Prudently manage the acquisition, maintenance, operation, renewal and disposal of stormwater assets in ways that optimise the value of services delivered to the community
- Assess the risks of failing to deliver levels of service for its activities and provide appropriate means of mitigating those risks
- Justify short, medium and long term funding requirements
- Manage the risk of asset failure
- Provide adequate funding to manage the assets according to assessed priorities
- Proactively improve knowledge of its assets

This AMP is intended to be read in conjunction with the 2021-2031 Waimate Long Term Plan (LTP) and fulfils requirements of the Local Government Act 2002 (and amendments), Schedule 10.

Asset Management
The overall objective of Asset Management is to:

Deliver the required level of service to existing and future customers in the most cost effective manner.

2.2 Assets Included in This Plan

The inventory of public stormwater assets (from the 2017 valuation), owned by the Waimate District Council and managed by the Water Services division is shown in Table 2-1 below:

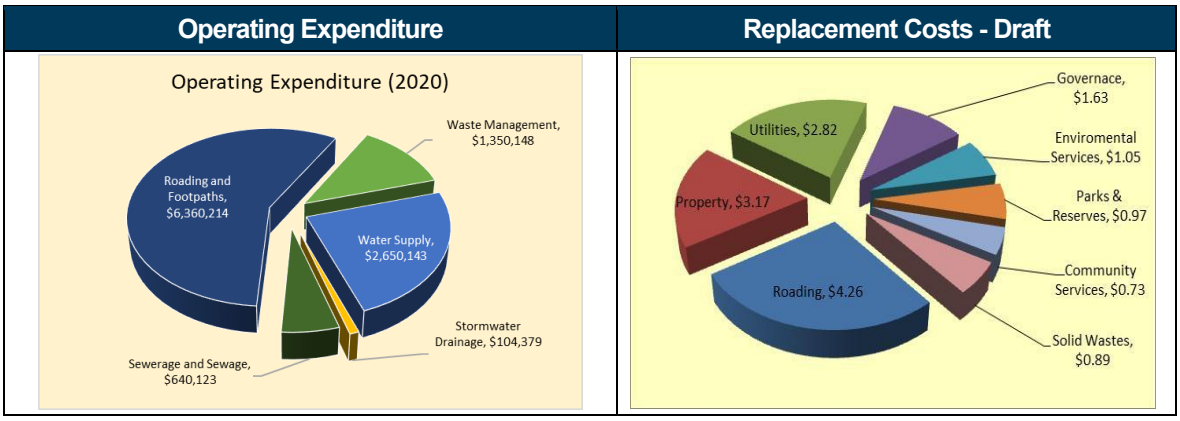
Table 2-1: Summary of Stormwater Service Assets 2020 Valuation

Asset Type	Length metres	Replacement Costs
Pipe	10,232	$5,225,054
Open Drain	5,002	$325,133
Nodes	-	$620,725
Total		**$6,170,912**

Comparison with Council Other Services

The following details the extent of the operating (2020) and replacement costs for the services supplied by the Council.

Figure 2-1: Services Operating and Renewal Costs



2.3 Relationship with other Plans

The AMP relates to the LTP and other key Council plans, documents, policies and processes. These are mainly driven by legislation and obligations that central government, through legislation, assign to local authorities. The community outcomes guide the strategic and day-to-day decision making for the Council.

2.4 How This Plan will be Used

Development of an Asset Management Culture

The on-going development and successful implementation of asset management requires an organisational culture of asset management. To be successful the asset management culture needs to be consistently modelled and supported by the Chief Executive and Leadership Team in conjunction with the elected Council. This process has been reinforced by the establishment of the Councils AM policy in 2009 and the AMP policy process included in Section 2.6.

Roles and Responsibilities of Council Staff

The roles and responsibilities of Council staff as they relate to the AMP enactment have been defined in respect to the on-going use of the plan as this will enable the AMP to remain relevant and current. Table 2-2 details how this is and will be carried out within Council:

Table 2-2: AMP Enactment

	Item	How is this done
1	Organisational culture of asset management developed	AM policy in 2020
2	Council Staff understand the reasons for the plans and the implications for the long term use of them	On department basis
3	The AMPs are adopted / accepted by staff	Adopted by Council
4	Council staff understand what is in the plans and how it could affect their day to day work including their responsibilities and reporting requirements as detailed in the different sections within the AMP	Training Programme / inputs required to develop and update the AMP's
5	Understand all the reporting requirements for Levels of Service and Internal Benchmarking	Training Programme and Implementation of LGA 2002 amendments

Resourcing of Asset Management Programmes

To be effective, asset management programmes must be adequately resourced and therefore require on-going budget to deliver identified improvements and keep plans and processes current with evolving practice. For asset management to be successful in Waimate District there must be a commitment recognised across the organisation. This commitment must translate into budget, human resources, and management accountability.

2.4.1 Implementation

This AMP includes improvement and expenditure programmes that will be implemented with the objective of achieving community outcomes and delivering the stated levels of service for this Activity.

2.5 Stormwater Activity Outcomes

Public Stormwater Services

The Council provides stormwater facilities for the following reasons:

The Stormwater Activity promotes health and wellbeing for the community by ensuring the public stormwater drainage system owned and operated by Council provides efficient drainage with affordable cost in accordance with current legislation. To ensure this objective, Council continues to develop, operate and monitor these stormwater drainage facilities constantly

Efficient stormwater drainage indirectly promotes economic development in the District

2.6 Councils AM Policy – Appropriate Level

2.6.1 Objective of the Water, Wastewater and Stormwater Asset Management Policy

The objective of the Council's Asset Management Policy is to ensure that Council's service delivery is optimised to deliver agreed community outcomes and levels of service, manage related risks, and optimise expenditure over the entire life cycle of the service delivery, using appropriate assets and

levels of management as required. The delivery of service is required to be sustainable in the long term and deliver on Council's economic, environmental, social, and cultural objectives.

The Asset Management Policy requires that the management of assets be in a systematic process to guide planning, acquisition, operation and maintenance, renewal and disposal of the required assets.

The Council's Asset Management Policy sets the appropriate level of asset management practice for Council's Utilities, Community Facilities and Transportation.

Asset Management Policy Principles

The following principles will be used by Council to guide asset management planning and decision making:

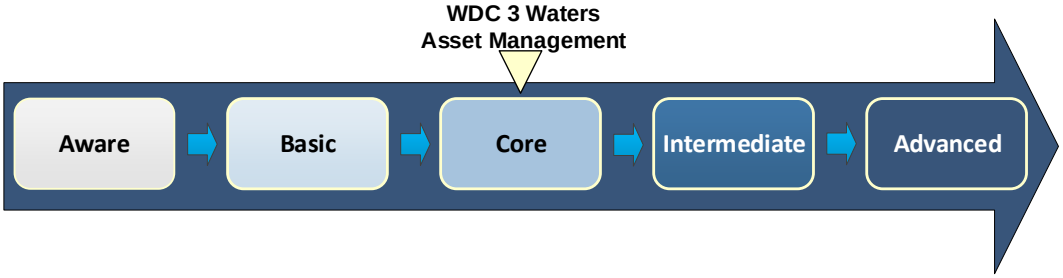
- Effective consultation to determine appropriate Levels of Service
- Ensuring service delivery needs form the basis of asset management
- Integration of asset management within and across Council utilising corporate, financial, business and budgetary planning using AMPs and Council's LTP to demonstrate this
- Integration of asset management within Council's strategic, tactical and operational planning frameworks
- Informed decision making taking a lifecycle management and inter-generational approach to asset planning
- Transparent and accountable asset management decision making
- Sustainable management providing for present needs whilst sustaining resources for future generations

Policy Linkages to Other Plans

This Asset Management Policy links to Council's LTP and the Stormwater Services Asset Management. An approach where planning is based around communities of interest is favoured, as this aims to promote an integrated management regime and encourage efficiencies across the District's Stormwater Services.

Structured Assessment of Asset Management Practice

Council has undertaken a structured assessment of the appropriate level of asset management practice for the Stormwater assets in 2009. This structured assessment followed the guidance provided in Section 2.2.4 of the International Infrastructure Management Manual (IIMM) 2006. The results of this assessment were that the Stormwater was considered Core.



Future structured assessment should be carried out with reference to Section 2 of the International Infrastructure Management Manual (IIMM) 2015

Implementation and Review of Policy

This Asset Management Policy has been implemented in conjunction with the 2011,2014, and 2017 AMPs and corresponding LTP's. The next full review of this Asset Management Policy was programmed to be completed by April 2020. A light review has occurred with a full review scheduled as part of the improvement plan.

Asset Management Implementation Strategy

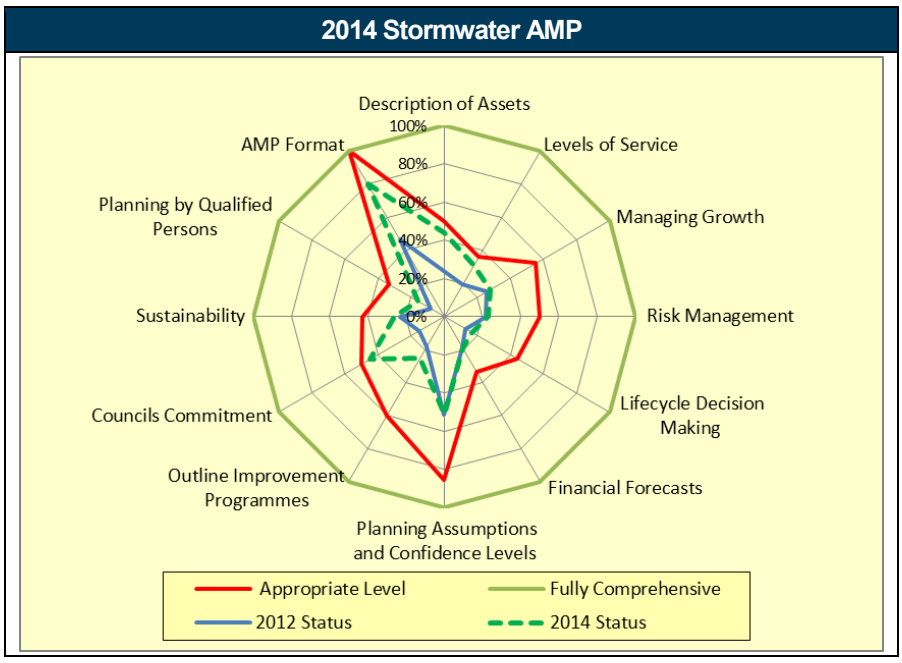
Council staff have completed a detailed analysis of appropriate asset management practice within the guidance offered by this Policy. This analysis has examined asset description, levels of service, managing growth, risk management, asset lifecycle decision making, financial forecasts, planning assumptions and confidence levels, improvement programmes, use of qualified persons and Council commitment to asset management planning.

2.6.2 Stormwater AMP Compliance Status

The 2008 AMP Compliance Status Report indicated that: Overall, the assessment indicates the AMPs are at a basic level and while covering many of the aspects required, the AMPs; are unlikely to provide Council an adequate basis on which to make decisions between competing priorities for infrastructure funding or to understand the impact on service levels, both in the immediate and longer term.

The assessment on the stormwater AMP in 2014 indicated a significant increase in the level of sophistication of the AMP and management of the assets since 2008. The long term programme to achieve the appropriate AM level is shown in Section 11: Plan Implementation.

Figure 2-2: Stormwater AMP Compliance Status



2.7 Key Stakeholders

Key stakeholders are those who have significant specific involvement with the assets and/or the service facilitated by the assets and describes their particular main interests and is limited to the main issues for key stakeholder groups. 'Public Service providers' include schools, dentists, doctors,

hospitals, and other government organisations. 'Asset Managers' are those District Council staff (engineers and others) whose responsibility it is to manage the services made possible by the assets covered in this AMP.

The key stakeholders and the outcomes that they require for the Stormwater Activity are detailed in Table 2-3. Different issues will require different levels of consultation; from a broad approach to specific and limited to those directly affected. This is indicated under Consultation Range (Broad ***, Moderate **, Limited *).

Table 2-3: Waimate District Stakeholders

Key Stakeholder		Consultation Range	Desired Stakeholder Outcome(s)
External	Waimate District Council customers and resident population	***	Reliable service that meets strategic and sustainable drivers
	Canterbury Regional Council	**	Resource use is sustainable as directed in the RMA 1991
	Local Government New Zealand or Central Government	*	Ensure that Local Government Act is complied with (via Auditor-General)
	Department of Conservation	*	Enhance conservation value of natural waterways (i.e. rivers/streams)
	Local Iwi/Ngai Tahu	*	Enhance waterways for Mahinga kai, cultural/spiritual values
	Local Businesses/Industries	**	Stormwater Services to suit commercial needs and expansion, at affordable cost
	Wider Community	*	Enhance landscape and aesthetic values of farmland and plains.
Internal	Waimate District Council	***	Maximise the four aspects of well-being through provision of the Stormwater Services Activity
	Elected Officials	***	Owner of assets, responsible for sustainable service levels under the LGA 2002
	Council committees	*	As per delegated authority from Council
	Executive	***	Compliance with regulations, service reliability, quality and economy
	Asset Managers	*	As above plus policy, planning and implementation of infrastructure and service management activities (e.g. operations, demand management, maintenance, construction). Safety. Effective corporate support for decision-making, service management, procurement, finance, communications, I.T., staff and other resources
	Planners	*	AMP support for Long Term Plans. Infrastructure support for current/future district activities
	Finance	**	Proper accounting for assets and for services consumed by asset management activities
	Customer Services	*	Systems which minimise and resolve complaints/enquiries about service

Key Stakeholder	Consultation Range	Desired Stakeholder Outcome(s)
Information Services	*	Clarity of technical and budget requirements for systems and support

2.7.1 Relationships with Other Bodies and Organisations

Tangata Whenua - Kaitaikitanga, tikanga

For Maori, linking the past, present and the future is an important concept of life. There is much value in learning from the past in planning for the future. Kaitiakitanga – safe guarding our future (guardianship) and Tikanga (protocols) are two powerful concepts embodied in Maori culture.

Council will seek to understand and exercise the principles of Kaitiakitanga so those who follow can enjoy what we enjoy today, and seek to establish the right Tikanga that will enable us to deliver Stormwater Services in an integrated and sustainable way.

Canterbury Regional Council - Environment Canterbury (ECan)

Environment Canterbury is delegated responsibility for management of the water resources within the District and achieves this through Regional Plans. These plans provide a framework for the sustainable environmental management of Canterbury's physical and natural resources. The change of use of land, taking of water, diverting of water, disposal of water, and discharge to air, require resource consents. Therefore, Council must liaise with Environment Canterbury in obtaining and complying with consents in relation to the Stormwater Services Activity.

Water New Zealand (Water NZ)

Water NZ provides a forum for the exchange of ideas between those involved in the 'water industry'. Water NZ also manages projects such as the development of national codes of practice. In recent times, Water NZ has taken on the role of lobbyist to Government on water issues.

IPENZ, IPWEA, LGNZ, SOLGM

Each of these organisations provides peer support and exchange of information to foster appropriate practice and share/manage issues that arise.

2.7.2 Other Organisations

Council has a consultative relationship with other organisations including:

Fish and Game, North Canterbury
Irrigation New Zealand
Meridian Energy Limited
Federated Farmers

2.8 Progress Since Last AMP

2.8.1 Background

Asset management in New Zealand has developed over the last 15 years in response to the requirement to justify and improve the level of investment in and management of community driven infrastructure. Council asset management has mirrored this development to the point that Council's Utilities asset management will be at the appropriate level within three to six years.

This is a seventh generation AMP with the first AMP being produced in 2002.

2.8.2 Key advances in the 2020 AMP

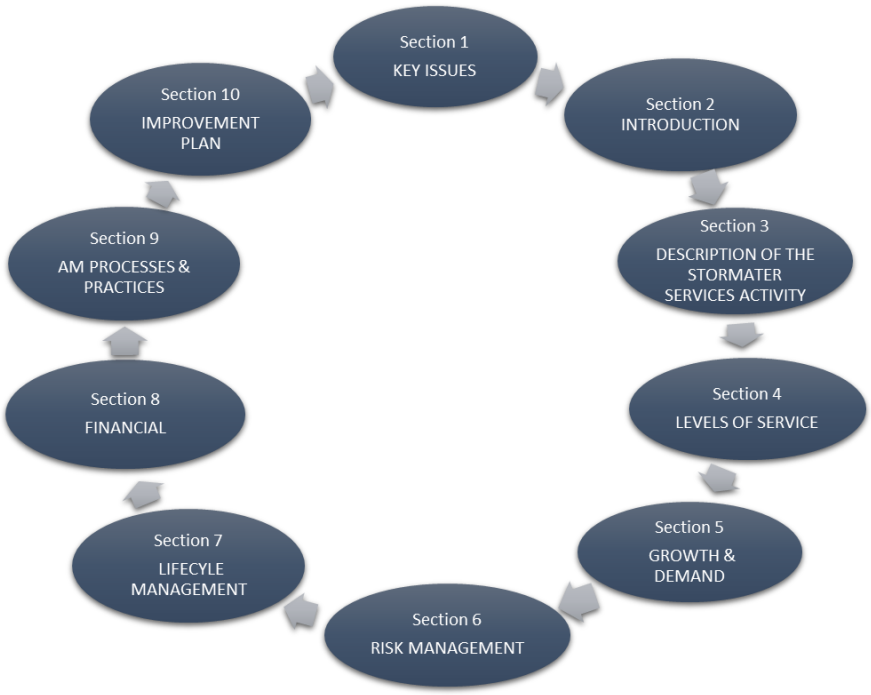
The following matters represent the most significant changes to this AMP over the period 2011 to 2020:

- Data – Systems and Quality
- Asset Data Capture
- Asset Data Quality
- Complaints resolution
- Criticality Assessments
- Government and Industry direction
- Potential for widespread reform

2.9 The Asset Management Plan Format

A top down approach has been taken to develop the AMP, using existing data followed by data improvement. The structure of this plan mirrors the logical process followed for asset management planning as shown Figure 2-3:

Figure 2-3: Asset Management Process



2.9.1 Key Elements of the AMP

The key elements of the AMP are shown in Table 2-4 below.

Table 2-4: Key Elements of Plan

Section	Content
Section 1: Key Issues	Describe the challenges and aspirations faced by the Stormwater Services and inform of the strategic direction for the short term and long term
Section 2: Introduction	Sets out the purpose of this Asset Management (AM) Plan, indicates the key stakeholders, describes the asset management progress over the last 15 years and shows the plan framework
Section 3: Description of the Stormwater Service	Covers the rationale for ownership of the Stormwater Services assets and the description of assets covered under this plan
Section 4: Levels of Service	The Levels of Service for the Stormwater Services are defined and the performance measures by which the service levels will be assessed
Section 5: Growth and Demand	Provides details of growth forecasts, which affect the management, and utilisation of the Stormwater Services assets
Section 6: Risk Management	Details the Risk Management Processes utilised by Council for assessing and managing risk within the Stormwater Services
Section 7: Lifecycle Management	Outlines what is planned to manage and operate the assets at the agreed levels of service while optimising lifecycle costs
Section 8: Financials	Identifies the financial requirements resulting from all of the information presented in the previous sections
Section 9: AM Practices and Processes	Outlines the information available on the assets, information systems used and process used to make decisions on how the asset will be managed. It also provides details on planning for monitoring the performance of the AMP
Section 10: Improvement Plan	This section details the improvements to AM within Council that will lead to an increase in confidence in the management of the assets

3.0 DESCRIPTION OF THE STORMWATER SERVICE

This section of the plan covers the rationale for ownership of the stormwater supply assets and the description of assets covered under this plan.

3.1 Waimate District Overview

The Waimate District is located at the southern end of the Canterbury Region. The Canterbury Region has an estimated population of approximately 599,694.

The Waimate District is bounded by the Waitaki and Pareora Rivers to the south and north respectively, the Hakataramea Valley and mountains of Mackenzie District to the West and the Pacific Ocean to the East.

The main centre of population is the town of Waimate itself, a town housing a population of some 3,576 people (2018 census). This represents about 44% of the total population of the district of around 8070. Other centres of population include the coastal townships of Glenavy, Willowbridge, Makikihi, Morven and St Andrews. The Waimate District community profile is presented in Table 3-1.

Table 3-1: Waimate Community Profile

Area	3,582 km^2		
Population (2018 census)	8,070	Households (occupied dwellings)	3,327
Employees	53.08 FTE's	Rating system: Mix of General Rates and Targeted Rates	
Infrastructure (as at 30 June 2017):		Total rateable properties	4,092
Length of roads/streets	1,335 km	Average total rates per property	$2,934 inc. GST
Length of wastewater network	39.2 km	Council debt (external, primarily WEC)	$2.60m
Length of stormwater pipes and drains	15.7 km	**Climate:**	
Length of water pipes	898 km	Mean Annual Rainfall	600 mm

3.2 Stormwater Services Provided by Council

The existing Stormwater Management is mainly to prevent flooding of properties, roads and erosion control. The management and design by Council is to ensure that the system operates to the design level of service and the Code of Practices.

An integrated combination of measures is used to manage the effects of stormwater runoff. These will include:

- A Primary Stormwater System - the Primary Stormwater System is designed to minimise nuisance flooding by collecting and discharging stormwater, resulting from moderate rainfall into streams and other watercourses. The Primary Stormwater System comprises of pipes, culverts, open drains and channels (Typically 20% – 10% Annual Exceedance Probability)
- A Secondary Stormwater System - the Secondary Stormwater System generally comprises overland flowpaths through private property and along roadways designed to convey excess floodwater with a minimum of damage when the Primary Stormwater System is overloaded. The provision of secondary flowpaths recognises that it is

impractical to provide a Primary system which can cope with extreme rainfall events. The Secondary System is normally designed to carry a 1 in 100-year storm. The provision of designed Secondary Stormwater Systems is a comparatively recent practice in New Zealand and there are areas within the regions served by a stormwater system where secondary flowpaths were not provided when the areas were developed.

- Planning and building controls such as restrictions on building in high flood risk areas and minimum floor heights for residential buildings. Planning and building controls play an essential part of stormwater management by ensuring an adequate level of stormwater protection is able to be practically, reliably and affordably be provided to new developments
- Public education programmes intended to minimise the entry of pollutants to the Stormwater System and a variety of traps and treatment systems in the Stormwater System designed to reduce the quantities of contaminants that are discharged to waterbodies.

3.3 Description of Activity

The Council owns and operates one significant stormwater system, the system servicing Waimate. Council owns and operates other systems in St Andrews, Makikihi and Morven townships, but these are considered very minor, consisting of some kerb and channel and minor pipework. These are mainly considered roading assets.

Council's stormwater assets are owned and maintained by two asset groupings: These are:

- Roading drainage assets – includes kerb and channel, stormwater inlets/catchpits, leads from catchpits to mains and large under road culverts
- Stormwater disposal assets – stormwater disposal assets collect runoff from roadway assets and adjacent land, and catchments upstream of a stormwater disposal asset, and convey it downstream to a natural water course

Individual properties connected to the stormwater disposal service are responsible for their service lateral from the house to the Council main/kerb & channel when the main/kerb and channel is not on road reserve or Council property.

Council is responsible for the service connection from the stormwater main/kerb & channel to the property boundary when the main/kerb & channel is within a road reserve.

3.3.1 Summary of Assets

A summary of the stormwater assets is tabled below.

Table 3-2: Summary of Stormwater Assets

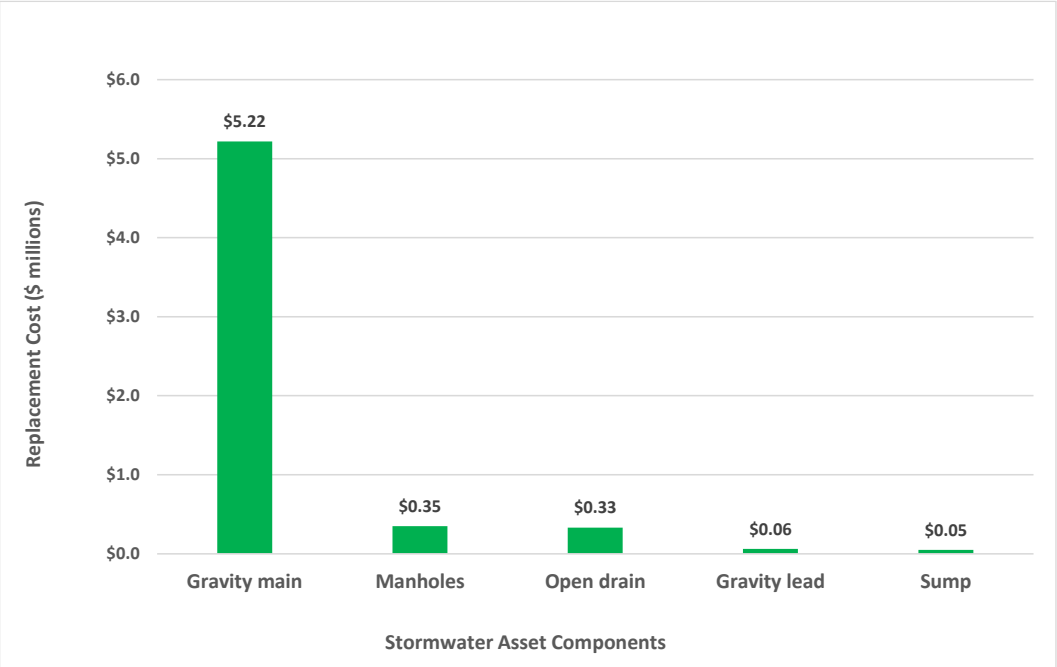
Asset Description	Units	Quantity	Replacement Costs
Sump	No	27	$75,593
Pit	No	19	$48,830
Manhole	No	65	$351,184
Headwalls	No	7	$10,665
Open drains	m	5,133	$325,133
Pipes (inc. Culverts and Syphons)	m	10,446	$5,312,881

The Stormwater Supply system is made up of the following components as indicated in Figure 3-1:

- Stormwater Lines (Pipes, Mains, drains)

- Stormwater Service Lines (Property connections)
- Stormwater Points (Manholes, Sumps, Pits, Headwalls)

Figure 3-1: Stormwater Components



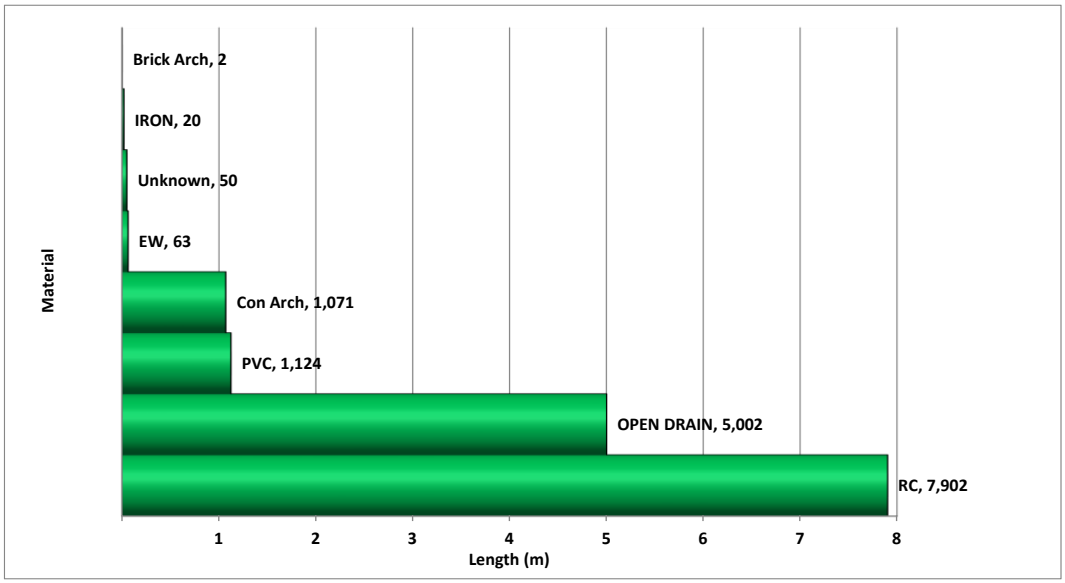
3.4 Stormwater lines

3.4.1 Asset Description

The stormwater lines consist mainly of:

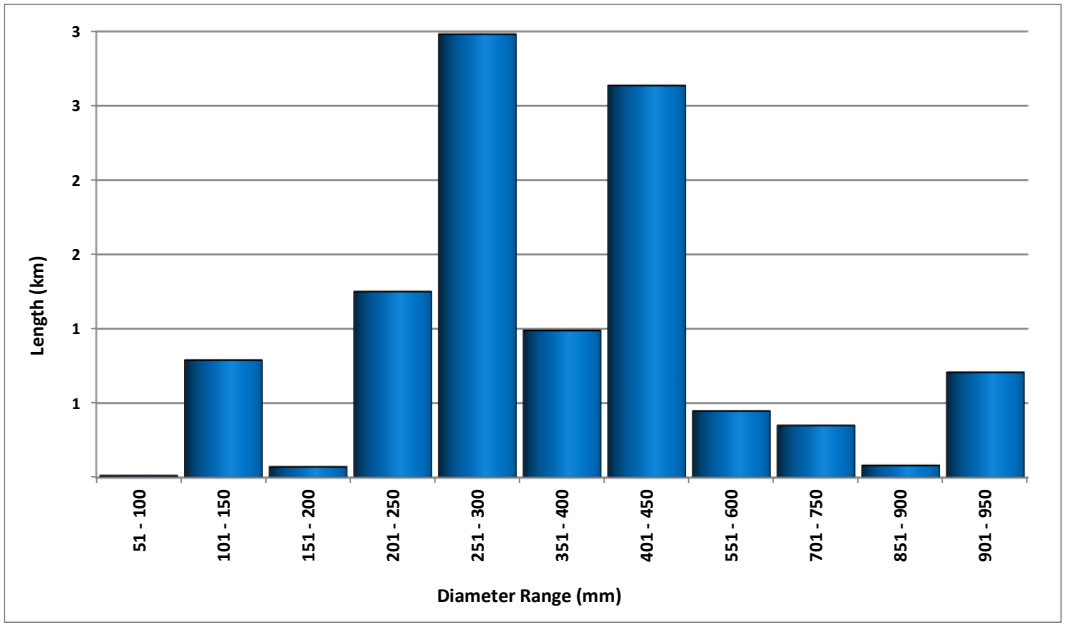
- Pipelines & culverts - convey stormwater away from developed areas. Pipelines are typically circular in profile and manufactured off-site. Culverts are larger in size and typically of rectangular construction and constructed in-situ.
- Open drains & watercourses (land drainage) - convey stormwater away from developed areas when the construction of a pipeline is uneconomic or where an existing stream can be retained as a recreational asset.

Figure 3-2: Stormwater lines materials



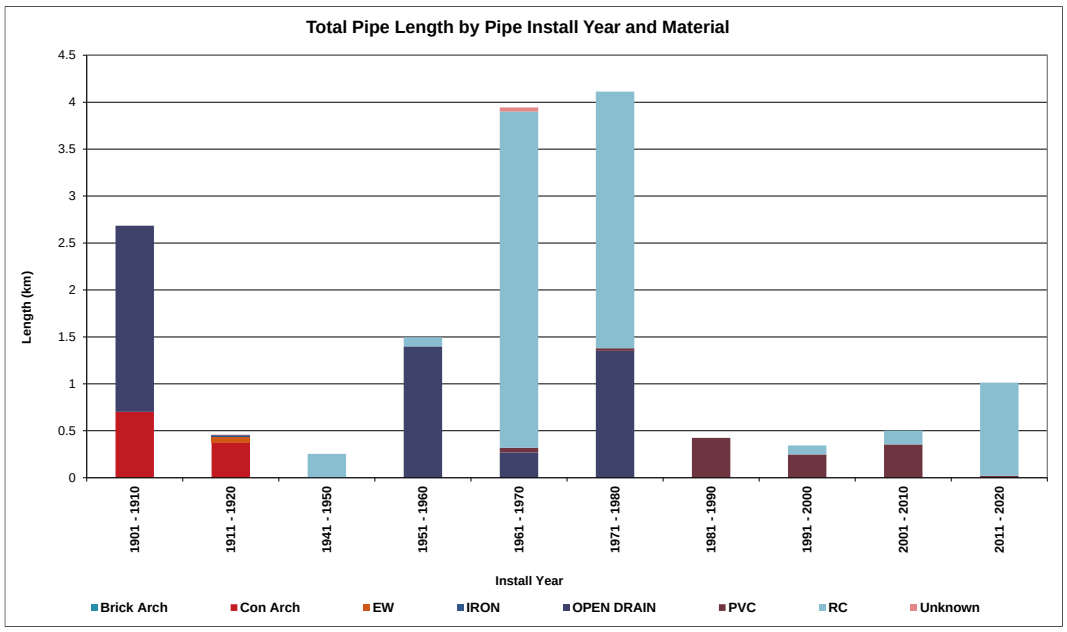
The predominant pipe material is reinforced concrete (RC) making up 7.9km (52%) of the reticulation. Open drains make up 5km (33%) of the reticulation. Other pipe materials include 1.1km (7%) of PVC, 1km (5%) of concrete arch, very minor portions of earthenware, iron and brick arch.

Figure 3-3: Summary of Pipe Length Vs Diameter



As shown in Figure 3-3 above the majority of stormwater lines, 4.3km (41%) are greater than 400mm in diameter. It should be noted that open drains are recorded as 1,500mm and equals 5.133km. As a result the pipes greater than 400mm consists of Ø450mm pipe (2.6km), Ø600mm (0.4km), Ø750mm (0.35km) and Ø900mm (0.08km) There are approximately 2.9km of Ø300mm pipe, 0.99km of Ø375mm pipe.

Figure 3-4: Pipe length by installation year and material



It is evident from the above figure that the available and preferred pipe material was concrete box, reinforced concrete and some open drains during the development and construction of the scheme. However, during the 1960's and 1970's a significant amount of open drains and reinforced concrete pipes were installed. Since the 1960's PVC was used intermittently probably based on the location, application and availability. It is anticipated that uPVc and MDPE may well be preferential pipe in the future as technology allows their use.

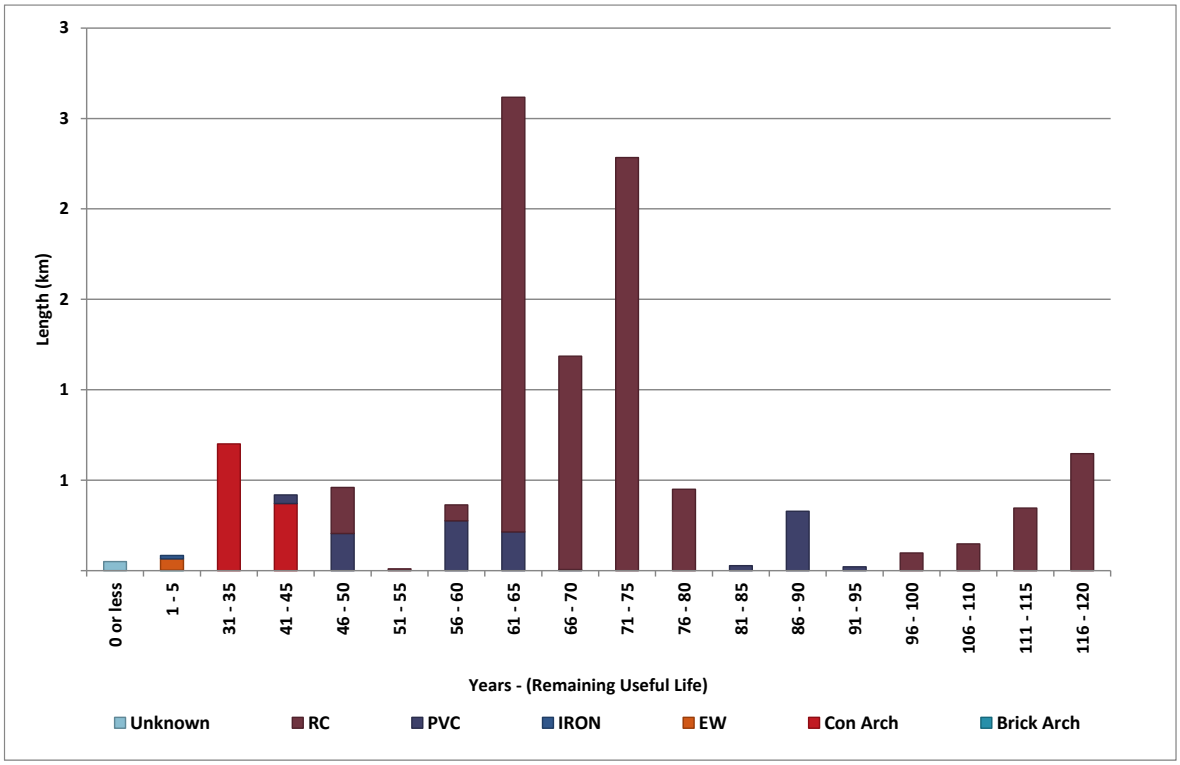
The base lives of pipe materials as stated in the 2020 Valuation are shown below.

Table 3-3: Economic Lives of Stormwater Assets

STORMWATER Material	BASE LIVES (Years)	STORMWATER Material	BASE LIVES (Years)
Brick arch	80	Open drain	NA
CI pipe	100	Pit/Sump	120
Concrete arch	150	PVC	100
Concrete box	150	PVC lined brick arch	80
EW	100	PVC lined concrete arch	80
Headwall	120	RC lined concrete arch	N/A
Manhole	120	RC pipe	120

Figure 3-5 below shows the remaining useful life by material type. It can be seen that there is a minimum amount of pipe (approximately 50m of unknown pipe) which have reached the end of its expected economic life. There are 63m of earthenware pipe and 20m of iron pipe that will reach the end of its expected life within the first five years of this Plan. There are no other pipes that will reach the end of their useful lives within the next 30 years.

Figure 3-5: Remaining useful life by material type



3.4.2 Condition of Reticulation

There are no pipe condition ratings for the stormwater pipe assets but the Council engineers consider the condition of the stormwater reticulation in general to be in good order.

3.4.3 Performance of Reticulation

The performance of the network is rated by Council engineers as Grade '1' (excellent) except where problems are occurring due to the configuration of roading assets (channels, sumps and intakes). The issues relating to asset performance are detailed below.

3.4.4 Data Reliability

The reliability of three waters data held by Council has not, to date, been systematically assessed and remains ungraded as per the IIMM manual. However, the data is based on good records, procedures and is subject to ongoing quality assurance as a result of maintenance works and has been informally assessed as B/C (see 2020 Valuation Report). In order to address this short-fall we would propose to add an improvement item to the Improvement Plan (**IP 34**).

Condition assessments have been completed for a number of the 3W's assets and include, but are not limited to:

i. NDT of AC Water Mains

ii. CCTV of Sewer Mains (Inc. those programmed for renewal)

iii. Visual inspections during maintenance activities

The results of these condition assessments have been applied to similar, uninspected assets to provide more reliable condition assessment of the whole asset base. For example, smaller diameter Asbestos Cement water mains are known to be in poorer condition than their larger counterparts, and smaller diameter AC mains in the northern extents of the urban area are failing due to ground conditions and pipe material combination.

Condition ratings do exist within the AMIS on an equivalent scale of 1 to 5.

Renewal works are prioritised based on criticality (assessed), empirical knowledge of failure rates / historic maintenance activity, other unrelated (and concurrently programmed) capital works. It should be noted that predictive models being used are age based in the first instance.

An improvement item (IP 34) will be noted in the improvement plans to produce a second predictive model which includes weighting on Condition and Performance gradings held within AssetFinda.

Network capacity

Stormwater is a service that is designed to accommodate the rainfall derived from a catchment. Additional demand for a stormwater service is usually the result of infill building and subdivisions that reduce the permeable area of land for infiltration and increases the peak water flow in the existing stormwater system. There has been no recorded major stormwater flooding inWaimate in recent years but localized flooding does occur. The current capacity of the primary and secondary stormwater systems is;

- **Primary System**: Pipelines generally have been sized with the discharge derived from the rational method of analysis with a design of 20% AEP (Annual Exceedance Probability), a 1 in 5 year return period. The limited extent of the pipe network leads to localised areas of road side flooding where the stormwater flow exceeds the kerb and channel capacity (see Figure 3-6 below).
- **Secondary System**: The town has an overall gradient towards the east and overland flow tends to follow the street system in this direction. Street intersections form a succession of weirs ponding floodwaters behind, these result in some minor flooding. The main stormwater pipe starting at the Queen Street, Glasgow Street intersection has the capacity to discharge at least 5% AEP in a 1 in 20 year return period.

Figure 3-6: Localised street flooding prior to the 2013 upgrades

High Street – looking east, Harris Street on the right

Harris Street – looking north across High Street

The stormwater collection system has been (partly) computer modelled. This model is operated by external consultants and is based in the Infoworks modelling software. During 2009 Council conducted a hydraulic analysis of the reticulation system. This analysis identified capacity issues within the kerb and channel system and the piped system. System upgrades were recommended and are shown in this AMP.

Queen Street

Part of Queen Street between High Street and Glasgow St floods on a regular basis, with ponding stormwater extending across footpaths and nearing shops and buildings at finished floor levels. This CBD area of Queen Street was originally serviced by a brick drain constructed close to the building foundations on the north side. A 250 mm diameter PVC pipe has since been installed within the brick drain to alleviate the problem without much success. CCTV inspection found a significant blockage in the pipe. Hydraulic modelling assessment found the pipe to be undersized and suggests upsizing the pipe (approximately 250m) DN375 will provide sufficient capacity to convey the peak 10% AEP flow. Further mitigation includes rebuilding the road, lowering the crown, to provide effective overland flow paths. Staff will liaise with the New Zealand Transport Agency around co-funding and timing of these works.

Network Reliability
As entrances to the piped system are generally well guarded by sump grates, inlet structure debris grills, etc, material likely to cause blockages is precluded entry. A program of regular clearing of the entrance structures is in place. Pipe blockages due to collapsed pipes or tree root intrusion are rare.

Water Quality
Water quality in streams and rivers can be adversely affected by discharges from the public stormwater system. Stormwater runoff typically contains pollutants, which can range from natural mineral sources (plant and animals) to vehicles and illegal discharges from commercial, industrial, farming and construction activity (including solvents, paints, cleaners, oil, floatables, pesticides, fertilisers and faecal matter). There may be immediate effects from the first flush of a storm (typically having the highest levels of contaminants) and cumulative effects from contaminants that build up over time in watercourse sediments. The extent to which the watercourse is affected by stormwater depends on the location and number of discharge points, the relative flow in the watercourse, the baseline water quality and the overall ecological health and sensitivity of the receiving environment.
Some investigations have already been completed in order to establish the magnitude of any contamination in preparation for both the Stormwater Management Plan and associated Resource Consent (by 30 June 2018).

3.5 Stormwater Service Lines

3.5.1 Asset Description

Approximately 50% of urban properties have Stormwater service lines convey stormwater run-off from private property to the kerb face or a connection with a public stormwater main. The remainder dispose water to ground via soak pits.

Where the Council main is located on the private property the service connection is the responsibility of the property owner.

Specific condition information of the service lines is limited, although the condition of the mains suggests that the service lines would be in similar condition as the mains, which Council engineers consider are in good condition. Poor connection details at kerb faces are progressively addressed in tandem with footpath resurfacing or kerb and channel replacement projects.

3.6 Stormwater points

3.6.1 Asset Description

Stormwater points consist of manholes, sumps, pits and headwalls.

Manholes – to provide access to pipelines at intervals of not greater than 100m. Manholes are located at confluences, changes in pipeline gradient or alignment

Sumps - inlet structures to the stormwater system which collect surface water (typically from street channels). The most common design incorporates a pit to trap sediment

Pits - large structures that serve as bends on stormwater drains and a point of access for inspections and cleaning

Headwalls - structures located at the inlet and outlets on pipelines and culverts when necessary to retain the surrounding earth. These are manly associated with discharge points

The Waimate stormwater reticulation has 14 discharge points to natural watercourses, 10 direct from channels and 4 from pipes via open drains. The discharge points are tabled below.

Table 3-4: Stormwater discharge points

Discharge from	Service Area	Receiving water
Channel	Hayes St	Waimate Creek
Channel	Mortimer St	Waimate Creek
Channel	Smith St	Waimate Creek
250mm pipe	Point Bush Rd	Waimate Creek
Channel	Naylor St	Waimate Creek
Channel	Queen St	Waimate Creek
450mm pipe	Waihao Back Rd	Waimate Creek
Channel	Massey St	Waimate Creek
Channel	William St	Waimate Creek
Open drain	McNamaras Rd	Waimate Creek
Open drain	Rugby St	Watercourse to Molloys Rd
Open drain	Timaru Rd	Watercourse to Bathgates Rd
Open drain	Regent St	Waituna Stream
Open drain	Gorge Rd	Racecourse Area

The age and condition profile of manholes and structure assets is the same as for pipes and culverts, and few renewals are anticipated in the 20 year planning period.

Council engineers consider the performance of the stormwater points in general to be good.

3.7 Buildings

There are no buildings under the stormwater service.

3.8 Environmental Effects

3.8.1 Resource Consents

The resource consents and confirmed permitted activities associated with the stormwater activity are detailed in Figure 3-5 below.

Table 3-5: Resource Consents – Stormwater

Consent Number	Status	Activity	Commencement date	Expiry date	Comment
CRC000171	Current	Discharge of stormwater	08/11/2001	10/10/2036	To discharge stormwater originating from the grassed reserve areas between Waimate Creek and the effluent border-dyke irrigation areas to Waimate Creek (Waimate Wastewater Treatment Plant)
CRC000234	Current	Discharge of stormwater	22/11/1999	19/11/2034	To discharge water and chlorine from the Waimate water supply and stormwater onto land and then surface water (Mill Road – Hayes Creek)
CRC021092	Current	Construct remove stopbank, deposit material	21/01/2002	18/01/2037	To disturb the bed of, to construct a stopbank on, and maintain stopbank, and to deposit material in the bed of the Waimate Creek (Queen St/Gorge Rd)
CRC070319	Current	Discharge of contaminated water	4/12/2006	1/12/2041	To discharge flood contaminants into water (Ryans Road, Morven - Morven Beach Rd Drain)
CRC074139	Current	Discharge of Stormwater Residential	31/10/2007	n/a	Certificate of compliance confirming permitted activity status of stormwater discharge from a residential subdivision into the Waimate Creek (207 Queen Street) (Eric Batchelor Pl). Will need to reassess compliance status when LWRP becomes operative.
CRC 210042	In process	Discharge of existing and future developed site stormwater from within Waimate Town	tbc	tbc	This application is in process

The five Resource Consents held for the Stormwater Activity range from constructing a stopbank, to divert surface water, and to discharge of stormwater to a creek. The confirmed permitted activity status (CRC074139), for the residential subdivision on Queen Street will need to be reassessed for compliance.

The application (CRC210042) to discharge of existing and future developed site stormwater from within the Stormwater Management Plan Area for Waimate Town, that enters the Waimate District Council reticulated stormwater system and is subsequently discharged onto or into land (to groundwater) or ephemeral surface water was submitted during June 2020 and is being processed at the time of writing this Plan.

3.8.2 Environmental Monitoring and Reporting

Consent reporting within Council for the stormwater activity is the responsibility of the Water and Wastes Manager and information for consent compliance is provided to Environment Canterbury as required.

3.8.3 Stormwater Management Plans

Rule 5.93 of the LWRP is of specific note as this requires an approved Stormwater Management Plan for reticulated stormwater systems. The primary purpose of the SMP is to:

- Document stormwater management objectives and procedures used by Council
- Ensure that stormwater is managed in accordance with Council and other statutory requirements (including obtaining consent for stormwater discharges from the Waimate reticulated stormwater network as required by the LWRP)
- Present design philosophies for new stormwater infrastructure which are to be implemented through the use of a Council Code of Practice. Council does not currently have a Code of Practice but this may be included in the work stream required for the SMP and associated consents.

The SMP have the secondary purpose of:

- Assisting Council officers in their assessment of compliance with the Resource Management Act, the Building Act and giving approvals for future developments
- Providing background information for public records, project memoranda and planning, design and construction
- Providing recommendations where stormwater issues may affect Council Policy.

Erosion and Sediment Control

Council is responsible for ensuring that erosion is minimised or eliminated in the area surrounding their stormwater outlets and the discharge of sediment into waterways is minimised.

Council will develop appropriate processes to ensure that future developments and earthworks apply suitable erosion and sediment control measures to minimise erosion and discharge of sediment to Council's public stormwater system and adverse effects on the environment are minimised (**IP 34**).

Monitoring programme

An environmental monitoring programme is likely to be a requirement of the SMP. If required, the Council monitoring programme will incorporate good management practices and will be instigated

on completion of the SMP. There are likely to be efficiencies in a collaborative approach to monitoring that considers the requirements of the SMP along with other programmes such as the Zone Implementation Programme and Environment Canterbury water quality monitoring programmes.

3.9 Assessment of Water Services

The Local Government Act 2002 places a specific requirement on local authorities to make assessments of water and sanitary services available to communities within the district. The Act requires that the assessment shall provide the following information in respect of water services:- The Water and Sanitary Services Assessment is an assessment of all services (public and private) relating to Water, Wastewater, Rubbish and Recycling, Public Toilets and Cemeteries.

The aim is to assess the adequacy of these services both now and in the future. It considers the risks that these services, or lack of these services, may pose to health and wellbeing of the community.

3.9.1 Risks and Issues from the Assessments

Table 3-6: Risks and Issues – for all Serviced Communities

	Risks and Issues	Risk level	Proposals to Address Issues and Risks	Progress to Date
1	Flooding	Low	Maintenance and upgrades as required	On-going
2	Stormwater contamination	Moderate	Awareness of potential risk	On-going
3	Earthquake	Low	Insurance and contingencies	On-going

3.9.2 Update of the Water & Sanitary Assessment (2005)

In accordance with Section 6, Schedule 10 of the LGA 2002, an Assessment of Water and Sanitary Services were conducted by Council during June 2011. As part of the Delivery Plan agreed with DIA, a Sanitary Survey will be carried out with the funding received under tranche 1 (COVID 19 stimulus) and is programmed for February/March 2021.

The underlying conclusion from the 2011 Water and Sanitary Assessments are that the existing stormwater infrastructure is adequate for now and the future, and that changes in demand will not affect public health and will only have a minor effect on the environment.

It is therefore suggested to continue with existing disposal methods with on-going assessment of any improvements or enhancements required, with a focus on stormwater inflow impacts on wastewater overflows.

3.10 Criticality Assessment

During 2017 Council performed a criticality assessment on 3 Waters assets by using the New Zealand Asset Metadata Standards (NZAMS) methodology and criticality ranking. This including consideration of GIS, population, key facilities and hydraulic model data. The NZAMS defines criticality as “the significance of any individual component or asset to the ability of any part of a network or portfolio to deliver the service it was designed to perform”. The methodology considered:

- residential population rating – the number of people affected by the removal of the asset
- facility importance rating – the importance of the facility based on the role the facility play in enabling the community to function.

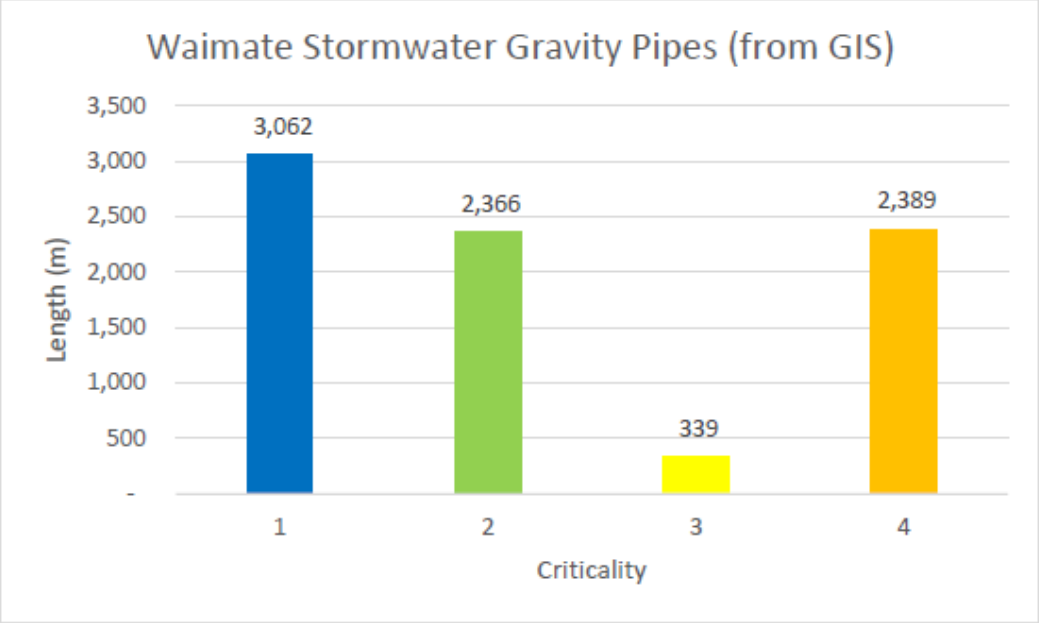
The global criticality ratings are:

1. very low
2. low
3. medium
4. high
5. very high

The criticality assessment provided the following results.

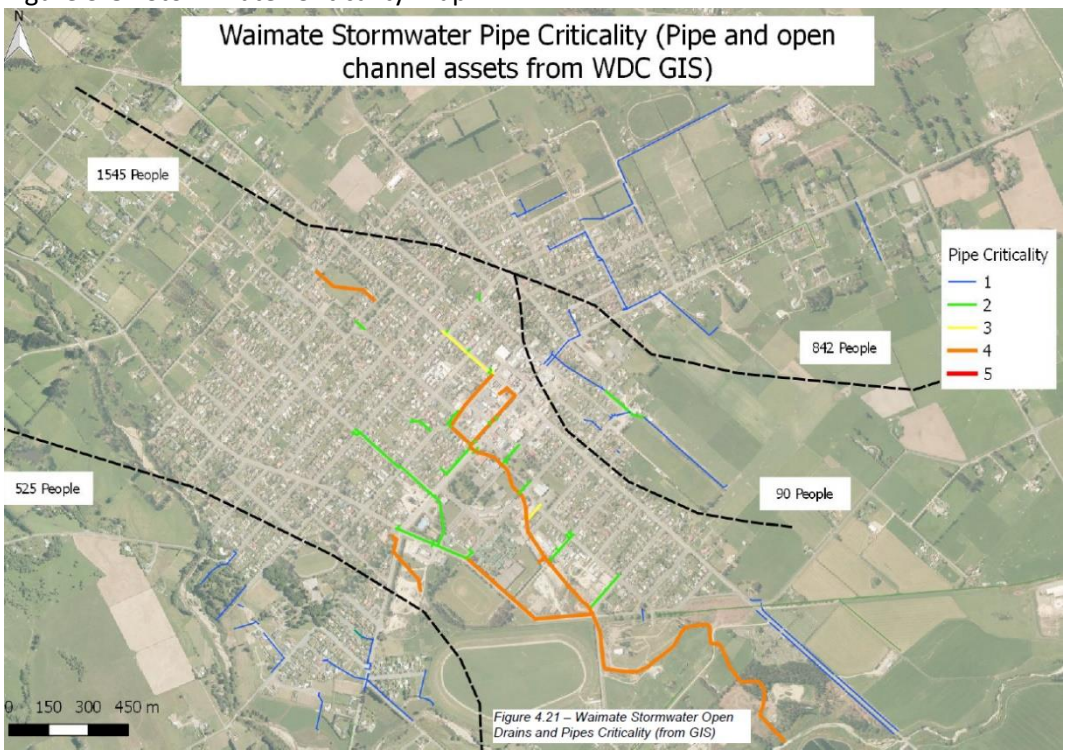
The figure below shows the pipe length distribution across the different criticality categories for the stormwater system.

Figure 3-7: Stormwater Criticality and Lengths Distribution



The figure below shows an overview plan of the criticality rating for the stormwater system.

Figure 3-8: Stormwater Criticality Map



The criticality assessment provides Council engineers the ability to clearly identify the assets of highest importance and the greatest value. This ensures the asset can be managed more proactively in order to mitigate the risk associated with their failure. This proactive management includes:

- Prioritising condition assessments
- Adjusting economic lives with respect to renewal profiles
- Prioritising/deferring renewals
- Prioritising expenditure operation and maintenance planning
- Priorities for collecting asset information to the required level of confidence

It is important to align the asset data in AssetFinda with the criticality assessment ratings (**IP 31**).
The criticality assessment report made the following recommendations (**IP 32**):

- Plan a renewals program supported by a condition management program for critical infrastructure
- Plan around supplying critical customers and key facilities following a critical asset failure
- Identify sensitive customers (for example: dialysis patients) for a more detailed criticality assessment
- Update and maintain the water supply models, especially where new assets have been added (new bore and pump station in the Otaio rural water supply)
- Expand the stormwater model for a better understanding of stormwater flows and populations served by WDC's assets
- Maintain the GIS data, especially for the stormwater assets

In view of the pending outcome of the Havelock North Water Inquiry and change in political landscape Council may reconsider the Criticality assessment to ensure the four wellbeing's (social, economic, environmental and cultural) are adequately captured within the assessment (**IP33**).

4.0 LEVELS OF SERVICE

The Levels of Service for the Stormwater Services are defined in this section and the performance measures by which the service levels will be assessed for the Stormwater services. The service levels are aimed at supporting the community outcomes and meeting the strategic goals. It also contains information on the customer research undertaken and the legislative requirements adhered to in arriving at the service levels.

Levels of service define the type and extent of services delivered to the customer. They are written from a customer viewpoint such that Council can set targets against the levels of service to demonstrate outputs and performance against the community outcomes. Levels of service assist the Council in optimising all activities for each service, as well as providing a benchmark against which to meet customer expectations.

4.1 Community Outcomes

4.1.1 Revision of Community Outcomes for the 2009/19 LTP

2012/22 Long Term Plan

In 2011 the Council amended the community outcomes and these were subsequently reassessed for the 2015-25 Long Term Plan. Council agreed that there will be no significant change to the community outcomes for the 2018/2028 LTP. Changes relate to alignment with the Council Vision. These outcomes and linkage of the Stormwater levels of service are provided in Table 4-1 below.

2015/25 Long Term Plan

In 2017 the Council amended the community outcomes. These outcomes and linkage of the Water Services Levels of Service via the Rationale are shown in **Error! Reference source not found.**Table 4-1. There are no changes to the Community Outcomes for the 2021-31 LTP.

Table 4-1: Waimate District Council Community Outcomes 2018-28 and Stormwater Services Rationale

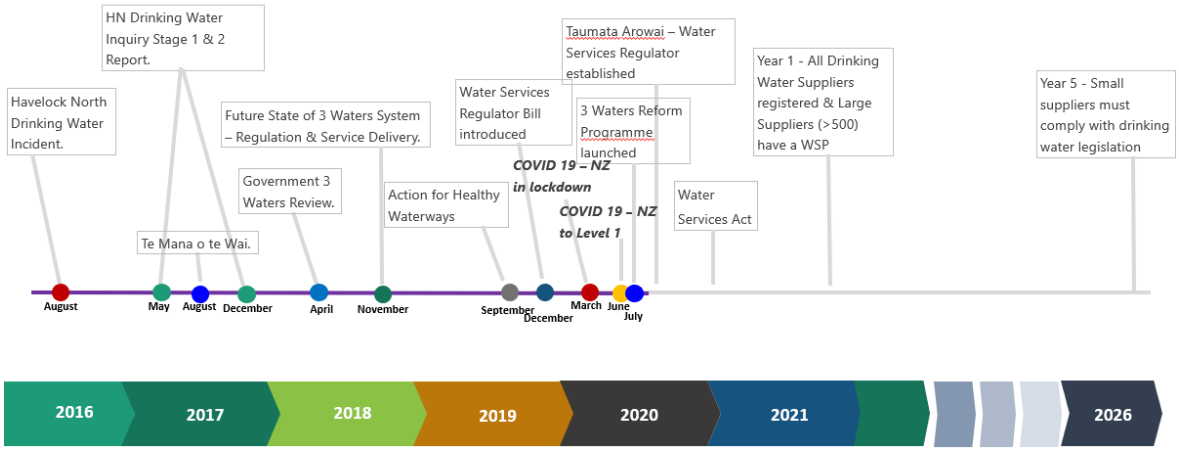
	COMMUNITY OUTCOMES			
	Thriving Community	**Safe & Healthy People**	**Sustainable District and Environment**	**Active, Diverse and Supportive Community**
	Economic Wellbeing	**Social Wellbeing**	**Environmental Wellbeing**	**Social Wellbeing**
	A District that encourages development	A place where people are safe in their homes, work and public spaces	The Waimate District is enhanced through sustainable and diverse development	All people are encouraged to participate in our democratic process
Rationale		***Stormwater*** *– flooding is adequately managed within urban areas*		
	A District that provides infrastructure for economic activity	Our services, infrastructure and environment enhance quality of life	Our heritage is valued and protected	District assets t provide recreation and leisure choice
Rationale	***Stormwater*** *– The timely provision of utility services is essential to supporting growth*	***Stormwater*** - We have reliable, efficient and well planned water, wastewater, stormwater and solid waste infrastructure that meet the needs of residents		
	A District that actively promotes itself and its businesses		We value the natural environment, biodiversity and landscapes	We celebrate and support the good things about our community
Rationale			***Stormwater*** *– We preserve the environment by ensuring the quality and quantity of discharges to the environment*	

4.2 National Strategies and Plans

4.2.1 Government and Industry Direction

In providing the 3 Waters Services the Waimate District Council keep a weather eye on the Central Government and Industry direction for the national infrastructure assets and public service provision. This is done through attending conferences and seminars, studying reports released by Central Government agencies and membership of industry organisations e.g. IPWEA, Water NZ, etc.

3 Waters - Government & Industry Direction



The August 2016 Havelock North Water incident and subsequent Inquiry has renewed the focus on the very high standard of care and diligence required to supply drinking water.

During 2017, the Minister for Local Government initiated the Government 3Waters Review to assess whether current local government practices and the system oversight are 'fit for purpose'. This review ran in parallel to the latter stages of the Havelock North Inquiry and raised a range of questions around the effectiveness, capability and sustainability of the current water service model. During 2017 the Government announced changes to the National Policy Statement for Freshwater Management – Te Mana o te Wai. Te Mana o te Wai is a concept for fresh water, which when given effect, the water body will sustain the full range of environmental, social, cultural and economic values held by iwi and the community. This requires councils to involve iwi/hapū in the management of freshwater, work with them to identify their values and interests, and reflect those values and interests in decision-making.

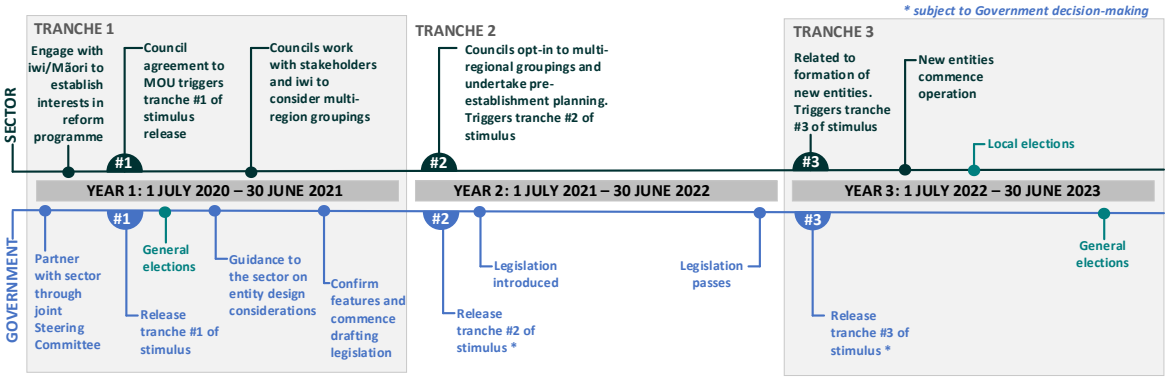
The MfE discussion document 'Action for Healthy Waterways' released September 2019 signals the direction for urban development, rural land and water management including Risk Management Plans for wastewater systems and stormwater systems.
Towards the end of 2019, the Government agreed to establish a new drinking water regulator as an independent Crown entity. Associated legislation is expected to be passed in 2020/21 and the establishment and roll out of the new Regulator will follow and is expected to take a number of years.

Following the global outbreak of the Corona Virus the Government announced New Zealand's four-level COVID-19 Alert System specifying public health and social measures to be taken against COVID-19. New Zealand went into Level 4 on Thursday 26 March 2020. Level 4 requirements included the general public to stay at home, educational facilities closed, only essential services & lifeline utilities remain open & operational, severe travel limitations, major reprioritisation of healthcare services, etc. NZ progressively reduced the alert levels from 27 April and returned to Level 1 on 10 June 2020.

The response to COVID 19 will potentially have a significant impact on the economy and the ability to implement and progress the abovementioned Government initiatives. Several Councils already signalled no rates rises for the 2020/21 year. Waimate District Council chose to reduce the rate increase from 7.7% to 4% and is currently looking to fund this shortfall through smoothing rates between 2021/22 and 2030/31.

July 2020 saw the Government announce the 3 Waters Reform Programme consisting of a $761m funding package over the next three years to provide immediate post COVID 19 stimulus to local authorities to maintain and improve three waters infrastructure. Initial funding will only be made available to councils that sign up to the Memorandum of Understanding. Waimate District Council signed up to the Memorandum of Understanding.

Below is an indicative timetable for the full reform programme. While this is subject to change as the reform progresses, this provides an overview of the longer-term reform pathway.



The following themes are also signalled:

Source	Direction
Insights into local government: 2019 OAG June 2020	Among a range of observations the OAG states "*I remain concerned that Council's might not be adequately reinvesting in their critical assets*". To do this well, councils need to improve their asset management information. In particular, they need: • good data about their critical assets in order to value, depreciate, and plan renewals; • good processes and sufficient resources to maintain and update their critical asset data; • effective working relationships between asset management, finance, and strategic planning staff, all of whom have an important role to play in supporting a council's asset management function; and • timely engagement with, and involvement by, elected members.

Source	Direction
Managing stormwater systems to reduce the risk of flooding OAG Dec 2018	**Recommendations** 1. To better manage their stormwater systems to protect people and their property from the risks of flooding, we recommend that councils: 2. understand the current and likely future flood risks in their district or city sufficiently to take a proactive approach to reduce the risk and effects of flooding; 3. provide elected members with the necessary information and options, including about local flood risks and their stormwater systems, to make well-informed and deliberate decisions about investment in their stormwater systems; • improve the information they make available to their communities so that people can understand: • the potential risk of flooding; • what the council is doing to manage that risk, including how it is managing the stormwater system and at what cost; and 4. what the remaining risk is to the community; improve their understanding of their stormwater systems, which will entail ensuring the adequacy of their stormwater asset data, including condition data and information on the performance and capacity of the stormwater systems; and identify and use opportunities to work together with relevant organisations to more effectively manage their stormwater systems.
Reflecting on our work about water management OAG Feb 2020	**A more strategic and integrated approach to water management is needed** • The Government is responding to the need for a more strategic and integrated approach to water management • A strategic and integrated approach would support targeting of investment decisions • A stronger focus on implementation is needed when setting strategy • Long-term thinking is needed when setting a strategic and integrated approach **Understanding of water resources needs to improve** • A national picture of the state of freshwater quality would support a more strategic and integrated approach • Information gaps can limit the ability to make well-informed decisions • Information needs to be understandable both to decision-makers and to those holding them to account • Good information depends on collecting quality data • There will always be some uncertainty **Water management challenges require adaptive ways of working** • Balancing different views and values requires flexible frameworks • Collaboration needs to translate into action • More can be done to involve Māori in water management Water management challenges require both central and local government response

Source	Direction
Matters arising from our audits of the 2018-28 long-term plans OAG Feb 2019	**Recommendations** • that councils prioritise collecting condition and performance information of critical assets and, in the meantime, take a precautionary approach for significant services where the condition information of critical assets is unknown; • that the Department of Internal Affairs and the local government sector review the required content for long-term plans to ensure that they remain fit for purpose, particularly: – the current suite of mandatory performance measures; – the disclosure requirements for financial and infrastructure strategies; – disclosures required under the Local Government (Financial Reporting and Prudence) Regulations 2014; and – how assumptions are disclosed in long-term plans; • that the Productivity Commission, in its review into the adequacy and efficiency of the existing funding and financing options for councils, consider the trends arising in the 2018-28 long-term plans, particularly the trends and concerns we have raised about increasing debt; and that central government and local government continue to consider how increased leadership can be provided for climate change matters, particularly: – what data is needed and who collects this; – the quality of this data; and – how councils should consider this in future accountability documents, including the long-term plan.
Local Government NZ	LGNZ are working on four significant projects with the sector at present: Water 2050; Climate Change; Housing 2030 and the Localism Project. **Water 2050** - The Water 2050 project promotes discussion and contribute to policy development by central and local government, particularly in regards to the Government's Three Waters Review, across five key areas: • Allocation • Water Quality • Infrastructure • Cost and funding • Governance **Climate change** - leading and championing policy to deal with the impacts of climate change is a key policy priority for LGNZ. Climate change poses an unprecedented level of risk and adapting to and mitigating the impacts of climate change is a new priority focus for councils. **Housing** is a significant issue for our communities' social and economic futures. Unaffordable housing is having a negative impact on local economies, discretionary household expenditure and social well-being. This means addressing matters of supply, how social and community housing needs are met and the importance of healthy homes. Underpinning the issue is the need for appropriate funding and financing. LGNZ efforts are focussed in three general areas: • Supply; • Social and community housing; and • Healthy homes.

Source	Direction
	Localism - Local government is calling for a shift in the way public decisions are made by advocating for greater self-government at the local and an active programme of devolution and decentralisation. This document provides councils with guidance to • Assist with understanding and managing climate risk to the essential infrastructure that they own – particularly in relation to sea level rise, coastal hazards (such as storm inundation and erosion), and inland (pluvial) flooding; • Assist councils with addressing the issues that completion of the previous survey, which fed into the Vulnerable report, identified; and Help our community leaders prime and test council staff, constituents and stakeholders to engage in the most effective long-term planning for infrastructure investment, and make sensible investment decisions now, which don't preclude future options for infrastructure provision.
Vulnerable: the quantum of local government infrastructure exposed to sea level rise Local Government NZ January 2019	This project has two intended outputs. • The first is to research the current quantity and value of infrastructure (roads, 3Waters and buildings) exposed to sea level rise at four increments; 0.5, 1.0, 1.5 and 3.0 metres, and to quantify replacement value. The second and more important output of this research is to provide responses to rising sea levels. This study intentionally avoids specific and local costs, and targets discussion at a regional and national level in order to highlight trends and general areas of high and low priority. It raises questions about how to improve procurement, appropriately share management of risk, and communicate with stakeholders about priorities.
Water NZ Competency Framework Water NZ	This document explores the workforce skills and capabilities for an effective, efficient, accountable and resilient three waters sector in New Zealand. It describes what people should be able to do and what they need to know to competently undertake their work. It is a work in progress and includes the following roles. • Drinking Water Treatment Operators • Wastewater Treatment Operators • Drinking Water Distribution Operators (to be developed) • Wastewater Network Operator (to be developed)

4.2.2 Infrastructure Commission, Te Waihanga

The New Zealand Infrastructure Commission – Te Waihanga – was established in 2019 as an Autonomous Crown Entity to carry out two broad functions – strategy and planning and procurement and delivery support on infrastructure investment.

InfraCom - Te Waihanga will work with central and local government, the private sector, iwi and other stakeholders, to develop a 30-year infrastructure strategy to replace the National Infrastructure Plan.

The first plan will be reported to government by the end of 2021 and thereafter at least every 5 years . The strategy will cover the ability of existing infrastructure to meet community expectations;

current and future infrastructure needs and priorities; as well as any barriers which could impede the delivery of infrastructure or services arising from it.

4.2.3 National Policy Statement

The National Policy Statement for Freshwater Management (NPSFM) 2020 came into force on 3 September 2020 and documents the objective to ensure that natural and physical resources are managed in a way that prioritises:

a) first, the health and well-being of water bodies and freshwater ecosystems
b) second, the health needs of people (such as drinking water)
c) third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.

The NPSFM includes a requirement to manage freshwater in a way that 'gives effect' to Te Mana o te Wai, including by actively involving tangata whenua in freshwater management, working with tangata whenua and communities to set out a 'long-term vision' in the regional policy statement, and through a new 'hierarchy of obligations' which prioritises the health and wellbeing of water bodies, then the essential needs of people (e.g. drinking water), followed by other uses.

Te Mana o te Wai is a concept that refers to the fundamental importance of water and recognises that protecting the health of freshwater protects the health and well-being of the wider environment. It protects the mauri of the wai. Te Mana o te Wai is about restoring and preserving the balance between the water, the wider environment, and the community.

'Action for Healthy Waterways' (Ministry for the Environment) signals the direction for urban development, rural land and water management including Risk Management Plans for wastewater systems and stormwater systems, likely regulatory requirements under a new 3 Waters regulatory framework.

These initiatives will flow through respective Regional Councils Policy Statements & Regional Plans.

4.2.4 National Policy Statement on Urban Development Capacity

The National Policy Statement on Urban Development Capacity 2016 (NPS-UDC) sets out the objectives and policies for providing development capacity under the Resource Management Act 1991.

The NPS-UDC came into effect on 1 December 2016 and has been described by the government as "the core issue of increasing land supply".

The NPS-UDC directs local authorities to provide sufficient development capacity in their resource management plans for housing and business growth to meet demand.

Development capacity refers to the amount of development allowed by zoning and regulations in plans that is supported by infrastructure. This development can be "outwards" (on greenfield sites) and/or "upwards" (by intensifying existing urban environments).

4.3 Key Legislation and Regulation– Implications for Asset Management

Legislation is established by Central Government and must be complied with at Local Government Level. Significant legislation and regulations affecting the Stormwater activities are provided in Table 4-2.

Council must comply with any relevant legislation enacted by Parliament. Commentary related to some of the key legislation is provided below. Different legislation has differing levels of impact on the Stormwater services activities; this is indicated under Impact Range (Broad ***, Moderate **, Limited *).

Table 4-2: Legislation and Regulation Affecting the Stormwater Services

Legislation & Regulation	Stormwater Services Range
Building Act 2004 (and amendments)	*
Civil Defence Emergency Management Act 2002	***
Climate Change (Emissions Trading and Renewable Preference) Act 2008	*
Climate Change Response Act 2002 (and amendments)	**
Energy Efficiency and Conservation Act 2000	*
Environmental Protection Authority Act 2011	*
Epidemic Preparedness Amendment Act 2010	*
Fire and Emergency New Zealand Act 2017	**
Health Act 1956	***
Health and Safety at Work Act 2015	***
Heritage New Zealand Pouhere Taonga Act 2014	*
Infrastructure (Amendments Relating to Utilities Access) Act 2010	**
Local Government Act 2002 (and amendments)	***
Local Government Act 1974 (and amendments)	**
Local Government Rating Act 2002 (and amendments)	**
Local Government Rating Act 1979	*
Ngai Tahu Claims Settlement Act 1998	*
Public Works Act 1981 (and amendments)	*
Reserves Act 1977 (and amendments)	*
Resource Management Act 1991 (and amendments)	***
Utilities Access Act 2010	***

4.3.1 Major Legislation Details

The legislation that has or will have the most effect on the Stormwater Services is expanded in the following section.

Civil Defence Emergency Management Act 2002

The expectations under the CDEM Act 2002 is that Council's services will function at the fullest possible extent during and after an emergency, even though this may be at a reduced level. In

addition, Council has established planning and operational relationships with regional CDEM groups to deliver emergency management within our boundaries.

Climate Change Response (Zero Carbon) Amendment Act 2019

The Climate Change Response (Zero Carbon) Amendment Act 2019 provides a framework by which New Zealand can develop and implement clear and stable climate change policies that:

- contribute to the global effort under the Paris Agreement to limit the global average temperature increase to 1.5° Celsius above pre-industrial levels
- allow New Zealand to prepare for, and adapt to, the effects of climate change.

The amendments establish four key items.

1. set a new domestic greenhouse gas emissions reduction target for New Zealand to:
    a. **reduce net emissions of all greenhouse gases (except biogenic methane) to zero by 2050**
    b. reduce emissions of biogenic methane to 24–47 per cent below 2017 levels by 2050, including to 10 per cent below 2017 levels by 2030
2. establish a system of emissions budgets to act as stepping stones towards the long-term target
3. require the Government to develop and implement policies for climate change adaptation and mitigation
4. establish a new, independent Climate Change Commission to provide expert advice and monitoring to help keep successive governments on track to meeting long-term goals. See the Climate Change Commission website.

The original proposal was for a separate piece of legislation called the Zero Carbon Bill to be passed into law. In May 2019, the Government decided to introduce it as an amendment to the Climate Change Response Act 2002. The objective was to ensure that all key climate legislation is within one Act.

Health and Safety at Work Act 2015

The Health and Safety at Work Act 2015 (HSWA)was enacted on 4 April 2016 and is part of "Working Safer: a blueprint for health and safety at work" and reforms New Zealand's health and safety system following the recommendations of the Independent Taskforce on Workplace Health and Safety. Working Safer is aimed at reducing New Zealand's workplace injury and death toll by 25 per cent by 2020.

The HSWA:

- reinforces proportionality – what a business needs to do depends on its level of risk and what it can control
- shifts from hazard spotting to managing critical risks – actions that reduce workplace harm rather than trivial hazards
- introduces the "reasonably practicable" concept – focusing attention on what's reasonable for a business to do
- changes the focus from the physical workplace to the conduct of work – what the business actually does and so what it can control
- supports more effective worker engagement and participation – promoting flexibility to suit business size and need.

A guiding principle of the HSWA is that workers and other persons should be given the highest level of protection against harm to their health, safety, and welfare from work risks as is reasonably

practicable. The HSWA shifts the focus from monitoring and recording health and safety incidents to proactively identifying and managing risks so everyone is safe and healthy.
The HSWA identifies four duty holders:

persons conducting a business or undertaking (PCBUs) – these may be individuals or organisations	have the primary responsibility for the health and safety of their workers and any other workers they influence or direct. They are also responsible for the health and safety of people at risk from the work of their business
officers	(company directors, partners, board members, chief executives) must do due diligence to make sure the business understands and is meeting its health and safety responsibilities
workers	must take reasonable care for their own health and safety and that their actions don't adversely affect the health and safety of others. They must also follow any reasonable health and safety instruction given to them by the business and cooperate with any reasonable business policy or procedure relating to health and safety in the workplace
other persons at workplaces	who come into the workplace, such as visitors or customers, also have some health and safety duties to ensure that their actions don't adversely affect the health and safety of others

Heritage New Zealand Pouhere Taonga Act 2014

Describes an archaeological site as "Any place in New Zealand that:

- Was associated with human activity that occurred before 1900
- Is the site of the wreck of any vessel where that wreck occurred before 1900
- Is or may be able through investigation by archaeological methods to provide evidence relating to the history of New Zealand"

It is unlawful to modify, damage or destroy any archaeological site – recorded or not – without an authority from the New Zealand Historic Place Trust.

Local Government Act 2002

Defines the purpose of local authorities as enabling local decision-making by and on behalf of the community, and allows local authorities the power of general competence. This Act specifically requires Councils to continue to provide water and wastewater services if they do so already. AMPs are the main method of demonstrating Schedule 10 requirements.

In addition to the general requirements of the Local Government Act there are some specific clauses that apply to water services.

Table 4-3: Water Services LGA 2002 Clauses

Section	Details	Applies to
S10	Restores the four aspects of community well-being by requiring local authorities to promote the social, economic, environmental, and cultural well-being of communities in the present and for the future	Water and Waste Services
S17A	Requires that Councils review the cost effectiveness of the way they deliver their services to ensure they meet the needs of communities	All services
S101B	Requires a 30 Year Infrastructure Strategy	Core Services

Section	Details	Applies to
S125	Places a requirement to assess water and other sanitary services from time to time	Water and Sanitary Services Assessment
S130	Imposes an obligation to maintain water services and places limitations on the transfer or selling of assets	Divestment of services
S 136	Empowers Councils to enter into Contracts relating to provision of water services for periods not exceeding 35 years whilst maintaining control over the pricing of the service, retain legal responsibility for the service and being responsible for the development of policy related to the water services	Utilities Contract
S 137	Empowers Councils to enter joint local government arrangements and joint arrangements with other entities for the provision of water services, with the same constraints as S136	Utilities and Professional Services provision and procurement
Pt 1 -2 Pt 3 - 23	Council provides groups of activities for financial, performance and negative effects reporting purposes. The Water and Waste unit will provide Group summaries for water (urban & rural), sewerage and stormwater	Water and Waste Services

Local Government Act 2002 – Section 17A

To date a formal, documented Section 17A review has not been completed for 3W's service delivery. Council informally reviewed 3W's service delivery in 2016/17.

Waimate, whilst not unique, is one of few councils that continues to provide maintenance operations "in-house" and resultantly did not have contractual arrangements in place to trigger a review between 2014 and 2017 (the statutory deadline for completing the first round of reviews).

At this point in time, investigations in to the Havelock North incident and subsequent indications that sector reforms were underway meant that the desire to change service delivery arrangements was low. Furthermore, Council was effectively comfortable that the potential benefits of performing a review did not justify the time and expense of completing the exercise. Subsequent acceleration of the reforms has bolstered this position in so far as service delivery is being addressed during the current calendar year (2021) and the impacts for 2021/22 are as yet unknown. Based on Councils decision regarding "opting in or out", this may trigger a Section 17A review (or not).

Resource Management Act 1991

Governs all water takes and discharges. Water takes and discharges to waterways and land occur through the extraction of water from waterways and land. Resource consents obtained for water takes and discharge activities require parameters such as volume and quality to be monitored as well as taking steps to mitigate any adverse effects that may occur through the activity.

There have been numerous amendments to the Resource Management Act over the years with reform a key priority. During 2019 the Government appointed the Resource Management Review Panel to undertake a comprehensive review of the RMA. The Review Panel recommended:

- The RMA to be repealed and replaced with two new pieces of legislation
    - The Natural and Built Environments Act to strengthen the current system by not only seeking to protect the environment, but improve it.

- The Strategic Planning Act to give statutory weight to strategic spatial plans and, critically, force reconciliation and alignment across central and local government to ensure implementation.

Taumata Arowai–the Water Services Regulator Bill

Taumata Arowai – the Water Services Regulator Bill received Royal Assent on 6 August 2020. The Bill will establish Taumata Arowai–the Water Services Regulator and provide for its objectives, functions, and governance arrangements.

Taumata Arowai – the Water Services Regulator Bill will create a new regulatory body to oversee, administer and enforce a new and strengthened drinking water regulatory system. It will also have a national oversight role to improve the environmental performance of storm water and wastewater networks.

This Bill will be enacted during 2021.
A separate Bill, the Water Services Bill, to be introduced in early 2020, will give effect to decisions to implement system-wide reforms to the regulation of drinking water and source water, and targeted reforms to improve the regulation and performance of wastewater and stormwater networks. The Regulator's detailed functions and powers are located in that Bill.

Utilities Access Act 2010.

The Utilities Access Act 2010 provides for a coordinated approach to management of the road corridor. The Act requires the Corridor Managers to undertake a planning and access management role, and Utility operators to comply with an approved code of practice.

The National Code of Practice for Utility Operators Access to Transport Corridors is a mandatory requirement for all road and rail controlling authorities and utility network operators under the Utilities Access Act 2010, and came into effect on the 1st January 2012. The Code was reviewed during 2016.

The initial KPI data identified several issues including a lack of consistency, along with the fact that not all reporting entities had sent in their returns, meaning that any comparisons were incomplete. The situation was exacerbated by the fact that only 1 year's results are available, with any real value to come from analysis of changing trends over time. Refining of the data collection requirements will be a major focus moving forward, resulting in a more comprehensive reporting and analysis to be provided following the receipt of 2016-17 KPI data.

4.3.2 Relevant Regulations Affecting this Activity

Local Government (Financial Reporting) Regulations 2011

4.4 Standards, Codes of Practice and Guidelines

National environmental standards, design standards (AS/NZS ISO), Codes of Practice and Guidelines provide technical direction. National Standards must be complied under the direction of relevant legislation.

4.4.1 National Environmental Standards

National environmental standards are regulations issued under the Resource Management Act 1991 (RMA). They prescribe technical standards, methods and other requirements for environmental matters.

Local and regional councils [or local government] must enforce these standards (or they can enforce stricter standards when the standard provides for this). In this way, national environmental standards ensure consistent minimum standards are maintained throughout all New Zealand's regions and districts.

4.4.2 AS/NZS Standards

The Code for Subdivision and Development AS/NZS 4404 is the principle document defining design requirements. Wherever possible, relevant AS/NZS standards are used as the basis for determining standards of design and construction. Standards and guidelines relevant to the Stormwater Activity are provided in Table 4-4.

Table 4-4: National Environmental Standards and Guidelines

Year Released	Technical Discipline: Asset Management
2020	NAMS International Infrastructure Management Manual
2015	NAMS International Infrastructure Management Manual
2011	NAMS International Infrastructure Management Manual
2008	PAS55-1:2008 Asset Management - Replaced
2007 v2.0	NAMS Developing Levels of Service and Performance Measures Guidelines
2004 v1.0	NAMS Optimised Decision Making Guidelines
2006 v2.0	NAMS Infrastructure Asset Valuation and Depreciation Guidelines
2006	NZWWA New Zealand Pipe Inspection Manual
1999	NZWWA The New Zealand Infrastructural Asset Grading Guidelines

4.4.3 ISO 55000 Asset Management 2014

This international standard was released in January 2014 and makes the previous BSI PAS55 Asset Management (2008) standards redundant. The new standard outlines the requirements for a management system for achieving a balance between cost, risk and performance in asset management to help guide asset related decision making and activities.

At the time of writing this Stormwater Services AMP the Council has yet to review whether current Council asset management practices will be changed to seek conformance with ISO 55000. However, improvement areas have been identified in this AMP which will assist in the move towards aligning with the requirements of ISO 55000 if this is the direction Council decide to take in the future**.**

4.5 Regional Plans

4.5.1 Natural Resources Regional Plan (NRRP)

The NRRP was revoked during February 2017 and replaced with the LWRP.

4.5.2 Land and Water Regional Plan (LWRP)

The Land & Water Regional Plan is a new planning framework for Canterbury and aims to provide clear direction on how land and water are to be managed and help deliver community aspirations for water quality in both urban and rural areas.

The Canterbury Land and Water Regional Plan (LWRP) identifies the resource management objectives for managing land and water resources in Canterbury to achieve the purpose of the Resource Management Act 1991. It identifies the policies and rules needed to achieve the objectives, and provides direction in terms of the processing of resource consent applications.

This LWRP is made up of 16 sections and a map volume:

- the first describes Canterbury's land and water resources, interrelated issues that need to be managed, the key partnerships, relationships and processes already underway, including the Canterbury Water Management Strategy (CWMS).
- The second section describes how the Plan works and contains the definitions used in the Plan.
- The subsequent three sections cover the region-wide objectives, policies, and rules.
- Sections 6 to 15 inclusive contain sub-region catchment specific policies and rules, and
- Section 16 contains the schedules.
- The maps referred to in the rules are in a separate map volume.

Rules 5.93 to 5.97 address Stormwater. Rule 5.93 is of specific note as this requires an approved Stormwater Management Plan for reticulated stormwater systems and Policy 4.16 records the requirements of a Stormwater Management Plan.

4.5.3 Regional and Iwi Plans

Regional and Iwi Plans affecting the Stormwater activities are listed in Table 4-5. Each of these is a significant document, any impact on the current or proposed Waters Policy must be accounted for.

Table 4-5: Regional and Iwi Plan Documents

Canterbury Regional Council Plans	Key Impacts on Stormwater Services
Canterbury Land and Water Regional Plan (LWRP)	Application submitted by 30 June 2018
Regional Coastal Environment Plan 2011. Covers coastal marine area and the coastal environment and its integrated management.	
Regional Policy Statement Sets the framework for resource management in Canterbury for the next 10 to 15 year	Became operative on 15 January 2013 and has undergone minor amendments since.
Canterbury Water Management Strategy	Stormwater – water quality

4.5.4 Cantebrury Mayoral Forum

The Waimate District Council is part of the Canterbury Mayoral Forum (11 member Councils) consisting of:

- Kaikōura District,
- Hurunui District,
- Waimakariri District,

- Christchurch City,
- Selwyn District,
- Ashburton District,
- Timaru District,
- Mackenzie District,
- Waimate District,
- Waitaki District (part of which lies within the Canterbury Regional Council area), and
- Environment Canterbury

Region wide issues identified by the Joint Working Group include:

- a need for more effort in compliance, monitoring and enforcement
- a greater focus on biodiversity outcomes monitoring and reporting
- opportunities for councils to share approaches and share resources
- addressing scale and complexities of issues, recognising the size of rating bases and capacities of councils.

Key work by Council supporting ecosystem health and biodiversity, drinking water and water use efficiency targets include:

- ecosystem health and biodiversity
    - restore Wainono lagoon
    - District Plan
- 3Waters
    - Major drinking water upgrades including Hook-Waituna, Lower Waihao, Waihaorunga and Waikakahi
    - Water safety plans in place and implemented
    - Global stormwater discharge consent in place
    - 3waters infrastructure renewals
- water use efficiency
    - water savings through upgrade of ageing infrastructure
    - water conservation measures in place
    - urban toby replacement with manifold meters

Key actions to meet 2025 Goals are tabled below:

Ecosystem Health
Biodiversity **Lowland Stream health** Fulfil requirements to obtain and comply with stormwater consents for townships by 2025. Progress improvement to stormwater infrastructure to reduce ecological damage to lowland streams from sediment and contaminants. Continue regular community education/behaviour change campaigns on stormwater issues and management.
Lowland Stream health Review the state and operation of the district's wastewater treatment plant infrastructure to address and reduce potential impacts on the district's highly valued rivers.
Biodiversity **Drylands** Identify and map SNAs on private land. Review status of SNAs listed in District Plan in line with NPSIB criteria and requirements by 2026. Implement system to actively protect SNAs and maintain indigenous vegetation. Work with Environment Canterbury to develop a biodiversity monitoring strategy. Secure funding for shared biodiversity role to undertake compliance monitoring.

Ecosystem Health
Advocate for indigenous biodiversity through regular education/behaviour change campaigns to improve understanding of the importance of protecting and conserving indigenous vegetation.
Biodiversity: **Drylands / Hill and High country streams** Review vegetation clearance rules as part of District Plan review to protect indigenous vegetation. Advocate for indigenous biodiversity through regular education/behaviour change campaigns to improve understanding of the importance of protecting and conserving indigenous vegetation.
Source Water Quality
Priority planning for water supply wells and new treatment plants, including rural water schemes (Waihaorunga, Cannington-Motukaika, and Waikakai). Review the state and operation of the district's wastewater treatment plant infrastructure to address and reduce potential impacts on the district's highly valued rivers and source groundwater Raise awareness of health impacts from high nitrate in drinking water. Run campaigns to recommend regular testing of private bores and consider options for secure water supply
Water Use Efficiency
Improve compliance with national regulations on the measurement and reporting of water takes. Manage water demand through meeting requirements under LWRP. Run local public relations education/behaviour change campaigns on water use efficiency to raise awareness and reduce usage.

Environment Canterbury provides quarterly updates to the Chief Executives Forum and Mayoral Forum on the regionwide progress towards implementing the CWMS. These quarterly reports provide a summary of the last three months' progress of zone committee projects and provide information on the latest freshwater related policy and RMA planning.

As work progresses on implementing the Fit for Future work programme, future quarterly reports to the Mayoral Forum will focus on reporting on the delivery of the CWMS Targets and review of the Canterbury Biodiversity Strategy in line with national direction.

4.6 Waimate District Council Strategies, Plans and Bylaws

4.6.1 Council Strategies

The following Council Strategies have impacts and are considered as part of the Stormwater services Activity

- District Wide Strategy
- Economic Development Strategy
- Procurement Strategy
- Infrastructure Strategy

4.6.2 Council Planning Documents

The following Council Planning Documents have impacts and are considered as part of the Stormwater Services Activity

- Waimate District Long Term Plan 2018-28 (current)
- Waimate District Long Term Plan 2021-31 (proposed)
- Waimate District Plan
- Waimate District Council Engineering Design Standards for Subdivisions and Development
- Structure Plans

- Waimate District Council AMPs

4.6.3 Council Bylaws

Section 146 of the Local Government Act 2002 provides for a Territorial Authority to make Bylaws in its district for the purposes of managing, regulating against, or protecting from damage, misuse, or loss, or for preventing the use of; the land, structures, or infrastructure associated with the Stormwater services.

Waimate District Council Consolidated Bylaw 2018, Chapter on Water Services consist of six parts:

- Part 1 General Conditions, applicable to all Network Infrastructure Services.
- Part 2 Urban Water Supply
- Part 3 Rural Water Supply
- Part 4 Stormwater Drainage
- Part 5 Sewerage
- Part 6 Trade Waste

The bylaw defines standards and obligations for the discharge, conditions of connection and infringements.

4.6.4 Council Policies

Significance and Engagement Policy

Waimate District Council developed the Significance and Engagement Policy to determine the significance of issues within the District, and how to align Council engagement with the public based on the degree of significance of the issue.

This policy exists to:

- Inform the public can expect from the Waimate District Council regarding community engagement and the ways you can influence and participate in the decision-making of the Council.
- To provide Council with a tool that guides the assessment of significance during decision making. A decision on significance and engagement provides direction on the level of community engagement that might be desirable to enable Council to develop a clearer understanding of community views and preferences on an issue or proposal.

This Policy identifies the following Strategic assets:

- Regent Theatre
- Waimate Public Library - building and collections
- Resource Recovery Park
- Parks and Reserves
- Public Toilets
- Cemeteries
- Roading Networks and connected infrastructure
- Sewerage Networks and Treatment Plants
- Norman Kirk Memorial Pool
- **Stormwater Networks**
- Water Treatment, Storage and Supply Networks
- Community Housing
- Local Government Centre
- Waimate Sports Stadium

Earthquake Prone Buildings

Earthquake Prone Buildings are no longer included in a Council Policy, but are now included in the Building Act 2004 under, Subpart 6A Building (Earthquake-prone Buildings) Amendment Act 2016. These new provisions came into effect on 1 July 2017.

Council is required to identify potential earthquake prone buildings or parts of Earthquake Prone Buildings and advise building owners that they are required to provide an Engineering Assessment that has been undertaken in accordance with the Earthquake Prone Buildings Methodology.

As the Waimate District is designated as being in a Low Seismic Risk Area the Council has until 1 July 2032 to identify potential earthquake prone buildings in the district. Council also has the ability to identify potentially Earthquake Prone Buildings at any time if they have reason to suspect it may be Earthquake Prone Building.

This Engineering Assessment is required to be provided by the building owner to the Council within 12 months of the building owner being notified by the Council of their building being considered to be an Earthquake Prone Building.

In the case where a building owner has had an Earthquake Prone Building Assessment undertaken prior to 1 July 2017, then this assessment is to be provided to the Council for review against the Earthquake Prone Building Methodology. The Council will assess these reports against the Earthquake Prone Buildings Methodology and decide whether the report is acceptable or may request either additional information or a new report to be provided.

The Council will also assign the Earthquake Prone Building rating and if it is less than 33% then the rating will be entered into the MBIE National Earthquake Prone Buildings database. The building owner will be required to erect and maintain the prescribed placards in the building in the prescribed locations indicating what the Earthquake Prone Building Rating of their building is until such time as the building is strengthened or demolished. These placards are required to be displayed where members of the public will be clearly visible so members of the public are aware of the Earthquake Prone Rating of the building.

The period for building owners to undertake strengthening of buildings in the Waimate District is 35 years from the date when the Council advises the building owner of its decision that the building is an Earthquake Prone Building.

Dangerous and Insanitary Buildings

Council has revoked the Earthquake Prone Buildings, Dangerous and Insanitary Building Policy and separated the Dangerous Buildings and Insanitary Buildings into two individual policies to make easier for staff when dealing with these buildings. These new policies were adopted by Council in December 2017.

When either a Dangerous or an Insanitary Building are brought to Councils attention an assessment will be undertaken by staff to establish whether they are either Dangerous or Insanitary.

Council staff will work with the building owner to make the building safe and to remove or reduce the danger in the case of both dangerous building and insanitary buildings.

4.7 Level of Service Consultation

4.7.1 Consultation Processes

Community Outcomes for the Long Term Plan

The Council has carried out significant consultation to establish the Community Outcomes for the LTP; these were reviewed in 2011 following the changes to the Local Government Act in 2010. For the 2021 LTP the Community Outcomes retain the essence of those included in previous Waimate Community and Long Term Plans and were tested against the Waimate District Council vision statement.

Community Consultation

The Waimate District Council has undertaken a range of consultation processes over the past few years specifically targeted at gathering information on preferred Levels of Service or the extent of infrastructure that Council will be required to install, future vision or how we manage the service. The extent of the historical and proposed consultation is detailed in Table 4-6.

Table 4-6: Stormwater Service Consultation Processes (Historical and Proposed)

Consultation Processes	Key Stakeholders Involved	Date	Reasons for Consultation	Extent of Consultation
Historical				
2012-2022 LTCCP process	All	2012	Legislative requirement criteria of LGA 2002	In accordance with the LGA 2002 consultation requirements
2015-2025 LTP process	All	2015	Legislative requirement criteria of LGA 2002	In accordance with the LGA 2002 consultation requirements
2018-2028 LTP process	All	2015	Legislative requirement criteria of LGA 2002	In accordance with the LGA 2002 consultation requirements
Water Safety Plan (Waimate Urban and Rural)	Urban and Rural customers	2013 & ongoing		
Proposed				
2021-2031 LTP process	All	2021	Legislative requirement criteria of LGA 2002 and RMA	In accordance with the LGA 2002 consultation requirements
District Plan Review	All	2024		
Bylaws	All	2018	Review of Bylaws	Public and Industry submissions requested

4.8 2021 – 2031 Stormwater Services Levels of Service

In 2011 the levels of service were reviewed and modified to take into account feedback from various parties including Audit New Zealand, industry best practice and ease in measuring and reporting. These were further reviewed in 2014, 2017 and 2020. Only the Customer Levels of service (including non-financial) are reported in the LTP.

4.8.1 Rules for Performance Measures

In 2010, the Local Government Act 2002 was amended to require the Secretary for Local Government to make rules specifying non-financial performance measures for local authorities to

use when reporting to their communities. The aim was to help the public to contribute to discussions on future levels of service for their communities and to participate more easily in their local authority's decision-making processes.

Performance measure rules come into force on 30 July 2014. Local authorities are required to incorporate the performance measures in the development of the 2015-2025 LTP. The performance measures were reported for the first time in the 2015/2016 annual reports. The performance measures are:

Performance measure 1 - System adequacy

Performance measure 2 - Discharge compliance

Performance measure 4 - Fault response times

Performance measure 5 - Customer satisfaction

4.8.2 2021-2031 Stormwater Services: Levels of Service

In 2020 the 2018 (and 2014) Customer Levels of Service were reviewed. Table 4-7 details the results of this review.

Council reviewed the customer service requests system to ensure they align with the Mandatory Performance Measures and ensured the internal and Contractor reporting aligns with the Mandatory Performance Measures 'tasks'. Council's AMIS (AssetFinda) and associated Service Request module have been programmed to allow reporting aligned with the NFPM and to ensure consistency and accuracy of reporting.

Table 4-7: LTP 2021 – 2031 Stormwater Services Levels of Service

What we do	**Council provides stormwater drainage systems for the removal of surface water following rainfall events. In Waimate urban catchments this surface water is removed by a piped stormwater drainage system and existing kerb and channel networks.**			
1. Maintain reliable stormwater network services				
How we do it	• Maintain stormwater systems and respond to service failures • Develop and implement system for recording flooding events • Monitor demand and manage growth of network • Collection and disposal of stormwater via stormwater systems • Monitor condition and performance of stormwater reticulation and assets			
How we measure performance		**Actual**	**Years 1 – 3 Target**	**Years 4 - 10 Target**
	Number of flooding events that occur in our systems (**M**) (per 1000 properties connected) Number of habitable floors affected in a flooding events in the district (**M**) (per 1000 properties connected)	Achieved (2018/19)	0	0
	Number of blockages in the Councils urban storm water transmission (i.e. piped, open drain).	New	≤3	≤3

* Flooding event means an event where stormwater enters a habitable floor. Measured from the time of notification to the time that service personnel reach the site.

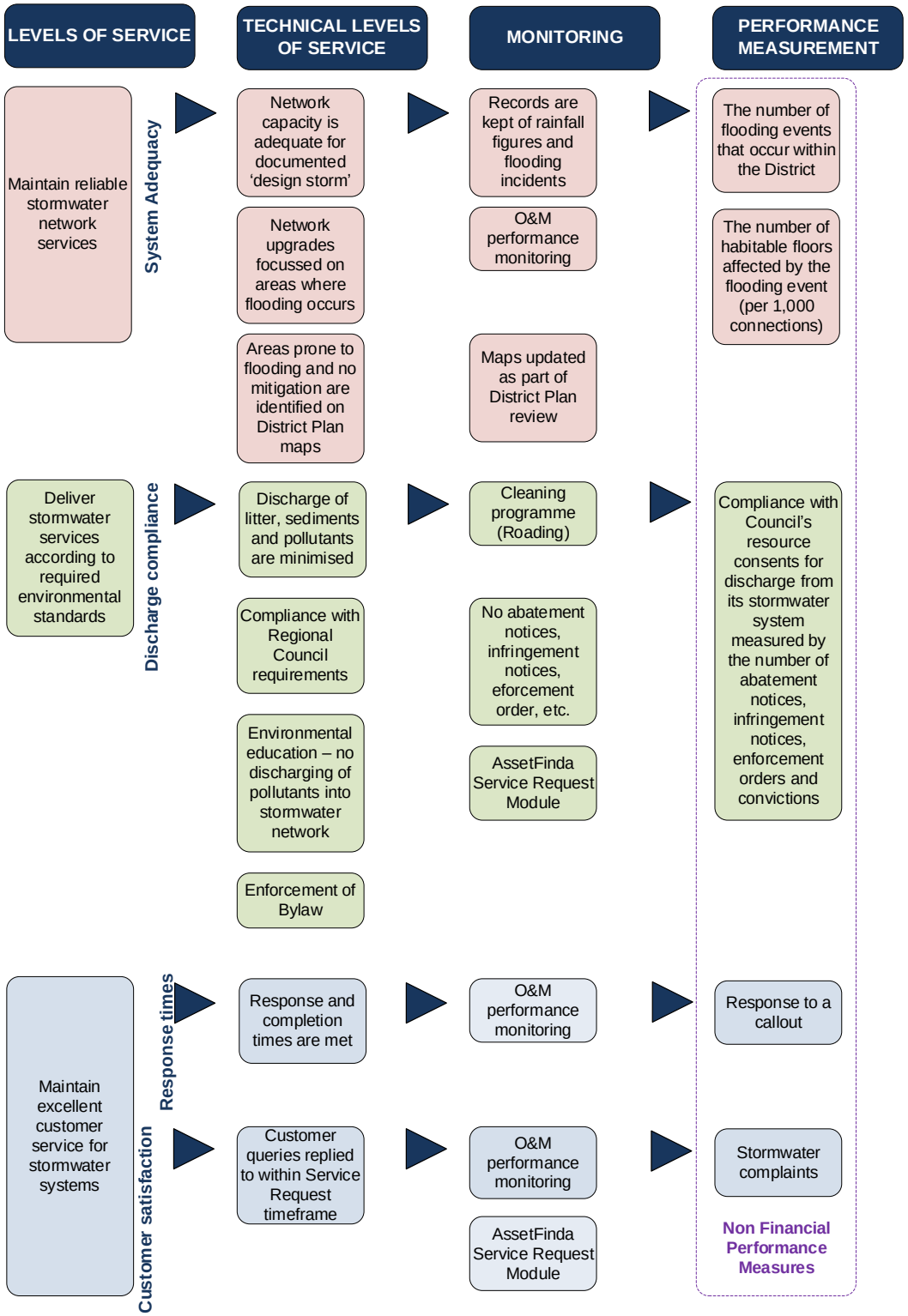
2. Deliver stormwater services according to required environmental standards				
How we do it	• Manage and monitor stormwater systems under conditions of resource consents • Monitor ongoing regulatory changes to stormwater activities • Develop a Demand Management Plan for the Stormwater activity • Update and review Risk Management Strategy • Investigate options for stormwater treatment • Develop stormwater quality monitoring systems • Apply for and receive stormwater resource consents within necessary time period			
How we measure performance		**Actual**	**Years 1 – 3 Target**	**Years 4 - 10 Target**
	Compliance with Resource Consents for discharge from stormwater system (**M**)	Achieved (2018/19)	No abatement notices, infringement notices, enforcement orders and convictions	No abatement notices, infringement notices, enforcement orders and convictions

3. Maintain excellent customer service for stormwater systems				
How we do it	• Provide a customer service request system 24 hours a day, 7 days a week • Maintain stormwater system and respond to service failures or faults in a timely manner			
How we measure performance		**Actual**	**Years 1 – 3 Target**	**Years 4 - 10 Target**
	Median response time to attend a flooding event.* (**M**)	Achieved (2018/19)	≤120 minutes	≤120 minutes
	Number of complaints received about the performance of the stormwater system (**M**)	Achieved(2018/19)	≤1.5 per 1,000 properties	≤1.5 per 1,000 properties

The interpretation of the Non-Financial Performance Measures Rules are shown in http://www.dia.govt.nz/diawebsite.nsf/wpg_URL/Resource-material-Our-Policy-Advice-Areas-Local-Government-Policy?OpenDocument#ElectoralAct

4.8.3 Customer and Technical Levels of Service

The Technical Service Standards for each Customer Levels of Service, along with linkages to the monitoring and Performance Measurements is described below.



It should be noted that in the context of the requirements under the NFPM:
"Flooding event" means an overflow of stormwater from a territorial authority's stormwater system that entered a habitable floor.

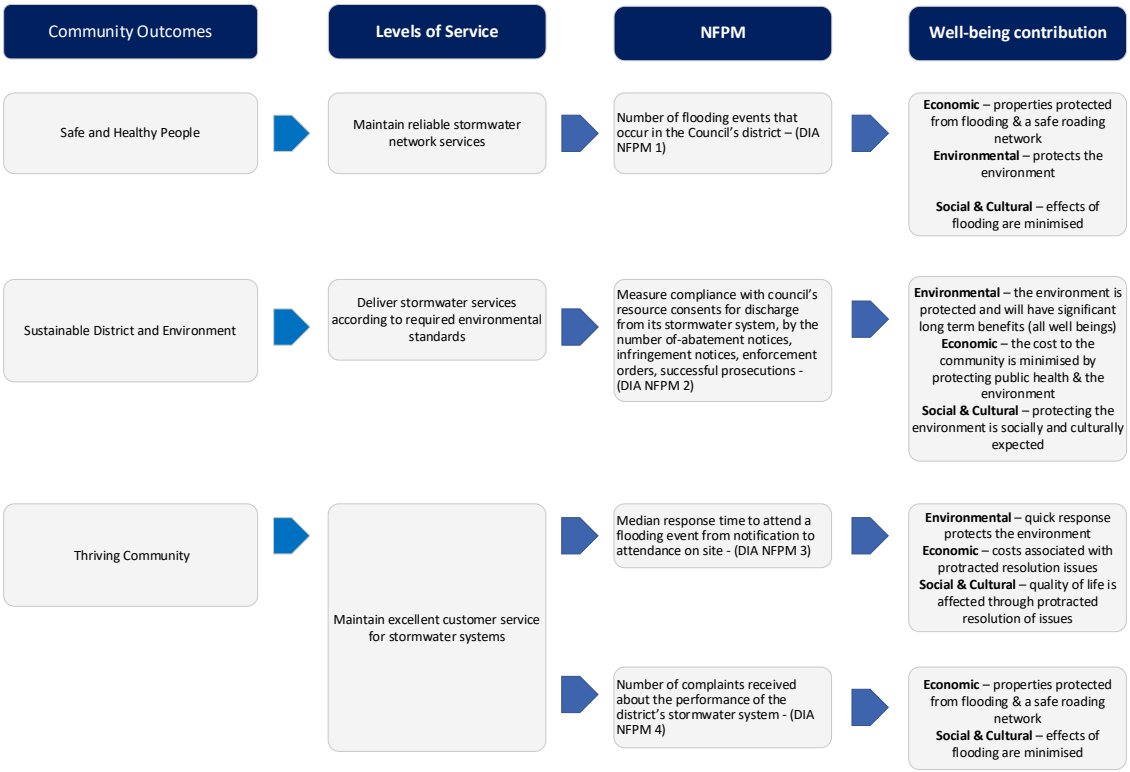
"Habitable floor" means a floor of a building (including a basement) but does not include ancillary structures such as stand-alone garden sheds or garages.
"Stormwater system" means the pipes and infrastructure (excluding roads) that collect and manage rainfall runoff from the point of connection to the point of discharge.

However

- The definition of stormwater system which excludes streets, means that most (if not all) flooding in this district is not required to be reported as it is caused by runoff from the roads themselves and not the stormwater pipes.
- This Council, along with many others, does not know how many properties are connected to the stormwater system as they are not separately rated.
- The inclusion of basements (and attached garages) as a habitable floor is at variance with the NZ Building Code which does not regard these as habitable areas so Council is unable to prevent their being constructed below a floodable level.
- Most properties discharge to road rather than the stormwater system. Generally, connection to the stormwater system is not permitted and only considered under extreme circumstances and with specific conditions (flap valves, etc.)

4.8.4 Activity Contribution to the Four Well-beings

Section 10 of the Local Government Act restores the four aspects of community well-being by requiring local authorities to promote the social, economic, environmental, and cultural well-being of communities in the present and for the future. The reinstatement of the four well-beings acknowledges that the Council has a broader role in looking after our communities, than simply providing core services. The stormwater activity levels of service contribution to the four well-beings are shown below.



4.9 Performance Gaps

The results for the March 2019 Communitrak customer satisfaction survey as shown below. The results from the survey report that:

- Overall, 50% of Waimate District residents are satisfied with stormwater services, while 11% are not very satisfied with this service. These readings are similar to the 2017 results.
- A large percentage (39%) are unable to comment and this is probably due to only 44% of residents saying they are provided with a piped stormwater collection, where they live. Of these, 79% are satisfied.
- The percent not very satisfied is on par with like Districts and residents nationwide.

There are no notable differences between Wards and between socio-economic groups, in terms of those residents more likely to be not very satisfied with stormwater services.

The main reasons residents are not very satisfied with stormwater services are:

- *flooding,*
- *blockages/drains/gutters, culverts need clearing regularly,*
- *inadequate drainage/need improving*

Figure 4-1: Communitrak Survey Trends

Figure 4-1 shows that despite a significant reduction is satisfaction levels during 2015 the satisfaction levels with the stormwater service has recovered well over the last four years.

5.0 GROWTH AND DEMAND MANAGEMENT

This section provides details of growth forecasts, which affect the management, and utilisation of all Stormwaters assets and details demand management strategies.

5.1 Projects That Will Have An Impact On District Population

There are a number of projects that were / are anticipated to have an impact on the districts population, namely:

- Hunter Downs Irrigation Scheme – Did not proceed (2020)
- Waihao Downs Irrigation scheme (Commissioned)
- Oceania Dairy Factory (Ongoing development)
- Alps to Ocean Cycle Track (Commissioned)

Details of these projects are presented below.

Hunter Downs Irrigation Scheme

The Hunter Downs Irrigation Scheme was to be a community irrigation proposal developed originally by the South Canterbury Irrigation Trust (SCIT) and Meridian. The scheme would have potentially irrigated up to 40,000 ha of land from the Waitaki River stretching as far north as Otipua. The scheme was reduced to just 12,000 ha of irrigated land with construction supposed to start mid 2018. At the time of writing this AMP, the consent is close to lapsing.

Waihao Downs Irrigation Scheme

The Waihao Downs Irrigation Scheme irrigates 6,800 ha of farmland within a larger command area of 14,000 ha in the Waihao basin. The scheme involves taking water from the Waitaki River which is then distributed through a piped network to farms. There are a few potential farm conversions left.

Kurow Duntroon Irrigation Scheme

The Kurow Duntroon Irrigation Scheme, within the neighbouring Waitaki district, was developed by the Ministry of Works during 1965.

The original system consisted of a siphon drawing water from the Waitaki Dam into a 35 kilometres long open water race delivering water via a gravity fed system of manually operated gates.
This system was replaced during 2018/19 by installing 76 kilometres of pipelines from Waitaki Dam to Duntroon on the west bank of the Maerewhenua River. The system will ultimately enable irrigation of 5,500 hectares.

The Kurow Duntroon Irrigation Company (KDIC) is a community owned irrigation scheme, and holds a resource consent (CRC163429) from Ecan that expires in 2048, for an annual water take of 26.3 million litres. The scheme will increase activity in the rural service industries (on farm contractors and farm supplies) and processing companies (milk companies and vegetable processing).

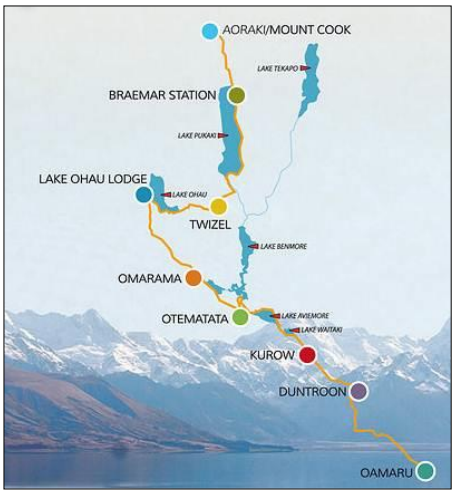
Oceania Dairy Factory

Oceania Dairy Limited is a wholly-owned subsidiary of Inner Mongolia Yili Industrial Group (Yili), and is China's largest dairy producer. The state-of-the-art Glenavy processing plant has been designed for the production of milk powder for export to China where it will be used by Yili to produce infant formula. Stage Two is now complete and further improvements and expansion are likely in the future.

Alps to Ocean Cycle Track

This is a cycle track from Aoraki/Mt Cook to Oamaru and is almost fully complete. Construction of the off-road sections of trail are ongoing, and will likely take another few years to finish.

Given central Otago Rail Trail didn't have real impact until a number of years later, Council has assumed that any impact will be similar for Waimate District.



With these development projects there is a high chance that Waimate will experience slight increases in population with changes in socio-economic structure and changes in land use.

5.2 Demand Forecasts

The Waimate District Growth Projections- 2020 (Rationale) report provides a projection of the population growth for the Waimate District over the next 30 years. The report provides growth projection outputs for usually resident population, employment, dwellings, rating units and visitors.

Typically, WDC used the growth projections prepared by Statistics New Zealand (StatsNZ). Council is now looking for a more in-depth understanding of what their district might look like over the next 30 years. This coupled with the delayed release of the Stats NZ projections, following 2018 Census, has led WDC to commission these growth projections to understand the future growth in their district and provide a single source of the truth for council.

Four growth scenarios have been modelled for each parameter representing different levels of ambition in terms of the district's growth over the next thirty years.

The report considered four growth scenarios i.e.

- Scenario 1 – Business as Usual (Pre COVID 19)
  - No impact from COVID 19 and no limit on dwellings that can be constructed
- Scenario 2 – High
  - minimal COVID 19 impact and currently zones land reaching capacity
- Scenario 3 - Medium
  - Expected COVID 19 impact, business as usual by 2025
- Scenario 4 - Low
  - Higher than expected COVID 19 impact

Scenario 3 is considered to be the most appropriate for WDC's long term planning as there will be short term effects due to COVID-19.

However, it is not yet known what, if any, long term effects there will be. Due to this uncertainty it is recommend that annual "check-ins" are completed with the most up-to-date data to monitor the

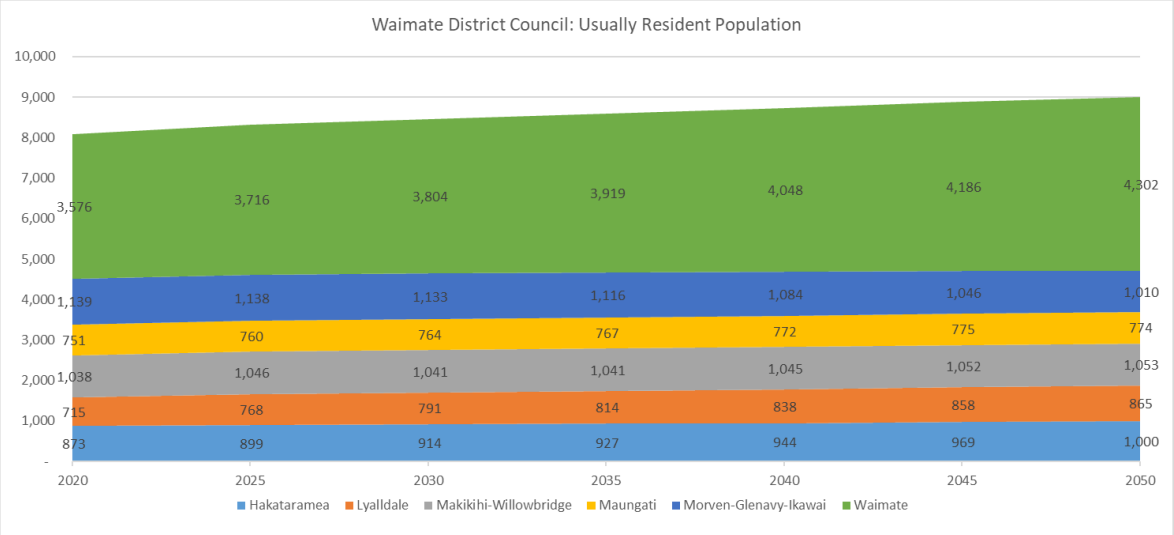
impact of COVID-19 and the progress of recovery. At this time growth can be reprojected, if necessary.
Since this growth projections model was developed it has become apparent that a bubble between New Zealand and Australia will not be forming in 2020. To offer best value for money to WDC, and due to the minimal impact on the final projections, Rationale recommend revisiting these assumptions once there is a known scenario and date for border reopening. {Rationale}.

5.3 Growth Trends

Population Projections
The key characteristics of Waimate District's population are:

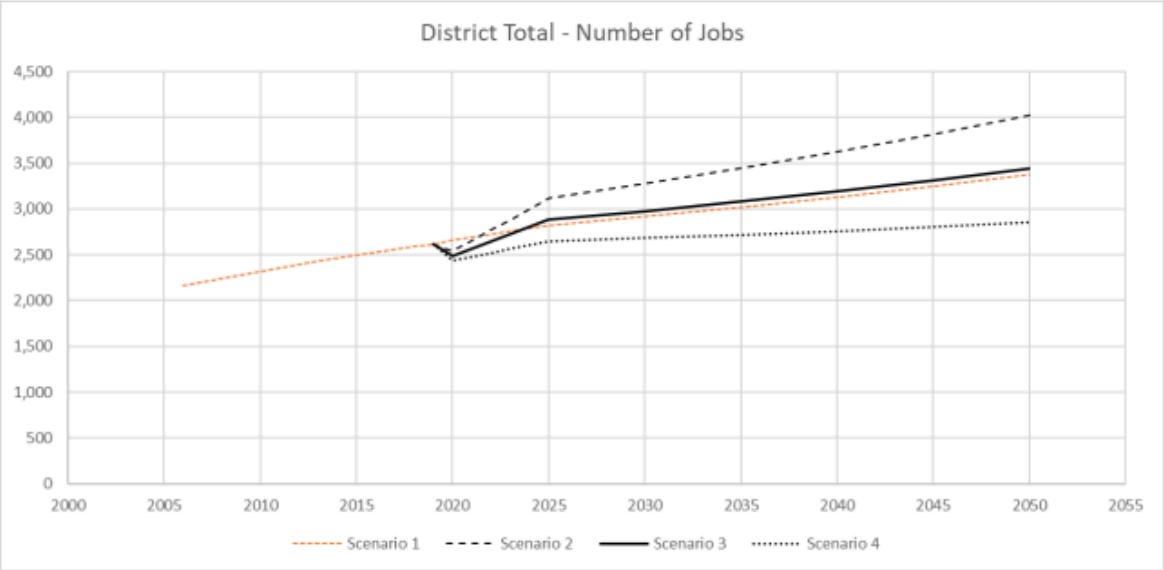
- Younger people leave the area for education and employment opportunities.
- People later in their working lives or early retirement are moving to the area for the lifestyle, affordability and/or retirement.
- Older people (over 70) are moving from the rural areas of the district to Waimate or leaving the area, likely in search of better healthcare or to be closer to family.

Over the next thirty years, the usually resident population of Waimate District is predicted to increase slightly. As a result there will not be any significant increase or decrease in demand for Council services based on change in population.



Employment Projections
It is projected that WDC will experience a short-term reduction in the number of jobs, but it is expected that come 2025 the economy and number of jobs will have normalised and be on the increase once again.

COVID-19 has some impact on employment in the district, but it is expected that those who lose their jobs will not move away. Typically, the most mobile and reactive portion of the population are those in their early working years, who do not have the necessary finances to "stick out" unemployment, or strong ties (family, property ownership etc) to the area. Waimate District has a relatively small proportion of the population in this age group, between 20 and 35. Therefore, modelling has assumed that if residents become unemployed, they will find work elsewhere and commute or remain unemployed in the area.



The average age of Waimate District's population is older than the national average of 37.3 years (StatsNZ). Looking across the district Waimate township has a significantly older average age of 48.6 years in 2020 when compared to the outlying rural areas. This makes sense as people are living and working on farms then moving into Waimate for retirement.

5.4 Response to Projected Growth

The effects of COVID-19 will have a significant impact nationally and to a lesser extent locally as the Waimate districts' primary industries, agriculture and forestry, are less affected than for example tourism.

The usually resident population is predicted to increase slightly and there will not be any significant increase or decrease in demand for Council services based on the growth projections.

5.5 Stormwater Demand Drivers

Population increase may require network extensions or new development which may put pressure on the existing reticulation network and disposal. The following table indicates how these factors are expected to be reflected in changes in domestic and non-domestic stormwater.

Table 5-1: Stormwater Demand Drivers

Stormwater Demand Drivers	Domestic	Commercial	Industrial
Growth	Population change in reticulated areas Change in per dwelling population	Expansion of commercial areas	Expansion of industrial areas
Legislative changes	Legislative change can significantly affect the Council's ability to meet minimum Levels of Service, and may require improvements to infrastructure assets. Changes in environmental standards may affect stormwater disposal options		
Change in customer expectations	Customer expectations are increasingly tending towards higher Levels of Service, both the extent and frequency of stormwater flooding and ponding on property and roads during and after storms, as well as enhanced stormwater quality		
Climatic changes	In recent years, there has been an increase in the incidence of extreme weather events around the world. Although future projections have not been made specifically within the Waimate District, it is likely that there will be even more frequent and intense rainfall over the next 50 years		

5.5.1 Legislative Changes

The legislative framework and government and industry direction is discussed in Sections 4.2 to 4.6.

5.6 Climatic Change

In recent years, there has been an increase in the incidence of extreme weather events around the world. Although future projections have not yet been made specifically within the Waimate District, it is likely that there will be even more frequent and intense rainfall over the next 50 years. This would be expected to increase the frequency with which the stormwater system is overloaded. Climate change is further discussed in Section 6.3.10.

5.7 Demand Management

Demand Management strategies are used as alternatives to the creation of new assets. They are aimed at modifying customer demands to achieve:

- Social, environmental and legislative objectives for Waimate District
- The delivery of cost-effective services
- Defer the need for new assets and optimise the performance/utilisation of the existing assets

The Council is working on a range of strategies to manage stormwater effects and therefore the requirement for additional infrastructure. Table 5-2 lists the strategies carried out by Council:

Table 5-2: Demand Management Strategies

Strategy	Objective/ Description
Stormwater Separation	Removal of stormwater ingress into the wastewater system through upgrading of the stormwater system
Response Time	Prompt response to reports of blockages, flooding or ponding
Replacement/ Rehabilitation Programme	The Renewal Programme to ensure assets are not utilised beyond their useful life when the risk of unidentified failure is greatly increased
Codes of Practice	Enforcement of appropriate Engineering Codes of Practice to ensure all maintenance is carried out to the relevant standard
Technical Standards	Ensuring new assets are constructed to the correct standards and tested appropriately before being commissioned
Standard Materials	The use of standard (high quality) materials
Quality Audits	To ensure all standards are being met
Waimate District Consolidated Bylaw 2018	Chapter 14 Part 4 provides the regulatory framework of permitted and prohibited connections and discharges to the Stormwater network.
Development contributions	To fund new development/growth related capital expenditure
Integrated solutions	Maximising the use and benefits of natural catchment areas, including soakage and storage/attenuation potential
	Exploring opportunities to reduce stormwater runoff through re-vegetation, the use of porous pavements, and soakage
	Exploring opportunities to reduce stormwater runoff through the capture of runoff from roofs for re-use as a non-drinking water source

Non-asset solutions for current and future use by Waimate District Council are outlined in Table 5-3.

Table 5-3: Non Asset Strategies

Strategy	Description
Water Conservation/ Public Education	Encouraging water conservation (within the household) and understanding the issues concerning the wastewater & stormwater systems through public education and advertising campaigns
	Encouraging environmental awareness and the effects of activities such as car washing, where contaminants may enter the stormwater system
	Encouraging the use of pervious paving and other sustainable stormwater practices
Property Inspections	Encouraging property owners to comply with Council's Bylaws and stormwater discharge requirements

6.0 RISK MANAGEMENT

This section looks at the Risk Management Processes utilised by Council for assessing and managing risk within the stormwater services.

6.1 Risk Management Strategy

6.1.1 Overview

Council's utilities Risk Management Strategy is in its formative stage. Council will be progressing down the path of completing, implementing and maintaining Risk Plans (Utility Risk Management Plans) for the principal utility asset systems to minimise the likelihood of non-achievement of critical business objectives.

Risk analysis involves consideration of the sources of risk, their consequences and the likelihood that those consequences may occur. The objective of risk analysis is to separate the low impact risks from the major risks, and to provide data to assist in the evaluation and treatment of the risks.

6.2 Risk Assessments

There are essentially three levels of risk assessment that should be considered for each activity within Council:

- Level 1 - Organisational Risk Assessment
- Level 2 - Activity Management Risk Assessment
- Level 3 - Critical Asset Risk Assessment.

Level 1 - Organisational Risk Assessment

Organisational Risk Assessment focuses on identification and management of significant operational risks that will have an impact beyond the activity itself and will affect the organisation as a whole. This approach allows the Integrated Risk Management framework to address risks at the organisational level, as well as at both the management and operational levels within the particular Council activities. The decision to implement the treatment measures identified will be at an organisational level, not activity level. To date the Council does not have a district wide risk policy. A Council risk policy will be developed that encompasses the above.

Level 2 - Activity Management Risk Assessment

Activity Management Risk Assessment uses the same principal and consequence tables, but the focus has been at more detailed level. During this process, specific risk events were identified which would affect the operational ability or management of the activity as a whole. If an individual system within the activity was identified as being at a greater risk or would need to be managed in a different way to the rest of the systems, then it was highlighted for separate consideration.

A Risk Summary Table was established in 2011 (see Table 6-1 below), which identifies risk management strategies to minimise risks associated with the provision of the Water, wastewater, stormwater and solid wastes services. It is considered that the risks, mitigations and improvements have not markedly changed since the risk summary table was established in 2011. Notwithstanding this, specific risks associated with water quality are documented within the Water Safety Plans for each water scheme.

The risk profile will be extended to encompass assets down to a component level in a Risk Management Plan. In the absence of component level assessments the risk summary table will be used to provide guidance for mitigation steps.

The risk management plan will be designed to ensure that:

- All significant operational and organisational risks are understood and identified
- The highest risks that should be addressed within a 10 year planning horizon are identified
- Risk reduction treatments which best meet business needs are applied

The risks assessed are given a ranking as follows:

Low Risk: Managed by routine procedures

Moderate: Managed responsibility specified and risk controls reviewed annually

Significant: Management attention required to reduce risk

High: Immediate action required to reduce risk

Table 6-1: Risk Summary Table (Showing Significant or High Risks only)

No.	Weakness or Vulnerability	Risk	Gross Risk	Mitigation Strategies	Residual Risk	Improvement Required
1	**Higher Level Policies, Procedures and Controls**					
1.5	The Council does not have an acceptable position on the impact of climate change on service delivery	Financial loss due to liability for property damage, loss of asset. Not able to provide service.	Significant	Council needs policy and relevant action plans including relevant design parameters) on Climate Change.	Low	Strategies to implement Councils future policy on the effects of climate change
2	**Financial**					
2.1	Lack of long-term financial planning	Higher than necessary financial costs	Significant	Existing network models are up to date and available	Low	
2.2	Service levels vs funding and works not clear	Service levels not being met due to lack of funding as decision makers not aware of implications for Service Levels.	Significant	Set performance targets for next 10 years and monitor and report on performance. Impacts of delayed capital works reported to Council.	Low	
2.3	Assumptions for financial forecasting not always understood	Additional costs incurred because assumption/uncertainties not accounted for i.e.: asset valuations, depreciation	Significant	Finance/managers need to be aware of assumptions and uncertainties behind financial forecasting information.	Moderate	Improvement of quality of information
2.4	Unforeseen Additional Costs	Reputation of Council detrimentally affected	Significant	Ensuring AMPs and asset information up to date	Low	
2.8	Insurance cover needs review	Insurance not adequate and unnecessary costs incurred	High	Insurance cover reviewed to ensure adequate cover on annual basis.	Low	
3	**Organisational Management**					
3.3	Lifelines Plan not up to date or implemented	Large scale asset failure due to a naturally occurring event resulting in prolonged and substantial loss of service to District	Significant	Ensure Lifelines Plan up-to-date and recommendations implemented that includes having a high level of risk reduction, readiness, response and recovery during	Significant	Update lifelines plan

No.	Weakness or Vulnerability	Risk	Gross Risk	Mitigation Strategies	Residual Risk	Improvement Required
				and following Civil Defence Emergency.		
4	**Human Resources**					
4.3	Information in people's heads or inappropriate recording of information	Organisational knowledge lost with staff leaving	Significant	Ensure staff document and appropriately file everything that is relevant. Ensure good management succession when existing staff leave.	Moderate	Formalise and update maintenance schedules and procedures, contingency and operation and maintenance manuals.
4.4	Insufficient staff or not appropriately skilled	Programmed work not completed due to insufficient staffing or skill levels, having negative impact on service levels and creating public health risk.	High	Skill levels are appropriate	Low	Formal training programme required that includes the use of activity management plans.
4.5	Inadequate attention to staff succession	Organisational knowledge lost with staff leaving	High	Implement good staff/management succession plan and document procedures	Moderate	Ensure staff are appropriately trained and have a good understanding of the requirement for written procedures and manuals (inc. AMP's)
6	**Asset Management**					
6.1	Network modelling, condition assessments not undertaken.	Capital Works programme not optimised. Renewal works not completed due to lack of knowledge causing failure of assets. Future forecasting not accurate.	Significant	Undertake formal condition assessments of network and develop robust renewals programme based on sound knowledge.	Moderate	Network model informed once condition and performance data becomes available.
6.2	As-built information can be slow or incorrect coming from maintenance staff, Contractors, Consultants	Council faces legal action because of incorrect information provided (particularly with regard to LIMS)	Significant	Ensure As-builts up to-date and on record promptly. Ensure GIS capability	Low	

No.	Weakness or Vulnerability	Risk	Gross Risk	Mitigation Strategies	Residual Risk	Improvement Required
6.3	Criticality assessment not undertaken	Failure of critical assets resulting environmental damage or not meeting service levels	Significant	Undertake criticality assessment of assets and implement strategy for managing critical assets	Low	Incorporate criticality assessment of assets and implement strategy for managing critical assets.
6.5	Asset management systems not up-to-date or completed	Failure to of utility systems because maintenance work not completed or management system not operational.	Significant	Asset Management System in place and updated as required	Low	Continuous improvement required to retain appropriate level of sophistication.
6.8	Capital works delayed due to unforeseen circumstances	Programmed Capital Works not completed. Target Service Levels not met	Significant	Staff held accountable for delays & Staff trained in project management.	Moderate	Develop projects process that provides for project plans to be prepared for every approved renewal and capital development item.
6.9	Deferred renewal and maintenance not recorded or not done	Deferred maintenance not recorded causing unexpected, additional costs from asset failure	High	Record all deferred maintenance and renewals	Significant	Ensure all deferred renewals work recorded and management aware of impact on service levels if not funded.
6.10	Not all easements recorded or obtained	Council faces legal action or cannot carry out its activities because it does not have legal right to cross a property	Significant	Keep up-to-date record of easements. Establish clear policy for processes to be followed when easements are required.	Significant	Easement information needs to be improved with all identified easements provided with details of interested part. Legal situation to be clarified.
6.11	Insufficient documentation of escalating process decision making	Response to emergency situations reduced, higher expenditure	Significant	Employment of staff with the appropriate qualifications and skills	Low	
10	**Asset Risks - Stormwater**					
10.5	Insufficient overland flow paths	Flooding of houses and properties	Significant	Modelling of system will ascertain flow path requirements	Moderate	
10.6	Overland Flow Paths located on private property - no maintenance (overgrown/built upon)	Flooding of houses and properties	Significant	Council staff have good maintenance and monitoring provisions	Moderate	

No.	Weakness or Vulnerability	Risk	Gross Risk	Mitigation Strategies	Residual Risk	Improvement Required
10.7	Overland Flow Paths Located on Councils property or roads - no maintenance (overgrown etc.)	Flooding of houses and properties	Significant	Council staff have good maintenance and monitoring provisions	Moderate	
11	**Asset Risks - Wastewater**					
11.1	SCADA Failure	No alarm available	Significant	Back-up systems and procedures	Moderate	

Level 3 - Critical Asset Risk Assessment

Critical assets are those assets where failure would result in a major disruption to levels of service. Usually the identification of critical assets is based on pipe diameter or population served.

The criticality of an asset reflects the consequence of the asset failing (not the probability). High Criticality assets are best defined as assets which have a high consequence of failure (not necessarily a high probability of failure).

A criticality assessment has been carried out in 2017. See Section 3.10.

6.3 Risk Management with Council

6.3.1 Business Continuity

Business Continuity is a progression of disaster recovery, aimed at allowing an organisation to continue functioning after (and ideally, during) a disaster, rather than simply being able to recover after a disaster.

It is proposed to develop Business Continuity and Emergency Management Plan (for rapid and structured response to emergency failures and significant hazards) and ensure review control process is carried out.

6.3.2 Succession Planning

Succession planning within any business is considered necessary to reduce the risk associated with staff leaving the organisation and forms part of the business continuity process. Succession planning allows institutional knowledge to be passed on, and assists in ensuring continuity of organisational culture. To this end, the Stormwater AMP is quite detailed to ensure all relevant documents and information required for appropriate decision making are recorded and knowledge transfer can occur even in the absence of key staff.

6.3.3 Health and Safety

Council is responsible for providing a safe work environment for its staff and public. A Health and Safety committee meets regularly, and provides information to all council staff on their obligations in this matter. The Councils Utilities staff, by the nature of their work are exposed to risks outside the office environment that are associated with the utilities services (reticulation and facilities). Council provides training in general and specific safety areas as required, examples for the utilities services are:

- Confined space requirements for supervisors and engineering staff that are associated with reticulation
- Traffic control at work sites via the code of practice
- Facilities Health and safety register and associated sign in/out procedures

6.3.4 Pandemic Response – COVID 19

The 2019–20 coronavirus pandemic is ongoing at the time of writing of this Plan. The timeline of events are as follows:

Table 6-2: COVID 19 Chain of events

Date	Event	NZ Government Response	Waimate DC Response
11/02/2020	World Health Organisation declares an official pandemic		
28/02/2020	NZ first reported case		
21/03/2020		Alert Levels (1-4) announced	
23/03/2020			Temporary closure of Council facilities
24/03/2020		Move to Alert Level 3	
25/03/2020		State of Emergency declared	Refuse services continue. Recycling services cease
26/03/2020		Move to Alert Level 4	
27/03/2020			Notice f Essential Services
24/04/2020			Notice of Building Control Services under Alert Level 3
27/04/2020		Move to Alert Level 3	
30/04/2020			Emergency budget response
13/05/2020		State of Emergency lifted	
14/05/2020		Move to Alert Level 2	
10/06/2020		Move to Alert Level 1	

The impacts will be wide ranging and likely include a significant and protracted recession. This presents an opportunity for Council to collaborate with Central Government to invest and progress infrastructure projects giving the economy the injection it will desperately need.

As an initial response Central Government decided to fast track eligible development and infrastructure through amendments to the Resource Management Act. This will aid in getting much-needed infrastructure programmes underway as soon as possible.

Further response includes the establishment of the Infrastructure Industry Reference Group (IIRG) to seek out infrastructure projects that are ready to start as soon as the construction industry returns to normal to reduce the economic impact of the COVID-19 pandemic. These 'shovel ready' projects include water, transport, clean energy and buildings. They would also have a public or regional benefit, create jobs and be able to get underway in short order.

There is a preference for larger projects with a value of over $10 million, which would have an immediate stimulatory effect on the construction industry, its workforce and the economy.
Smaller projects will be considered if they demonstrate a direct and immediate benefit to the regional economies and communities in which they are based.

Council has applied for Government funding for 2 shovel-ready projects, with a combined value of more than $11.4 million.

The Covid 19 pandemic created a very dynamic environment where circumstances can change on a daily basis. At the time of writing this Plan the assumption is that the Waimate district will be able to weather the storm as the districts' primary industries, agriculture and forestry, are less affected than for example tourism. The Department of Internal Affairs 'Local Government Sector COVID-19 Financial Implications Report 2 – Alert Level Scenarios, Assumptions and Updated Analysis' report projects "The agriculture sector is expected to perform relatively well in the short- and long-term".

Council will first attempt to reduce spending in ways that do not require reductions to service levels. Higher levels of reduction in spending would be more likely to require deferral of larger capital projects which may impact on Council's ability to comply with legislation and environmental standards in the 3Waters area.

Council could defer the replacement of assets for a period and potentially reduce the priority of capital expenditure so they can sustain service levels. The deferral of asset replacement may increase infrastructure resilience risks and increase long term costs.

The response to COVID 19 provided a snapshot of how quickly our environment can change and how quickly we can adapt. People working from home. The uptake of technology. Change in transportation patterns. Online sales and deliveries. Outdoor activities. Socio economic impacts and response.

6.3.5 Operation & Maintenance

In the daily operation and maintenance of the water supply system Council employ a range of risk management procedures including but not limited to:

- Prevention of contamination of treated water
    - Minimum requirements for disinfection of existing water mains and fittings during planned and reactive maintenance
    - Separate work crews for water and wastewater/stormwater by using a dedicated sewer service vehicle and tools
    - Best appropriate practices for staff including contractors and materials
    - Illegal connections
    - Appropriate use of backflow preventers
- Critical consumers
- Shutdowns
- Health and Safety
- Asbestos handling
- Traffic control and management
- Overflows and Clean up

Council also have the following agreements in place with local contractors in relation to Civil Defence Emergency expectations:

- Provide plant and personnel on site to enable the emergency work to be undertaken
- Advise the Engineer immediately if unable to either commission sufficient resources or undertake the emergency work
- Co-operate with the appropriate authorities i.e. Police, Civil Defence
- Carry out emergency work immediately if such work is essential to ensure the health and safety of the community or to protect the environment
- Prioritise emergency work to reduce the risk to the community and environment to acceptable levels
- Advise the Engineer immediately of any situation where the emergency is likely to continue and affect the health and safety of the community and the environment

Government Review of 3Waters Services

During 2017 the Minister for Local Government initiated a review of 3Waters services to assess whether current local government practices and the system oversight are 'fit for purpose'. This acknowledge that effective 3 Waters services are essential for communities as:

- Health and safety - depends on safe drinking water, safe disposal of waste water and effective stormwater drainage
- Prosperity - depends on adequate supply of cost effective three waters services for housing, businesses and community services
- Environment - depends on well managed extraction of drinking water, and careful disposal of waste water and stormwater

A series of events indicated there are system-wide performance challenges and supported the perception that service failure is the only indicator that service delivery is not in accordance with the expected outcomes.

On 8 July 2020 the Government announced a funding package of $761m to provide immediate post COVID 19 stimulus to local authorities to maintain and improve 3Waters infrastructure, support reform of local government water services delivery arrangements, and support the operation of Taumata Arowai.

On 27 July 2020, the Water Services Bill was introduced to Parliament. The Bill contains all of the details of the new drinking water regulatory system, and provisions relating to source water protection and Taumata Arowai's wastewater and stormwater functions.

A second, complementary Bill, the Taumata Arowai – Water Services Regulator Bill, sets out Taumata Arowai's objectives, general functions, and operating principles, and establishes Taumata Arowai as a Crown agent.

Te Mana o te Wai

Te Mana o te Wai is a concept that refers to the fundamental importance of water and recognises that protecting the health of freshwater protects the health and well-being of the wider environment. Te Mana o te Wai is relevant to all freshwater management and not just to the specific aspects of freshwater management referred to in this National Policy Statement.

It provides for the three healths of Te Mana o te Wai –

- Te Hauora o te Wai (the health and well-being of the water),
- Te Hauora o te Tangata (the health and well-being of people), and
- Te Hauora o te Taiao (the health and well-being of the environment)

Te Mana o Te Wai is given effect through the National Policy Statement for Freshwater Management. Refer to Section **Error! Reference source not found.**.

During September 2019 the Ministry for the Environment (MfE) released the discussion document 'Action for Healthy Waterways' which highlighted the Government's objectives to:

- Stop further degradation of New Zealand freshwater resources
- Reverse past damage
- Address water allocation issues

This strengthens and upholds Te Mana o te Wai – the health and well-being of the water and signalled the direction for urban development, rural land and water management.

Add to this the regulatory changes requiring a multi-barrier approach to drinking water safety, including mandatory disinfection of water supplies, stronger obligations on water suppliers and

local authorities to manage risks to sources of drinking water; and strengthened compliance, monitoring and enforcement of drinking water regulation

6.3.6 Insurance

Background

Council has insurance cover for the Wastewater, Water, Stormwater and Solid Waste Services are detailed in below. The insurance cover is updated on a regular basis following valuations to ensure the insurance cover is appropriate for its purpose. Insurance is provided through a mix of material damage policies and through the Local Authoirity Protection Programme (LAPP).

The Christchurch earthquakes of September 2010 through to June 2011 have had a significant detrimental effect on all council's ability to obtain insurance for all their assets.

Public Liability and Professional Indemnity

Third party cover for public liability and professional indemnity protection is provided by Risk Pool. Risk Pool is a mutual fund created by New Zealand Local Authorities to provide long term, affordable legal and professional liability protection. Membership of Risk Pool is open to all local authorities. Contributions are levied according to each member's actual risk profile, claims experience and management of risk. The Fund is protected by reinsurance to protect its retained liability on a per claim and / or annual aggregate basis.

Other Insurance

Council's other insurance providers are:

- 'Above ground' insurance policies (Material Damage, Business Interruption, Motor Vehicle, Fidelity Guarantee, Personal Accident, Statutory Liability, Employers Liability, Employment Disputes and Airport Owners / Operators Liability, Standing Timber): Insured across a range of providers, primarily Vero and QBE, with specific insurances provided by Lumley, Ace and Primacy.
- Vero are owned by Suncorp Group, one of the largest financial and insurance operations in Australasia. Vero has a long history in New Zealand providing specialist insurance and risk management.
- QBE Insurance has been operating in New Zealand since 1890, the QBE insurance group is one of the world's top 20 general insurance and reinsurance companies..
- Lumley is a business division of IAG, Australia and New Zealand's largest general insurer. Lumley provide Council's motor vehicle insurance.
- Primacy, owned by Allianz, are a specialist crop and forestry insurer and Australia's largest provider in this field and provide Council's Standing Timber insurance.
- The insurance also provides some non-specified cover; e.g.
    - up to $2,000,000 for property in the course of construction
    - up to $250,000 for capital additions (property acquired)
    - up to $250,000 buildings non-specified
    - up to $250,000 contents (any one site) unless specified
- *'Below ground' infrastructure:* Local Authority Protection Programme (LAPP). A mutual pool created by local authorities to cater for the replacement of infrastructure following catastrophic damage by natural disaster (Civic Financial Services is the administration manager of the Fund); LAPP provides cover for 40% of relevant assets (with central government liable for the remaining 60%).

- *Personal accident cover (staff insurance)*: Ace Insurance for which cover is 24/7 worldwide with different levels of cover for 'management' and 'all other staff'.
- *Land:* is not insured.

6.3.7 Emergency Management

Background

Waimate district is subject to a wide range of natural hazards. Several significant natural events have been recorded which have caused damage to property and the environment with no one hazard being the "standard" event. The district has suffered five main events over the last 45 years:

Snow storms: in 1967, 1992 and 2006 blanketed a large part of the district cutting road access causing power outages and stock deaths.

High Winds: in 1975 and 2014 damaged trees blocking roads and bringing down power wires.

Floods: in 1981 and more recently have badly eroded land adjacent rivers damaging bridges and roads.

Rural fire: In 2011 rural fire caused disruption to power in Waimate and the surrounding rural margins.

Council has subsequently modified pumps stations to enable operation using standby generators. Critical pipeline crossings over bridges have been strengthened or alternative pipe routes have been provided.

The impact of the Christchurch earthquake has served to further highlight the importance of adequate emergency planning.

Civil Defence and Emergency Response Plans

The Civil Defence Emergency Management (CDEM) Act 2002 requires Local Authorities to coordinate Plans, Programmes and Activities related to CDEM across the areas of Risk Reduction, Readiness, Response and Recovery. It also encourages cooperation and joint action within regional groups. Management systems for civil defence emergencies are detailed in the Council CDEM plan. The Waimate District Council Civil Defence Plan will be completed when the Canterbury Civil Defence Group Plan is finalised.

A Lifelines Response Plan has been prepared for key Council utility services. The Plan considers natural hazard events including earthquake, flooding, meteorological (snow/wind) and mass movement (land slip), and also takes account of fire and civil disruption events. The principle objectives of the Plan are to:

- Possess a management tool that identifies natural hazards for the individual utilities
- Identify the consequences of the natural hazards
- Identify immediate remedial actions
- Define restoration levels, priorities and issues
- Identify long term risk management issues
- Ensure that Emergency Management knowledge is retained within Council.

The Lifelines Response Plan details the hazards, possible cascading effects and the interventions that may be applicable. It does not consider the effect on any individual community as these will change with the extent of the hazard i.e. the depth and extent of snow and the extent and makeup of that utility i.e. if the water supply has a standby generator.

Disaster Resilience Summary Report

In 2006 the the Disaster Resilience Summary (DRS) report was commissioned. The DRS is designed to: -

- Create an understanding of the Utilities Lifeline services and operation
- Provide a clear summary of facts to assist CDEM undertake their role
- Provide each Utility with a simple method for providing only information that is required by the CDEM Groups
- Increase CDEM Group knowledge of each Utility's organisation and operations in order to significantly increase the efficiency of future CDEM/Utility contact

The hazards identified that might affect the networks were:
Snow, earthquake, floods (after most floods there is a re-think of how the planning and network is managed), river change/management, rain, wind (trees falling across roads), electricity failure, networks weakness, tsunami, telecommunications and Pandemic planning.

Items requiring further works in progress include:

- hazardous substance spill,
- fire,
- dam failure,
- drought/climate change,
- fuel supply failure,
- Tsunami.

6.3.8 Infrastructure Resilience

Recent high profile natural disasters have raised public awareness, but there is still a significant need to increase actual preparedness – both in general (e.g. household plans and emergency supplies) and for specific circumstances (e.g. tsunami preparedness in coastal communities).
However, resilience is not only applicable to natural hazards, but also needs consideration at an operational level where an asset failure is not necessarily a service failure.
Redundancy (duplication) does not provide Resilience. Resilience requires early detection and recovery, but not necessarily through re-establishing the failed system. Resilience is about the ability to plan and prepare for adverse events, the ability to absorb the impact and recover quickly, and the ability as a community to adapt to a new environment.
Council acknowledge that resilience is not only about physical assets. It is about the people. It includes but are not limited to:

- connecting people and communities (neighbour to neighbour; educate; access to household resilience items, etc.);
- supporting community organisations
- the built environment and asset systems which are robust

Adverse events/natural disasters/climate change and the related impacts cannot be avoided and as a result Council have to factor this into long term planning, civil defence planning and determining the infrastructure requirements moving forward to ensure the community's expectations are met with regard to safe and reliable services and general wellbeing.
In order to improve resilience Council approach will be to:

- Actively participate in CDEM planning and activities, at both regional and local levels
- Investigate options for alternative service provision and system redundancy
- Promote design and construction standards (where cost effective) that ensure infrastructure is able to withstand natural hazards and long term changes in circumstances such as those resulting from climate change

- Identify critical assets and ensure mitigation methods are developed
- Obtain insurance where this is deemed to be the most cost effective approach
- Invest in business continuity succession planning and training

Council will take guidance from 100Resilient Cities website http://www.100resilientcities.org/. This includes the strategies of Greater Christchurch and Wellington.

6.3.9 Project AF8

Project AF8 is a cutting edge risk scenario-based earthquake response planning project, informed by thorough earthquake source, expression, and consequences science. The focus of the project is New Zealand's South Island Alpine Fault. Project AF8 commenced in July 2016, with funding from the Ministry of Civil Defence & Emergency Management's Resilience Fund, and is managed by Emergency Management Southland on behalf of all South Island CDEM Groups.

Project AF8 has been initiated to introduce outline planning for response actions, resources, and overall coordination within and between CDEM Groups across the South Island.

The South Island Alpine Fault Earthquake Response (SAFER) Framework provides a concept of coordination of response and priority setting across all six South Island Civil Defence Emergency Management (CDEM) Groups and their partner organisations in the first seven days of response. It is not intended to replace existing plans within agencies but to provide a coordinated picture of response across the South Island.

The SAFER framework includes:

- Scenarios
- Response assumptions
- Secondary and compounding risks such as:
  - Aftershocks
  - Ongoing structural failure
  - Cascading landscape effects
  - Tsunami
  - Severe weather
  - Communicable human diseases
  - Impacts on response operations
- Consolidated response framework

Council will keep a keen eye on the response actions and resources from the AF8 project and work with CDEM Groups.

6.3.10 Climate Change

It is now generally accepted worldwide that human activities have accelerated climate change, and that further future climate change is unavoidable. The effects of climate change include both effects on our climate (such as temperature increases or flooding), and a wide range of secondary effects (such as damage to strategic infrastructure). The following details climate change projections for the Canterbury region.

The National Climate Change Risk Assessment (MfE August 2020) identifies 43 priority risks across five value domains (natural environment, human, economy, built environment and governance)

and highlights 10 risks considered to be the most significant. This MfE report highlights, among others, the following two domains (particularly applicable to Council infrastructure) as extreme risks:

Domain	Risk	Consequence
Economy	Risks to governments from economic costs associated with lost productivity, disaster relief expenditure and unfunded contingent liabilities due to extreme events and ongoing, gradual changes.	Extreme
Built environment	Risk to potable water supplies (availability and quality) due to changes in rainfall, temperature, drought, extreme weather events and ongoing sea-level rise.	Extreme
	Risks to buildings due to extreme weather events, drought, increased fire weather and ongoing sea-level rise.	

Waimate District is expected to experience two of the main impacts of climate change – sea level rise and more extreme weather patterns.

Sea level rise is considered the lesser of the influences as much of our coastline is elevated above MSL. Modelling of associated inundation, as a result of tsunami, is known to affect very few council controlled assets.

What is understood is that climate change associated risks will increase in time.

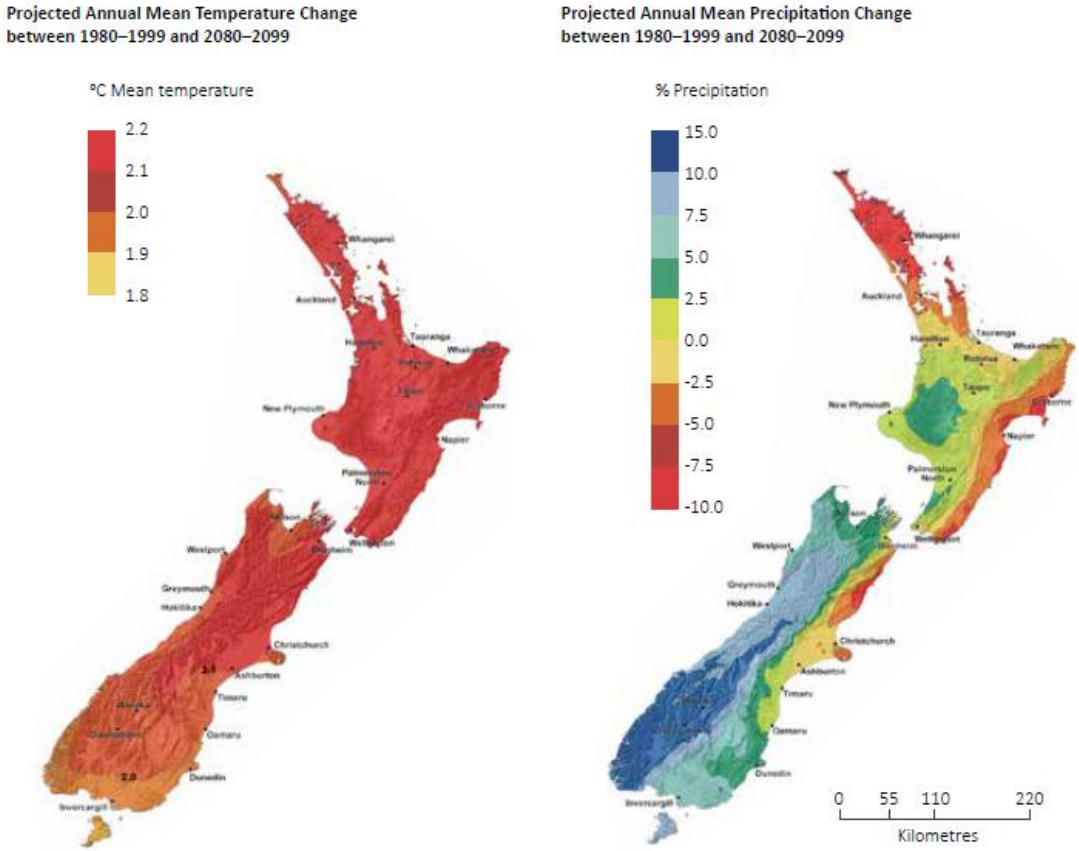
Waimate mayor Craig Rowley said climate change was a priority.

"As far as doing the work on something, we always take it into account looking at the of risk of climate change."

Rowley said it was a hectic time of the year with budgeting and planning, but climate change was something we certainly do recognise" (Timaru Herald 13/9/2017)

Council recognised the roles of Local Government, NZ, the Ministry of Primary Industries, and the Ministry for the Environment and the Royal; Society of NZ in researching and guiding a pragmatic response.

Figure 7: Average changes in annual mean temperature (left, degrees Celsius) and precipitation (right, percent) during 2080–2099 compared to 1980–1999, for a climate change scenario midway between low- and high-carbon futures.



Source: Climate change: implications for New Zealand (Royal Society of New Zealand, April 2016)

The local government position statement on climate change (2017) states

Climate change actions have three components:

1. actions to reduce emissions (mitigation);

2. planning and actions at the national and local level to support public safety and effective adaptation; and

3. limiting or removing pressure on systems affected by climate change.

All local authorities (city, regional, district and unitary) are at the frontline of climate change adaptation and have a role to play in mitigation.

The role of Council is key in delivering the outcomes sought by the community. Key drivers to support and manage the challenges are the National Climate Risk Assessment for New Zealand (Ministry for the Environment, 2020) and the Climate Change Projections for the Canterbury Region (NIWA, 2020).

Projections for Canterbury

Climate Change Projections for the Canterbury Region have considered the following scenarios, which take into account either cutting greenhouse gas emissions over time from 2019 levels – or not curbing emissions during the life of this Infrastructure Strategy.

Average Temperatures

- Increase with time and greenhouse gas concentrations.
- By 2040, annual mean temperature up 0.5 to 1.5°C.
- By 2090, up 0.5 to 2°C (if we cut emissions) or up 1.5 to 3.5°C (if we don't).

Maximum Daytime Temperatures

- By 2040, annual mean maximum temperature up 0.5 to 2°C.
- By 2090, up 1 to 3°C (if we cut emissions) and up 2 to 5°C (if we don't).
- By 2090, western Canterbury's alpine and sub-alpine areas could be 5 to 6°C warmer in spring and summer (if we don't).

Maximum Night-time Temperatures

- By 2040, annual mean minimum temperature up zero to 1°C.
- By 2090, up 0.5 to 1.5°C (if we cut emissions) and up 1 to 2.5°C (if we don't).
- The difference between a day's high and low increases with time and greenhouse gas concentrations.

Hot Days (25°C or more)

- By 2090, expect 20 to 60 more hot days in most of Canterbury (if we don't cut emissions).
- Inland areas feel it the most, particularly the southern Mackenzie Basin, which could have 60 to 85 more hot days.
- Most of these hot days would happen in summer.
- Our warmer season could get longer in relatively low-elevation areas, with 5 to 10 more hot days in autumn and spring.
- Increased fire risks.

Cold Days (Frosts)

- Expect fewer frost days throughout the region.
- Inland areas and higher elevations warm the most, with 10 to 30 fewer annual frost days by 2040, and 20 to 50 fewer by 2090.
- The frost season (the time between a year's first and last frost) will likely get shorter.

Rainfall

There is likely to be increased rainfall depth and intensity associated with climate change. In addition, the heat that comes from the condensation of this increased moisture will make storms more intense. These extreme events may exacerbate flooding risks for Waimate District.

- Most of the region can expect small changes in annual rainfall, up or down 5%.
- By 2040, autumn might be dryer in the Mackenzie Basin, with up to 10% less rain.
- By 2090, winters could be wetter in many eastern, western and southern parts of the region, with 15 to 40% more rain.
- By 2090, Banks Peninsula and many inland areas might get 5 to 15% less rain (if we don't cut emissions).

Snow

- Expect fewer snow days everywhere, especially in the mountains.

Drought

The modelling indicates that by the 2080s, there will be a significant increase in the average water deficit across Canterbury, with increases of between 2 weeks and over 6 weeks of pasture deficit as an average climate condition. By the 2030s, current drought events that are so severe that they only occur in 1 out of 20 years are projected to occur more frequently. Increased fire risks.

Windspeed

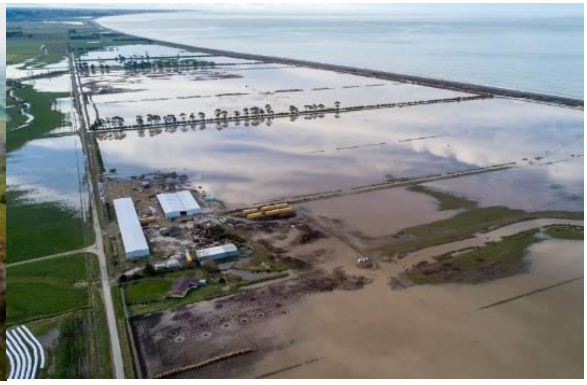
- Annual mean wind speeds up slightly, by nil to 5%.
- By 2090, winter and spring could be windier (up 5 to15%, if we don't cut emissions).
- That seasonal change might be more keenly felt in inland areas north and west of Rangiora (up 15 to 25%).
- Increased fire risks.

Sea Level Rise

Climate Change Projections for the Canterbury Region have identified worsening impacts over time at a regional and national level:

- Sea level rise projections for Canterbury are the same as for New Zealand.
- Up by 0.4m in the next 50 years and up 0.6 to 0.7m in 100 years (if we cut emissions).
- Up 0.5m in 50 years and up 1.2 metres in 100 years (if we don't).
- High tides get higher. At 0.65 metres of sea level rise, every high tide is above the spring tide mark (compared to 10% now).

Source: www.wetlandtrust.org.nz



Source: Stuff 24 July 2017

Climate Change Effects

The major effects that may impact on the Council's Infrastructure activities are set out below, along with potential mitigation options and an analysis of when the effects may occur. It should be noted that further work is required to understand how these effects will impact the Waimate District, but the collection and monitoring of data will be used to inform a more robust climate change response.

Dust from Unsealed Roads: Hotter temperatures and associated drought conditions could have detrimental effects in terms of increased dust from unsealed roads. This may mean that in future areas of unsealed roads need to be sealed, particularly close to residential properties. Council currently allows for $50k to part fund "dust seals" via policy. Road classifications and traffic volumes on our low use roads dictate the overall level of service. Individuals are able, with part funding by Council, to increase the level of service adjacent to their property to mitigate adverse effects associated with dust.

Council will continually monitor demand for this service and provide increased funding as required.

Hotter temperatures potentially have an impact on the timing of both grading and metalling activities which will need to be monitored over time.

In the shorter term this approach is considered appropriate but as the effects of drought conditions become more prevalent, Council may need to consider a revision of the level of service relating to unsealed rural roads which, in turn, will adversely affect funding requirements (increased).

- Likelihood - Possible (25 – 50%)
- Location - District Wide
- Timeframe - 2030 onwards
- Mitigation - Monitor

Changes in Demand: An overall decrease in the mean rainfall for the district could impact on land use and in turn change demand on certain areas of the Council's infrastructure networks. More intense rainfall events have the ability to damage crops and this may manifest in changing farming practices. These changes in farming practices could result in changing traffic volumes for particular areas, changes in demand from our water networks, and requirements for higher levels of service to mitigate the risks associated with nuisance flooding, to name the major impacts.

Council will need to monitor and understand these requirements to inform future work programmes. This is achieved through regular traffic counts, up-to-date hydraulic modelling of our water schemes and optimised renewal of drainage assets.

Council is mindful that changes in demand with manifest as changes to LoS, geographic demand and overall demand. In order to cater for this, underlying data is important to plan appropriate renewals in the future.

Council is also installing water metering within the urban water network as a means to manage demand, manage water losses and to increase the availability of potable water.

- Likelihood - Likely (50 – 70%)
- Location - District Wide
- Timeframe - 2030 onwards
- Mitigation - Monitor

Drainage Capacity: Extreme rainfall events in a generally dry region may cause surface flooding affects due to poor capacity of drainage assets. The cost of upgrading drainage assets for these extreme events is likely to be prohibitive for Council. Whilst, as a district, council is unable to build infrastructure to deal with these extreme flows and volumes, it is able to define the levels of service (20% and 2% annual exceedance probability) and therefore the level of protection that ratepayers and users can expect.

Mitigation of events outside of these parameters are dealt with through the protection and definition of overland flow paths, defined areas for detention and improved stormwater management practices. These practices (in an urban sense) are defined in Waimate District Councils draft Stormwater Management Plan which is an underpinning document for the global consent that is currently being sought through Environment Canterbury Regional Council. For example, Council defines on-site management of stormwater as the preferred solution up to a 1 in 50 year event. The defined 1 in 50 year design event takes in to account climate change factors defined by NIWA.

Extreme rainfall events have a detrimental impact on councils wastewater network where inflow of stormwater presents several challenges in terms of conveyance capacity and surcharging of manholes. In 2021, council is undertaking an inflow investigation to identify which areas are affected and formulating appropriate responses to mitigate the effects. Left unchecked, climate change impacts would adversely affect this activity. When addressed, this will lead to increased levels of service, allow for future growth by increasing available capacity and reduced compliance risks.

- Likelihood - Almost certain (70 – 99%)
- Location - District Wide
- Timeframe - 2021 onwards
- Mitigation - Design, planning, and policy

Increased Flood Damage Repair Work: Extreme rainfall events in a generally dry region may cause surface flooding affects and in turn increase requirements for flood damage repair works. Consideration will need to be given to design and location aspects for Council's assets to reduce the risk of damage or loss of service due to extreme weather events. There is no provision (currently) to fund these repairs and they are typically funded via existing budgets and often with co-funding from Waka Kotahi.

Council is continually monitoring the financial effects associated with flood events (and the diversion of existing budgets) and has considered (in the past) developing a "flood event" fund. This monitoring will continue with intervention likely if existing programmed work begins to be adversely affected. Potentially this issue will need to be consulted on as increased costs will result in increased rate requirement. Resultantly the community will receive a higher level of service than currently experienced.

Furthermore, storm events can impact on raw water quality from streams and bores used for water supply. This presents challenges associated with the provision of potable water in terms of reliability, treatability and therefore compliance with the Drinking Water Standards for New Zealand

- Likelihood - Almost certain (70 – 99%)
- Location - District Wide
- Timeframe - 2021 onwards
- Mitigation - Monitor and adapt funding if required

Water availability for Construction: Increasing demand for water is currently an important issue for Canterbury. This increased demand is likely to become increasingly critical in a future characterised by drier average conditions, and an associated increase in both drought frequency and intensity. This may mean, as an example, that it will be more difficult to obtain the required water to complete construction works.

Updating of hydraulic models for the council water supplies allows for optimised future renewals that address the location of demand within the schemes (up or down). They also allow Council to plan for growth and increased demand as a result of changes to legislation e.g. the Water Services Bill and its potential impact on water suppliers outside of the current reform programme.

- Likelihood - Almost certain (70 – 99%)
- Location - District Wide
- Timeframe - 2025 onwards
- Mitigation - Monitor and adapt future programmes as required (LoS, additional demand, changing demand)

6.4 Significant Negative Effects

Table 6 – 4 below identifies the negative effects for the Waimate Community that the Stormwater Activity may have on the social, economic, environmental or cultural well-being of the community. It indicates how the existing approach or proposed action to address these in the future. There are no significant negative effects shown to occur for the Council's stormwater Service.

Table 6-3: Negative Effects – Stormwater Activity

Effect	Status of Effect		Impact on Well-Being (existing situation)				Existing Approach or Proposed Action to Address
	Existing	Potential	Social	Economic	Environmental	Cultural	
Drains							
Sedimentation and vegetation build up	⇔	⇔	Minor	Minor	Minor	Nil	Removal by mechanical/spraying means.
Use of chemical sprays	⇔	⇔	Mod	Nil	Minor	Minor	Compliance with Ecan & MfE requirements
General							

Effect	Status of Effect		Impact on Well-Being (existing situation)				Existing Approach or Proposed Action to Address
	Existing	Potential	Social	Economic	Environmental	Cultural	
Customer demand and expectations	⇧	⇧	Mod	Minor	Minor	Minor	Emphasis social responsibility (sustainable resource). Consent compliance.
Environmental							
If flooding were to occur on a regular basis this may affect the ability of industries to obtain or retain on-going insurance	⇔	⇔	Minor	Minor	Minor	Nil	Modelling of catchments to identify reticulation (drains and pipes) that are at capacity and may constrain future development.
Discharge of contaminated stormwater into waterways and lakes without treatment	⇔	⇩	Minor	Nil	Minor	Minor	Comply with Ecan consent conditions Environmental monitoring programme. Long term reduction in through the use of onsite storage and disposal.
Industrial businesses are prone to discharging pollutants to the environment	⇔	⇩	Minor	Minor	Minor	Minor	District Plan has controls for stormwater treatment and discharge when industrial development is being considered by ensuring of pre-treatment where necessary. The development and use of Councils Stormwater Management Plans will assist in insuring the discharge of pollutants will reduce in the future.
If increased development and population growth occurs, stormwater may contain more pollutants	⇔	⇩	Minor	Minor	Minor	Minor	District Plan has sufficient controls for stormwater treatment and discharge when growth within the community is being considered. The development and implementation of Councils Stormwater Management Plans will assist in ensuring the discharge of pollutants will reduce in the future.

⇧ Increasing ⇔ Remaining the same ⇩ Decreasing

6.5 Capital Programme Delivery

Council has an ambitious capital programme driven by a number of factors:

- Continuation of the active renewal programmes;
- Capital works required to meet the current Drinking Water Standards for New Zealand (DWSNZ)under the existing legislative framework;
- Future capital works associated with compliance through the proposed Water Services Act; and
- Capital works associated with the Department of Internal Affairs stimulus funding.

Particular pressure is exerted in year one of the 2021-31 Long Term Plan (Figures 8.1 – 8.4). In order to mitigate risks associated with programme delivery, Council has implemented a number of tactical responses:

i. A Project Manager and support staff (1.5 FTE) have been engaged to ensure that proposed stimulus funded projects (total $3.68M) are completed by 31 March 2022.
ii. The Project Manager is also assisting with timely delivery of proposed LTP projects through procurement assistance.
iii. All capital works have been programmed for 2020/21 and 2021/22 and local contractors have been made aware of the timing. Where possible the programme has been modified to ensure successful and cost effective procurement can be realised.
iv. Council is aware that, given the effects of Covid 19, that material supply was likely to be impacted. Resultantly, Council addressed this issue by sourcing materials early and maintaining stock levels that can be drawn down on when projects commence. Sourcing materials early has also mitigated, to some extent, elevated pricing as raw materials become more scarce.
v. Procurement is now completed through the Government Electronic Tenders System (GETS). This affords the ability to notify the wider contracting / consulting market of upcoming projects and will undoubtedly maximise submissions received once projects are tendered.
vi. Nearly $2.5M of projects budgeted for 2021/22 are likely to be tendered by 30 June 2021, or very early in the 2021/22 financial year. This maximises available construction time to achieve completion of the proposed capital programme.

The Waimate district is fortunate to have significant contracting resource located within the boundaries and at varying scale. In fact, one of the largest contractors in the South Island has its head office located within the Waimate town. Further afield, council is able to draw on further resource located to the North in Timaru and to the South in Oamaru.
As with any capital programme risks will always remain, even if mitigation has been employed. Known risks include:

- Dependent projects – Some proposed capital works are dependent on either technical investigations or other capital works. Delays in the latter could impact deliverability.
- Material Sourcing – Whilst proactive in sourcing materials, the risk associated with slow supply chains remain. There is also a risk associated with elevated pricing that could modify the scope of some projects.
- Compliance risks – A number of water supply compliance projects have been budgeted (2020/21 and 2021/22) to meet compliance requirements as defined in the current DWSNZ. Council is aware that enactment of the Water Services Act is highly likely to offer alternative means of treatment for some of these water schemes and anticipates, under this scenario, that the redefined capital works projects are likely to be more cost effective in the longer term. Timing associated with the “new standards” is restrictive in terms of construction. However, council is confident that these changes will occur and has selected to begin construction of the common requirements (pre and post Water Services Act) as Stage 1 to mitigate the potential loss of time.
- Delay in increased levels of service associated with the upgrade of individual water schemes for compliance with the DWSNZ. Whilst it is unlikely that the level of service will reduce, the current LoS will be extended until upgrades are commissioned.

7.0 LIFECYCLE MANAGEMENT PLAN

This section applies the risk polices described in Section 6 to develop the broad strategies and specific work programmes required to achieve the goals and standards outlined in Sections 3 and Section 4. It presents the lifecycle management plan for the stormwater assets, and includes:

- A description of the trends and issues
- Detailed management, operations, maintenance, renewal and development strategies
- Work programmes and associated financial forecasts
- Improvement activities

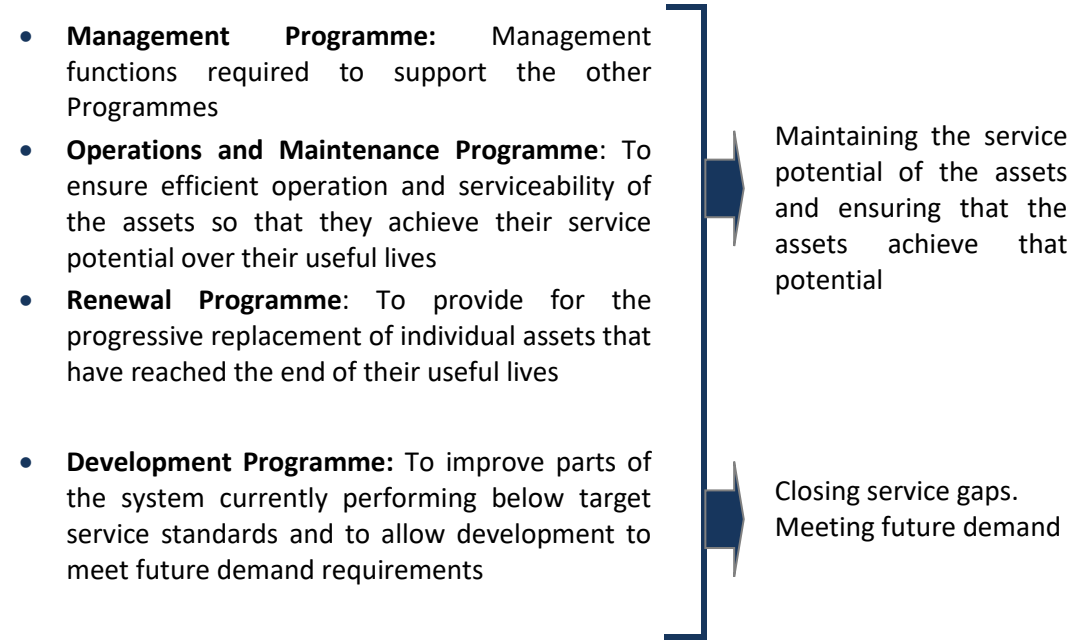
7.1 Asset Lifecycle

Assets have a life cycle as they move through from the initial concept to the final disposal. Depending on the type of asset, its lifecycle may vary from 10 years to over 100 years. Key stages in the asset life cycle are:

- Asset planning - when the new asset is designed. Decisions made at this time influence the cost of operating and maintaining the asset, and the lifespan of the asset. Alternative, non-asset solutions, should also be considered at this time.
- Asset creation or acquisition - when the asset is purchased, constructed or vested in Council. Capital cost, design and construction standards, commissioning the asset, and guarantees by suppliers influence the cost of operating the asset and the lifespan of the asset.
- Asset operations and maintenance - when the asset is operated and maintained. Operation relates to a number of elements including efficiency, power costs and throughput. This is usually more applicable to mechanical plant rather than static assets such as pipes. Maintenance relates to preventative maintenance where minor work is carried out to prevent more expensive work in the future, and reactive maintenance where a failure is fixed.
- Asset condition and performance monitoring - when the asset is examined and checked to establish the remaining life of the asset, what corrective action is required including maintenance, rehabilitation or renewal and within what timescale.
- Asset rehabilitation and renewal - when the asset is restored or replaced to ensure that the required level of service can be delivered.
- Asset disposal and rearrangement - When a failed or redundant asset is sold off, put to another use, or abandoned.

7.2 Lifecycle Management - An Overview

The Lifecycle Management Programmes cover the four key categories of work necessary to achieve the required outcomes from the stormwater activity. These programmes are provided below:



The Operations & Maintenance and Renewal Programmes are focused on maintaining the current service potential of assets, and are primarily driven by the condition of assets although asset performance is often an indicator of asset condition.

The Development Programme is focused on closing service gaps by increasing the service potential of the stormwater system and is primarily driven by the performance of assets and the need to accommodate growth in the District.

7.3 Management Programme

7.3.1 Introduction

Management and monitoring strategies set out the activities required to support the maintenance, operations cyclic renewal and asset development programmes. These activities include:

- Strategic Planning
- Data Management and Evaluation
- Business Processes
- Monitoring
- Financial Management

Strategic planning and a focus on meeting the needs of stormwater customers drives the design of management processes which in turn are reflected in the level of performance that is achieved. Collection of data necessary to manage the stormwater system effectively and processes for the analysis and interpretation of this data support all management activities.

7.3.2 Management Strategies

Table 7-1 sets out each strategy in this category.

Table 7-1: Management Strategies

Strategy	Objective/ Description
Strategic Planning	
Human Resources	Developing the professional skills of the staff through adequate training and experience Personal Development Plans will be agreed with staff each year and a register maintained to record training history. Staff are encouraged to belong to appropriate professional bodies and to attend appropriate conferences, seminars and training courses
Strategic Alignment	This AMP will support the achievement of relevant Community Outcomes for Waimate District Community Outcomes for Waimate District are set out in the Long Term Plan. The intended contribution of the Waimate District Council stormwater system to the achievement of Community Outcomes will be clearly set out in this AMP
Service Levels	Develop a clear statement of Stormwater Services to be provided and standards to be achieved as a basis for future consultation with the Community In the first instance customer service standards will be developed as part of a wider performance management framework for the wastewater activity. This performance management framework will incorporate: – Customer Service Standards – Standards for the Stormwater Service from the end users perspective – Activity Service Standards – Key high level standards which reflect the Waimate District Community Outcomes and which enable the overall performance of the stormwater activity to be monitored – Management Standards – More detailed standards that can be used by Waimate District Council to monitor the performance of aspects the stormwater activity on an "as required" basis – The performance management framework will reflect Performance Indicators in the Waimate District Council LTP
Sustainable Management	Ensure all planning for the management, operation, maintenance, renewal and development of the stormwater system is compatible with sustainable management principles Waimate District Council will pursue ways of limiting the use of natural resources including energy, valued landscapes (and other natural heritage) and adverse effects on waterways. This will involve auditing the systems and materials used, and developing ways to incorporate sustainable operation and development principles into its activities. For example, auditing power usage in pump stations, and using non-asset based solutions where possible
Data Management and Evaluation	
Asset Management Systems	Optimise the application of Asset Management Systems over the short to medium term and develop functionality in line with business needs. Staff changes in the past resulted in the neglect of this area. Refinement of asset data requirements will occur as staff identify management applications for data and refine reporting capacity. The Council will review the adequacy of the systems for future asset management purposes and proactively introduce enhanced system functionality as justified by business needs to support a high standard of decision-making. Waimate District Council will review the adequacy of the systems for future asset management purposes and proactively introduce enhanced system functionality as justified by business needs to support a high standard of decision-making
Network Modelling	A hydraulic network model exists. This model is operated by external consultants and is based in the Infoworks modelling software. Computer models of the stormwater network and utilities enables Waimate District Council to: – Determine accurately the existing capacity of the system – Identify inadequate sections of the system – Operate the system in the most efficient manner – Determine the impact of further development on the system

Strategy	Objective/ Description
	– Identify system upgrading requirements – Compare options for upgrading the stormwater system.
Data Collection	Data collection programmes (condition, performance, asset registers) closely aligned with business needs will be implemented in accordance with documented quality processes Data collection, maintenance and analysis is expensive and it is important that programmes and techniques are cost effective and consistent with business needs. Systematic processes will be further developed for the collection and upgrading of essential/critical data including: – Asset attribute information – Asset performance data – Asset condition data Staff changes have impacted on the Asset Finda/GIS data acquisition, capturing, trending and analysis. This will increase as new assets are acquired through upgrades/renewals and will require improvement and refinement Going forward Council will align its data collection and recording with the Metadata Standards
GIS Data Quality Assurance	GIS data will be the subject of defined quality assurance processes Waimate District Council will introduce quality processes intended to: ensure that all future data entered to the GIS system meets defined quality standards and support the progressive and systematic review of existing data on the GIS system
Business Processes	
AMP Updates	This AMP remains a strategic 'living' document and will be updated annually and reviewed at three yearly intervals or more frequently as necessary to incorporate significant improvements to asset management practices (as proposed in the improvement plan) The scope of the review will be influenced by changes in Community Outcomes for Waimate District, service standards, improved knowledge of assets, introduction of Asset Management improvements and corporate strategy/ policy and process
Risk Management	Risk Management is an essential part of Asset Management. Stormwater activity risks will be managed by developing a Risk Management Plan for the stormwater activity and the implementation of risk mitigation measures to maintain risk exposure at acceptable levels Risk mitigation measures will include maintaining appropriate insurance cover, emergency response planning, condition monitoring of critical assets, preventative maintenance, use of telemetry, implementation of operations manuals, review of standards and physical works programmes
Infrastructure asset valuation	Continue to perform valuations in a manner that is consistent with national guidelines and Waimate District Council corporate policy Asset valuations are the basis for several key asset management processes including asset renewal modelling and financial risk assessments. Valuations of the stormwater system will be carried out based on data from the GIS, MagiQ and AMS systems to ensure auditability and alignment with other processes
Statutory Compliance	Implement quality plans that identify legal obligations and processes adopted to achieve statutory compliance Section 4.3 of this plan sets out the legislative environment for the Stormwater Activity
Quality Assurance	Document, review and implement quality processes for all key business activities in accordance with standard practices Quality processes will cover activities such as reporting, data collection and management, contract monitoring, risk management, economic analysis, performance monitoring, strategic planning, customer contact, asset valuation, asset operation, work specification, etc.
Monitoring	
Asset Performance	Waimate District Council will continue to monitor the performance of the stormwater assets as an input to asset renewal and asset development programmes. This monitoring includes: – Customer service requests – Asset failure records – Asset Maintenance records

Strategy	Objective/ Description
	– Compliance with Resource Consents – Stormwater quality – Critical asset audits
Financial Management	
Budgeting	Prepare all expenditure programmes for the stormwater supply activity in accordance with Council funding and budget preparation policies and procedures The different categories of expenditure within the financial programmes will be identified to enable the funding to be allocated in accordance with the Council's policies
Financial management	Manage the stormwater activity budget in accordance with statutes and corporate policy. This will involve: – Economic appraisal of all capital expenditure – Annual review of AMP financial programmes – Recording of significant deferred maintenance and asset renewals – Continuous monitoring of expenditure against budget
Sustainable Funding	Ensure the stormwater system is managed in a financially sustainable manner over the long term. The financial requirements for the provision of the stormwater service sustainably and to acceptable standards over the long term will be identified and provided for in draft budgets. These requirements include: – Management of the stormwater service – Operation and maintenance if the stormwater systems – Asset replacement – Asset development to ensure that the ability of the stormwater systems to deliver an acceptable level of service is not significantly degraded by growth in Waimate District

7.3.3 Management Standards

The Council's Stormwater supply Systems are managed in accordance with the following standards:

- Generally accepted accounting practice (GAAP) and more specifically with FRS-3 "Accounting for Property, Plant and Equipment" (now superseded by NZ IAS 16)
- The International Infrastructure Management Manual
- Resource Consent Conditions for the Waimate District Stormwater Activity
- Council's Health and Safety Plan
- Council's Quality Assurance Documents
- Stormwater Management Plan (to be developed in accordance with the LWRP)

Implementation of the Stormwater Management Plan, once the global consent is issued, will be a challenge for Waimate. The global consent application is currently being processed by Environment Canterbury Regional Council with affected parties currently being consulted. Some risks exist if approvals are not provided, or National Policy is amended during the process.

7.4 Operations and Maintenance Plan

7.4.1 Introduction

Operations and Maintenance strategies set out how the Stormwater systems will be operated and maintained on a day-to-day basis to consistently achieve the optimum use of assets. Operations and Maintenance activities fall into the following categories, each having distinct objectives and triggering mechanisms:

Operations - Activities designed to ensure efficient utilisation of the assets, and therefore that the assets achieve their service potential. Operational strategies cover activities such as energy usage, control of mechanical and electrical plant, inspections and service management.

Maintenance - Maintenance strategies are designed to enable existing assets to operate to their service potential over their useful life. This is necessary to meet service standards, achieve target standards and prevent premature asset failure or deterioration. There are three types of maintenance:

Programmed maintenance - A base level of maintenance carried out to a predetermined schedule. Its objective is to maintain the service potential of the asset system

Condition maintenance - Maintenance actioned as a result of condition or performance evaluations of components of the stormwater system. Its objective is to avoid primary system failure.

Reactive maintenance - Maintenance carried out in response to reported problems or system defects. Its objective is to maintain day-to-day levels of service.

7.4.2 Method of Delivery

The operation and maintenance of the Council's Stormwater is carried out using a combination of Waimate District Council staff and external contractors. The Council appointed Roading contractor undertakes the routine maintenance and operation of the stormwater system. Council staff generally supervises and monitor operational activities and maintenance of a routine nature. From time to time Council may use the services of local drain layers, earthworks contractors or plant hire. This is done through a mix of quotations and tendering with Council staff overseeing works.

7.4.3 Operations and Maintenance Strategies

The following table sets out operations and maintenance strategies:

Table 7-2: O&M Strategies

Strategy	Objective/ Description
Routine Maintenance	Operation and maintenance is carried out by the roading maintenance contractor. This work is supervised and monitored by Council's in house operational unit
Repairs and Corrective Maintenance	Reactive maintenance is undertaken as quickly as practically possible to restore an asset to a satisfactory condition after a failure or an unsatisfactory condition has been detected that is likely to fail in the short term. Council provides customer support for any associated requests for work related to the assets.
Redesign and Modification	Redesign may be necessary if an asset or system does not meet its operational objective. Similarly, modifications may be necessary to improve the operating characteristics. Redesign and modifications will be undertaken in a methodical manner to ensure alternative options are considered and optimum decisions made
Operations	Operational activities are undertaken by Council in house operational unit unless specialised advice is required. Council staff are responsible for the determination and optimisation of planned and unplanned works, work methods and maintenance scheduling to achieve the target service standards. Work is performed to Council's standards and specifications
Physical Works Monitoring	The operational unit consist of skilled staff that are well versed on Council standards and specifications. Work is managed and overseen by the Utilities Supervisor. Weekly meetings are held to ensure work are completed on time and to Council standards
Incident management	Council approach is an escalation process from minor to major, all incidence is managed by the Council staff. Involvement is also judged by the potential consequences or asset criticality

7.4.4 Priority Response times

Priority response times have previously not been formally shown but there has been general agreement on the urgency of specific issues. The agreement of response time for different priority issues will enable assessment of the achievement via AssetFinda. The Priority Response times targets for the stormwater service are as follows:

Priority	Response	Completion
P1	1 Hour	24 Hours
P2	4 Hours	48 Hours
P3	1 Day	5 Days
P4	5 Days	10 Days
P5	Projects	Specific Dates

The following details the priority for the individual utilities alarms and callouts.

Utility	Description	Priority
Stormwater	Health Issues	P1
	Maintenance - Urgent	P1
	Drains overflow	P2
	Broken pipe	P2
	Maintenance	P3
	General Enquiry	P4

7.4.5 Operations and Maintenance Standards

The following standards are applicable to the operation and maintenance of the Stormwater system:

NZS4404:2010 Land development and subdivision infrastructure adopted by Council as its Engineering Code of Practice (which provides standards for materials and construction of piped stormwater systems) In recent times Council has opted to utilise Timaru District Council specifications which closely mirror the requirments of NZS4404:2010

Relevant Resource Consents and the Resource Management Act 1991

Transit New Zealand Guidelines 'Working on the Road'

Health and Safety Plans

Council's quality assurance processes, including contract management procedures

7.4.6 Council Utilities Staff Qualifications

Table 7-3 details the utilities staff qualifications as at June 2020.

Table 7-3: Council Utilities Staff Qualifications

Position	Water Treatment	Wastewater Treatment	Reticulation Maintenance (Water & Waste)	Drain Laying & Plumbing	Backflow Prevention	Traffic Management		Confined Spaces	Heights	Asbestos	Chlorine	Chemical Handlers
						STMS	TC					
Water & Waste Manager	Level 3&4 Plus Diploma Level 5	-	-	-	-	-	-	-	-	-	-	-
Utilities Supervisor	Level 3&4 Diploma Level 5 (incomplete)	-	Level 3	-	Yes	Yes	-	Yes	Yes	Yes	Yes	Yes
Utilities Technician	Level 3&4	Level 4 (incomplete)	Level 3	-	-	Yes	-	Yes	Yes	Yes	Yes	Yes
Utilities Technician	Level 4	-	Plumber and Drainlayer	-	-	-	Yes	Yes	Yes	-	Yes	Yes
Three Waters Technical Administrator	-	-	-	-	-	-	-	-	-	-	Yes	-
Utilities Technician	Level 4 (Incomplete)	Level 4	Level 3	-	-	-	Yes	Yes	Yes	-	Yes	Yes

NZ Water Competency Framework

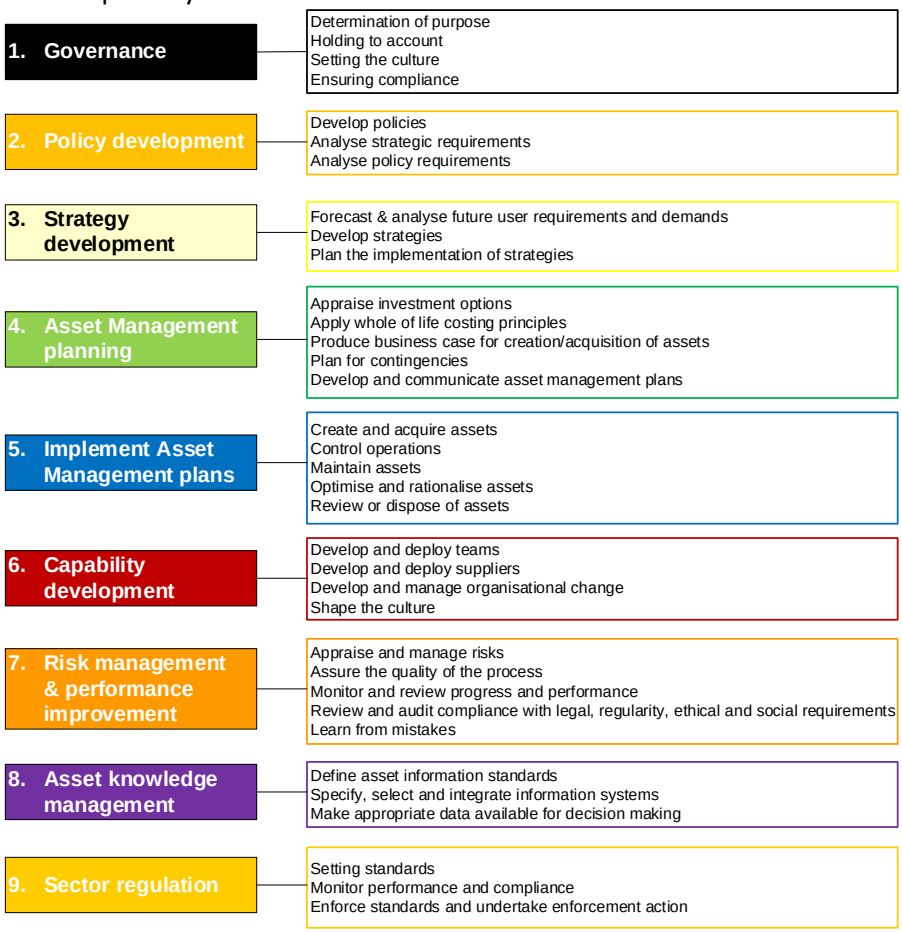
Assessment of staffing levels needs to consider the skill requirements to meet the demands of the infrastructure that Council does and will own and operate.

Increases in the complexity of water and wastewater treatment plants will occur as drinking water and environmental standards increase. The complexity of these plants and their associated resource consent compliance will require skilled and trained engineers for their operation, maintenance and supervision. Council needs to stay abreast of any resource requirements and qualifications to ensure the most appropriate method for delivery of the required levels of service.

During 2020 Water New Zealand released its draft Competency Framework which describes what people should be able to do and what they need to know to competently undertake their work. The Competency Framework use treatment operator roles, the people who operate, monitor and maintain water and wastewater services, as a starting point. Network/Distribution operators are still to be developed which will include stormwater.

The Water Industry Professionals Association (WIPA) was jointly established by the Water Industry Operations Group and Water New Zealand to provide a system of recording the professional development of people working in the water and wastewater industry to ensure a high level of competency within the industry was maintained. At the time of writing this Plan registration is voluntary but may become compulsory under the new regulatory framework.

The Competency Framework identifies nine areas as shown below.



(*Source: Water NZ – Competency Framework*)

It documents core skills and knowledge needed by operators to competently undertake work within the water industry. It is envisaged that the industry will be able to use the final document as a guide to:

- assess levels of staff training,
- develop training programmes,
- determine the knowledge and skills required by a workforce, or
- other matters related to staff competence.

Council will keep abreast of developments in this area to ensure staff training meets industry best practice and standards.

7.4.7 Summary of Future Costs

The stormwater activity annual maintenance and operations costs (excluding depreciation) are not expected to increase from the present level of $111,387 to $142,609. There is no deferred maintenance scheduled over the period. The forecast for expenditure is based on the assessments that:

The overall condition of the network will not change significantly over the next 10 years (see renewal strategy)

There will be significant extension of the network to resolve flooding issues

Opex Costs	Y1	Y2	Y3	Y4	Y5
	2021/22	2022/23	2023/24	2024/25	2025/26
Operational	124,370	130,585	135,443	136,053	136,956
	Y6	Y7	Y8	Y9	Y10
	2026/27	2027/28	2028/29	2029/30	2030/31
Operational	142,802	143,682	144,643	150,978	152,509

7.5 Renewal and Replacement Plan

7.5.1 Introduction

Cyclic renewal strategies are intended to provide for the progressive replacement of individual assets that have reached the end of their useful life. The rate of asset renewal is intended to maintain the overall condition of the asset system at a standard, which reflects its age profile, and ensures that the Community's investment in the District's stormwater infrastructure is maintained.

The level of expenditure on cyclic asset replacement varies from year to year, reflecting:

- The age profile of the infrastructure
- The condition profile of the infrastructure
- The on-going maintenance demand
- Customer service issues
- The differing economic lives of individual assets comprising the overall asset system

Failure to maintain an adequate renewal programme will be reflected in a greater decline in the overall standard of the system of assets than would be expected from the age profile of the asset system.
Cyclic renewal works fall into two categories:

Rehabilitation: Involves the major repair or refurbishment of an existing asset. An example is the relining of an existing pipeline. Rehabilitation produces an extension in the life of an asset. It does not provide for a planned increase in the operating capacity or design loading

Renewal: Does not provide for a planned increase to the operating capacity or design loading. Some minor increase in capacity may result from the process of renewal, but a substantial improvement is needed before system development is considered to have occurred

For the purpose of developing asset renewal programmes the stormwater system assets have used the following components consistent with the asset valuation process:

- Stormwater Lines (Pipes, Mains, drains)
- Stormwater Service Lines (Property connections)
- Stormwater Points (Manholes, Sumps, Pits, Headwalls)

7.5.2 Renewal and Replacement Strategies

The following table sets out cyclic renewal strategies:

Table 7-4: Renewal Strategies

Strategy	Objective/ Description
Identification of renewal needs	Renewal/replacement needs are identified by analysing; – Condition reports, maintenance records (asset failure and expenditure history), stormwater blockages/overflows/ponding, complaints records, and observations of the councils engineering and maintenance staff and contractors that they employ – Records of breakages are recorded in Asset Finda that allows an overview of the short term issues – Customer feedback is essential for monitoring asset performance and achieving levels of service. The feedback is quite often the early warning system that a problem maybe developing and can lead to more formal investigations – Modelling results – network modelling indicates an under capacity issue within the economic life of the asset either due to growth or meeting the existing LOS – Asset age, material and location – consideration of the remaining lives and material type The short-term asset renewal programmes have been prepared from specific renewal needs identified from information received by Council maintenance staff that includes pipe cleaning and flooding. Future renewal programmes will use the data obtained in the pipe condition assessments and the updated Asset Finda data
Prioritisation of renewal projects	Decisions on renewal works consider the short and long-term effects on the operating and structural integrity of the system. Renewal works are designed and undertaken in accordance with industry standards (or known future standards) and system design loadings Short-term renewal priorities are reassessed annually taking account of additional information that becomes available via breakage reports etc
Deferred Renewals	The quantity and impact of deferred renewals will be tracked. The Council recognises that although the deferral of some items on cyclic renewal programmes will not impede the operation of many assets in the short term, repeated deferral will create a future Council liability.

Strategy	Objective/ Description
Inspections prior to major road works	The condition of stormwater pipelines is inspected prior to major road works to identify the risk of the road being damaged by pipeline failure or the need for pipeline replacement in the short/medium term. Pipelines in poor condition may be programmed for replacement prior to or in conjunction with the road works or reseal programme subject to funding

7.5.3 Stormwater Asset Condition

Development of a Condition Assessment Strategy to identify which, where and when condition assessments will be performed is included as an Improvement item. This will be done in consideration of criticality, LoS, asset records, Council engineers visual assessment of failures and specialists assessments as required. Implementation of the Condition Assessment Strategy and resulting information collected will then inform the renewal plan.

Most (82%) of the stormwater network is less than 50 years of age and not well advanced in its lifecycle. The majority of pre-1950 assets are concrete culverts. Approximately 74% of the pipes (excluding open drains) consist of concrete and as such is considered to be a pipe material with significant expected economic lives.

Figure 7-1 shows that there is 50m of unknown pipe that have reached its expected useful life. There is 83 m of pipe that will reach the end of its expected useful life (approximately 63m of earthenware pipe and 20m of Iron pipe) within the first five years of this Plan. There is a single manhole which will reach the end of its expected economic life within the years 1-5 of this plan. A single direct access sump will reach the end of its expected useful life during the 16-20 year window. There are no other pipes that will reach the end of their useful lives within the next 30 years.

Figure 7-1: Stormwater Remaining Life

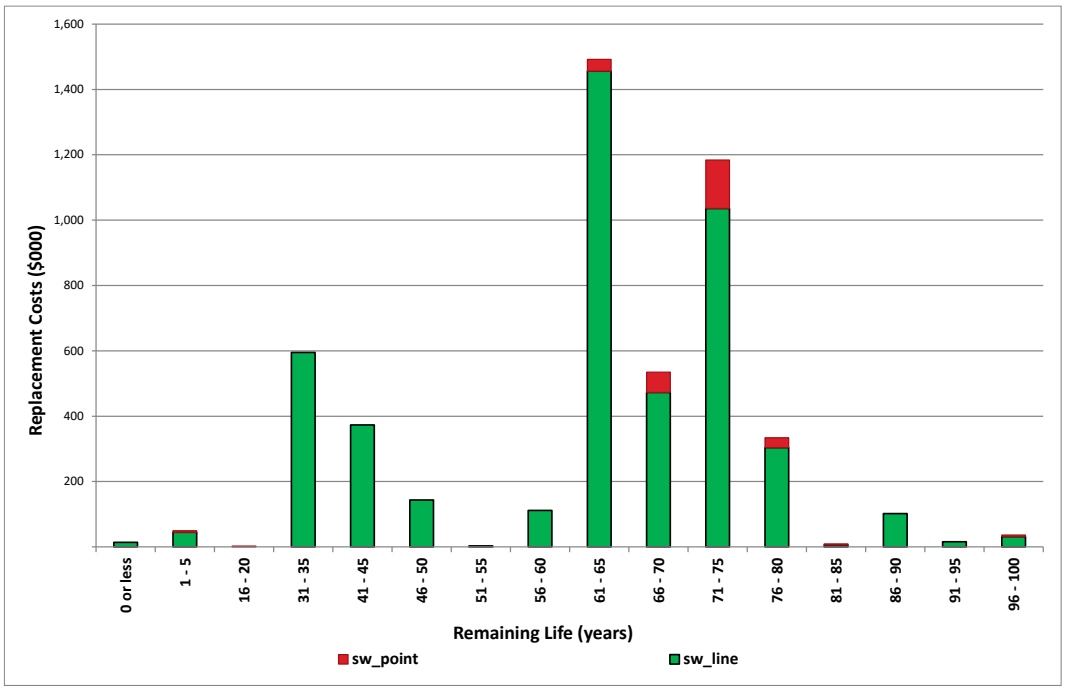
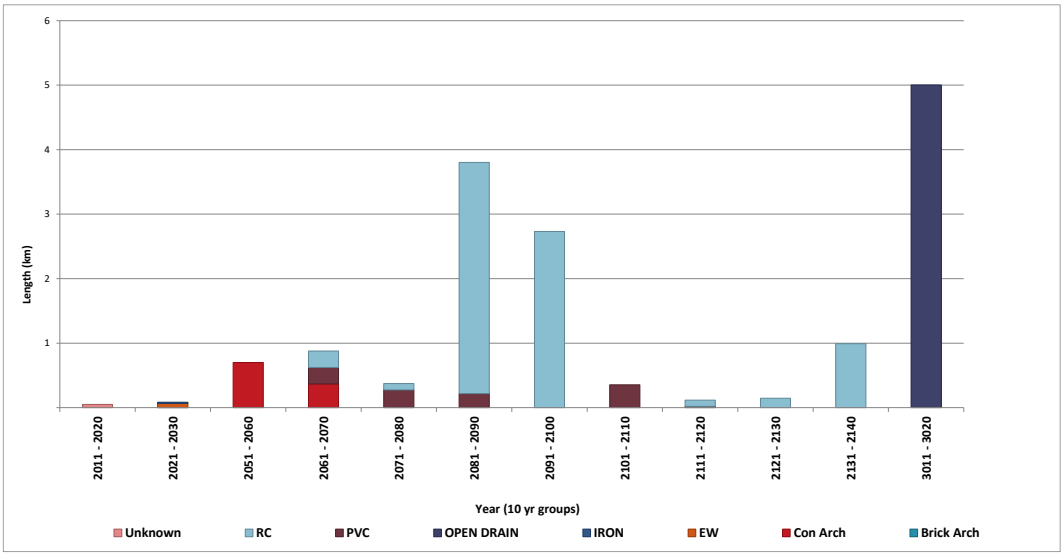


Figure 7-2 below shows that there is a minimum of assets that will reach the end its expected economic useful life within the term of this plan.

Figure 7-2: Reticulated Mains Forecast Renewal Date



7.5.4 Base Life of Stormwater Assets

The 2020 valuation used the base life for stormwater assets as detailed below.

Table 7-5: Stormwater System Assets Life

Stormwater Material	Base Lives (Years)	Stormwater Material	Base Lives (Years)
Brick arch	80	Open drain	NA
CI pipe	100	Pit/Sump	120
Concrete arch	150	PVC	100
Concrete box	150	PVC lined brick arch	80
EW	100	PVC lined concrete arch	80
Headwall	120	RC lined concrete arch	100
Manhole	120	RC pipe	120

7.5.5 Cyclic Renewal Standards

The following standards are applicable to the renewal of stormwater assets:

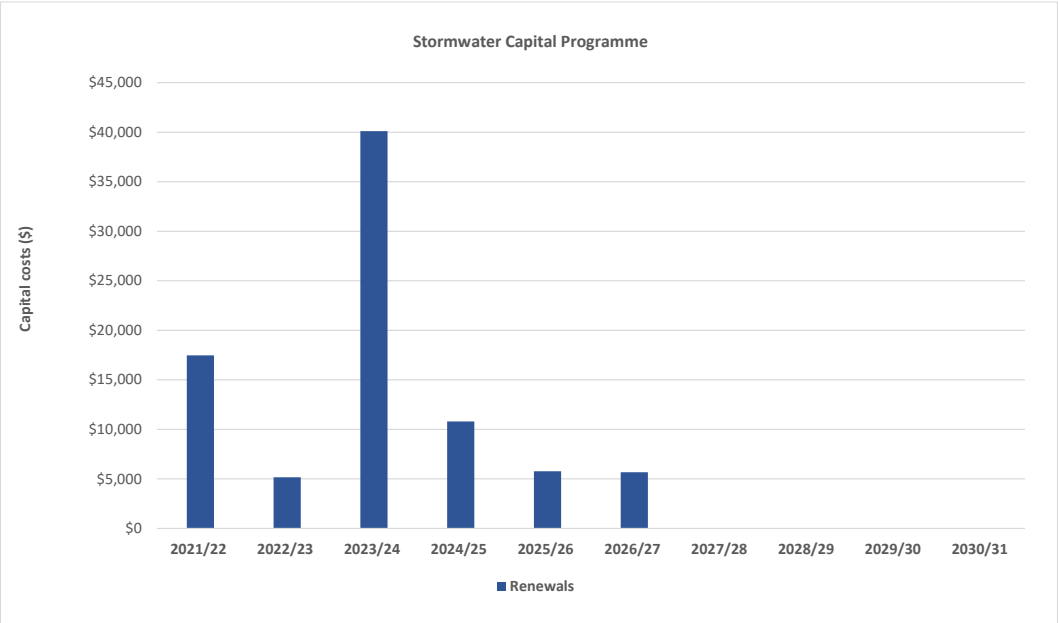
- NZS4404: 2010 Land development and subdivision infrastructure adopted by Council as its Engineering Code of Practice (which provides standards for materials and construction of stormwater systems)
- Relevant Resource Consents and the Resource Management Act 1991
- Transit New Zealand Guidelines 'Working on the Road'
- Health and Safety Plans
- Electrical Regulations 1993
- Waimate District Council quality assurance processes, including contract management procedures

7.6 Programmed Renewals

The planned renewals (inflated) for the stormwater activity are as follows:

Renewals	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
553075009 - Stormwater - SW Manhole SW171 Replacement	-	-	-	5,400	5,762	-	-	-	-	-
553075010 - Stormwater - CCTV Assessment of Mains	5,265	5,170	-	5,400	-	5,668	-	-	-	-
553075011 - Stormwater - Belt Street main renewal	12,200	-	-	-	-	-	-	-	-	-
553075012 - Stormwater - Manse Street crossing renewal	-	-	40,117	-	-	-	-	-	-	-
Renewals Total	**17,465**	**5,170**	**40,117**	**10,800**	**5,762**	**5,668**	**-**	**-**	**-**	**-**

Figure 7-3: Stormwater Programmed Renewals



7.6.1 Evidence Base

The asset data held for water supply and sewerage had been a focus for improvement over the last six years. This was reflected in the positive peer reviews undertaken of both the 2017 and 2020 valuations.

Road and footpaths data continues to be sound, based on twenty years of RAMM use. An increase in data analysis as part of the ONRC framework and capture of pavement performance data has improved knowledge of the asset further.

The 2020 asset valuation identified the accuracy of most roading asset data as "B" or "Reliable" (Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some data is old). Bridge data is of higher accuracy, "A" or "Highly reliable" (Data based on sound records, procedure, investigations and analysis, documented properly and recognised as the best method of assessment. Dataset is complete).

The 2020 valuation has indicated (for three waters):

Confidence Level	Description	Accuracy	Condition	Quantity	Unit Cost	Base Life
A	Highly Reliable and Accurate	100%				
B	Reliable with Minor Inaccuracies	+/- 5%		B	B	B
C	50% estimated	+/- 20%	C			
D	Significant data estimated	+/- 30%				
E	All data estimated	+/- 40%				

From a valuation perspective the data reliability is considered (for all assets covered by the IS) to be "B" or +/- 5%. Council acknowledges that the reduced reliability associated with less accurate condition ratings (+/- 20%) could impact future financial forecasting. However, this is currently mitigated by empirical assessment of assets proposed for renewal. For example, roads identified for resealing are reassessed, alongside mains identified for renewal are investigated in regards to historical leaks, bursts and criticality.

Council acknowledges there are limitations with its data that affect decision-making. A commitment to improving data collection and analysis is indicated below. Additional part-time and full time roles have been added to the Council team to address data limitations and accuracy.

7.7 Asset Development Plan

7.7.1 Introduction

Asset development provides for a planned increase in the service capability of the stormwater system to:

- Close gaps between the current capability of the stormwater system and target service standards
- Accommodate growth

Asset development and asset renewal can occur simultaneously. The purpose of asset renewal is to prevent a decline in the service potential of the assets, whereas asset development is concerned with the service improvements, measured by asset performance.

7.7.2 Asset Development Strategies

Table 7-6 sets out the strategies used for developing capital development programmes for the Stormwater System. These strategies are intended to progressively close gaps between target service standards (taking account of demographic and economic growth projections) and the current service capability of the asset system.

Table 7-6: Development Strategies

Strategy	Objective/ Description
Identification of development needs	Asset development needs are identified from analysis of; Demand forecasts, System performance monitoring (flows, blockages, etc.), Network modelling, Risk assessments (Risk Management Plan), and Customer service requests. A provisional forward capital works development programme is maintained and updated in in conjunction with updates of the Asset Management Plans.
Development Project Categorisation	Development Projects will be separated into projects to close service gaps and projects required to accommodate growth. Development projects to close service gaps are generally funded entirely by Council. Development projects to accommodate growth may be partly or wholly funded through Development Contributions or Capital Contributions
Prioritisation of development projects	Development projects are justified and prioritised using a risk based process Decisions on development works consider the short and long-term effects on the operating and structural integrity of the water supply system. In determining the requirement for capital or asset development works the short and long-term effects on the operating and structural integrity of the system are considered, together with any forecast increase in loading upon the system All feasible options, including non-asset demand management options and the use of second-hand plant, are considered. Development works are designed and undertaken in accordance with industry standards (or known future standards) and system design loadings.
Project Approval	A long-term development programme is prepared from projects meeting the assessment criteria, and all projects are approved through the Annual Plan process. The actual timing of asset development works will reflect the community's ability to meet the cost, as determined through the Annual Plan process. Scheduled projects meeting assessment criteria not funded are listed on the forward works programme for the following year.
Project design	All asset development works will be designed and constructed in accordance with current adopted industry standards (or known future standards) and system design loading. In determining capital or asset development work requirements the short and long term effects on the operating and structural integrity of the system are considered, together with the demands of any forecast increase in loading upon the system. The system will be designed to minimise supply disruptions as far as practically possible by building in an appropriate level of redundancy. The standardisation of designs and specifications will be considered in the interest of facilitating replacement and operational simplicity.
Vested Assets	The risk, cost and benefits of accepting any new privately funded assets constructed in association with property development will be considered on a case by case basis in approval decisions. Such assets will be accepted into public ownership when satisfactorily completed in accordance with approvals given. Council will not contribute to the cost of such work unless there are exceptional service standard or equity issues.

7.7.3 Development Standards

The following standards are applicable to the development of stormwater assets:

- NZS4404: 2010 Land development and subdivision infrastructure adopted by Council as its Engineering Code of Practice (which provides standards for materials and construction of piped stormwater systems)
- Relevant Resource Consents and the Resource Management Act 1991
- Transit New Zealand Guidelines 'Working on the Road'
- Health and Safety Plans

- Electrical Regulations 1993
- Council's quality assurance processes, including contract management procedures

The Standards will be reviewed regularly and updated to incorporate relevant experiences, legislative requirements and changes in best practice.

7.7.4 Summary of Future Costs

The 2009 Stormwater Investigation Study developed a hydraulic model and identified system capacity issues. It mainly found that kerb and channel lacked capacity in a number of locations and identified system upgrades in order of priority as follows:

The following table represents the upgrade requirements as detailed in the 2015-25 Long Term Plan. To date the priority 3 upgrade of High Street is complete and the priority 1 and 2 upgrades along Manse Street are also now commissioned. It is anticipated that these projects have closed the gap from current Level of service which in some areas did not meet the stated level of service.

Preliminary, general, Road pavement & resealing are not included as these works would occur when roading upgrades occur. The cost of installation of sumps will be a roading issue. Some capital works have been delayed due to alignment with roading projects and, more specifically, available roading budget.

Table 7-7: Development Forecast (in $,000)

Priority	Details	Location	2015/16	2016/17	2017/18	2018/19
Priority 1	New Max Pit sumps	Intersection Harris & High	$143	$170		
	450mm pipeline	Harris St (from High to Manse St)				
	New sumps	Intersection Harris & Manse				
	450mm pipeline	Manse St (Harris to Sherman St)				
	525mm main	Sherman St (across Manse St)				
Priority 2	300mm pipeline	Manse (Town Belt to Harris St)			$138	$36
	New sumps	Intersection Manse St & Rhodes St)				
	300mm pipeline	Sherman St (to intersection of Sherman & Glasgow St)				$37
	New sumps					
	300mm pipeline	Under Belt St				
	New sump	John St and 225mm connection to Victoria St				
Priority 3	300mm pipeline	High St (from Innes to Sherman St)				
	New sump	Intersection of Innes & High St				
	300mm pipeline	Along Belt St to Town Belt St			$14	$96
	New sump	Intersection of Edinburgh & Belt St				
		Total	**$143**	**$170**	**$152**	**$169**

7.8 Disposal Plan

7.8.1 Introduction

The development of Asset Management Systems and use of Asset Condition/Performance data allows better planning for the disposal of assets through rationalisation of asset stock or when assets become uneconomic to own and operate.

All pipeline renewals identified in this Lifecycle Management Plan have a corresponding disposal either through the pipes being removed and disposed of at the landfill, or being left in the ground if the asset is replaced in a new location. Disposals are recorded within AssetFinda and the GIS. Buried assets remain in the ground unless economic to remove or they pose a potential hazard.

In all cases asset disposal processes must comply with Council's legal obligations under the Local Government Act 2002, which covers:

- Public notification procedures required prior to sale
- Restrictions on the minimum value recovered
- Use of revenue received from asset disposal

Under the Stormwater Activity no assets for disposal are considered to be eligible to be for sale. When considering disposal options all relevant costs of disposal will be considered, including:

- Evaluation of options
- Consultation/advertising
- Obtaining resource consents
- Professional service, including engineering, planning and legal survey
- Demolition/making safe
- Site clearing, decontamination, and beautification

7.8.2 Asset Disposal Strategies

The following table details the disposal strategies

Table 7-8: Disposal Strategies

Strategy	Objective/ Description
Asset Disposal	Assess each proposal to dispose of surplus or redundant assets on an individual basis, subject to the requirements of the relevant legislation Asset disposal will comply with the requirements of the Local Government Act 2002 and in particular the requirement for councils to retain a capability to provide stormwater services Redundant pipes are removed where their alignment clashes with replacement pipelines or where their existence is considered dangerous. Abandoned stormwater pipelines have possible future value for other purposes (such as ducting for cabling). As the extent of this value (if any) is uncertain it is not recognised in the asset valuation. When a stormwater asset is abandoned or replaced the Geographic Information System and fixed asset register are updated. A system of job number creation and asset identification is used to document this process
Residual Value	The residual value (if any) of assets, which are planned to be disposed off, will be identified and provided for in financial projections

7.9 Sustainability within Council

In addition to managing the assets in an economically sustainable way, Council will also manage its internal operations to optimise their cost, efficiency and effectiveness, so that in the long term the costs of administering the infrastructure are sustainable. While the overall view of this is not a subject for this AMP, the management of the asset services delivery unit is relevant.

7.9.1 Staffing Levels

Currently the Water and Wastes Group has 9.5 full time equivalent employees. This includes the role of Asset Manager which encompasses a wider footprint of activities.
The greater emphasis being placed on the responsible management, distribution, operation and maintenance of existing and future resources will add to the tasks of the Water and Wastes Group. Compliance with the requirements of the Health Act, DWSNZ 2005 and increased Regional Rules (LWRP)will ask a great deal of effort and prudent decision making from the Water and Wastes staff.

The Health Act will impose an increased demand on human resources to meet the compliance with the requirements of the Heath Act. It will place an on-going demand on human resources to monitor and report on Health Act compliance. The current staffing levels are supplemented by outsourcing. However, outsourcing still requires scoping, input and supervision from Council staff and does not exonerate staff from outsourced work.

Staff changes have impacted on the AssetFinda/GIS data acquisition, capturing, trending and analysis. It is proposed as part of future improvements in the management of AssetFinda/GIS - to ensure sufficient resources are available (both internal and external) to enable the full use of AssetFinda/GIS for the operation, management and administration of the utility services.

Because of the above, assessment of staffing requirements will be required on an annual basis to ascertain the appropriate requirements for the increased workload. Assessment needs to consider the level of staffing coverage required to implement all of the Water and Wastes Group functions including internal management, information systems management, project management, design, supervision, construction, operations and maintenance.

7.9.2 Skills

In addition to staffing numbers, assessment of staffing levels needs to consider the skill requirements to meet the demands of the infrastructure that Council does and will own and operate.

Increases in the complexity of facilities such as water treatment plants and pump stations are occurring. This will require skilled and trained staffs for operation, maintenance and supervision. A review of Council policy on resourcing the operations and maintenance is required to ascertain the most appropriate method for delivery of the required levels of service should be considered. Refer to Section 7.4.6

7.9.3 Training

Training of staff is presently on an ad-hoc basis with no structured long term development plans for the individual staff members in the asset management field. The link between asset life, and the ability to deliver of levels of service with the skills of the people who plan, design, install, operate and maintain the assets is inevitable. It is crucial that the skill gaps of staff, contractors and service providers are identified; that there are structured training programmes to close these gaps; and that the effectiveness of the training provided is evaluated. Training programmes should be designed and reviewed for each individual – not for a business unit, contractor or service provider as an entity. Refer to Section 7.4.6.

7.9.4 Succession Planning

Succession planning within any business is considered necessary to reduce the risk associated with staff leaving the organisation. Succession planning allows institutional knowledge to be passed on, and assists in ensuring continuity of organisational culture.

Local Authorities have traditionally not been particularly successful at implementing succession planning techniques and practices. In previous decades the pool of experienced local authority and ex-public service engineers available meant that the negative effects of poor succession planning were not experienced. With a shrinking pool of experienced engineers, and near full employment these effects are now being experienced by more local authorities. Whilst there is always potential for staff in key positions to move on to further their careers, succession planning can help to mitigate the effects of this. Succession planning techniques can include:

- Sourcing replacement staff from within the organisation wherever possible
- Comprehensive personal career development plans in place for all relevant staff. This can include identifying weaknesses in training and experience and attempting to address those weaknesses by use of mentoring, relevant projects and continuing professional development programmes etc.
- Identifying likely staff retirements, promotions, resignations or position changes on an annual basis. Identifying potential internal staff to fill those positions, providing those staff with projects that extend them, and giving them relevant experience for filling the positions

No formal succession planning is implemented at present by Council. It is important that the current knowledge of existing staff on the Stormwater Services is continuously captured within AssetFinda and supporting asset management tools. This will reduce the risk to service continuation as a result of unplanned staff absences and any future retirements or resignations.

8.0 FINANCIAL SUMMARY

This Section sets out financial statements, funding strategy, depreciation forecast and charges for the Stormwater Services in Waimate District.

8.1 Financial Strategy

This AMP will provide the substantiation for budget forecasts put forward in the LTP (2021-2031) for Stormwater Services assets. Council will:

- Implement an improvement approach to asset management planning in the short term. A ten year improvement plan is included in each asset management plan. Improvement projects will be monitored monthly by a corporate AM Steering Team
- Prepare, maintain and periodically review an AMP outlining sustainable long-term asset management strategies. The AMP will typically be reviewed three-yearly in advance of the LTP. Annual amendments or updates may be undertaken if significant asset management changes occur
- Report variations in the adopted annual plan budgets against the AMP forecasts and explain the level of service implications of budget variations.

8.2 Development Contributions

Service Provisions (From LTP)

Where a development requires:-

- Water supply connections - larger than 25mm
- Stormwater discharges - exceeding co-efficient of existing discharge for site
- Connection to reticulated sewerage system - for connections other than for staff ablution and kitchen facilities

The Council, by way of controlled activity application, may determine the level of financial contribution payable to provide for provision on a case by case basis.

Overview of Financial Provisions

Activity Development	Subdivision	Any Industrial, Service, Commercial, Recreational, And Community Activities And Visitor Accommodation
Stormwater Disposal	Financial contribution can be required for stormwater disposal including connection fees (Rule 4.6 page 10/14) Process: Conditional on subdivision consent	Contributions required if exceed existing coefficient Process: Determined through separate Controlled Activity resource consent. Assess amount on the basis of Rule 11.8 page 10/26-27
Water Supply	Financial contribution for water supply including connection fee but excluding capital contributions (Rule 4.5 page 10/14) Process: Conditional on subdivision consent	Contributions required if connecting to reticulated supply with pipes > 25mm. Process: Amount determined by Controlled Activity resource consent Amount assessed on basis of Rule 11.7 page 10/26
Sewage Disposal	Financial contribution for sanitary sewage provision including connection fees, but excluding capital contributions (Rule 4.7 page 10/14-15) Process: Conditional on subdivision consent	Contribution required if need connection to reticulated system (other than from staff ablutions) Process: Determined through Controlled Activity resource consent Amount assessed on basis of Rule 11.9 Page 10/27-28

8.3 Depreciation

8.3.1 Background

The introduction of accrual accounting during the early 1990's changed the way in which local authorities accounted for their assets, particularly long life assets i.e. pipes and roads. This meant that instead of cash based accounting where the replacement/renewal cost of an asset is recognised only when it wears out, local authorities were required to spread the cost, and any reduction in the value of these assets over its useful life.

Section 100 subsection 1 of the LGA 2002 states: "A local authority must ensure that each year's projected operating revenues are set at a level sufficient to meet that year's projected operating expenses."
This requirement to set operating revenues at a level sufficient to meet operating expenses includes depreciation as Section 111 obliges councils to follow generally accepted accounting practice (GAAP) which includes a definition of "operating expenses." As depreciation is defined as an operational expense it must be included with other operational costs, including interest, when a council sets its operating revenue.

GAAP defines depreciation as follows:
Depreciation is the systematic allocation of the depreciable amount of an asset over its useful life.[1]
Therefore, deprecation measures the annual consumption of an asset so that the reduction in its value is accounted for as it is consumed. The purpose of depreciation is not to provide for the replacement of the asset, although this is a consequence of depreciation. Depreciation ensures that each year's ratepayers pay their way.

The basic value of an asset reduces in accordance with the wearing out or consumption of benefits over the assets life arising from use, the passage of time, or obsolescence. This reduced value is called the depreciated value. It is accounted for by the allocation of the cost (or revalue amount) of the asset less its residual value over its useful life.

The decline in service potential is thus provided on a straight line basis on all fixed assets. Therefore Council complies with the requirements of FRS3 and NZIAS 16 and funds asset depreciation.

The Council revalues its assets every three years to keep them up to date and this means that depreciation charge reflects the cost of replacing the asset. It is the valuers role to appropriately identify the level of depreciation, though this will be better achieved through more robust data e.g. condition assessment.

Annual depreciation is calculated by Council on a straight line basis – i.e. the replacement cost of the asset less its residual value over its useful life.

The Council has previously consulted with the Community and decided to fund depreciation via rates. However, Council does not fully fund depreciation where it is considered prudent to do so e.g. in roading.

[1] Source: Depreciation in the local government context, July 2011. Local Government New Zealand

8.4 Valuations

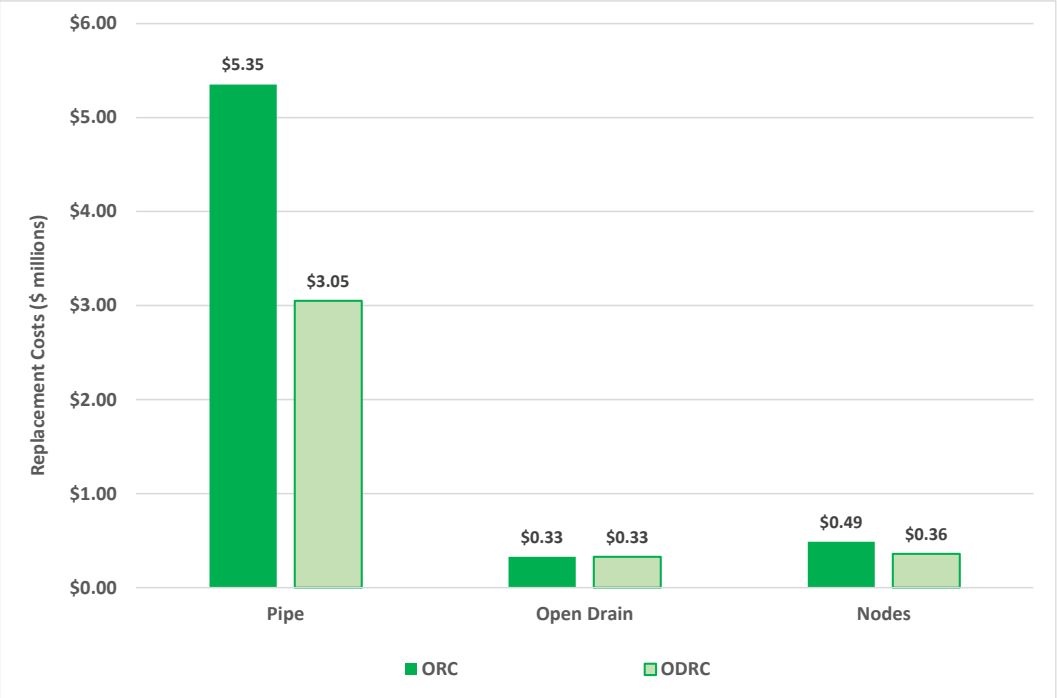
8.4.1 2020 Valuation Summary

Valuations of the three waters infrastructure were carried out in late 2020 and a summary of stormwater is provided below.

Table 8-1: Valuation Summary – Stormwater System 2020

Asset Type	ORC	ODRC	Annual Depreciation
Pipe	$5,350,942	$3,052,010	$44,610
Open Drain	$333,698	$333,698	$0
Nodes	$486,282	$360,713	$4,095
Total - Stormwater	**$6,170,912**	**$3,746,421**	**$48,705**

Figure 8-1: 2020 Stormwater Valuation Summary



Change in ORC from 2017 to 2020

The ORC increase from the 2017 valuation to 2020 was $1,794,427 or 41%. The key reasons for the increase since the previous valuation are:

- Increases in unit rates.
- Values of new assets added

8.4.2 Valuation Improvements Identified

The improvements identified in 2017, manhole depth factors, the development of predictive modelling in AssetFinda and a number of attribute improvement priorities to improve subsequent revaluations, are being developed.

Also discussed was the review of useful lives for assets that have reached the end of the useful lives and, as in service but "expired" assets, no longer contribute to the annual depreciation figure. The assets in question are reticulation pipes and nodes. Unless there is evidence that warrants then adjusting these lives arbitrarily is not warranted. Instead, develop predictive modelling to assess the remaining useful lives for this purpose.

8.4.3 Confidence Levels

The quantity and quality of the data (for the 2020 valuation) is tabled below:

Table 8-2: Assessment of Confidence Levels

Asset	Quantity	Replacement Cost	Life Expectancy	Condition
Stormwater assets	B	B	B	C

Where:

Confidence grade	Description
A – Highly reliable	Data based on sound records, procedures, investigations and analysis, documented properly and recognised as the best method of assessment. Dataset is complete and estimated to be accurate ±2%
B – Reliable	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings for example some data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ±10%
C - Uncertain	Data based on sound records, procedures, investigations and analysis, which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated ±25%
D – Very Uncertain	Data based on unconfirmed verbal reports and/or cursory inspection and analysis. Dataset may not be fully complete and most data is estimated or extrapolated. Accuracy ±40%
E - Unknown	None or very little data held

(*Source – IIMM 2015*)

It is accepted that most condition data across the data is anecdotal hence the C rating, however, it has not been taken into the overall data confidence grade as condition was not used to adjust remaining useful life. Taking condition out of the assessment, we consider a data confidence of B is appropriate for this valuation.

8.5 How We Fund Our Activity

The following summarises the ways in which the storm water activity is funded:

- Operations and Maintenance
  - General Rate (Urban)
- Renewals
  - Depreciation
  - Loans (either internal or external
- Capital
  - Development/Financial contributions
  - Private or Community contributions

8.6 Financial Statements and Projections

The financial summaries in this AMP cover a minimum 10-year planning horizon and are based on financial projections covering the lifecycles of the assets. Additional projections out to 20 years have also been provided to confirm if any major expenditure is likely to occur in the next planning horizon that may have an impact and should be considered as part of financial decision making process.

The following tables summarise the 10-year financial forecast for the Stormwater Activity under the following headings:

- Operations & Maintenance
- Capital works – Growth
- Capital Works – Increased Level of Service
- Capital Works – Renewals
- Capita Works – Vested Assets

8.6.1 Renewal and Operational Expenditure

The renewals profile is based on an asset useful life. At present asset useful lives are based primarily on book values with some adjustment for known risk factors. These will be refined over time by determining evidence-based useful lives using a combination of condition and performance data.

Table 8-3: 10 Year Renewal Expenditure Forecasts – All Assets

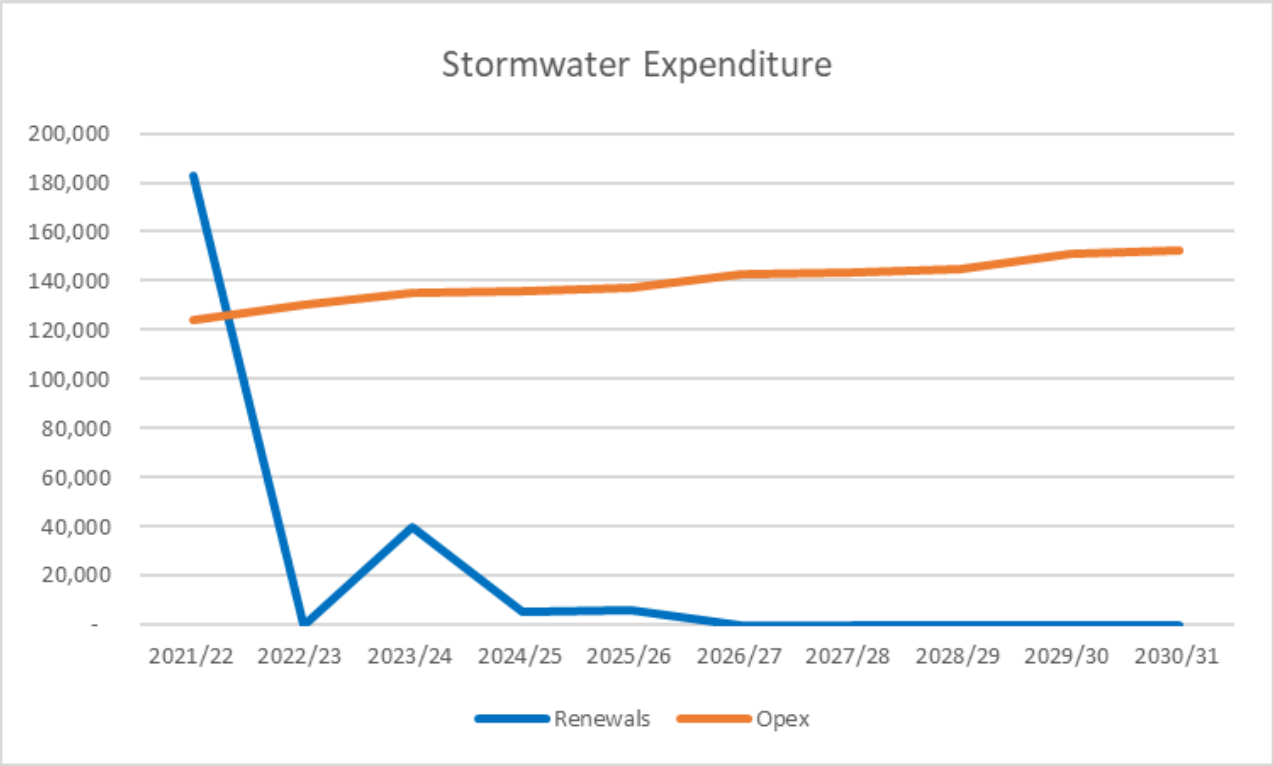
Remaining Useful Life Group	Stormwater_line	Stormwater_point	Grand Total
0 or less	$13,930		$13,930
1 - 5	$44,560	$5,139	$49,699
16 - 20		$2,570	$2,570
Total	$58,491	$7,709	$66,199

Table 8-4: Detailed Maintenance & Operational Expenditure (figures are inflated)

Stormwater - 5530	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Grand Total	-23,365	-32,148	600	-	-	-	-	-	-	-
Total Operating Revenue	-104,579	-136,527	-126,566	-124,370	-130,585	-135,443	-136,053	-136,956	-142,802	-143,682
5530011 - General Rates	-95,201	-127,635	-118,232	-120,566	-126,651	-131,137	-131,654	-132,158	-137,563	-137,920
553007305 - Internal Interest	-6,379	-7,548	-4,530	-	-	-290	-290	-583	-927	-1,320
5530081 - Capital Contributions	-3,000	-1,343	-3,804	-3,804	-3,933	-4,016	-4,108	-4,215	-4,312	-4,442
Total Operating Expenditure	81,215	104,379	127,166	124,370	130,585	135,443	136,053	136,956	142,802	143,682
5530333 - General Expenses	67	-	1,028	1,028	1,063	1,085	1,110	1,139	1,165	1,200
5530336 - LAPP Disaster Fund	1,772	1,833	2,017	2,341	2,421	2,471	2,528	2,594	2,654	2,733
5530349 - Repairs and Maintenance	-	-	308	308	318	325	333	341	349	360
5530356 - Telephone Expenses	193	193	206	206	213	217	222	228	234	241
5530357 - Utilities charges	8,034	4,825	7,093	5,346	5,528	5,644	5,774	5,924	6,060	6,242
553040311 - Depreciation	33,387	33,387	40,812	55,677	55,677	60,131	60,131	60,131	64,941	64,941
553040405 - Internal Interest	678	5,920	12,160	3,683	46	-	-	-	-	-
553040406 - Internal Loan - internal interest	-	17,500	13,600	9,300	14,700	14,100	13,500	12,900	12,300	11,700
5530405 - Insurance	778	881	740	863	892	911	932	956	978	1,008
553042405 - Internal Rent	3,228	3,336	3,562	6,435	6,609	6,804	7,078	7,227	7,383	7,585
5530425 - Rates	4,003	4,276	4,560	4,803	4,966	5,071	5,187	5,322	5,445	5,608

5530501 - Asset Mgt Plan	1,014	2,160	4,404	3,804	3,933	4,016	4,108	4,215	4,312	4,442
5530504 - Consultants	-	-	1,028	1,028	1,063	1,085	1,110	1,139	1,165	1,200
5530506 - Contractors	730	-	2,262	2,262	2,339	2,388	2,443	2,507	2,564	2,641
5530510 - Operational Maintenance	-	820	3,000	3,000	3,102	3,167	3,240	3,324	3,401	3,503
5530601 - HR Costs - 8125	490	436	533	267	326	332	339	345	351	357
553060101 - 8126 - Health & Safety O/H Recoveries	1,150	1,159	944	605	623	632	643	656	670	685
5530602 - Corporate Services Costs - 8120	4,135	4,832	5,155	2,023	2,093	2,108	2,162	2,213	2,239	2,283
5530604 - Utilities Costs - 8140	2,385	3,242	3,179	697	679	623	619	679	716	714
5530606 - Asset Management Unit Costs - 8160	8,738	9,344	9,914	11,714	12,231	12,370	12,495	12,656	12,881	13,082
5530608 - Network Costs	2,293	2,187	2,579	2,089	2,083	2,142	2,137	2,123	2,262	2,255
5530609 - CEO & Finance Costs - 8110	3,554	3,386	3,573	1,253	1,320	1,368	1,390	1,414	1,441	1,472
5530611 - Support - Asset Manager	4,586	4,662	4,509	5,637	8,361	8,451	8,571	8,922	9,290	9,432
Capital Projects										
553075007 - Stormwater - Queen Street Upgrade	341,167	-	-	-	-	-	-	-	-	-
553075009 - Stormwater - SW Manhole SW171 Replacement	-	-	-	5,400	5,762	-	-	-	-	-
553075010 - Stormwater - CCTV Assessment of Mains	5,265	5,170	-	5,400	-	5,668	-	-	-	-
553075011 - Stormwater - Belt Street main renewal	12,200	-	-	-	-	-	-	-	-	-
553075012 - Stormwater - Manse Street crossing renewal	-	-	40,117	-	-	-	-	-	-	-
Capex Total	358,632	5,170	40,117	10,800	5,762	5,668	-	-	-	-

Figure 8-2: Stormwater Expenditure



8.6.2 Utilities (Water, Wastewater & Stormwater) Renewals and Capital Summary

The following details the summary of new capital and renewals for all three services for the 10 year period.

Table 8-5: Utilities (Water, Wastewater & Stormwater) Renewals and Capital Summary

3Waters	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Renewals	2,240,127	876,212	876,231	1,222,776	1,066,103	869,811	855,851	1,916,372	1,716,352	1,737,177
Levels of Service	3,660,143	156,557	57,008	5,400	-	5,668	-	-	-	-
Growth	490,080	716,133	326,064	-	-	-	326,928	337,708	-	-
Total	**6,390,350**	**1,748,901**	**1,259,302**	**1,228,176**	**1,066,103**	**875,479**	**1,182,779**	**2,254,080**	**1,716,352**	**1,737,177**

Figure 8-3: 3Waters Renewals and Capital Projects

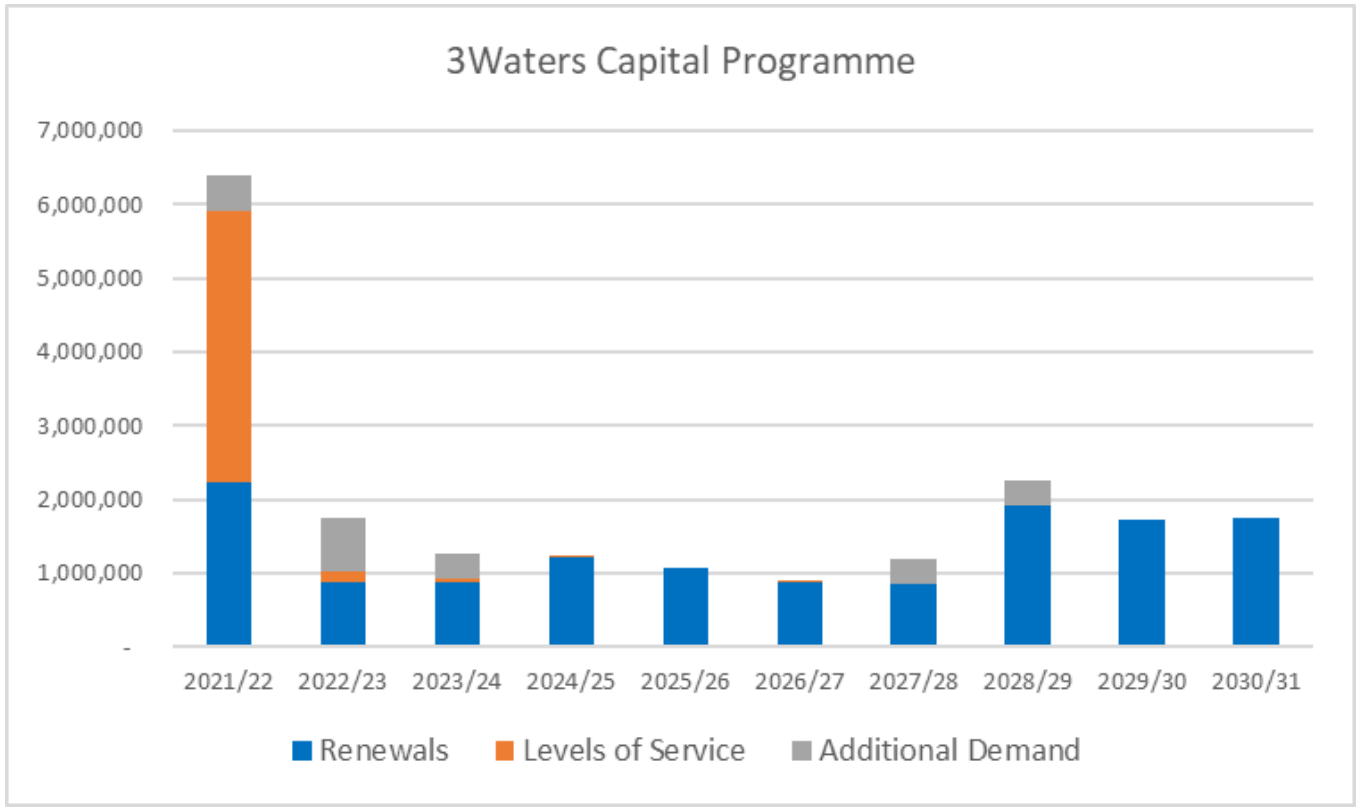
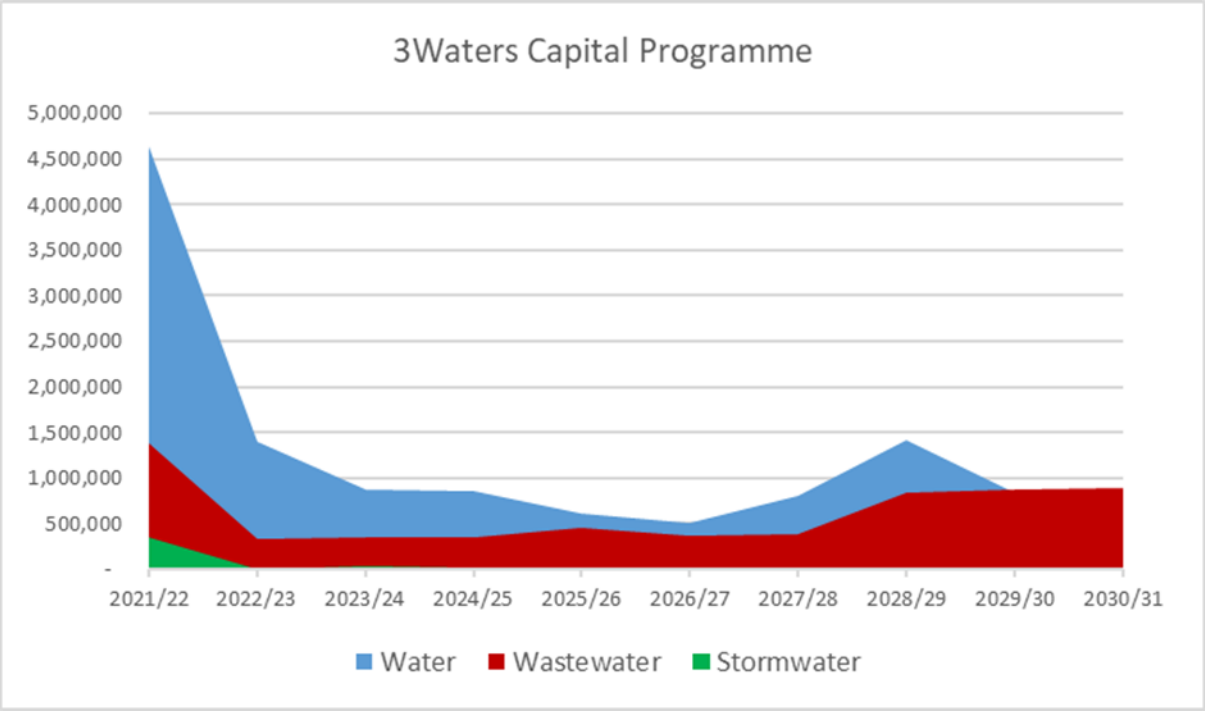


Table 8-6: 3Waters Capital Programme

Utility	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Water	4,643,522	1,403,545	875,555	866,376	607,682	506,492	803,309	1,418,856	848,458	845,877
Wastewater	1,388,196	340,186	343,630	351,000	452,659	363,319	379,470	835,224	867,894	891,300
Stormwater	358,632	5,170	40,117	10,800	5,762	5,668	-	-	-	-

Total	**6,390,350**	**1,748,901**	**1,259,302**	**1,228,176**	**1,066,103**	**875,479**	**1,182,779**	**2,254,080**	**1,716,352**	**1,737,177**

Figure 8-4: 3Waters Capital Programme



8.7 Key Financial Forecasts Assumptions and Uncertainties

Overview

Forecasting assumptions and uncertainties are essential in the operation of Council's assets to indicate the levels of risks associated with those assumptions. Where necessary additional strategies can be implemented to reduce the risk.

The LGA 2002 - Schedule 10, Part 1 (11) requires the Council to clearly define all the significant forecasting assumptions and risks that underlie the financial estimates, assumptions concerning the useful life of significant assets and an estimate of the potential effects of the uncertainty on the financial estimates provided.

Appendix C details the significant forecasting assumptions for the utilities.

8.7.1 Financial Forecast

The following table provide an assessment of the confidence in, and the accuracy of the 20-year financial forecast and supporting asset data. Table 8-8 and Table 8-9 detail the general meaning of the grades:

Table 8-7: Financial Forecast Confidence Level

Activity	Confidence Grade	Accuracy
Operations/Maintenance	B	2
Depreciation	B	2
Overheads		2
Funding Costs	C	3
Capital Expenditure	B	3
Debt Repayment	C	3
Overall	B	3

The overall confidence level is 'B' or reliable. Data is based on sound records, procedures, investigations and analysis which is documented but has some shortcomings and gaps that may impact on the confidence of long term financial forecasts.

The overall accuracy is 3 indicating that the accuracy of the financial forecasts is +/- 20%.

Table 8-8: Confidence Grades

Confidence Grade	General Meaning
A	Highly Reliable Data based on sound records, procedures, investigations and analysis, which is properly documented and recognised as the best method of assessment
B	Reliable Data based on sound records, procedures, investigations and analysis which is properly documented but has minor shortcomings for example the data is old, some documentation is missing and reliance is placed on unconfirmed reports or some extrapolation
C	Uncertain Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolation from a limited sample for which grade A or B is available
D	Very Uncertain

Confidence Grade	General Meaning
	Data is based on unconfirmed verbal reports and/or cursory inspection and analysis

Accuracy ratings are made using the criteria outlined in:

Table 8-9: Accuracy Ratings

Grade	Description	Accuracy
1	Accurate	100%
2	Minor inaccuracies	+ / - 5%
3	50% estimated	+ / - 20%
4	Significant data estimated	+ / - 30%
5	All data estimated	+ / - 40%

9.0 PROCESSES AND ASSET MANAGEMENT PRACTICES

This section outlines the information available on the assets, information systems used and process used to make decisions on how the asset will be managed. It also provides details on planning for monitoring the performance of the AMP

9.1 Organisation Structure

Figure 9-1: Waimate District Council Management Structure

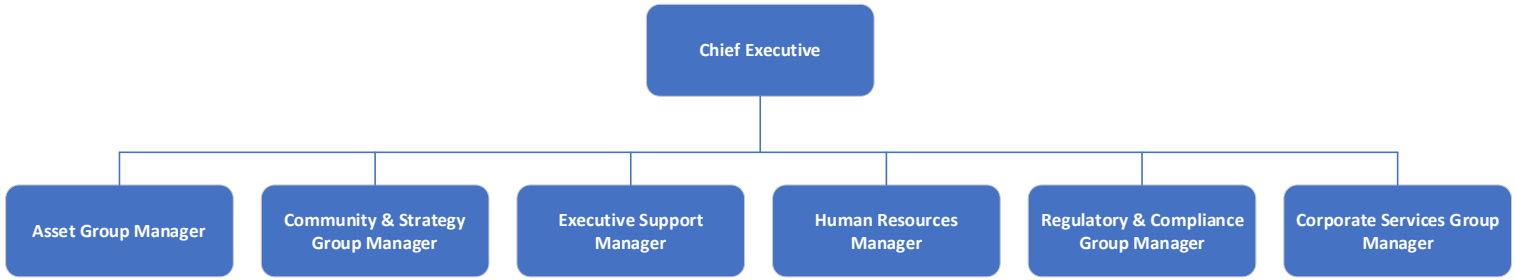
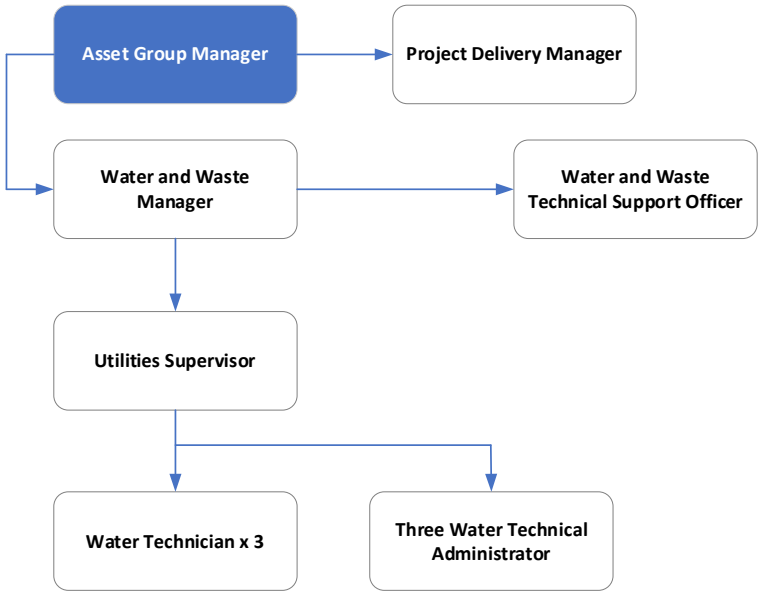


Figure 9-2: Water and Waste Unit Structure



9.2 Plan Review and Monitoring

9.2.1 Monitoring Approach

Council has developed this AMP based on its current knowledge of customer requirements, the configuration of the existing and future network to meet customer requirements, current asset information and the strategies to achieve customer requirements.

To further develop a meaningful AMP, including supporting processes, systems and data, Council recognise the need for a more structured approach. This approach includes:

- Council's firm commitment to implement and develop the AMP
- Incorporate this AMP as a tactical plan within Council's planning framework
- Review of the plans by internal staff and suitably qualified external consultants
- Aiming to produce an AMP that meets the requirements of the community
- Benchmarking key performance indicators against similar external TLAs
- A corporate commitment to implementing and maintaining suitable AM information systems
- Adopting a team approach to the preparation of future AMPs in order to maximise the buy-in of internal staff and sharing of specialised knowledge

9.2.2 Timetable for Audit and Review

The programme for future AM reviews of this AMP is in Table 9-1:

Table 9-1: Timetable for Audit and Review

Activity	Target Date
Improvement Plan reviewed annually by all staff directly involved and focusing on key business issues	30 June each year
Report on Improvement Plan	30 June each year
AMP updates involving members of staff involved in preparing specific aspects of the AMP	30 June each year
Internal AMP peer review by staff not directly involved in preparation of AMP	30 June each year
Adoption of AMP by Council	30 June every 3 years
External benchmarking by internal staff	Annually
Audit NZ external audit	As required by Audit NZ

9.2.3 Utilisation of AMP's

Historically Asset Management Plans have been carried out for regulatory requirements and not used on an on-going basis. Table 9-2 below details the methodologies for the on-going implementation and updating of AMP's within Council to ensure the Three Waters Asset Management Plans are used to their full potential.

Table 9-2: Methodologies for the On-going Implementation and Updating of AMP's

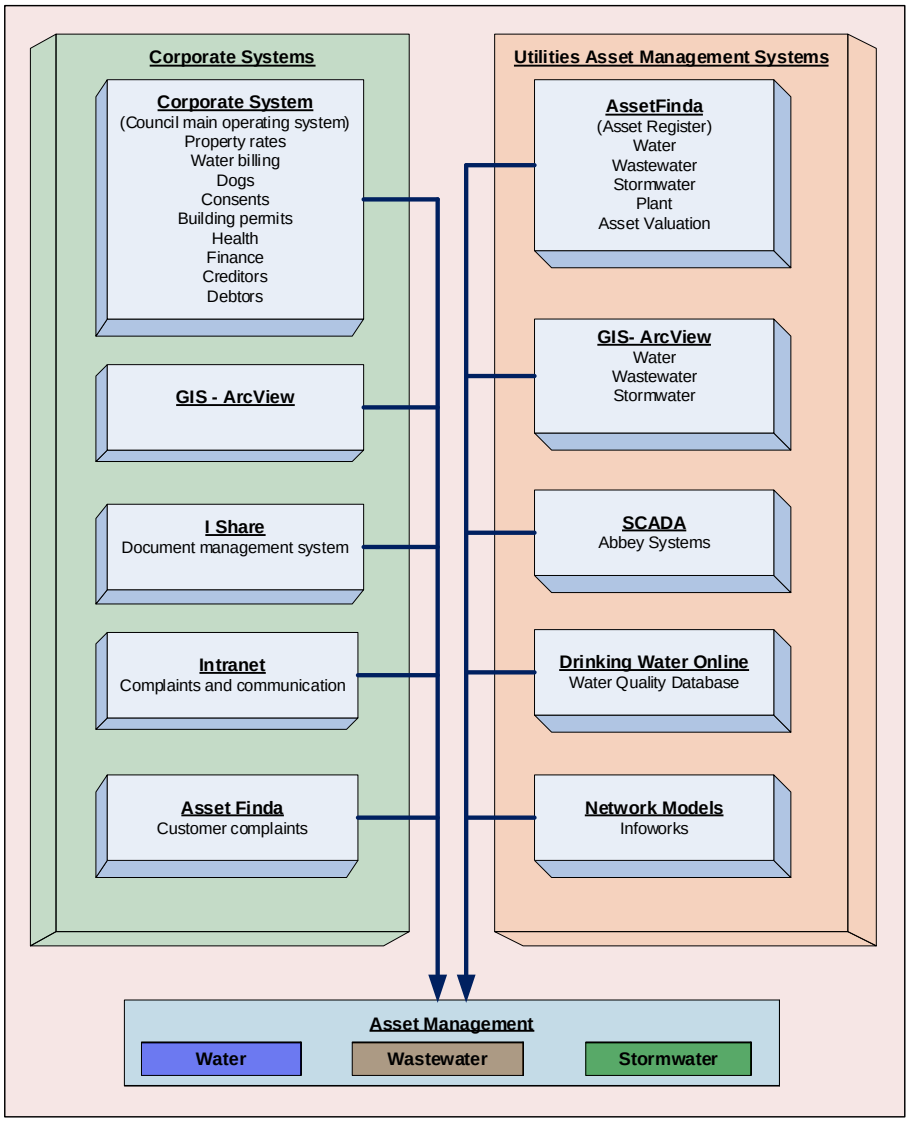
Methodologies	Output
Continuation of the organisational culture of asset management	The asset management culture needs be supported by the Chief Executive and senior managers in conjunction with the elected Council Effective stewardship and management of Councils major investment (assets) will not occur in the long term without a culture of asset management

Methodologies	Output
Resourcing of Asset Management Programmes	Asset management programmes must be adequately resourced
Roles and Responsibilities of Council Staff	The roles and responsibilities of Council staff as they relate to the AMP's implementation need to be defined in respect to the ongoing use of the plans as this will assist the AMP to remain relevant and current. To enable this to occur the following is required - The Activity Management Plans adopted/accepted by staff down to a defined level - Council Staff to know what's in the plans and how it could affect their day to day work - Council Staff to understand the reasons for the AMP and the implications for the long term use of them - Understand all the reporting requirements for Levels of Service and Internal Benchmarking - Training required in the use of the AMP (what's in it, how work is done, on-going requirements for monitoring, review and updating) - Instigation of processes to encourage Council Staff to use the AMP

9.3 Business Processes

Figure 9-3 details the data systems that are presently used within Council and their relationship with other systems.

Figure 9-3: Council Data Systems



9.3.1 AssetFinda

Council uses the AssetFinda Asset Management system for its Asset Information System. AssetFinda have been used since 2005 and is a web/GIS based asset management system. This has greatly improved the information on the scheme assets and enhance the future AMP and Asset Valuations. Some of the outputs from AssetFinda includes:

- Complete asset register for the scheme
- Completion of asset valuations
- Maintenance can be entered into the database. Cumulative costs of maintenance on each asset can be assessed
- Predictive analysis to indicate when assets should be replaced
- Condition monitoring of assets
- Complete “what if” scenarios to determine the optimal time to replace assets

AssetFinda was selected for the following reasons:

- Ease of use
- Simple functionality

- Low initial fee structure
- Low on-going fee structure

Table 9-3: AssetFinda Functionality and Utilisation by Council

Register Functions	Utilisation
Water	Water lines, points and plant details
Wastewater	Wastewater lines, points and plant details
Stormwater	Stormwater lines, points and plant details
Maintenance History	Cumulative maintenance costs of an asset. Maintenance history is also linked to the asset in GIS
Valuation	Used on an annual basis
Criticality	To be populated
Condition & Performance	Scores held in register

Data will be collected continually throughout the year and entered into AssetFinda. Further improvements are programmed and relate to field collection of data through the new developer – Univerus.

Metadata Standards

A Central Government funded project is the 'Metadata Standards' which sets national metadata standards for the 3-waters (potable, waste and storm) network, and for residential and light commercial buildings. This is to ensure the correct asset data is collected and in the correct manner.
Going forward Council will align its data collection and recording with the Metadata Standards. However, the existing data will be held and only aligned with the standards over time as more current information is captured.

9.3.2 GIS

Plans for reticulation and facilities for the three utilities are entered into AssetFinda as they are received. Where information is received from contractors on the utilities services then ArcView is updated. Council does not have a robust system of ensuring that all subdivision plans are of the required standard prior to importing into ArcView.

Council utilities staff are currently using Windows tablets to facilitate field collection of data. Improvements are currently programmed.

Asset Data

The majority of asset quantity, location and pipe size data are held in the GIS system. There are a number of quality assurance processes are used to ensure the reliability of the data recorded. These processes include:

Table 9-4: GIS Data

Item	Details
Sampling of assets contained in the GIS / AMS	Using field tests to check the reliability of pipe capture, pipe quantities and pipe size within the GIS/AMS

Item	Details
Coverage testing	Checks by Asset Managers that assets captured in particular areas reconcile with the services known to be provided
Continuity checks	These are carried out in GIS to identify breaks in the piping networks and gaps in the data
Historical and new data	GIS capture of historical data has been derived from professional engineering and survey plans, from Council record sheets or Council staff knowledge. The on-going capture of asset data is derived from engineering as-built plans. All As-Built plans received by Council are required to comply with strict specifications and all data entered into the GIS/AMS is the subject of quality assurance processes

9.3.3 Network Modelling

Computer models (Infoworks) of the stormwater exist. This enables Council to:

- Determine accurately the existing capacity of the system
- Identify inadequate sections of the system
- Operate the system in the most efficient manner
- Determine the impact of further development on the system
- Identify system upgrading requirements
- Compare options for upgrading the Stormwater System

The network models are operated and maintained by external consultants, Opus International Consultants Ltd.

Further modelling has been completed by Ecan and will be used to identify overland flow path requirements in the future.

9.3.4 Complaints database

The Council operates a complaints database through a 'Request for Service System' via AssetFinda. This records all complaints associated with the Three Waters and Roading activities and provides useful information for trending and analysis of system performance and highlights issues.

The database has now been updated such that service requests can now be analysed by relevant performance measures (Levels of Service) and priority response times included within AssetFinda.

SCADA System

There are no stormwater assets or sites where SCADA is installed or monitoring takes place.

10.0 IMPROVEMENT PLAN

This section details the improvements to AM systems that will increase the level of confidence in the AMP.

10.1 Asset Management Improvement Process

Background

Council is committed to on-going improvement in the quality of its Stormwater Services management practices. This is reflected in the implementation of asset management systems and associated data collection and maintenance requirements.

This Improvement Plan is integral to that approach, quantifying current business practice and measuring progress toward an identified future position.

Purpose of the Improvement Plan

The purpose of the Improvement Plan is to:

Identify, develop and implement AM planning processes

Identify and prioritise ways to cost-effectively improve the quality of the AMP

Identify indicative time-scales, priorities, and human and financial resources required to achieve AM planning objectives

The Improvement Plan is subject to constant reappraisal and change. While reappraisal is an on-going process, the Improvement Plan will form the basis of the stormwater service annual business planning. The following table details the Improvement Programme shown in the 2014 AMP and the progress of the individual projects.

10.2 Improvement Programme

Council is committed to on-going improvement in the quality of its asset management practices until appropriate practice levels are achieved. This is reflected in the current improvement programme for the period 2018-21 and the achievements made in the period 2015 to 2018.

Table 10 1 presents the current status of the 3 Waters Improvement Programme as at January 2018.

Improvement Priority

The improvement priority was carried out using the key areas of:

- Legislative requirements
- LoS achievement
- Where the assessed risk was considered high

Table 10-1: Achievement of 2012-2015 Programme and Proposed 2021-2024 Programme

Service	AM Area	No	2012-2014 Improvement Item	Year(s)	Completed	Comment	2015-2018 Improvement Plan and Comments	2018-2021 Improvement Plan and Comments	2021-2024 Improvement Plan	Year(s)
All	Level of Service (LOS)	1	Improvements to Council's Request for Service System via AssetFinda, to enable interrogation of service request system to analyse customer complaints and identification of problem area	2012-2013	Y	Service requests can now be analysed by relevant performance measure and priority response times included within the AssetFinda set-up.	Further development of the system is required to allow retrospective entry of after hour's information and also escalation. Council working with the developer to facilitate this. 2015-16. Completed – AssetFinda is now configurable to allow retrospective entry of Service Requests	-	-	2012-2013
W, WW & SW		2	Once National LOS are available, evaluating LOS Options by investigating the effects of varied LOS (financial, environmental etc.) and consult LOS options with the community (for inclusion of amended LOS into the 2015 LTP)	2014	N	Levels of service to be reviewed and included in 2015-25 LTP.	2014/15 - Implemented Non-Financial Performance Measures but no indication as yet to National Level of Service for three waters.	Monitoring	Monitoring	2014

Service	AM Area	No	2012-2014 Improvement Item	Year(s)	Completed	Comment	2015-2018 Improvement Plan and Comments	2018-2021 Improvement Plan and Comments	2021-2024 Improvement Plan	Year(s)
SW		3	Stormwater Management Plan - develop, submit and obtain approval	2013-2015	N	Alignment required with proposed Global Consent timing	Carry Over – Draft Stormwater Management Plan completed. Consent application is currently being drafted and affected landowners have been consulted. Application will be lodged in early 2018.	Consent application lodged 2017/18. Implementation 2018/19 to 2023/24	Consent application lodged 2017/18. Awaiting feedback from affected parties. Implementation 2018/19 to 2023/24	2017/18
All	Demand	4	Review if increased demand (population/demographics effects etc.) can be provided by existing infrastructure or addition assets/upgrades required (a watching brief)	2012/13	N	As new population figures / demographics / development information becomes available, Council is actively reviewing existing infrastructure / services to ensure LOS are met.	On-going	On-going	On-going	2020/21
Water	Growth	5	Continue to implement demand management programme in-conjunction with the leak detection program	On-going	N	Demand management will be achieved by a combination of pressure management and	No formal policy on demand management but achieved through processes such as water conservation	Develop policy in relation to demand management and provide pressure management	On-going	2019/20

Service	AM Area	No	2012-2014 Improvement Item	Year(s)	Completed	Comment	2015-2018 Improvement Plan and Comments	2018-2021 Improvement Plan and Comments	2021-2024 Improvement Plan	Year(s)
						developing policy in relation	messages as required.			
All		6	Continue to develop the existing population projections process that is Council approved and used across all areas of council	2012/13	Y	Process in place (yet to be formally adopted by Council).	Process developed for 2018/28 Long Term Plan.	Process developed for 2018/28 Long Term Plan.	Process developed for 2021/31 Long Term Plan.	-
Water		7	Leak detection in Waimate urban reticulation every three years	2012 2015 2018	N	Not completed in 2012. Programmed for 2015. Council has a watching brief on Midnight flow.	On-going – Last completed June / July 2015	On-going – Programmed for 2018 /19. However, Pipe replacement reduced water loss significantly, so no leak detection took place in the period. Council continues to watch Midnight flow and monitor water loss (Performance Measure).	On-going – leak detection is planned for 2021/22. Water loss monitoring will Continue. Other forms of leak detection/water loss will be implemented in 2021/22 such as consumer service meters (RF).	2018/19 2021/22 2024/25
~~Water~~		~~8~~	~~Develop Water Demand Management Plan/Strategy to formalise, improve and guide existing demand management initiatives~~	~~2013/14~~	~~N~~	~~Re-programme for 2015– 2025 LTP~~	~~Carry Over~~	See IP 5	See IP 5	-

Service	AM Area	No	2012-2014 Improvement Item	Year(s)	Completed	Comment	2015-2018 Improvement Plan and Comments	2018-2021 Improvement Plan and Comments	2021-2024 Improvement Plan	Year(s)
All	Sustainability	9	Assess staffing levels to ensure sufficient resources to meet demand	2011/12	N	Council is currently in the process of creating the new role of "Group Asset Manager". It is envisaged that this role will become operational in early 2015 and is created to assume a more strategic role to free up existing managers.	Extend to include staff succession planning for unplanned staff absences, resignations or retirements 2015-2018 – Additional staff member allocated to support the Asset Management Business Unit. Additional Water Treatment Plant Operator allocated to meet additional workload once plants are upgraded to meet Extend to include staff succession planning for unplanned staff absences, resignations or retirements 2015-2018	Next major assessment programmed for 2021/31 LTP	Currently there are major changes in water legislation, regulation and potentially standards and solutions. These changes will impact the way 3 water services are managed and operated their supplies and networks. Increase compliance and greater expectations around levels of service will mean reviewing staffing levels on a regular basis until July 2024, to be assured of meeting legislation, regulation requirements.	2020/21 Onwards

Service	AM Area	No	2012-2014 Improvement Item	Year(s)	Completed	Comment	2015-2018 Improvement Plan and Comments	2018-2021 Improvement Plan and Comments	2021-2024 Improvement Plan	Year(s)
All	Risk	10	A Council wide risk policy to be developed	2012/13	N	Risks have been identified in a methodical manner through the Audit Committee.	Carry Over	Carry Over	Carry Over	2018/19
All		11	A critical assets study to be undertaken to identify critical assets and identify and adopt risk mitigation strategies for the operation, maintenance and renewal of all critical assets. The critical assets to be shown in AssetFinda	2012/13	Y	-	Carry Over	Completed 2017/18.	-	-
Water		12	*New 2014:* Implementation of Water Safety Plans	2014 Onwards	N	Currently approved water safety plans for Waimate Urban, Cannington-Motukaika, Waihaorunga, Waikakahi Submitted Hook-Waituna, Lower Waihao Under development, Otaio Makikihi	Carry Over	All water safety plans were approved and being implemented. Some capital works proposed in the 2018-28 LTP were subject to approval. Implementation and review on five year cycle.	Water safety plans are either being implemented (4) or undergoing review (1) and assessment (2) currently. Some capital works proposed in the 2021-31 LTP are still subject to approval. Implementation and review on five year cycle.	On-going

Service	AM Area	No	2012-2014 Improvement Item	Year(s)	Completed	Comment	2015-2018 Improvement Plan and Comments	2018-2021 Improvement Plan and Comments	2021-2024 Improvement Plan	Year(s)
All		13	Develop Business Continuity and Emergency Management Plan (for rapid and structured response to emergency failures and significant hazards) and ensure review control process is carried out	2013/14	N	Major developments in communication of significant issues have been made.	Carry Over	On-going	On-going	2018/19 Onwards
W & WW	Lifecycle	14	To better understand the different AC pipe life a programme of assessing the condition of the pipes in all the schemes that contain AC pipe will occur	2012-2015	N	A number of samples taken	Carry Over	On-going. A number of pipe samples have been recovered and assessed from both the rural and urban schemes. Results of these assessment will continue to inform the renewal programme.	On-going	2018/19 Onwards
Water		15	To better understand the different “old PE pipe” life, a programme of assessing the condition of the pipes in all the schemes that contain Old PE pipe will occur.	2012-2015	N	-	2015-2018	Develop programme to retain and assess samples to better inform rural renewal programmes	On-going	2018/19 Onwards

Service	AM Area	No	2012-2014 Improvement Item	Year(s)	Completed	Comment	2015-2018 Improvement Plan and Comments	2018-2021 Improvement Plan and Comments	2021-2024 Improvement Plan	Year(s)
Water		16	The location and extent of Garnite PVC pipes are required to be found and the information shown in both AssetFinda and GIS. This will allow greater understanding of the future renewals programme for this type of pipe.	On-going	-	As these are encountered the asset database is updated	On-going	On-going	On going	On-going
		17	*New 2014*: Continue condition assessment of plant assets to better understand future renewals programme for above ground assets	-	N	Condition assessments to be carried out	2015-2018	Condition and Criticality assessments to be completed.	On-going	2018/21
WW		18	CCTV of the condition 4 & 5 grade pipes are required to be carried out again to ascertain the decrease in condition and assist in the renewal programme	2012-2015	N	CCTV is utilised as a maintenance activity currently. Information yielded from these surveys, and future surveys will inform the renewal programme.	On-going	On-going CCTV inspections were utilised to ensure programmed renewals are both required and cost effective.	On-going	2018/21

Service	AM Area	No	2012-2014 Improvement Item	Year(s)	Completed	Comment	2015-2018 Improvement Plan and Comments	2018-2021 Improvement Plan and Comments	2021-2024 Improvement Plan	Year(s)
All		19	Develop a Condition Assessment Strategy			To identify which, where and when condition assessments will be performed in consideration of criticality, LoS, asset records, Council engineers visual assessment of failures and specialists assessments as required.		Develop and implement prior to 2020/21 review of # Waters AMP's	On-going – Staff training has occurred in condition assessment.	2018/21
All		20	Develop a comprehensive renewal programmes based on analysis of condition and capacity once condition assessments have been carried out	2012-2015	N	Condition assessments to be carried out as part of the improvement of data quality	On-going	Condition assessments to be implemented concurrently once strategy in IP 19 is developed	On-going – Staff training has occurred in condition assessment..	2012-2015
All		21	Review and document operations and maintenance strategies based on criticality and risk	2013/14	N	-	2015-2018	Review Lifecycle sections of Amp's once criticality and risk assessments are progressed	On-going	2020/21
All		22	Formalise and update the existing maintenance schedules and procedures quality procedures, contingency and operation and maintenance manuals	2012-2015	N	Utilisation of AssetFinda to Schedule maintenance alongside formalising by	2015-2018	Implement scheduled maintenance of key assets within AssetFinda Version 4	Carry over – issues with implementation of AssetFinda Version 4. Schedule still to be	2018/19

Service	AM Area	No	2012-2014 Improvement Item	Year(s)	Completed	Comment	2015-2018 Improvement Plan and Comments	2018-2021 Improvement Plan and Comments	2021-2024 Improvement Plan	Year(s)
						means of manuals is required				
All	Financial	23	Review asset materials codes and size ranges to see if there is scope for rationalising the information, both to assist with valuation and for general asset management purposes	2012/13	Y	Completed this year	-	-	-	-
All		24	Continue to keep good records of construction costs, especially for rural pipelines, to provide better information for future valuation updates.	On-going	Y	-	On-going	On-going	On-going	On-going
All		25	Updating asset inventory to reflect changes resulting from capital works and continue to do so.	On-going	Y	-	On-going	On-going	On-going	On-going

Service	AM Area	No	2012-2014 Improvement Item	Year(s)	Completed	Comment	2015-2018 Improvement Plan and Comments	2018-2021 Improvement Plan and Comments	2021-2024 Improvement Plan	Year(s)
All	AM Practices	26	It is proposed as part of future improvements in the management of AssetFinda/GIS - to ensure sufficient resources are available (both internal and external) to enable the full use of AssetFinda/GIS for the operation, management and administration of the utility services	2011/12	Y	Occurred during the 2014 / 15 Financial Year	-	-	-	-
All		27	Council continue to maintain the AssetFinda asset database and improve accuracy of data through review and modification of collection, storage, and auditing with prioritising on criticality including the development of Data management standard	On-going	-	-	On-going	On-going	On-going	On-going
All		28	Complete data capture and update records for underground assets - to the asset management systems and ensure adequate resources are available for data entry and on-going data maintenance	On-going	-	-	On-going	On-going	On-going	On-going

Service	AM Area	No	2012-2014 Improvement Item	Year(s)	Completed	Comment	2015-2018 Improvement Plan and Comments	2018-2021 Improvement Plan and Comments	2021-2024 Improvement Plan	Year(s)
All		29	Continue to and complete data capture and update records for all facilities assets - to asset management systems	On-going	-	-	On-going	On-going	On-going	On-going
All	Improvement Programme	30	Develop long term improvement programme to achieve the Council's appropriate practice policy	2014/15	-	Not currently documented	Yes	Asset Management sophistication and Maturity Index assessments need to be completed.	Asset Management sophistication and Maturity Index assessments need to be completed prior to next generation 2024	2018/19
All	Lifecycle	31	Align the asset data in AssetFinda with the criticality assessment ratings					Import criticality ratings post implementation of AssetFinda Version 4. Provide a high level list of critical assets for ease of identification	Carry over – Complete with urgency to enable comparison of age predicted model with condition and performance weightings.	2018/19
		32	Consider and implement recommendations from criticality assessment					On-going	On-going	2018/19 Onwards
		33	Revisit criticality assessment			The Havelock North Water Enquiry and 3Waters review may require a review of the		Maintain a watching brief on recommendations and legislation to ensure criticality	Maintain a watching brief on recommendations and legislation to ensure criticality	TBC

Service	AM Area	No	2012-2014 Improvement Item	Year(s)	Completed	Comment	2015-2018 Improvement Plan and Comments	2018-2021 Improvement Plan and Comments	2021-2024 Improvement Plan	Year(s)
						criticality assessment to ensure the focus remains correct.		assessments remain pertinent.	assessments remain pertinent.	
All	Lifecycle	34	N/A	2021-24		Systematically assess 3W's data reliability and present in a table			Complete systematic reliability analysis for 3W's assets. Once established utilise predictive modelling with condition and performance weightings to better understand longer term renewal requirements.	2021-24

10.3 Monitoring & Review Procedures

10.3.1 Monitoring Approach

Waimate District Council has developed this AMP based on an integrated asset management planning approach that includes:

- The configuration of networks to meet customer requirements, now and in the future
- Current asset information
- Well-developed strategies to achieve customer requirements

The further development of Council's asset management approach including supporting processes, systems and data will be needed to meet the appropriate level of asset management practice as set out in Council's Asset Management Policy. This Policy will be reviewed periodically to take into account legislative and other national practice changes.

10.3.2 Timetable for Audit and Review

The programme for future AM reviews of this AMP is in Table 10-2 below:

Table 10-2: Timetable for Audit and Review

Activity	Target Date
Improvement Plan reviewed annually by all staff directly involved and focusing on key business issues	30 June each year
Report on Improvement Plan	30 June each year
AMP updates involving members of staff involved in preparing specific aspects of the AMP	30 June each year
Adoption of AMP by Council	30 June every 3 years
Audit NZ external audit	As required by Audit NZ

Appendix A Individual System Description & Overview

A.1 Waimate Urban Scheme

The Waimate stormwater network services the town of Waimate with an estimated population of 3,000 people. The system consists mainly of a kerb and channel collection discharging into natural water courses and five stormwater pipe laterals. The reticulation consists of a variety of pipes and open drains all installed at different times, the majority of pipe material are concrete. The main receiving water for stormwater discharge is the Waimate Creek.

System Information

System Information			
Properties Connected			
Stormwater reticulation			
1. Length of Mains (m)	10,446	2. Number of Pump Stations	None
3. Number of manholes	65		
4. Number of pits	19		
5. Number of sumps	27		
6. Length of drains (m)	5,002		
Replacement Cost		7. Treatment assets	None
8. Total Scheme	$6,170,912		

Figure 10-1: Scheme Components

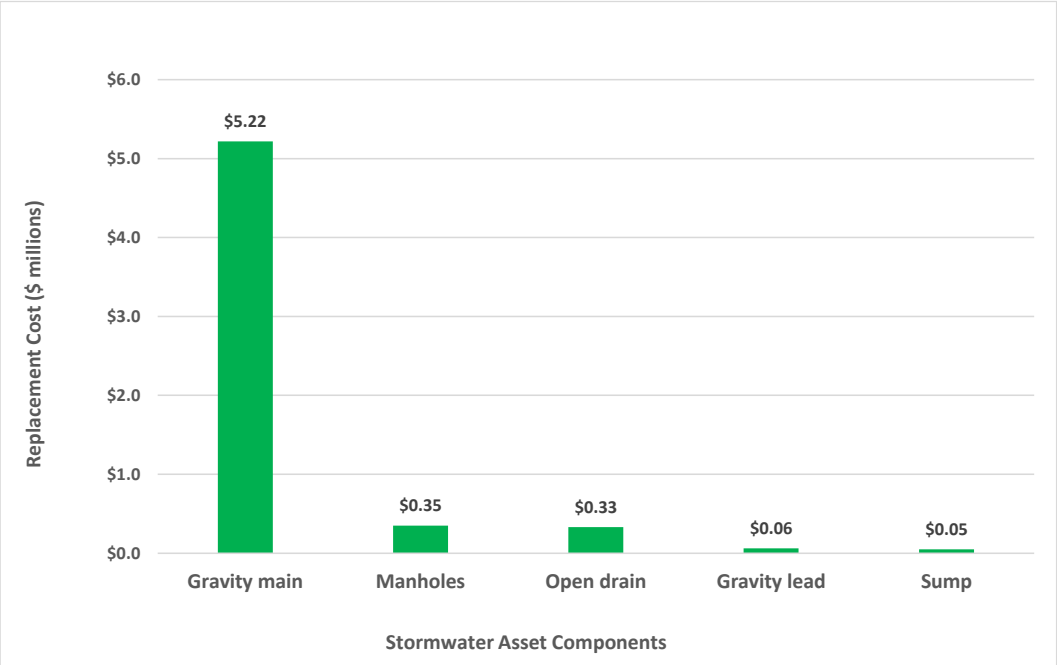


Figure 10-2: Stormwater Mains Diameter Range

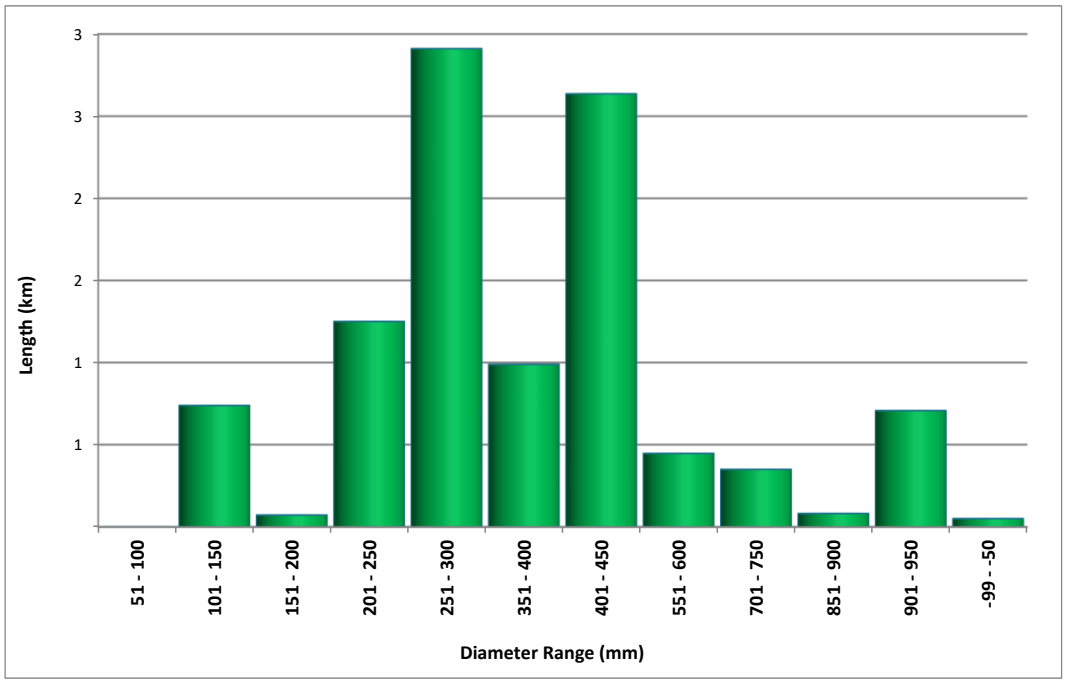
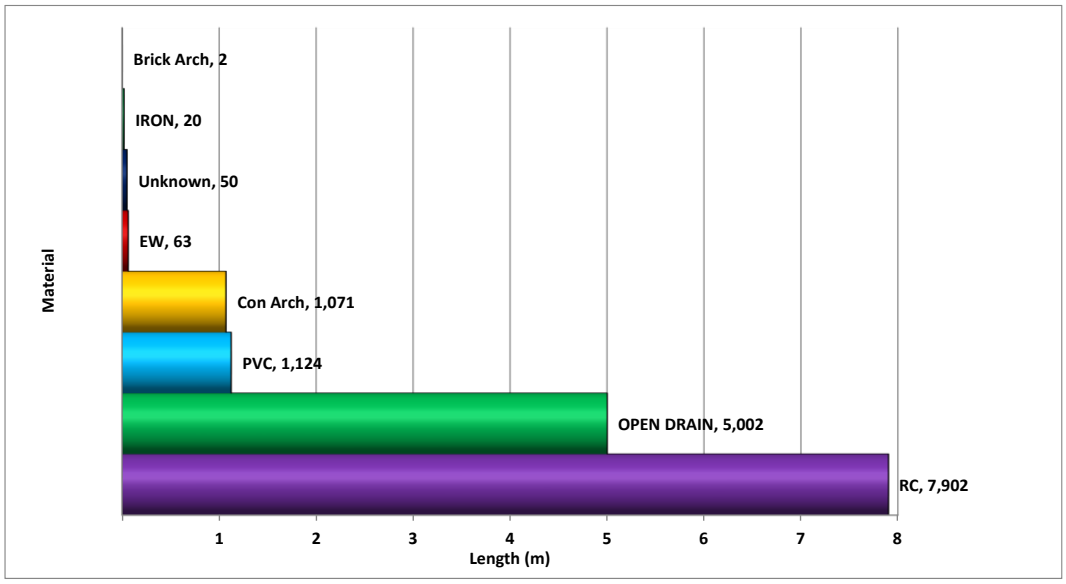


Figure 10-3: Stormwater Mains Material Length



The reticulation consists mainly of RC (52%), open drains (33%) and PVC (7%).

Figure 10-4: Pipe Length by size and material

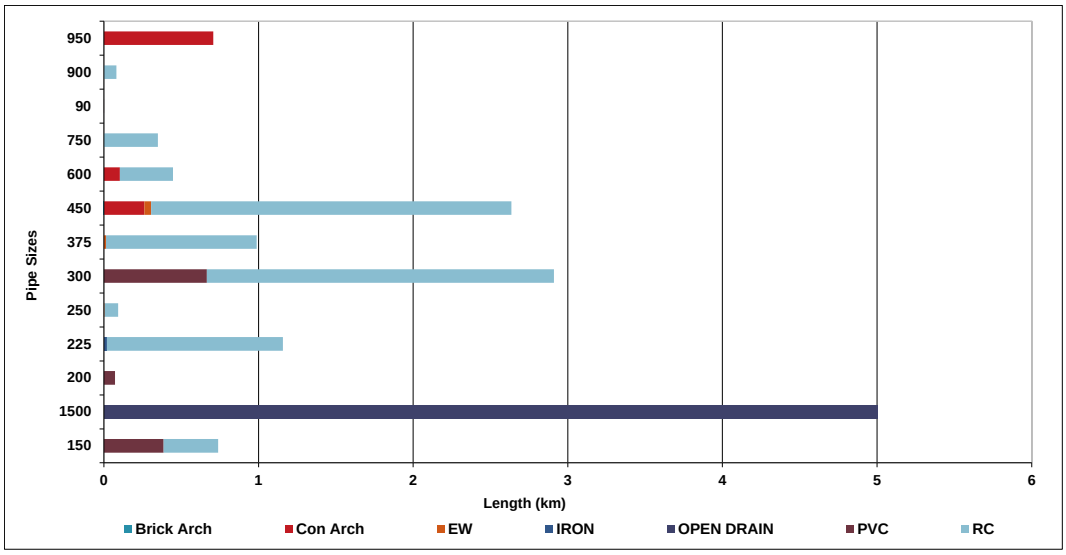
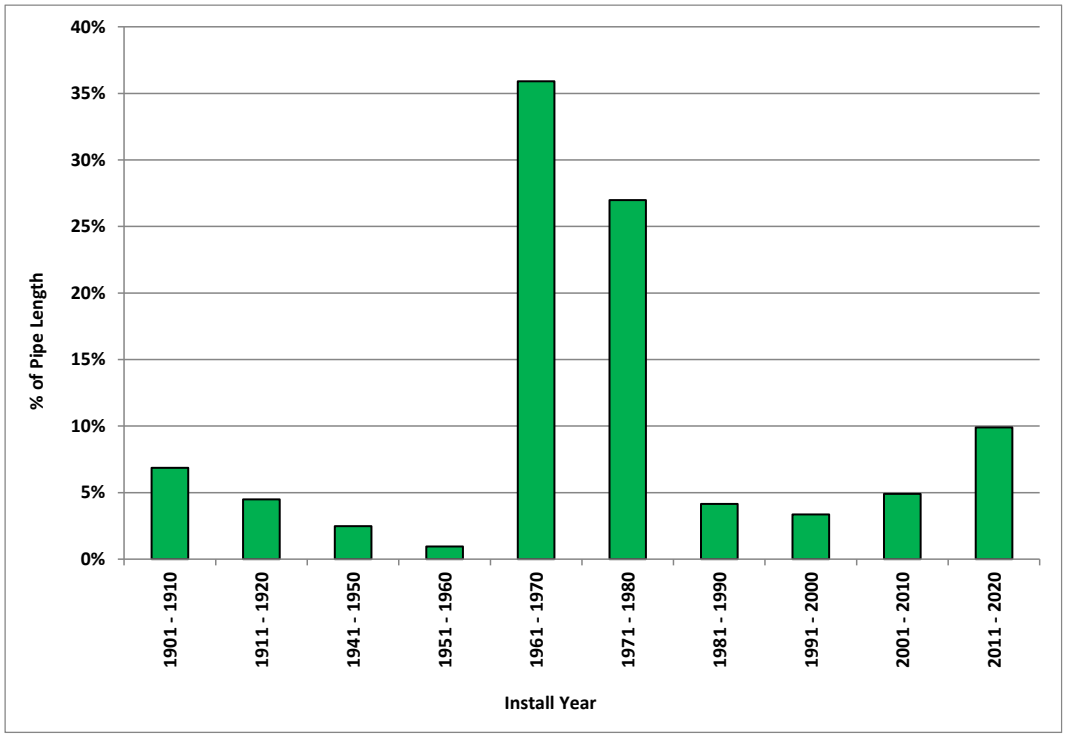


Figure 10-5: Stormwater Mains Install Year



Approximately 15% of the reticulation was installed during the period 1905 to 1960, and a further 63% installed during 1961 to 1980.

Figure 10-6: Reticulated Mains Forecast Renewal Date

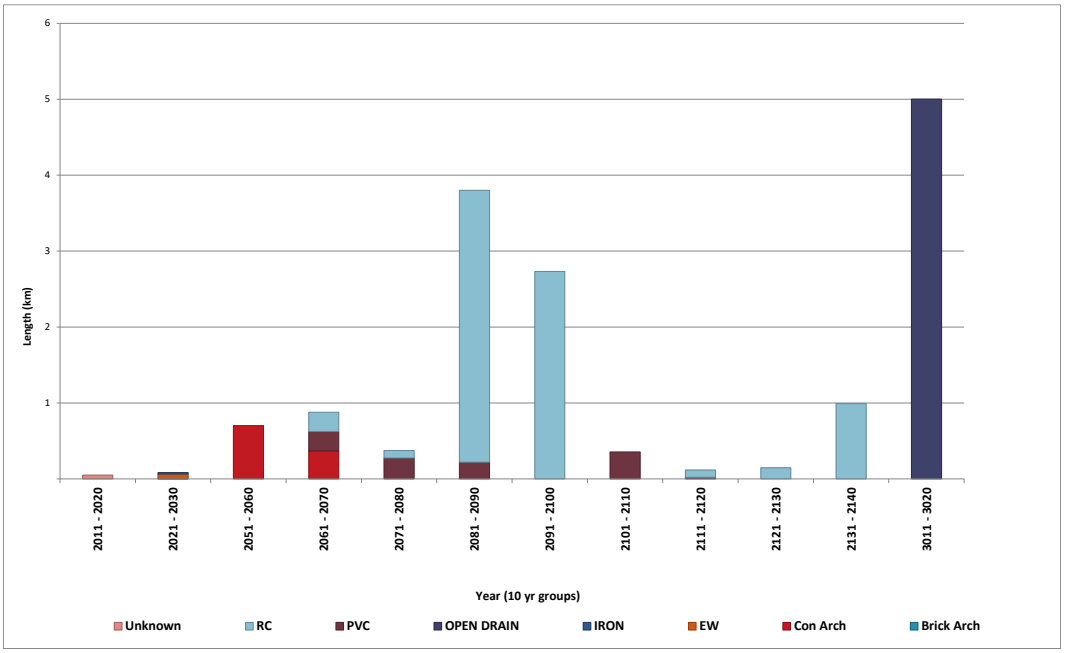


Figure 10-7: Total Asset Renewal Forecast – 5 Year Groups

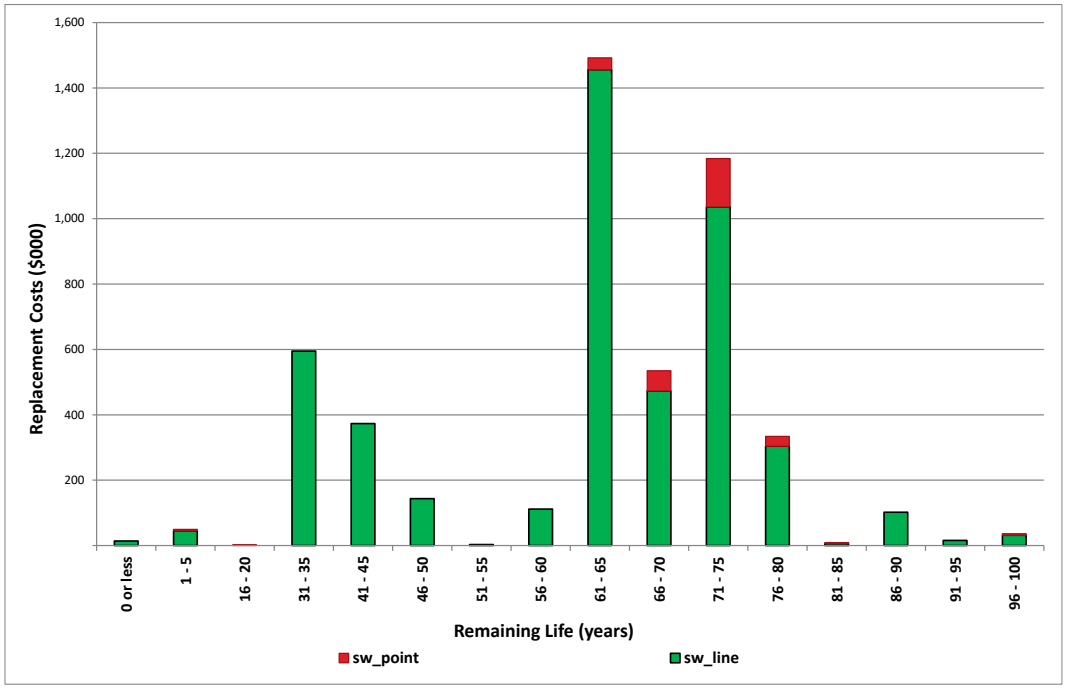


Figure 10-8: Waimate Stormwater Map

Appendix B Risk Assessments

The following table details the Risk Summary Table that was first established in 2011, which identifies risk management strategies to minimise risks associated with the provision of the Water, Wastewater, Stormwater and Solid Wastes services.

Risk Summary Table – All Services

No.	Weakness or Vulnerability	Risk	Gross Risk	Mitigation Strategies	Residual Risk	Improvement Required
1		Higher Level Policies, Procedures and Controls				
1.1	Subdivision Code, District Plan not up to date	Inappropriate development and/or poor design of assets.	Moderate	Subdivision and Development Code up to date and activity to have input to District Plan.	Low	
1.2	Operations Manuals not up-to-date	Failure to supply water or cause adverse health effects due to poor operation of assets.	Moderate	Operating Manuals substantially complete and ensure staff comply with requirements.	Low	The existing operation and maintenance manuals are to be updated where required. Particularly when treatment processes are updated
1.3	Not having clear direction on public consultation	Council in breech of LGA2002 with respect to Public Consultation.	Low	Need ability to get advice from specialist council staff on consultation plan for each project.	Low	
1.4	Districts Bylaws not up to date	Inability to properly control inappropriate behaviour by others.	Low	Bylaws up to date	Low	Bylaws are being updated prior to 30 June 2018
1.5	The Council does not have an acceptable position on the impact of climate change on service delivery	Financial loss due to liability for property damage, loss of asset. Not able to provide service.	Significant	Council needs policy and relevant action plans including relevant design parameters) on Climate Change.	Low	Strategies to implement Councils future policy on the effects of climate change
1.6	Inaccurate growth information or growth not considered	Inappropriate decisions made about development.	Moderate	Growth developed by Council	Low	
2		Financial				
2.1	Lack of long-term financial planning	Higher than necessary financial costs	Significant	Existing network models are up to date and available	Low	
2.2	Service levels vs funding and works not clear	Service levels not being met due to lack of funding as decision makers not aware of implications for Service Levels.	Significant	Set performance targets for next 10 years and monitor and report on performance. Impacts of delayed capital works reported to Council.	Low	
2.3	Assumptions for financial forecasting not always understood	Additional costs incurred because assumption/uncertainties not accounted for i.e.: asset valuations, depreciation	Significant	Finance/managers need to be aware of assumptions and uncertainties behind financial forecasting information.	Moderate	
2.4	Unforeseen Additional Costs	Reputation of Council detrimentally affected	Significant	Ensuring AMPs and asset information up to date	Low	

No.	Weakness or Vulnerability	Risk	Gross Risk	Mitigation Strategies	Residual Risk	Improvement Required
2.5	Valuations not accurate for asset facilities	Fixed Asset Register not reconciling with existing assets causing incorrect valuations and affecting true financial requirements	Low	Asset register reviewed and updated	Low	
2.6	Development Contributions policy not implemented and/or do not have robust system for calculating contributions from developers	Adequate contributions for development not obtained costing the Council more than it should. Council faces legal action if contributions not in line with Section 199 of the LGA 2002.	Moderate	Development Contributions Policy implemented.	Low	Changes to the RMA are likely to impact financial contributions.
2.7	All potential sources of Government and other external funding (Third Party funding) not appreciated or obtained	Higher cost to Council than should have been	Moderate	Identify potential availability of third party funding and apply / take advantage of it.	Low	
2.8	Insurance cover needs review	Insurance not adequate and unnecessary costs incurred	High	Insurance cover reviewed to ensure adequate cover on annual basis.	Low	
3		Organisational Management				
3.1	Lack of Strategic Thinking/ Long-Term planning	Inefficient use of time and money.	Moderate	Implementation of AMP and undertake condition assessments.	Low	
3.2	Failure to act on identified risk - e.g. Water Safety Plans Plans	Possible legal action against Council if event occurs which Council knew about. Public Health adverse affected.	Moderate	WSP's have been carried out and recommendations being implemented	Low	Need to monitor outcomes of Havelock North Enquiry and proposed 3Waters review
3.3	Lifelines Plan not up to date or implemented	Large scale asset failure due to a naturally occurring event resulting in prolonged and substantial loss of service to District	Significant	Ensure Lifelines Plan up-to-date and recommendations implemented that includes having a high level of risk reduction, readiness, response and recovery during and following Civil Defence Emergency.	Significant	Update lifelines plan, engage with regional lifelines group
3.4	Legislative requirements not understood	Council faces legal action because legal requirements are not met	Moderate	Annual reviews	Low	
4		Human Resources				
4.2	Accountabilities not clear	Staff not accountable for actions allowing apparent problems to continue	Moderate	Up-to-date job descriptions. Staff performance monitored and dealt with if not performing.	Low	

No.	Weakness or Vulnerability	Risk	Gross Risk	Mitigation Strategies	Residual Risk	Improvement Required
4.3	Information in peoples heads or inappropriate recording of information	Organisational knowledge lost with staff leaving	Significant	Ensure staff document and appropriately file everything that is relevant. Ensure good management succession when existing staff leave.	Moderate	Formalise and update maintenance schedules and procedures, contingency and operation and maintenance manuals.
4.4	Insufficient staff or not appropriately skilled	Programmed work not completed due to insufficient staffing or skill levels, having negative impact on service levels and creating public health risk.	High	Skill levels are appropriate	Low	Formal training programme required that includes the use of activity management plans
4.5	Inadequate attention to staff succession	Organisational knowledge lost with staff leaving	High	Implement good staff/management succession plan and document procedures	Moderate	Implement good staff/management succession plan and document procedures
5		Health and Safety				
5.1	Do not have a good health and safety culture	High accident rate	Moderate	Council health and safety procedures implemented, appropriate training undertaken and manuals up-to-date.	Low	
5.2	Health and Safety Risks not identified or managed appropriately	Council faces legal claims for not meeting health and safety obligations	Moderate	Health and Safety manuals up to date and be effectively managed.	Low	
6		Asset Management				
6.1	Network modelling, condition assessments not undertaken.	Capital Works programme not optimised. Renewal works not completed due to lack of knowledge causing failure of assets. Future forecasting not accurate.	Significant	Undertake condition assessments of network and develop robust renewals programme based on sound knowledge.	Moderate	Development and maintenance of network model.
6.2	As-built information can be slow or incorrect coming from maintenance staff, Contractors, Consultants	Council faces legal action because of incorrect information provided (particularly with regard to LIMS)	Significant	Ensure As-builts up to-date and on record promptly. Ensure GIS capability	Low	
6.3	Criticality assessment not undertaken	Failure of critical assets resulting environmental damage or not meeting service levels	Significant	Undertake criticality assessment of assets and implement strategy for managing critical assets	Low	Incorporate criticality assessment of reticulated assets, undertake criticality assessment of plant assets and

No.	Weakness or Vulnerability	Risk	Gross Risk	Mitigation Strategies	Residual Risk	Improvement Required
						implement strategy for managing critical assets
6.4	Asset Risk Register and Asset Risk Plan not implemented	Council faces legal action because of asset failure or unnecessary costs incurred due to asset failure	Moderate	Maintain Asset Risk Register and Asset Risk Plan	Moderate	Improve risk plan to reduce residual risk
6.5	Asset management systems not up-to-date or completed	Failure to of utility systems because maintenance work not completed or management system not operational.	Significant	Asset Management System in place and updated as required	Moderate	Review AM system practices and processes
6.6	Performance monitoring of service levels not completed	Target Service levels not met resulting in customer dissatisfaction.	Moderate	Monitoring programme established and reviewed regularly.	Low	
6.7	Poor standards of constructed assets due to design and/or construction of infrastructure	Substandard physical works resulting in poor asset performance	Moderate	NZS4404 is updated regularly and Contractors & Consultants are familiar with this. Contractors/Consultants take responsibility for work done.	Low	Perhaps develop Sub-Division Code of Practice
6.8	Capital works delayed due to unforeseen circumstances	Programmed Capital Works not completed. Target Service Levels not met	Significant	Staff held accountable for delays & Staff trained in project management.	Moderate	Develop projects process that provides for project plans to be prepared for every approved renewal and capital development item.
6.9	Deferred renewal and maintenance not recorded or not done	Deferred maintenance not recorded causing unexpected, additional costs from asset failure	High	Record all deferred maintenance and renewals	Significant	Ensure all deferred renewals work recorded and management aware of impact on service levels if not funded.
6.10	Not all easements recorded or obtained	Council faces legal action or cannot carry out its activities because it does not have legal right to cross a property	Significant	Keep up-to-date record of easements. Establish clear policy for processes to be followed when easements are required.	Significant	Easement information needs to be improved with all identified easements provided with details of interested part. Legal situation to be clarified.
6.11	Insufficient documentation of escalating process decision making	Response to emergency situations reduced, higher expenditure	Significant	Employment of staff with the appropriate qualifications and skills	Low	

No.	Weakness or Vulnerability	Risk	Gross Risk	Mitigation Strategies	Residual Risk	Improvement Required
7		Resource Consents and Designations				
7.1	Review of Designations required	Council faces legal action because water assets have not been designated in the District plan	Moderate	Designations reviewed every three years to ensure these are appropriate.	Low	
7.2	Resource Consents	Council faces legal action because resource consents not applied for or conditions not met. Public dissatisfaction with environmental damage being caused.	Moderate	All consents that are required are obtained and consents monitored and reported on as required.	Low	
8		Asset Risks - Water				
8.1	Some treatment plants not capable of meeting drinking water standards	Dissatisfaction of customers from not meeting target water supply gradings due to non compliance with drinking water standards.	Significant	Upgrade of water supplies to meet standards underway with monitoring programme in place.	Low	
8.2	Reticulation - Inaccurate and/or unknown location of main	Asset broken - inability to supply service	Low	Maintain good as-builts that are current via GIS	Low	Update locations as and when data becomes available
8.3	Insufficient reticulation capacity	Low pressure	Low	Maintain reticulation model with updates as required	Low	
8.4	Poor reticulation condition - reduced flows	LoS not achieved	Low	Maintain reticulation model with updates as required. Good renewals programme that understands the issues with the network	Low	
8.5	Insufficient reservoir storage	Fire fighting Code of practice not achieved	Moderate	Maintain reticulation model with updates as required	Low	
8.6	Insufficient Operational Pump Station Capacity	Low pressure/insufficient flow	Low	Good understanding of schemes capacities and on-going monitoring of usage	Low	
8.7	SCADA Failure	No alarm available, no water	Significant	Back up systems and procedures	Low	Backup system already implemented
8.8	Treatment Plant - Equipment/component Failure	Failure to meet consent conditions, reduced water pressure	Moderate	Early warning via SCADA & site monitoring by staff	Moderate	
8.9	Vandalism at facility	Reduced LoS	Significant	Warning via SCADA of any issue at facilities	Moderate	

No.	Weakness or Vulnerability	Risk	Gross Risk	Mitigation Strategies	Residual Risk	Improvement Required
8.10	Rising Mains - Insufficient Capacity	Insufficient water during peak usage periods	Significant	Good understanding of schemes capacities and on-going monitoring of usage	Moderate	
8.11	Operator Error	Failure to achieve consent conditions or facility failure	Significant	Employment of staff with the appropriate qualifications, skills and training	Moderate	Upskill staff when new training becomes available.
8.12	Power failure for extended periods	No water - reservoirs run dry	Significant	Standby generators made available in an event of extended power failure	Moderate	
8.13	Fire at facility	Control equipment failure with resulting lack of ability to supply demand	Moderate	Management and operational staff have the skills to manage natural events	Moderate	
8.14	Movement failure caused by, Earthquake, landslide or settlement.	Inability to supply all or majority of demand	Moderate	Management and operational staff have the skills to manage natural events	Moderate	
8.15	Snow and wind	Power failure - see power failure	Significant	Standby generators made available in an event of extended power failure	Moderate	
8.16	Flooding	Intakes flooded - poor water quality or inability to pump water	Significant	Management and operational staff have the skills to manage natural events	Moderate	
9		Asset Risks Wastewater				
9.1	Blocked mains occurring on frequent basis	Flooding of roads, health risk	Moderate	Cleaning (via water blasting) those areas most effected on an annual basis	Low	
9.2	Manholes - Insufficient maintenance	Failure leading to blockages - Flooding of roads, health risk	Low	Inspections of key points within network during high rainfall periods	Low	Document and schedule manhole inspections in AssetFinda
9.3	Reticulation - Inaccurate and/or unknown location of main	Asset broken - inability to supply service	Low	Maintain good as-builts that are current via GIS	Low	
9.4	Insufficient reticulation capacity	Surcharging in wet weather - health issues	Low	Maintain reticulation model with updates as required	Moderate	Address known surcharging.
9.5	Poor reticulation condition (blockages)	Failure leading to blockages - Flooding of roads, health risk	Low	Maintain reticulation model with updates as required. Good renewals programme that understands the issues with the network	Low	Log all blockages in AssetFinda

No.	Weakness or Vulnerability	Risk	Gross Risk	Mitigation Strategies	Residual Risk	Improvement Required
9.6	Insufficient grades or flow to achieve self cleansing velocities	Build up of fats - blockages - Flooding of roads, health risk, increased costs for cleaning	Low	Maintain reticulation model with updates as required. Good renewals programme that understands the issues with the network. Known areas within network that have issues are inspected on regular basis	Low	
9.7	Chemical damage of pipes	Decreased asset life - premature replacement	Moderate	Inspections of network CCTV, cleaning etc	Moderate	
9.8	Pump Stations - Equipment or component Failure	Wastewater discharges to the environment having an impact on environmental, cultural and health issues. Customer complaints	Moderate	Early warning via SCADA & site monitoring by staff	Moderate	
9.9	Pump Stations - Insufficient Wet Weather Storage Capacity	Insufficient storage or capacity resulting in wastewater discharges to the environment having an impact on environmental and cultural issues	Moderate	Good understanding of schemes capacities and on-going monitoring of flows	Moderate	
9.10	Pump Stations - Corrosion and sulphur attack of electrical/control equipment	Surcharging in wet weather - health issues	Low	Monitoring of facilities on a regular basis	Low	
9.11	Insufficient Operational Pump Station Capacity	Surcharging in wet weather - health issues	Low	Good understanding of schemes capacities and on-going monitoring of flows	Low	
9.12	SCADA Failure	No alarm available	Significant	Back up systems and procedures	Low	
9.13	Treatment Plant - Equipment/component Failure	Failure to meet consent conditions.	Moderate	Early warning via SCADA & site monitoring by staff	Moderate	
9.14	Ponds - Overloading of Components Treatment Capacity	Failure to comply with resource consents and Customer complaints.	Moderate	Good understanding of treatment capacities and on-going testing and monitoring of flows	Moderate	
9.15	Odours at treatment plant, or reticulation		Moderate	Good understanding of treatment capacities	Moderate	
9.16	Vandalism at facility		Moderate	Warning via SCADA of any issue at facilities	Moderate	

No.	Weakness or Vulnerability	Risk	Gross Risk	Mitigation Strategies	Residual Risk	Improvement Required
9.17	Overloading of Components Treatment Capacity	Discharge of Biosolids to environment. Failure to comply with resource consents. Customer complaints	Moderate	Good understanding of treatment capacities and on-going testing and monitoring of flows	Moderate	
9.18	Rising Mains - Insufficient Capacity	Wastewater discharged to the environment at pump stations having an impact on environmental and cultural issues.	Moderate	Good understanding of scheme capacities and on-going monitoring of flows	Moderate	
9.19	Operator Error	Failure to achieve consent conditions or facility failure	Moderate	Employment of staff with the appropriate qualifications and skills	Moderate	
9.20	Power failure	Treatment capacity diminished	Low	Standby generators will be made available in an event of power failure if required	Low	
9.21	Fire at facility	Control equipment failure with resulting lack of ability to continue service	Moderate	Management and operational staff have the skills to manage natural events	Moderate	
9.22	Movement failure caused by, Earthquake, landslide or settlement.	Inability to supply all or majority of demand	Moderate	Management and operational staff have the skills to manage natural events	Moderate	
9.23	Snow and wind	Power failure - see power failure	Low	Standby generators will be made available in an event of power failure if required	Moderate	
10		Asset Risks Stormwater				
10.1	Mains - Blocked mains prior to storm events	Flooding of houses and properties	Moderate	Council staff have good maintenance and monitoring provisions	Moderate	
10.2	Manholes - Insufficient maintenance	Flooding of houses and properties	Moderate	Council staff have good maintenance and monitoring provisions	Moderate	
10.3	Outlets, culverts, Blocked & erosion with insufficient cleaning	Flooding of houses and properties	Moderate	Council staff have good maintenance and monitoring provisions	Moderate	
10.4	insufficient cleaning	Flooding of houses and properties	Moderate	Council staff have good maintenance and monitoring provisions	Moderate	
10.5	Insufficient overland flow paths	Flooding of houses and properties	Significant	Modelling of system will ascertain flow path requirements	Moderate	Complete modelling area to reduce risk and identify overland flow paths to protect.

No.	Weakness or Vulnerability	Risk	Gross Risk	Mitigation Strategies	Residual Risk	Improvement Required
10.6	Overland Flow Paths located on private property - no maintenance (overgrown/built upon)	Flooding of houses and properties	Significant	Council staff have good maintenance and monitoring provisions	Moderate	
10.7	Overland Flow Paths Located on Councils property or roads - no maintenance (overgrown etc.)	Flooding of houses and properties	Significant	Council staff have good maintenance and monitoring provisions	Moderate	
10.8	Power failure	Nil	Low	Management and operational staff have the skills to manage natural events	Low	
10.9	Fire	Nil	Low	Management and operational staff have the skills to manage natural events	Low	
10.10	Movement failure caused by, Earthquake, landslide or settlement.	Inability to supply all or majority of demand	Low	Management and operational staff have the skills to manage natural events	Low	
10.11	Snow and wind	Possible flooding	Moderate	Management and operational staff have the skills to manage natural events	Moderate	
10.12	Hail	Possible flooding	Moderate	Management and operational staff have the skills to manage natural events	Moderate	Utilise good design parameters on pipe entry structures.
11		Asset Risks - Solid Wastes				
11.1	Landfills - Non compliance of consents	Attention by Ecan	Low	Defined post closure procedures	Low	
11.2	Landfills - Erosion of closed land fills by streams or rivers	exposure of old wastes to the environment	Moderate	Watching brief	Moderate	
11.3	RRP (resource Recovery Park): Power failure	Nil	Low	Management and operational staff have the skills to manage natural events	Low	
11.4	Fire	Emergency closure	Low	Redirect to temporary site or TDC	Low	
11.5	RRP - Movement failure caused by, Earthquake, landslide or settlement.	Inability to carry out service	Low	Management and operational staff have the skills to manage natural events	Low	

No.	Weakness or Vulnerability	Risk	Gross Risk	Mitigation Strategies	Residual Risk	Improvement Required
11.6	Snow and wind	Disruption of collection cycle	Low	Management and operational staff have the skills to manage natural events	Low	
11.7	RRP - Major Flood	Short term closure	Low	Redirect to temporary site or TDC	Low	
11.8	RRP - Chemical spill	Short term closure	Moderate	Redirect to temporary site or TDC	Low	
11.9	RRP - Dust & noise nuisance	Reputation of Council detrimentally affected	Low	Good practices and processes carried out on site	Low	
11.10	RRP - Loss of market for recyclables	Build up of recyclables	Significant	Different Markets for each recyclable	Low	Contractor wears this risk
11.11	Bin/bag collection - spillage	Litter over wide area	Moderate	Contract processes	Low	
11.12	Bin/bag collection -Loss of contractor providing service	Collection disruption	Low	Management and operational staff have the skills to manage contractual issues and resolution	Low	

Appendix C Significant Forecasting Assumptions

The following table details the significant forecasting assumptions as at March 2021 that affect the utilities services.

Appendix B:

Significant Forecasting Assumptions

Appendix Table 1: Significant Forecasting Assumptions as at March 2021

ASSUMPTION	SOURCE	RISK	LEVEL OF UNCERTAINTY	IMPACT OF VARIATION	MANAGEMENT OF RISK	ACTIVITY
POPULATION CHANGE						
The Waimate District population will observe a gradual increase by 4.38% between 2020-2030. It is assumed that this increase will generate a relative impact on population-related metrics, such as the quantity of rateable properties.	Rationale	Population growth either significantly exceeds that of the projected percentage, or is significantly below the projected percentage.	Low	If population accelerates significantly above the given assumption, existing infrastructure may not be suitable to cope with the extra demand.	Council will monitor population measures provided for the district, and will respond to significant variations to assumptions, where possible.	All activity groups
DEMOGRAPHIC CHANGES						
Between 2020-2030, the district's population retains its comparatively high mean age, while observing a gradual and mild reduction in the mean age level, with the age group of 45-49 years likely to be the most frequent by 2030.	Rationale	The demographic make-up of the Waimate District changes significantly.	Low	If the district's demographic changes significantly from the predicted range, the existing infrastructure may not meet the needs of the relevant demographic classes.	Council will monitor demographic measures provided for the district and respond to significant variations to assumptions, where possible.	All activity groups
OIL PRICE						
Due to the instability of the international petroleum market (as caused by the effects of the COVID-19 pandemic), fuel prices are likely to fluctuate for a period of time. However, it is assumed the time period will be relatively short, as the petroleum market has	WDC	There is a risk that fuel demand will be different to that assumed, and that significant changes in market price occur with greater frequency	Moderate	Increased fuel costs would have a particular impact on the costs of road maintenance, renewal, and improvement. This may affect Council's ability to carry out planned work without additional funding. It may also increase	Council will monitor the impact of fuel price on spending and aim to optimise spending.	All activity groups

historically demonstrated a tendency to stabilise rapidly, where possible.		and/or greater severity.		demand for alternative methods of transport.		

2021-2031 LTP SIGNIFICANT FORECASTING ASSUMPTIONS

ASSUMPTION	SOURCE	RISK	LEVEL OF UNCERTAINTY	IMPACT OF VARIATION	MANAGEMENT OF RISK	ACTIVITY
CLIMATE CHANGE						
The effects of climate change are expected to manifest in three categories: a) gradual change in meteorological conditions (for example, change in temperature, more severe weather conditions and events, rising of sea level, coastal and inland erosion, among others), and b) general socio-economic consequences of such changes, and c) socio-economic consequences of policies/ measures designed to curb the adverse effects of climate change.	WDC	Environmental changes may accelerate at a rate higher than predicted, and/or the socio-economic consequences of adaptation measures may exceed the anticipated range.	Moderate	If environmental changes were to accelerate, Council's infrastructure assets would be significantly impacted. This would result in further modifications or more regular repairs to relevant assets.	Council will monitor the operational and socio-economic effects of environmental changes and adapt its response where required, if possible.	All activity groups
The Emissions Trading Scheme (ETS) became law in September 2008, resulting in minor cost increases. As the ETS grows, Council anticipates that the introduction of new areas will continue to have increases and that those increases are recognised in Council's inflation figures.	Ministry for the Environment	There is a risk of legislative change, which could result in costs being higher or lower than assumed.	Moderate	Should the impact of the scheme exceed significantly from the given assumption, budget for additional cost may need to be considered.	Council will monitor the development of relevant legislation and review the impact of any significant changes in the Annual Plan.	Property, Roading and Footpaths, Rural Water Supply, Urban Water Supply

Appendix B:
Significant Forecasting Assumptions

ASSUMPTION	SOURCE	RISK	LEVEL OF UNCERTAINTY	IMPACT OF VARIATION	MANAGEMENT OF RISK	ACTIVITY
WAKA KOTAHI NEW ZEALAND TRANSPORT AGENCY (NZTA) REVENUE						
Roading expenditure comprises a significant portion of Waimate District Council's total expenditure, therefore using a significant portion of Council's overall rate take. The majority of Council's expenditure on the district's roads is eligible to attract an assistance rate from the Waka Kotahi New Zealand Transport Agency (NZTA). It is further assumed that the funding assistance rate received by Council for qualifying roading expenditure for maintenance and improvement projects is set at 64% for 2020/21 onwards.	NZTA	The subsidy rate may be subject to change, along with any variation in criteria for inclusion in subsidized works programmes.	Moderate	Changes to the funding priorities of NZTA remain outside Council control. Minor variations would impact significantly on forecasted financials.	Any impact of changes to the NZTA funding assistance rate will be applied to the relevant Annual Plan.	Roading and Footpaths
GRANTS AND SUBSIDIES						
It is assumed that all projects funded, or partially funded, from grants and subsidies will be available in the year the expenditure is planned. If the funding is not received, it is most likely that the project will	WDC	Subsidies are not received and projects do not go ahead.	Moderate	Some projects have a more significant impact than others if they do not proceed in the planned year. The roading projects where Council rely on NZTA funding may result in	Build robust business cases and regular liaison with the relevant funding bodies to ensure projects (with a high likelihood of receiving funding) are included in the Long Term Plan.	Roading and Footpaths, Property

not proceed in that year. Examples of projects where funding is assumed are roading maintenance and improvements, and bridge renewals.				reduced level of service.		

ASSUMPTION	SOURCE	RISK	LEVEL OF UNCERTAINTY	IMPACT OF VARIATION	MANAGEMENT OF RISK	ACTIVITY
NEW ZEALAND DRINKING WATER STANDARDS & SERVICE DELIVERY						
While it is assumed that that there will be change to the ownership and delivery of Three Waters in the next ten years, Council is not able to predict with absolute certainty what those changes will be. It is unlikely that details will be known earlier than mid-to-late 2021. This LTP has been developed on a business-as-usual basis for the delivery of Three Waters; but the change is very likely to occur over the mid-term (3-5 years).	WDC Central Government	Legislation changes under urgency in Parliament that must be implemented immediately.	Moderate	Changes are required to be implemented more quickly than anticipated, and/or changes are mandatory rather than voluntary.	Council closely monitors any and all developments, and responds accordingly.	Rural Water Supply, Urban Water Supply
RESOURCE CONSETS						
The conditions of resource consents held by Council may be changed, and that Council will obtain the necessary resource consents for planned projects.	WDC	There is a risk that resource consent conditions are altered significantly.	Moderate	Advanced warning of likely changes is expected. The financial effect of any change to resource consent requirements would depend on the change.	Council will monitor the development of relevant standards and review the impact of any significant changes.	Roading and Footpaths, Sewerage, Stormwater, Waste Management, Urban Water Supply, Rural Water Supply
WATER IRRIGATION SCHEMES						
Council does not expect major irrigation schemes to be introduced into the district over the period of the Long Term Plan.	WDC	New major schemes are introduced.	Low	The introduction of a major irrigation scheme is likely to produce minimal impact on Council, but	Council will monitor the environment in regard to any potential development, and seeks to remain	Roading and Footpaths, Rural Water Supply, Sewerage

				a more considerable impact on the district's agricultural sector.	involved in discussions/proposals.	

ASSUMPTION	SOURCE	RISK	LEVEL OF UNCERTAINTY	IMPACT OF VARIATION	MANAGEMENT OF RISK	ACTIVITY
EMERGENCY EVENT						
Disruptive or destructive emergency events such as earthquakes, extreme weather events, and pandemics may occur to damage, disable, or destroy community infrastructure (for example, district roads, bridges, water supplies, among others), or community activities. It is further assumed that the cost of correcting such damage is met either by Council or its insurance providers, or by possible special government grants.	WDC	Inability to recover or continue business following a major event.	Moderate	If a major emergency event did occur, Council have some insurance for its infrastructure, and assistance would be offered from Central Government. To pay for additional emergency work not covered by the above, Council would increase internal/external borrowings.	Council undertakes business continuity plans for its own operation, and coordinates Civil Defence planning for the district. In doing so, Council attempts to prepare itself and the district for such events.	All activity groups
DEVELOPMENT CONTRIBUTIONS						
With the Resource Management Act 1991 able to revoke Council's ability to levy financial contributions (effective 18 April 2022), it is expected that Council will still be able to recover development contributions from that date onwards. It is further assumed that the level of funding recoverable under	WDC	There is a risk this change will result in significantly different funding levels.	Low	If the available funding levels change, this will have an impact on the rates required to address any shortfall/surplus.	Council will review its funding requirements prior to 18 April 2022 and ensure funding requirements match to demand.	All activity groups

each system will be broadly similar.						

ASSUMPTION	SOURCE	RISK	LEVEL OF UNCERTAINTY	IMPACT OF VARIATION	MANAGEMENT OF RISK	ACTIVITY
DISTRICT ECONOMY						
Despite the major impact of the COVID-19 crisis on the national economy, the Waimate District's economy is comparatively less negatively impacted, due to its specific characteristics as an area reliant on essential services and production.	WDC	Any significant reduction in income stream for any sector poses a risk.	Moderate	Drop in commodity prices - disposable spending cut back, loss of employment, closure of business. Increase in commodity prices- the reverse of the above occurs.	Council will consider the state of the district's economy when reviewing its Annual Plan and how this compares to the position assumed in the Long Term Plan.	All activity groups
USEFUL LIVES OF SIGNIFICANT ASSETS AND DEPRECIATION						
It is assumed reassessments of the useful lives of significant assets during the ten year period covered by this Long Term Plan will continue every three years. The detail of useful lives for each asset category is covered in the Statement of Accounting Policies.	New Zealand Asset Management Support WDC asset revaluations	There is a risk that assets will wear out more quickly than forecasted and require replacement earlier than planned.	Moderate	If assets require replacement earlier than first considered, capital expenditure projects may need to be brought forward.	Regular review of the useful life of each asset category reduces the risk of significant inaccuracies.	Roading and Footpaths, Rural Water Supply, Urban Water Supply
REVALUATION OF NON-CURRENT ASSETS						
Council conducts asset revaluations every three years. The Long Term Plan assumes the following percentage increases to book value, for each of the following class of assets:	WDC	Revaluations will somewhat differ from those projected carrying values of the assets and depreciation expense.	Moderate	Variation in values is expected to be low unless the valuation methodology changes.	Regular revaluation of non-current assets reduces the risk of significant valuation shifts.	Roading and Footpaths, Rural Water Supply, Urban Water Supply, Sewerage, Property

Land: +10% Buildings: +10% Utilities (Water Schemes, wastewater, stormwater, Sanitation): +8% Roading: +6%						

ASSUMPTION	SOURCE	RISK	LEVEL OF UNCERTAINTY	IMPACT OF VARIATION	MANAGEMENT OF RISK	ACTIVITY
FUNDS FOR FUTURE REPLACEMENT OF SIGNIFICANT ASSETS						
In general, councils have some flexibility in the policies they may set with regard to sources of funds for the future replacement of significant assets. Council's flexibility centres on whether we should collect depreciation monies from ratepayers during the lifetime of the asset to build up a reserve that can fund the replacement of the asset when it comes to the end of its useful life, or when the asset comes to the end of its useful life which would compel Council to rely on borrowed money to replace it. Council considers that the most sensible approach is to collect depreciation during the life of an asset, therefore having reserve funds on hand at the time replacement is needed. See Council's 'Revenue and Financing Policy' and the 'Financial Strategy'.	WDC	Sufficient funds may not be available to pay for planned asset replacement.	Low	Funds may need to be borrowed or rated for, which may be a burden to either the Council or ratepayers in the future.	Council develops Asset Management Plans that determine the timing of asset replacements. Council uses these to forecast and prepare for future funding requirements.	Property, Roading and Footpaths, Rural Water Supply, Urban Water Supply, Sewerage
RETURN ON INVESTMENT- ALPINE ENERGY						
Alpine Energy returns will be in line with the company's FY2022-2024 Statement of Corporate Intent which includes a Dividend Policy of 6c per share, through to 31 March 2024. Thereafter it	WDC (in conjunction with its respective advisors)	There is a risk that returns on investments will be higher or lower than forecasted.	Low	Council is aware of the factors contributing to the changing nature of Alpine Energy's overall profit. If revenues are depressed for a sustained period, the company will be	Council plans to reduce its reliance on any dividend income that presently supports core operational activity.	Investments and Finance

is assumed the dividend will remain at 6c.				unlikely to maintain dividends at the proposed level.		

ASSUMPTION	SOURCE	RISK	LEVEL OF UNCERTAINTY	IMPACT OF VARIATION	MANAGEMENT OF RISK	ACTIVITY
FORESTRY ASSETS VALUES						
It is assumed that the forestry asset values will increase annually over a rotation cycle of 30 years.	WDC	The value of forestry assets may sharply increase or decrease.	Low	A change in the value of the forestry asset will change Council's financial performance in the year of change occurring. However, it will not have a direct impact on the level of rates or expenditure.	Annual revaluation of forestry reduces the risk of significant valuation shifts.	Investments and Finance
CAPITAL DELIVERY						
Council plan to deliver 100% of all capital projects over the life of the Long Term Plan. The financial model was developed based on this assumption.	WDC	There is a risk that improved levels of service in the Water Supply area will be delayed. There is a risk that the capital projects will not be completed in any given year, and carried over to subsequent years.	Moderate	Variation to planned improved levels of service for the Water Supply area, where any delay in projects relating to Drinking Water Standards New Zealand compliance will result in maintaining current levels of service. If projects are not completed on time, or are deferred, there may be reduced operational costs and depreciation expense impacts. There could also be an increase in required budget to complete the project if delayed.	Additional resourcing (1.5 FTE) has been engaged to ensure the timely delivery of proposed LTP and Stimulus Fund projects. All capital works have been scheduled for 2020/21 and 2021/22 and local contractors have been made aware of the timing. Council is aware of material sourcing and has addressed this issue by sourcing materials early and maintaining stock levels. Procurement is now completed through the Government Electronic Tenders System (GETS), notifying the wider contracting / consulting market of upcoming projects. In anticipation of a large capital programme in Year 1 (2022), a portion of these projects are likely to be tendered by 30 June 2021, or	Water Supply & all other activities

					very early in the 2021/22 financial year. Due to the nature of the rates smoothing profile for the Water Supply activity, any delay in project completion will have no effect on the funding and rates required as planned.	
ASSUMPTION	**SOURCE**	**RISK**	**LEVEL OF UNCERTAINTY**	**IMPACT OF VARIATION**	**MANAGEMENT OF RISK**	**ACTIVITY**
RETURN ON INVESTMENTS- OTHER						
It is assumed that Council's cash investments will generate a 1% return based on the current economic climate. It is further assumed that the returns from Council's forestry investments for the duration of the Long Term Plan will be reflective of market conditions present at the time of preparation of this document.	WDC (in conjunction with its advisors)	Returns on investments will be higher or lower than forecasted.	Moderate	Higher interest rates received on cash investments or increased investment income could result in positive cash-flow enabling consideration of higher levels of service or reduced expenditure. Council does not heavily rely on interest revenue for running its operations, therefore the impact of lower investment returns on delivery of Council services would be minimal. Similarly, Council does not use its forestry investment returns to fund other Council operations or activities.	Council sets and maintains its internal interest to provide certainty to internal capital reserves. Council will manage its external investments to optimise returns (as described in the Council's Investment Policy). Council will monitor the forestry market's conditions and review the impact of any significant change in forecasted returns through each subsequent Annual Plan process.	Investments and Finance
INFLATION						

Council, along with many other New Zealand Councils, calculates and applies inflation factors to its 10-year budget forecast, using predictions of future inflation levels from New Zealand [economic research company] Business and Economic Research Ltd (BERL). Year / Roading % / Property and Parks % / Water % / Staff % / Other % / Wastewater % / Capital Expenditure % June 2022: 3.3 / 1.7 / 7.2 / 4.8 / 1.7 / 7.2 / 3.0 June 2023: 3.1 / 2.0 / 3.4 / 2.4 / 2.0 / 3.4 / 3.0 June 2024: 3.0 / 2.0 / 2.1 / 1.5 / 2.0 / 2.1 / 2.6 June 2025: 2.9 / 1.9 / 2.3 / 1.7 / 1.9 / 2.3 / 2.6 June 2026: 2.9 / 1.8 / 2.6 / 2.0 / 1.8 / 2.6 / 2.7 June 2027: 2.9 / 1.8 / 2.3 / 2.2 / 1.8 / 2.3 / 2.6 June 2028: 2.9 / 1.7 / 3.0 / 2.3 / 1.7 / 3.0 / 2.8 June 2029: 2.9 / 1.7 / 3.3 / 2.4 / 1.7 / 3.3 / 2.8 June 2030: 2.9 / 1.7 / 3.3 / 2.6 / 1.7 / 3.3 / 2.9 June 2031: 2.9 / 1.6 / 2.7 / 2.7 / 1.6 / 2.7 / 2.7	Business and Economic Research Ltd.	Inflation will be higher or lower than anticipated.	Moderate	A difference between the inflation rates experienced and those assumed will change the cost base of Council, and therefore impact funding requirements.	Council has endorsed the rates produced by BERL as the most appropriate basis for accounting for the impact of inflation and preparing the Long Term Plan. In the event of significant changes to the underlying costs supporting work in the activity areas, mitigation planning will feature in the Annual Plan.	All activity groups

ASSUMPTION	SOURCE	RISK	LEVEL OF UNCERTAINTY	IMPACT OF VARIATION	MANAGEMENT OF RISK	ACTIVITY
BORROWING COSTS						
Interest costs are estimated to be 3%. This refers to the internal cost of borrowing, along with the expected external cost of debt facilities (for example, Waimate Event Centre public debt) where costs are not known, and are required to be projected.	WDC (in conjunction with its financial advisors)	Interest rates will differ significantly from those estimated.	Low	If borrowing costs are greater than those assumed, Council may need to increase its rates or reduce its expenditure. Conversely, lower costs may mean rates are lower than they would otherwise have been.	Council will monitor its applicable rate and adjust it through the Annual Plan process to reflect a level best aligned to its external borrowing rate and ability to generate returns on internal debt.	Investment and Finance
UNIDENTIFIED LIABILITIES						
It is assumed that Council does not have any unidentified liabilities.	WDC	There is a risk of an unexpected liability occurring. For example, a claim against Council.	Low	If an unidentified liability arises it may increase Council's expenditure. This risk is mitigated by the Council's Risk Management and Insurance Policies.	Regular review of liabilities reduces against the risk of items being unidentified.	N/A

Appendix D References

The following details reports and other significant reference areas associated with the four utilities

Table 10-3: References

#	Title	Issue Date	Sector	Author /Consultant
1	Water Safety Plans - Cannington-Motukaika - Hook Waituna - Lower Waihao - Otaio-Makikihi - Waihaorunga - Waikakahi - Waimate Urban	Dec-17 * Oct-15 Nov-15 May-15 Dec-17 * Dec-17 * Feb-14	Water	Paul Roberts Water & Waste Manager * = *Submitted for approval*
2	Waimate Stormwater Investigation – Study Report	May-09	Stormwater	Opus
3	Queen Street Stormwater Issues and Options Report	Jul-17	Stormwater	Opus
3	Cast Iron Pipe Assessments	Mar-11	Water	Opus
4	AC Pipe Evaluation Reports	On-going	Water	Opus
5	Pressure Management Study	Jul-09	Waimate Water	Opus
6	Capital Assistance Programme Funding – Otaio-Makikihi	Complete	Water	Dan Mitchell Asset Group Manager
7	Capital Assistance Programme Funding – Lower Waihao	On-going	Water	P Roberts Water & Waste Manager
8	Capital Assistance Programme Funding – Hook Waituna	On-going	Water	P Roberts Water & Waste Manager
~~9~~	~~2011 Valuation~~	~~Sep-11~~	~~Solid Waste~~	~~Opus~~
~~10~~	~~2014 Valuation~~	~~Feb-15~~	~~Three Waters~~	~~In-house / BECA~~
~~11~~	~~2017 Valuation~~	~~Sep-17~~	~~Three Waters~~	~~In-house / BECA~~
12	2020 Valuation	Aug-20	Three Waters	In-house / BECA
13	Disaster Resilience Summary Report	2006	All	Council Asset Management Group
14	Stormwater AMP 2014	2015	Stormwater	Opus
15	Solid Waste AMP 2014	2015	Solid Waste	Opus

#	Title	Issue Date	Sector	Author /Consultant
16	Water AMP 2014	2015	Water	Opus
17	Parks and Recreation AMP 2014	2015	Parks and Reserves	Opus
18	Wastewater AMP 2014	2015	Wastewater	Opus
~~18~~	~~AMP 2007 Potable Water: Urban & Rural Schemes~~	~~Jul-07~~	~~Water~~	~~Opus~~
~~19~~	~~Council's 2007 Wastewater AMP~~	~~Sep-07~~	~~Wastewater~~	~~Beca~~
~~20~~	~~Stormwater AMP 2008~~	~~Sep-08~~	~~Stormwater~~	~~Maunsell~~
~~21~~	~~Solid Waste AMP 2008~~	~~Sep-08~~	~~Solid Waste~~	~~Maunsell~~
19	Leak Detection programme	Jul-05	Water	Detection Services
20	Waimate Water Supply Leakage Detection and Analysis Study	Jul-09	Water	Opus
21	Council's Assessment of Water & Sanitary Services	Jun-11	All	M McTigue Water & Waste Manager
22	Leak Detection Programme	Oct-98	Water	Opus
23	Issues & Options for Universal Water Metering	Oct-98	Water	Opus
24	Waimate AMP Compliance Status	Feb-11	All	Waugh Infrastructure Management Ltd