



Water Supply

Asset Management Plan 2021-2031



TE KAUNIHERA Ā ROHE O
WHAKAAHURANGI
STRATFORD
DISTRICT COUNCIL

Long Term Plan 2021-31

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**THE WATER
ASSET MANAGEMENT PLAN (WAMP)
2021-2031**

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EXECUTIVE SUMMARY

The Stratford District

The Stratford District is a land locked area encompassing 2170km² located in the heart of Taranaki. The district is adjacent to the New Plymouth and South Taranaki districts in the Taranaki region and the Ruapehu and Whanganui Districts in the Horizons Regional Council. Within the district there are four distinct geographical areas:

- The alpine and bush environment of Egmont National Park;
- The ring plain around Mt Taranaki;
- Hill country located between the ring plain and the eastern hill country; and
- Eastern hill country to the boundary with Ruapehu District Council.

The district's rural landscape supports large farming, forestry and Department of Conservation reserves. Stratford is a growing tourist destination owing to key attractions such as the Egmont National Park, the Manganui Ski Field, Forgotten World Highway (SH43), Whangamomona, Dawson and Mt Damper Falls. Three main townships make up the Stratford District. They are: Stratford; Midhirst and Toko.

The Water Asset Management Plan

The purpose of the Water Asset Management Plan (WAMP) is to describe the financial, engineering and technical strategies and practices that Stratford District Council uses to meet its strategic obligations to provide a level of service for water users in a way that is cost effective for households and businesses.

Based on forecasted growth and demand for the service, the WAMP sets out how the provision of the facilities will be managed over its lifecycle to ensure the optimal delivery of the service within the financial constraints set by the Council in its Long Term Plan (LTP) 2021-2031 and the Infrastructure Strategy (IS) 2021-2051. The levels of service to be delivered are as per the priorities and performance measures set by both the Council priorities; Regional Council resource consent conditions and Central Government initiatives and performance measures.

The WAMP is a living document reflecting Council's practice, central and local government requirements, policies and guidance. This WAMP is used to inform the Council's Long Term Plan and the Infrastructure Strategy. The AMP details Council owned assets and is used for communicating complex asset management information/strategies with stakeholders, elected members, service managers and other interested parties.

The Strategic and Legislative Context

The Strategic and Legislative Context for the WAMP is as per the framework below. The key central, regional and local government drivers include the:

- The Local Government Act 2002 (and amendments);
- The Health Act 1956 (and amendments);
- The National Policy statement for Freshwater Management 2020 (FWNPS);
- The Resource Management Act; and
- The National Environmental Standards for Sources of Human Drinking Water.

Our Community Outcomes

The Council's vision for the 2021-2031 Long Term Plan (LTP) is 'a *vibrant, resilient, and connected community – in the heart of Taranaki*'. The Council's identified *Community Outcomes* to achieve the vision are:

- Vibrant community;
- Sustainable environment;
- Connected communities; and
- Enabling economy

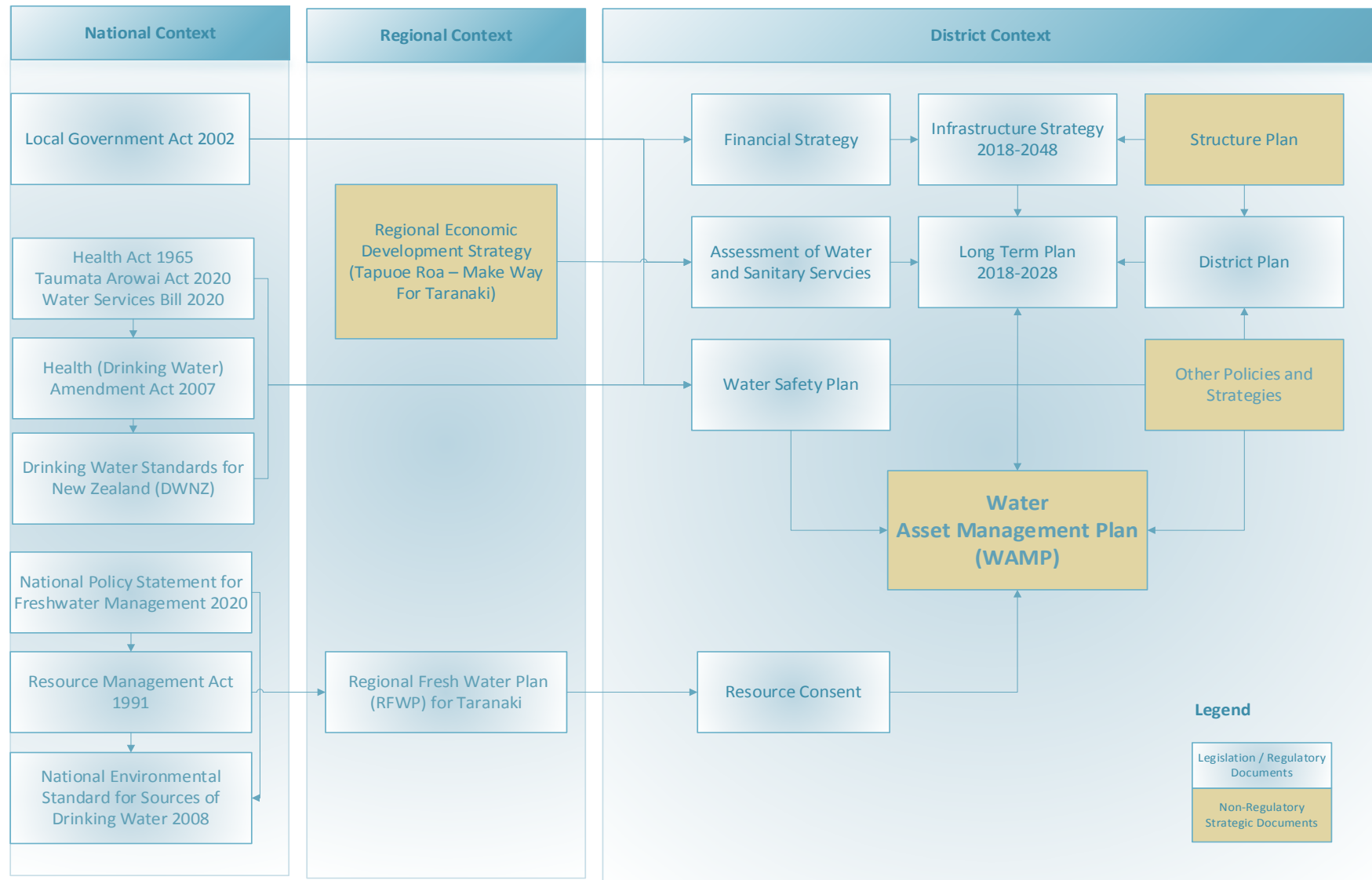


Figure 1 - Legislative and Strategic Context

Our Problem and Benefit Statements

The Council has identified key problems to be addressed in the coming years. Projects have also been highlighted alongside statements of their benefits, which outline how identified problems will be solved. A summary of our *Problem and Benefit Statements* along with projects identified to deliver the benefits, are provided in the Table below.

Table 1 - Problem and Benefit Statements

Problem Statements	Identified Projects	Benefit Statements
<p>Problem Statement 1 - Water Use Efficiency and Conservation</p> <ul style="list-style-type: none"> Fairness in water tariff system; High water consumption rates; Water leakages in the network; and Inefficiency in water distribution. 	<ul style="list-style-type: none"> Implement Universal Water metering including electronic water meter reading to all properties in the district connected to the Council's water reticulation system. 	<ul style="list-style-type: none"> The optimisation of water use and consumption to ensure and support spare capacity for future growth etc. Compliance with council's water take resource consent; Equity in water tariff system; and most importantly, Reduction in water loss and revenue through leakages and the achievement of Department of Internal Affairs (DIA) requirements; Extension of water assets life; Associated reduction in the costs and requirement for wastewater treatment systems to the Council; Effective identification of high water-use areas
<p>Problem Statement 2- Emergency Water Supply</p> <ul style="list-style-type: none"> Additional water storage at the Stratford Water Treatment Plant Capacity Issues; Criticality 	<ul style="list-style-type: none"> Construct a new water 4,500m³ Reservoir at the Water Treatment Plant 	<ul style="list-style-type: none"> Resilience in providing an additional day of water supply in the event of failure of the water intake and ensure the continued provision of critical clean, safe drinking water for residents, and also process water for industry in Stratford; and To support growth – planned or unplanned. The continuity of clean and safe water also gives confidence to existing and new industries which Council contuse to encourage to the district.
<p>Problem Statement 3 - Alternative Water Supply</p> <ul style="list-style-type: none"> Resilience; Criticality Water quantity and quality in the Patea River and Konini Stream 	<ul style="list-style-type: none"> Commission a feasibility report to explore the alternative water supply options available for the Patea River/Konini Stream Water Take 	<ul style="list-style-type: none"> Provide redundancy in the water supply source to this critical service; and in turn Allow the Council to continue to perform its duties and responsibilities, under the Local Government Act, to the people of Stratford
<p>Problem Statement 4 - Backflow Prevention</p> <ul style="list-style-type: none"> Drinking Water quality Public Health Risk Water Supply Bylaw Implementation 	<ul style="list-style-type: none"> Implementation of Backflow Prevention Programme 	<ul style="list-style-type: none"> Reduced risk of contamination as a result of backflow or syphoning Enhanced Public Health and Safety
<p>Problem Statement 5- Resource Consent Renewal</p> <ul style="list-style-type: none"> Criticality Water take and distribution; Public Health 	<ul style="list-style-type: none"> Renew the Expiring Resource Consent to take water from the Te Popo Stream at Midhirst. This consent expires in June 2021. 	<ul style="list-style-type: none"> This process is required to satisfy the requirements of the Resource Management Act (1991) for expiring consents. The Council currently takes water from the Te Popo Stream under an authorisation consent from the Taranaki Regional Council, which expires in June 2021. Continued water supply to Midhirst residents

Our Levels of Service Performance Measures

In 2013, the central government introduced a range of mandatory, non-financial performance measures (DIA measures) to provide for a national standardisation of key performance indicators.

The Council monitors its performance through the use of these DIA measures, in addition to 'Internal' performance measures set by the Council. The targets for these measures have been developed by the Council and they measure how well the Council is delivering on Levels of Service (LoS) and the performance of each activity / asset. A summary of the LoS performance measures is provided below. A snapshot of Council's performance trends and targets is detailed in Section 5 of this WAMP.

Table 2 - Our Level of Service Performance Measures

	Level of Service	Performance Measure	Outcome Category
1.	Drinking Water Standards	DWSNZ Bacterial compliance - Compliance with Part 4 of the Drinking-water standards (bacteria compliance criteria)	DIA measure
2.		DWSNZ Protozoal compliance - Compliance with Part 5 of the Drinking-water standards (protozoal compliance criteria)	DIA measure
3.	Maintenance of Reticulation	Water Loss – The percentage of real water loss from the local authority's networked reticulation system (including a description of the methodology used to calculate this) is <25%.	DIA measure
4.	Response Times	Urgent Response Times - The performance measure targets for the median response time for urgent attendance and resolution <ul style="list-style-type: none"> Attendance for urgent call-out – 1 hour Resolution for urgent call-out – 8 hours 	DIA measure
5.		Non-urgent Response Times – The performance measure targets for the median response time for non-urgent attendance and resolution <ul style="list-style-type: none"> Attendance non urgent call-out – 2 working days; Resolution non urgent call-out – 5 working days 	DIA measure
6.	Unplanned Disruptions	Unplanned Disruptions - The performance measure target for disruptions. <ul style="list-style-type: none"> Minor disruptions (between 5 and 50 connections affected) is <5; Major disruptions (more than 50 connections affected) it is <2. 	DIA measure
7.	Demand Management	Water Consumption - The performance measure target for the average consumption of drinking water per day per resident within the district (in litres) is <275L/resident/day.	DIA measure
8.	Customer Satisfaction	Number of complaints - The performance measure target for customer satisfaction is <32 per 1,000 complaints received for: <ul style="list-style-type: none"> Drinking Water Clarity; Drinking Water Taste; Drinking Water Odour; Drinking Water Pressure or Flow; Continuity of Supply; Council's response to any of these issues. 	DIA measure
9.	Water Pressure	Water Pressure - The performance measure target for water pressure at 50 properties within the water supply zone, including any that have complained about pressure and or flow meets council specifications (flow>10l/min & pressure>350kpa) is 100%.	Customer Outcome
10.	NZFS Conditions	Fire Hydrants – The performance measure targets the percentage of hydrants meeting the NZFS Code of Practice conditions regarding supply is 100%.	Customer Outcome

Our Programme Business Case

The programme business case details how the problems identified in the previous sections will be addressed. This is presented in the Table below and shows how our identified projects address the identified problems and achieve the DIA and Internal/Other performance measures.

Table 3 - Identified Projects and Performance Measures

Work Category	Identified Projects	Performance Measures							
		DWSNZ Compliance	Water Loss	Response Times	Unplanned Disruptions	Demand Management	Customer Satisfaction	Water Pressure	NZFS Conditions
Operations/ Maintenance	Water conservation (calibrate mode)		✓			✓		✓	✓
	Water conservation (leak surveys)		✓			✓			
	Reservoir Clean	✓				✓			
Renewal/Replacement	Water reticulation renewals (hydrants, laterals, meters, and streetwork mains)		✓		✓				✓
	Pipe Bridges				✓				
	Toko Bore	✓			✓			✓	
	Reservoir Overflow								
	Treatment plants general infrastructure renewal				✓				
	Membrane module replacement	✓			✓				
Level of Service Improvements	Second Trunk Main	✓	✓	✓	✓	✓	✓	✓	✓
	Universal metering and electronic meter reading		✓			✓			
	Alternative Water Source								
	New reservoir at Stratford		✓			✓			
	Street-work mains (Riders)				✓		✓	✓	
	Midhirst Reservoirs		✓			✓			
	Installation of zoning valves		✓			✓			

Funding Our Investment Strategy

The Council's Investment Strategy covers how the Stratford District Council plans to deliver on the services it offers whilst achieving value for money, with a key focus on future-proofing Council's assets.

Capital projects and activities carried out to maintain the Water Supply service for the next 10 years - including Renewal/ Replacement projects and Level of Service Improvements - will be funded as per the Revenue and Financing Policy, through one or a combination of the following sources:

- Loans;
- Reserves; and/or
- Subsidies/ Grants by other Partners.

Generally, the Council expects that:

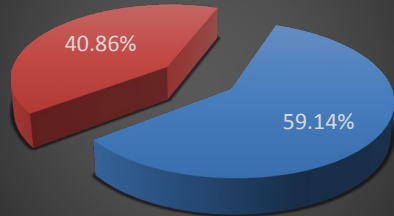
- Renewal or Replacement projects will be equally funded from Loans and Reserves;
- Operations and Maintenance activities will be funded through Rates; and
- Level of Service Improvements projects will be funded from loans and, where possible, any alternative funding source.

A summary of Council's Capital Investment funding Strategy over a 10-year period is shown in table 4 and figure 2 below.

Table 4: 10-Year Capital and Operational Expenditure Projection

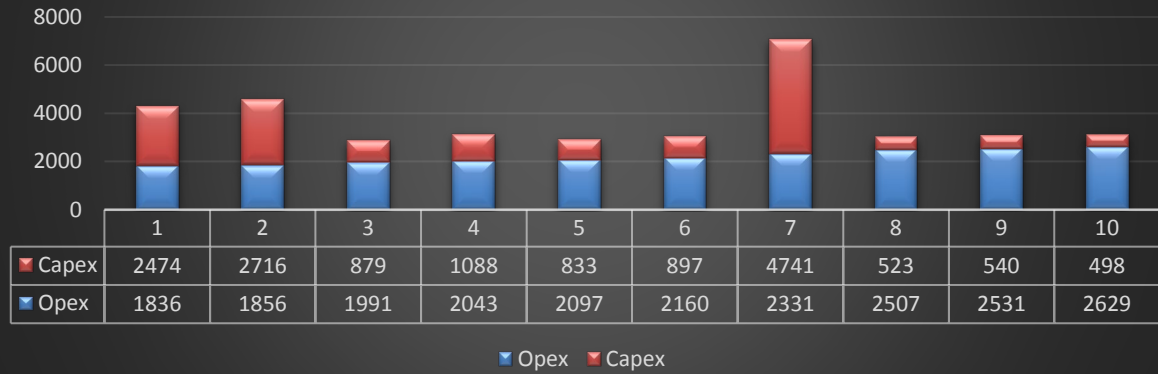
<u>Water Supply</u>	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Capital Expenditure										
Level of Service Improvement	1780	1904	369	673	390	401	4289	37	38	0
Replacements	695	812	510	414	443	496	452	486	502	498
Total Capex	2475	2716	879	1088	833	897	4741	523	540	498
Operating Expenditure										
Total Opex	1836	1856	1991	2043	2097	2160	2331	2507	2531	2629
Grand Total	4311	4572	2870	3131	2930	3057	7072	3029	3071	3127

Water Supply Expenditure

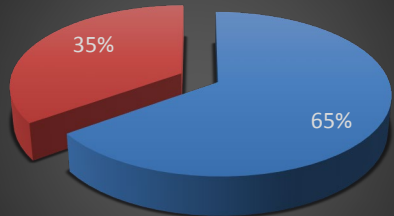


■ Operating Expenditure ■ Capital Expenditure

Annual Water Supply Budget - Capex vs Opex 2021-2031



Water Supply Capex



■ Level of Service Improvement ■ Replacements

Annual Water Supply Budget - LoS vs Replacements 2021-2031

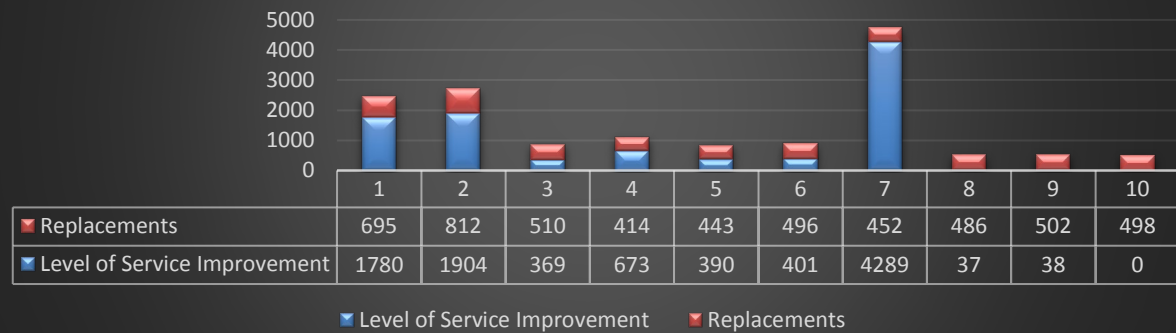


Figure 2 - 10 Year Expenditure Projection

1.0 Introduction

1.0: INTRODUCTION

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1.1. PURPOSE OF THIS PLAN

The Water Asset Management Plan 2021-2031 ('the WAMP') is a 10 Year Strategic Plan for the Stratford District Council ('the Council'). It details how the Council will manage the Water activity, assets and services in an efficient, safe, reliable and sustainable manner to provide value for money our customers and investors.

The plan informs the development of the Council 2021-2031 Long Term Plan ('the LTP'). It shows how the Council will prioritise and address key water issues, in the face of competing projects and constrained resources. The prioritisation of competing projects is necessary to deliver on Community Outcomes, the agreed Levels of Service (LoS) and also meet legislative objectives and requirements. The WAMP proposes work programmes that deliver good value for money for our investment partners. This is achieved by doing the right things, in the right places, at the right times, for the right price and in the right ways.

The audience for this plan includes our Investment Partners, Customers and Stakeholders, the Council representatives, Council staff, contractors, consultants, developers and members of the public who will take an interest in the future of levels of service the Council will be offering.

The WAMP is reviewed every three years in line with the long term planning process and in compliance with the Council's Asset Management Policy.

The Stratford District Council's Asset Management Policy requires the Asset Management Plans to be peer reviewed by an external reviewer, before the document is formally presented to Council for adoption.

1.2. THE STRATFORD DISTRICT

1.2.1. DISTRICT HISTORY

Initial settlements in the Stratford District were small Maori villages in the forested hills which were used as places of refuge in times of war, and for seasonal activities.

While New Plymouth and other coastal regions of Taranaki were settled by Europeans in the 1840s, the densely-forested inland Taranaki areas remained relatively isolated until the land wars of the 1860s. Following those wars, the land of Stratford District was both compulsorily purchased and freely sold.

The site for Stratford Township on the north bank of the Patea River was cleared in 1877 and was originally named Stratford-on-Patea. It was named after Stratford-Upon-Avon, Shakespeare's birthplace, and the streets were named after Shakespearean characters including Oberon, Cordelia, Juliet and Hamlet. By 1906 the population of Stratford numbered almost 6,000. Other towns throughout the district sprung up as the bush was cleared and new farming districts developed. Schools, hotels, stores and other community facilities were established, however, the Stratford Township remained the hub of the area.

From early on in the twentieth century there was rapid development of the dairy industry, with most communities having their own factory. Roads through the district were still relatively basic, which meant travelling any distance was difficult. As roads improved throughout the 20th century, communities in the district gradually began to lose their facilities. It was cheaper and easier to travel to larger towns for services than to maintain those services in smaller settlements.

The Forgotten World Highway (State Highway 43) links the towns of Stratford and Taumarunui and later became New Zealand's first heritage trail. It passes through the village of Whangamomona which was first settled in 1895, with no road or rail access. Today the village has approximately 150 full-time residents, a hotel, a handful of historic buildings and the odd goat.

1.2.2. DISTRICT GEOGRAPHY

The Stratford District is one of three territorial authorities ('TA') in the Taranaki region, overlying of which is the administrative area of the Taranaki Regional Council. The far eastern portion of the Stratford District is also overlain by the administrative area of the Horizons (Manawatu/Wanganui) Regional Council. The political division between the two regional councils lies along the Whangamomona Saddle.

Mount Taranaki or Mount Egmont, and Egmont National Park, dominate the landscape of the District. In the past, successive eruptions of ash and natural erosion have created an "apron" or a "ring plain" around the base of the mountain. The fertile and generally free draining soils of this ring plain support intensive pastoral farming, especially dairying.

East of the ring plain lies the rolling topography of the frontal hill country and further east, the deeply dissected hill country. These hills are not volcanic but consist of sedimentary rocks (mudstone, sandstone and siltstone). Soil properties in the eastern hill country are closely linked to the differences in rock hardness and composition. Most are steepland soils, ie, are shallow soils which have developed on steep, relatively unstable slopes. (*Refer: Stratford District Plan 2014.*)

1.2.3. DISTRICT MAIN COMMUNITIES

The Stratford District is home to many settlements, with the four main centres being Stratford, Midhirst, Toko and Whangamomona.

Stratford

Stratford (Māori: Whakaahurangi) is the main town in the Stratford District. It is located on the banks of the Patea River roughly 48 km south-east of New Plymouth and 30 km north of Hawera at the junction of State Highways 3 and 43. Stratford is near the geographic centre of the Taranaki region and the largest settlement of the Stratford District with an estimated population of 6,690. The town is central Taranaki's main rural servicing centre, and the administrative base of the Stratford District Council and the Taranaki Regional Council.

Midhirst

Midhirst is located approximately 4 km north of Stratford, on State Highway 3. Inglewood is 17 km north of Midhirst and New Plymouth is 35 km to the northwest. An estimated 234 (Statistics NZ 2013) people live in Midhirst. One of the most distinctive features of Midhirst is the towering concrete and glass milk-powder drying plant, which was one of New Zealand's most advanced in its time (1980). The factory closed after amalgamating with Kiwi Dairies in 1983 and is now used for bulk grain storage.

The Toko Township

Toko is located 10 km east of Stratford, at the intersection of East Road (State Highway 43) and Toko Road. It is situated on a railway, the Stratford–Okahukura Line, the western portion of which was operated as a branch line known as the "Toko Branch" prior to the line's completion. The Toko Stream flows through the area to join the Patea River. An estimated 1,188 (Statistics NZ 2013) people live in or around Toko. This includes people living in the settlement and those living in the surrounding rural areas.

Whangamomona

Whangamomona is a rural settlement 65 km North East of Stratford on State Highway 43. Once quite a thriving settlement and the headquarters of the Whangamomona County Council with a hotel, a number of stores and a post office, it suffered decline from the mid-20th Century with only the hotel remaining as a business in town. Today an estimated 150 people live in and around Whangamomona (Statistics NZ 2013).

Introduction

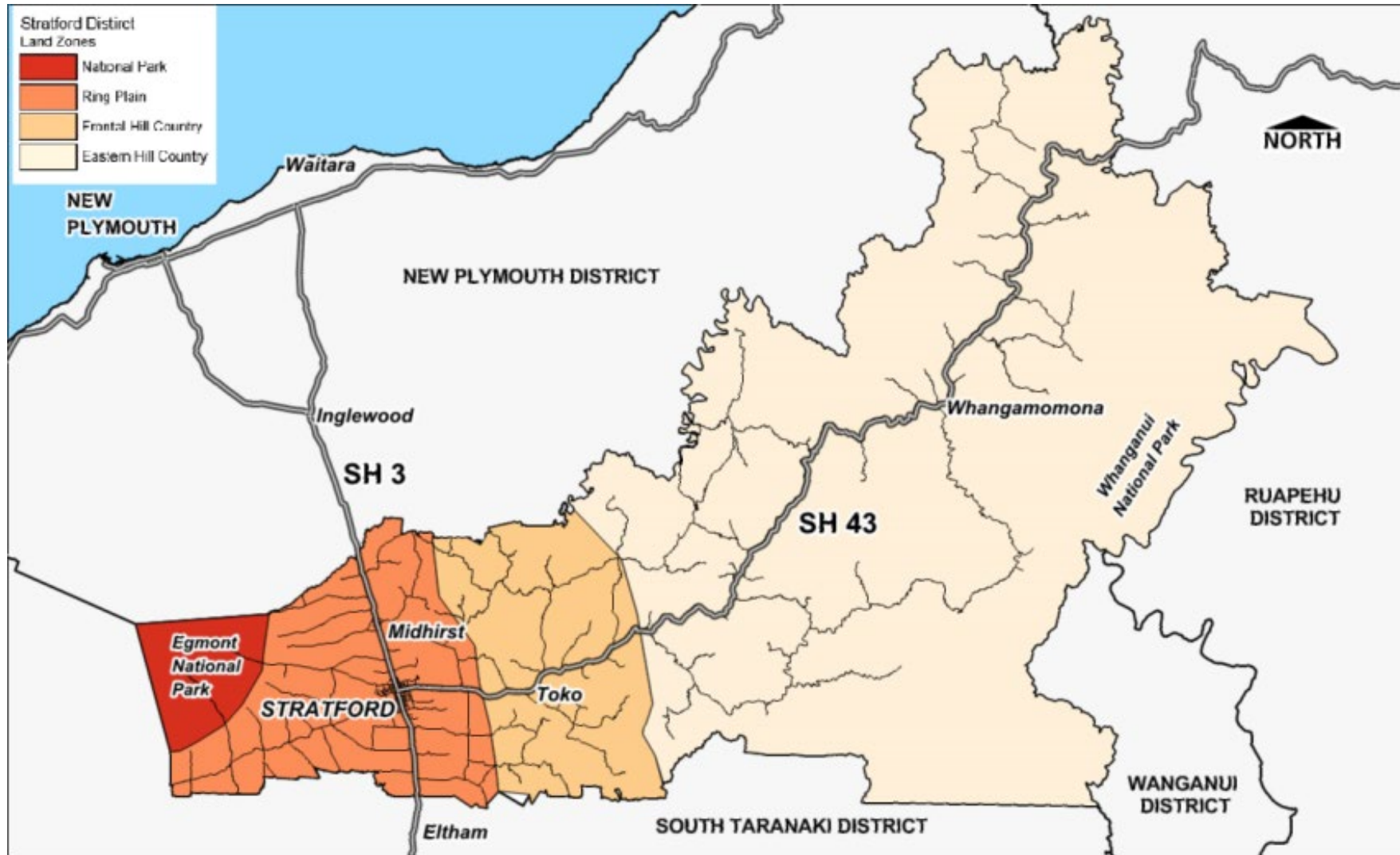


Figure 3 - The Stratford District 2020

1.3. OUR MISSION, VISION AND VALUES

Stratford District Council is local territorial authority for the Stratford District. Council's role in accordance with the Local Government Act 2002 (LGA) is to:

- Enable democratic local decision-making and action by, and on behalf of, communities; and
- Promote the social, economic, environmental, and cultural well-being of communities in the present and for the future

The Stratford District Council's **Mission Statement** is:

'To serve the district and its communities through advocacy, promotion, services, facilities and positive leadership'

The Stratford District Council's **Vision Statement** is:

'A vibrant, resilient, and connected community – in the heart of Taranaki'

The Stratford District Council's **Values** are:

Integrity: *Be loyal to the organisation and trustworthy, honest and courteous with everyone we deal with.*

Teamwork: *Work together in the same direction, assist each other and have respect for others. Maintain a positive attitude and encourage teamwork.*

Excellence: *Be effective in everything we do using our experience and knowledge. Do the right thing at the right time. Be efficient by being cost effective and ensure prudent management of public money and assets.*

Pride: *Take pride in our performance and our organisation.*

Commitment: *Have commitment and respect for each other, our business and our customers.*

Innovation: *Examine alternatives, challenge the obvious and have a flexible attitude.*

The Stratford District Council carries out its duties under the LGA (2002) through two key Management Teams:

- The *Executive Management Team*, comprising the Senior Leaders of the Council and headed by the Chief Executive. This team sets the overall direction for delivery of Roding activities and services; and
- The *Assets Management Team*, comprising the operational and maintenance staff who carry out the direction set by the *Executive Management Team*.

The structure for each Management Team is provided in Figures 4 and 5.

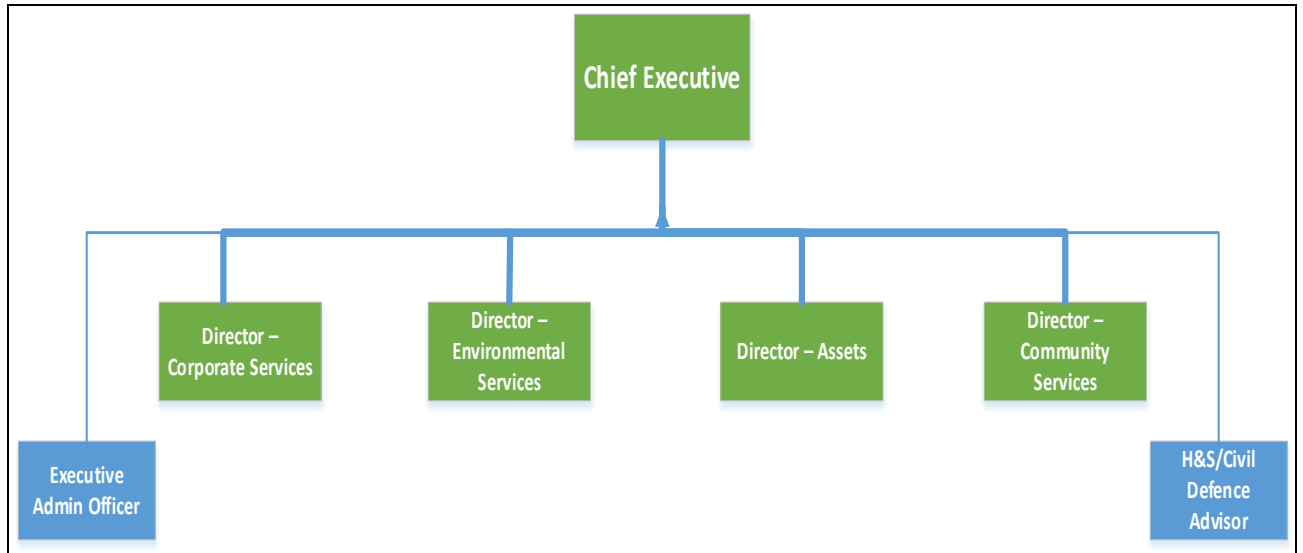


Figure 4 - The Executive Management Team

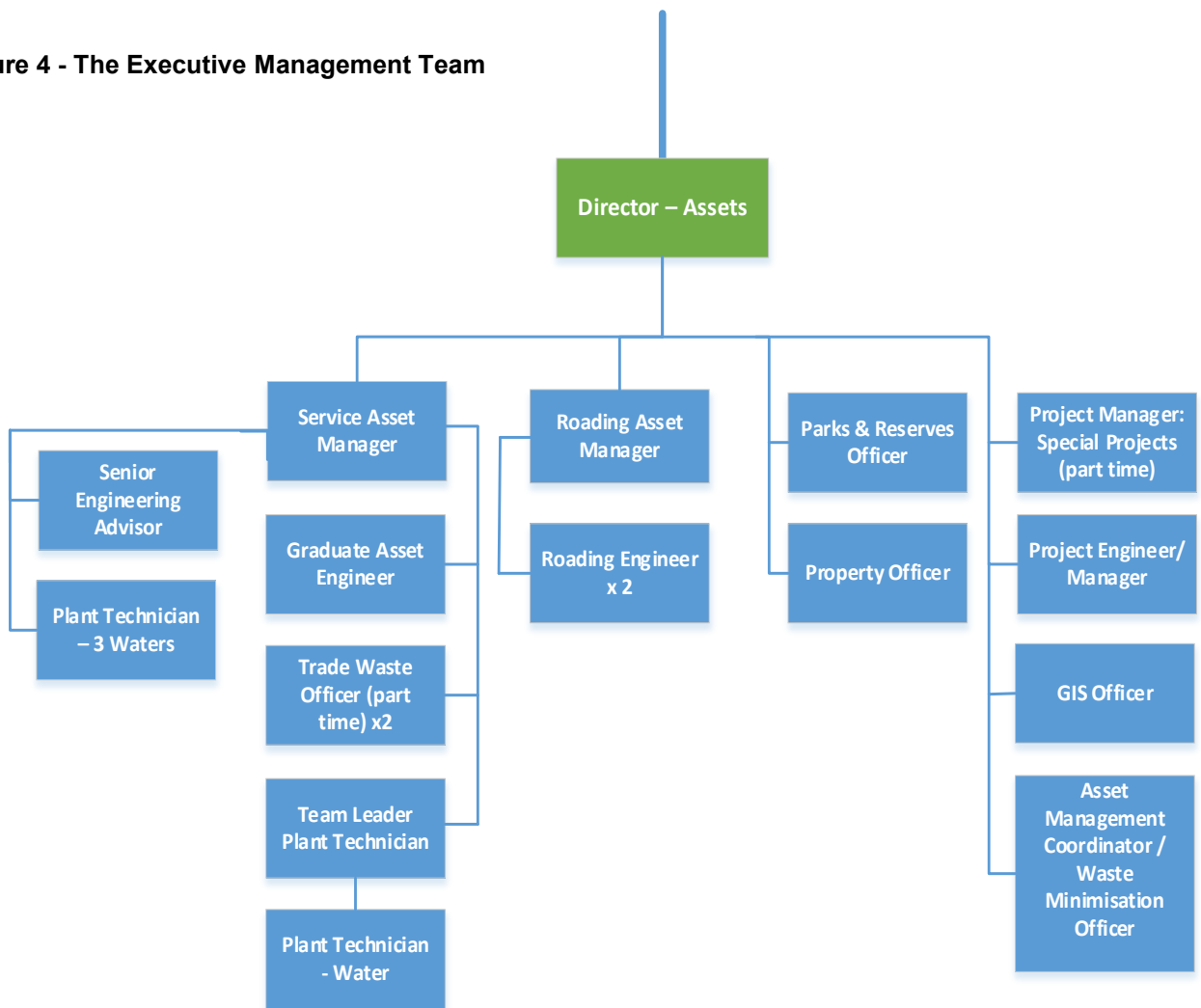


Figure 5 - Assets Department

1.4. THE WATER SUPPLY ACTIVITY

The Water Supply activity encompasses the planning, provision, operation, maintenance and renewal of water treatment and reticulation systems, and all associated infrastructure.

The Stratford District Council operates three water supplies servicing the Stratford, Toko and Midhirst townships, with river fed sources for Stratford and Midhirst and a bore supply for Toko.

1.5. THE IMPORTANCE OF THE WATER SUPPLY ACTIVITY

A safe supply of drinking water is crucial to public health and the wellbeing of the community. As required under Part 2 of the Local Government Act 2002 and Part 2 of the Health Act 1956, Stratford District Council provides water supply infrastructure to provide all properties in the water supply zones with a potable and sustainable supply of treated water.

The Council provides the Water Supply service to meet the needs and requirements of its customers and stakeholders. The goals and objectives of the Water Supply activity are:

- Water is safe to drink;
- A reliable water supply is provided;
- Water has a pleasant taste and odour;
- Water flow and pressure is appropriate for its intended use; and
- Water supply meets firefighting requirements.

By meeting its goals and objectives the Water Supply activity contributes to the achievement of national, regional and district goals and objectives. Table 5 shows how the Water Supply Activity contributes to the Stratford District's Community Outcomes.

Table 5 - Water Supply Contribution to Community Outcomes

Community Outcomes		Water Activity Contribution
Vibrant community	<ul style="list-style-type: none"> • We celebrate and embrace our community's cultures and traditions. • We tell our unique story. • We will develop strong relationships with iwi, hapu and marae. 	<ul style="list-style-type: none"> • Water is safe to drink; • A reliable water supply is provided; • Water has a pleasant taste and odour; • Water flow and pressure is appropriate for its intended use; and • Water supply meets firefighting requirements.
Sustainable environment	<ul style="list-style-type: none"> • Our natural resources can be enjoyed now and by future generations. • We are committed to working towards zero waste. • We have well planned and resilient infrastructure that meets the current and future needs of the district. • We strive to understand and support Te Ao Māori values and principles. 	
Connected communities	<ul style="list-style-type: none"> • Our neighbourhoods are safe and supported • We enable positive healthy lifestyles, through access to health, social and recreation services • We have a strong sense of belonging • We value opportunities to be involved and work together as a community 	
Enabling economy	<ul style="list-style-type: none"> • We are a welcoming and business friendly District • We encourage a strong and diverse local economy • We promote opportunities to visit, live and invest in the district • We support economic opportunities for Māori 	

1.6. OUR CUSTOMERS, PARTNERS AND KEY STAKEHOLDERS

The Water Supply activity exists to meet the needs and requirements of our customers, partners and key stakeholders. These groups help us focus our strategic planning on the right things. They have information and knowledge that helps us make more informed decisions. Table 6 shows how our partners, customers and key stakeholders are involved in our planning activity.

Table 6 - Customers, Partners and Key Stakeholders

Customers	Involvement
Home Owners and Occupiers; Businesses and Organisations; Health and medical facilities; Education facilities and community groups; Tourists and Visitors; etc.	These customers use services provided by the Water Supply activity to get a supply of potable water for primarily domestic purposes (drinking and general sanitation). Other uses include commercial operations (including water tankers), tourists and firefighting.
Partners and Stakeholders	Involvement
New Plymouth District Council	Neighbouring water supplier with whom some operations and maintenance functions are contracted to (NPDC – instrumentation and electrical)
Taranaki Regional Council	Administers and enforces effective resource management in the Taranaki region. Applications from SDC are processed through TRC. TRC also supplies information of other applications that could affect existing water supplies to SDC.
Taranaki District Health Board	Primary regional regulatory authority for water supply potability (Drinking Water Assessors).
Audit New Zealand	Carries out annual audits of Council on the Auditor-General's behalf to give ratepayers assurance that Council is appropriately reporting on how they spend public money and on the services they have provided.
Other Government agencies; Ratepayers Associations; Iwi groups	These groups liaise with Council in relation to water supply services.
Utility Owners	New Zealand Utilities Advisory Group (NZUAG) requirements for co-ordinating networks.
Department of Conservation (DOC)	Key stakeholder for the protected portion of the Stratford raw water catchment. Offers Council opportunity for consultation when using pest control measures that have the potential to effect the water supply (i.e. 1080).
TEMO/Civil Defence	In the event of a Civil Defence emergency they provide advice and work alongside emergency services, lifeline utilities and government departments.
Venture Taranaki Tourism Network	Provides quarterly reports for tourism, economic growth, expenditure and trends within the district and region.
Local Iwi; Environmental groups	Affected parties to Council's resource consents
Emergency services (fire service)	Provides information to Council of callouts required municipal water supply usage. Allows Council to monitor water usage more accurately.
Elected Members; Committees; CEO, Management and Staff	Key internal stakeholders responsible for the management and operation of the Stratford, Midhirst and Toko water supplies.

1.6.1. THE CUSTOMER CHARTER

Following an internal review an organisation-wide *Customer Charter* was developed and introduced in 2015. The Customer Charter states that Stratford District Council is dedicated to having commitment and respect for each other, our business and our customers. We will be honest, courteous and efficient and use our knowledge and experience to be effective by doing the right thing at the right time. We support a culture of innovation by examining alternatives, challenging the obvious and having a flexible attitude.

Our Customer Service Charter establishes a consistent customer service standard across all Council business, regardless of whether our customer is borrowing a book, going to the pool, or lodging a building consent. Our philosophy is to provide quality service to all our customers in line with the Service Standards stated in the Customer Charter.

1.6.2. THE SIGNIFICANCE AND ENGAGEMENT POLICY

The Stratford District Council uses its Significance and Engagement Policy in its decision-making to determine the level of community engagement needed for an issue or proposal, to gain a clearer understanding of community views and preferences and the ways the community can influence and participate in the decision-making of the Council.

2.0

Legislative and Strategic Context

2.0: LEGISLATIVE AND STRATEGIC CONTEXT

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2.1. OVERVIEW

This section describes the legislative and strategic context of the Water AMP at the national, regional and district levels. The legislative and Strategic framework for the WAMP is presented in Figure 6.

2.2. NATIONAL CONTEXT

There are a number of national legislative requirements that drive the Water Supply level of service (LoS) and influence the operation and management of the Water Supply Assets. While many are listed below; the key drivers are described in detail in the following section.

- The Local Government Act 2002 (and amendments);
- The Health Act 1956 (and amendments);
- Taumata Arowai Act 2020;
- Water Services Bill 2020;
- The National Policy statement for Freshwater Management (FWNPS) 2020;
- The Resource Management Act 1991;
- The National Environmental Standards for Sources of Human Drinking Water;
- Civil Defence Emergency Management Act 2002;
- New Zealand Firefighting Code of Practice;
- Public Works Act 1981;
- Electricity Act 1992;
- Health and Safety at Work Act 2015.

2.2.1. THE LOCAL GOVERNMENT ACT 2002 AMENDMENT ACT 2019

The Local Government Act 2002 Amendment Act 2019 amended the purpose of the Act to be: *“to provide for democratic and effective local government that recognises the diversity of New Zealand communities”*.

The purpose of the Local Government Act is now amended thus:

- *to enable democratic local decision-making and action by, and on behalf of, communities; and*
- *to promote the social, economic, environmental, and cultural well-being of communities in the present and for the future.*

The LGA outlines the responsibilities of local authorities and the decision-making process for activities undertaken on behalf of their community, primarily through the requirement to adopt a Long Term Plan. The LGA includes the principles that require Council to:

- make itself aware of community views;
- provide opportunities for Māori to participate in decision-making processes;
- collaborate and cooperate with other local authorities as appropriate; ensuring prudent stewardship of resources; and
- and take a sustainable development approach.

The LGA in Section 125, requires the Council to *‘from time to time’* complete assessments of water and sanitary services for communities throughout their districts. The purpose of the assessment is to determine, from a public health perspective, the adequacy of water and sanitary services available to communities. In making such an assessment the following matters need to be considered:

- (a) the health risks arising from any absence or deficiency in water or other sanitary services;
- (b) the quality of services available to communities within the district;
- (c) the current and estimated future demands for such services;
- (d) the extent to which drinking water meets applicable regulatory standards; and
- (e) the actual or potential consequences of stormwater or sewage discharges within the district.

The Council is currently completing a review of its *Assessment of Water and Sanitary Services and Solid Waste*.

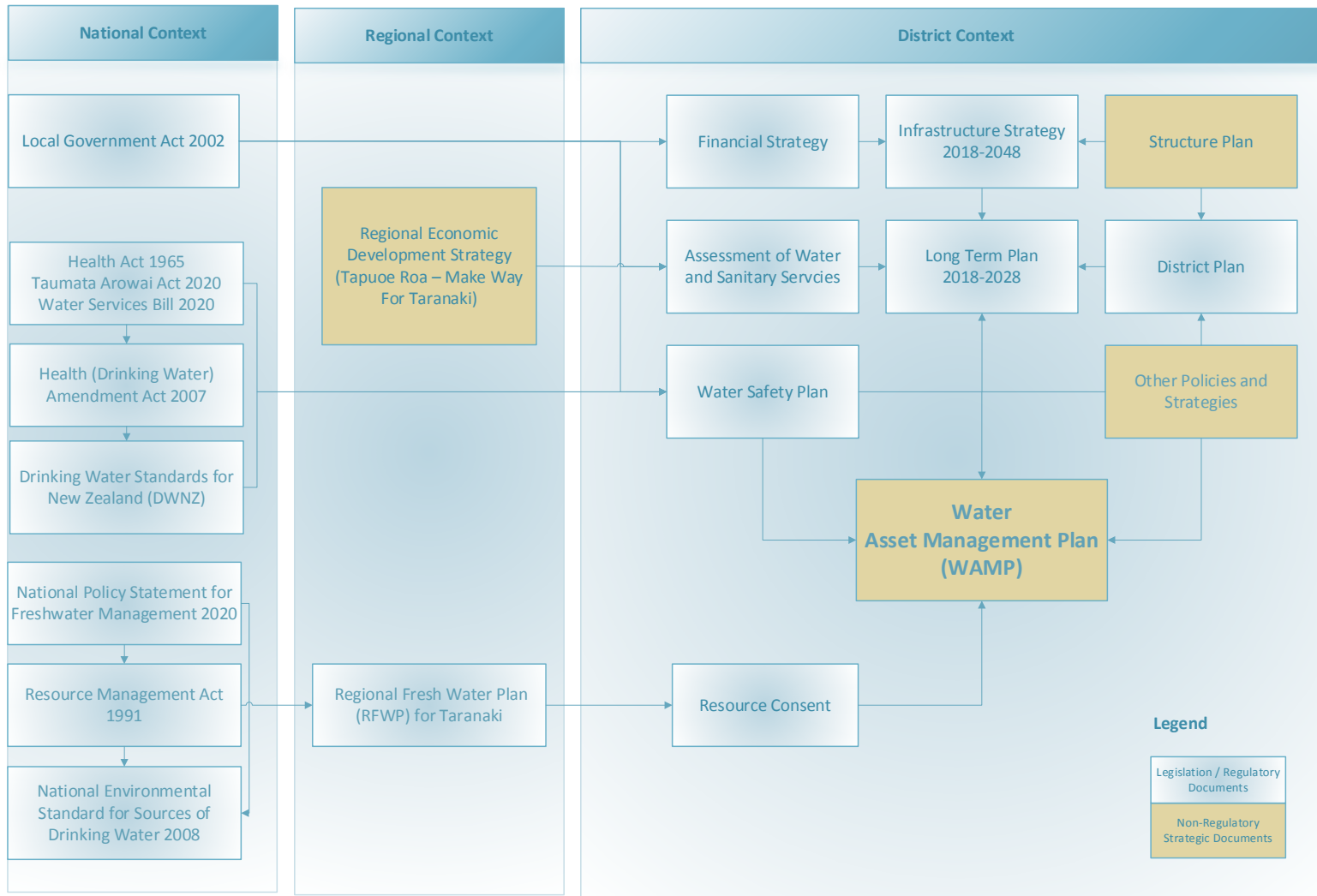


Figure 6 - Strategic and Legislative Framework

2.2.2. THE HEALTH ACT 1956

The Health Act 1956 aims to protect the health and safety of people and communities by promoting adequate supplies of safe and wholesome drinking water from all drinking-water supplies larger than 25 or more people.

The Health Act 1956 requires certain drinking-water suppliers to have and implement a *Water Safety Plan (WSP)*. A WSP documents a public health risk-based assessment and management process that aims to ensure a safe and secure supply of drinking-water for consumers, protecting public health. Water safety planning strengthens the focus on preventive measures across the whole drinking-water supply system, moving away from a reliance on after-the-event end-point water quality testing. It promotes a multi-barrier approach to managing risks, which safeguards against the failure of any one barrier. Water safety planning supports continuous improvement and guides day-to-day activities now and into the future.

According to the legislation, Council is considered a 'water supplier' and is required to complete a number of 'duties' (see Sections 69S-69ZJ). Some of these duties include:

- Ensuring the provision of drinking water
- Contributing to the protection of raw water sourced for drinking water
- Taking all practicable steps to comply with the drinking water standards
- Preparing and implementing a Water Safety Plan (formally a Public Health Management Plan) (Stratford water supply only)

The Drinking Water Standards for New Zealand 2005 (Revised 2008) (DWSNZ) provides requirements for drinking-water safety by specifying the:

- maximum amounts of substances, organisms, contaminants or residues that may be present in drinking-water
- criteria for demonstrating compliance with the DWSNZ; and
- remedial action(s) to be taken in the event of non-compliance with different aspects of the DWSNZ

The Council has been working towards compliance with the DWSNZ contained in the act since its passing into law and Council water supplies are expected to meet Health Act and DWSNZ compliance requirements in 2018.

Water Safety Plans have been prepared for the Stratford, Midhirst and Toko Water Supplies to identify and assess public health risks to the consumers of the drinking-water supply.

2.2.3. TAUMATA AROWAI - THE WATER SERVICES REGULATOR ACT 2020

The Water Services Regulator Act was passed in July 2020. It establishes Taumata Arowai as a Crown Agent and provides for its objectives, functions, operating principles, and governance arrangements, including the appointment of an independent Board and a Māori Advisory Group. It provides the new drinking water regulator - Taumata Arowai - with significant new powers to give effect to the Government's expectation that New Zealanders are "able to drink the water that comes out of the tap knowing that it is safe"

A complementary Bill, *the Water Services Bill*, is now before Parliament. This Bill is anticipated to be introduced in the second half of 2021, dependent on the election outcome and the post-election Parliamentary timetable. Once passed, Taumata Arowai will become Aotearoa's dedicated regulator of the three waters: Drinking water, wastewater and stormwater. Until then, the Ministry of Health remains the regulator of drinking water.

The establishment of Taumata Arowai is one three po (pillars) of the Government's Three Waters Reform programme, alongside the regulatory reforms outlined in the Water Services Bill, and the reforms to water delivery services. These reforms are intended to address issues and opportunities that were highlighted by the Government Inquiry into the Havelock North Drinking Water, and in the Government's Three Waters Review. The reforms are designed to:

- Provide clear leadership for drinking water regulation through a new, dedicated regulator;
- Significantly strengthen compliance, monitoring, and enforcement relating to drinking water regulation, and equip the new regulator with the powers and resources needed to build capability, support suppliers of all kinds to meet their regulatory obligations, and take a tougher, more consistent approach to enforcement where needed;
- Manage risks to drinking water safety and ensure source waters are protected;
- Ensure more people can access water that is safe to drink, by requiring all suppliers (except individual domestic self-suppliers) to be part of the regulatory system, and to provide safe drinking water on a consistent basis;
- Lift the environmental performance and transparency of wastewater and stormwater networks; and
- Improve national-level leadership, oversight, and support relating to wastewater and stormwater.

When Taumata Arowai is fully functionally, its role in essence will be to:

- Oversee and administer an expanded and strengthened drinking-water regulatory system, to ensure all New Zealand communities have access to safe drinking water. That includes holding suppliers to account, if need be; and
- Oversee from a national perspective the environmental performance of waste water and storm water networks. (Regional councils will remain the primary regulators of waste water and storm water).

2.2.4. THE WATER SERVICES BILL 2020

While the Taumata Arowai Act was passed in July 2020, Taumata Arowai will not become fully operational until enactment of the Water Services Bill, projected to in the second half of 2021.

The Water Services Bill proposes to repeal Part 2A of the Health Act 1956 and replace it with a standalone Act to regulate drinking water. The Bill received its first reading on Tuesday 8 December 2020 and has been referred to the Health Select Committee for consideration. The Bill is a companion to the Taumata Arowai - the Water Services Regulator Act 2020, which was passed earlier in the year.

Essentially, the Water Services Bill 2020 is a part of a broader Three Waters reform programme by central government. It proposes a new regulatory regime for managing drinking water supply. The obligations on drinking water suppliers proposed by the Bill are more onerous than those under the existing Health Act regime.

Until Taumata Arowai is fully operational, the Ministry of Health will remain the regulator for drinking water safety.

The Water services 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.

2.2.5. THE THREE WATERS REFORM

The Council signed a Memorandum of Understanding (MoU) with central government to work together to identify approaches that consider the design features of the 3 waters reform and is participating in the exploration of future service delivery options. The central government expects to create new water service delivery entities that are:

- of significant scale (most likely multi-regional) to enable benefits from aggregation to be achieved over the medium to long-term;
- asset owning entities, with balance sheet separation to support improved access to capital, alternative funding instruments and improved balance sheet strength; and
- structured as statutory entities, with competency-based boards;

The Council expects to make a decision in late 2021, to either stay with the new water service delivery entity or opt out. Any decision to participate is likely to be given effect to at some point in the 2023/4 financial year.

Reference to the Government's reform strategy and timeline, including highlighting when it is proposed that there would be further engagement and consultation with communities is available at <https://www.dia.govt.nz/Three-Waters-Reform-Programme>

2.2.6. THE NATIONAL POLICY STATEMENT FOR FRESHWATER MANAGEMENT 2020

The National Policy Statement for Freshwater Management 2020 sets out the objectives and policies for freshwater management under the Resource Management Act 1991. It comes into effect on 3 September 2020 and replaces the National Policy Statement for Freshwater Management 2014 (amended 2017). The new policy directions which are of relevance to, and have a direct impact on, how the Council manages its water and wastewater activities. The key requirements of the Freshwater NPS include:

- Managing freshwater in a way that 'gives effect' to Te Mana o te Wai through:
 - involving tangata whenua;
 - working with tangata whenua and communities to set out long-term visions in the regional policy statement and
 - prioritising the health and wellbeing of water bodies, then the essential needs of people, followed by other uses.
- Improving degraded water bodies, and maintaining or improving all others using bottom lines defined in the Freshwater NPS;
- An expanded national objectives framework:
 - two additional values - threatened species and mahinga kai - join ecosystem health and human health for recreation, as compulsory values
 - councils must develop plan objectives that describe the environmental outcome sought for all values (including an objective for each of the five individual components of ecosystem health)
 - new attributes, aimed specifically at providing for ecosystem health, include fish index of biotic integrity (IBI), sediment, macroinvertebrates (MCI and QMCI), dissolved oxygen, ecosystem metabolism and submerged plants in lakes; councils will have to develop action plans and/or set limits on resource use to achieve these attributes.
 - tougher national bottom lines for the ammonia and nitrate toxicity attributes to protect 95% of species from toxic effects (up from 80%)
- Identifying and working towards target outcomes for fish abundance, diversity and passage and address in-stream barriers to fish passage over time.
- Setting an aquatic life objective for fish and addressing in-stream barriers to fish passage over time.; and
- Monitoring and reporting annually on freshwater (including the data used); publish a synthesis report every five years containing a single ecosystem health score and respond to any deterioration.

2.2.7. THE RESOURCE MANAGEMENT ACT 1991

The Resource Management Act 1991 (RMA) promotes the sustainable management of natural and physical resources such as land, air and water and is considered New Zealand's principal legislation for environmental management.

The RMA regulates the volume, rate, timing of the taking of water from streams, rivers or bores, through the resource consent process. The Stratford District Council holds Resource Consent 0195-3 for the taking of water from the Patea and Konini Rivers for the Stratford Water Scheme, Resource Consent 1276-3 for the taking of water from the Te Popo stream for the Midhirst Water Scheme and Resource Consent 1337-3 for the taking of water from a bore for the Toko Water Scheme.

The Midhirst Resource Consent 1276-3 expires in June 2021. An application to renew this consent has been lodged with the Taranaki Regional Council. All Stakeholders, including Ngati Ruanui, Ngaruahine, Te Atiawa, Ngati Maru and Fish & Game NZ, have been engaged in early conversations and initial discussions.

RMA Reform

The RMA is currently undergoing a reform into 3 pieces of legislations being the:

- Natural and Built Environments Act;
- Strategic Planning Act; and
- Climate Change Adaptation Act.

The reform is based on the findings of the comprehensive review of the resource management system which were released last year. These pieces of legislations are currently before Parliament and it is expected that they will be passed by the end of 2022.

The *Natural and Built Environments Act* is the core piece of legislation to replace the RMA. The purpose of this Act is to enhance the quality of the environment to support the wellbeing of present and future generations. Under the Act, central government's proposed new National Planning Framework will provide a set of mandatory national policies and standards on specified aspects of the new system. These will include environmental natural limits, outcomes and targets. This would be achieved by:

- promoting positive outcomes for both the natural and built environments;
- ensuring that use, development and protection of resources only occur within prescribed environmental limits; and
- ensuring adverse effects of activities on the environment are avoided, remedied or mitigated.

The *Strategic Planning Act* provides a strategic and long-term approach to how we plan for using land and the coastal marine area. The regional strategies would enable more efficient land and development markets to improve housing supply, affordability and choice, and climate change mitigation and adaptation.

Long-term spatial strategies in each region would be developed to identify areas that:

- will be suitable for development;
- need to be protected or improved;
- will need new infrastructure and other social needs; and
- are vulnerable to climate change effects and natural hazards such as earthquakes.

The *Climate Change Adaptation Act* would support New Zealand's response to the effects of climate change. It would address the complex legal and technical issues associated with managed retreat and funding and financing adaptation.

2.2.8. THE NATIONAL ENVIRONMENTAL STANDARDS FOR SOURCES OF HUMAN DRINKING WATER 2007

The Resource Management (National Environmental Standard for Sources of Human Drinking Water) Regulations 2007 is a regulation made under the Resource Management Act (1991) that sets requirements for protecting sources of human drinking water from becoming contaminated.

The NES seeks to ensure that the effects of activities on drinking water sources are considered in decisions on resource consents and regional plans. Specifically, the NES ensures that water sources are protected by requiring the regional councils to:

- decline discharge or water permits that are likely to result in community drinking water becoming unsafe for human consumption following existing treatment ;
- be satisfied that permitted activities in regional plans will not result in community drinking water supplies being unsafe for human consumption following existing treatment
- place conditions on relevant resource consents that require notification of drinking water suppliers if significant unintended events occur (e.g., spills) that may adversely affect sources of human drinking water.

2.3. REGIONAL CONTEXT

2.3.1. THE REGIONAL FRESH WATER PLAN FOR TARANAKI (RFP)

The Regional Fresh Water Plan promotes sustainable management of the region's freshwater resources by applying rules and conditions to various activities. The Plan is currently under review.

The Plan identifies how the fresh water resources of the region (both surface water and groundwater) are to be managed. It does this by identifying important issues from state of the environment monitoring relating to the use, development and protection of the fresh water resources of Taranaki. Objectives, policies and methods are set out for addressing these issues. Ongoing state of the environment monitoring will enable the Taranaki Regional Council to assess the effectiveness of the Plan and review policy direction where necessary. In particular the Plan contains regional rules which categorise activities into different classes (permitted, controlled, discretionary or prohibited), with different standards, terms or conditions which apply to them, depending on the effects on the environment of that activity. Activities have been classified in this way to facilitate the processing of resource consents and to provide certainty for the community.

In relationship to this document the RFP supplies the framework for setting the conditions under which the Stratford Wastewater Treatment plant must operate to achieve the goals of the plan.

2.3.2. THE REGIONAL ECONOMIC DEVELOPMENT STRATEGY - MAKE WAY FOR TARANAKI

The Regional Economic Development Strategy - Make Way for Taranaki was developed by the four local authorities of the Taranaki region in association with Venture Taranaki and the Ministry of Business, Innovation and Employment (MBIE). The strategy sets a direction for economic development and identifies priorities and measurable goals for the region as a whole. It is anticipated that the Strategy will enable and support economic growth and development in the Stratford District.

While economic growth for the Stratford District is desirable, Council is aware that growth can have an impact on infrastructure and the services delivered by that infrastructure. Anticipated impacts of the Regional Economic Development Strategy and any resulting growth on the Wastewater activity and infrastructure are expected to include.

2.4. DISTRICT CONTEXT

The WAMP feeds, and in turn is fed into, a number of district strategies. The WAMP forms a critical part of the planning framework, as shown in Figure 6. Table 9 provides a description of the District Strategic Drivers for the WAMP, and how they influence or relate to the WAMP. The key district drivers are provided in more detail below.

2.4.1. THE LONG TERM PLAN (LTP) 2021-2031

The Long Term Plan (LTP) 2021-2031 is a regulatory document pursuant to Section 93 of the Local Government Act 2002 Amendment Act 2019 that:

- Describes the activities of Stratford District Council;
- Outlines Council's contribution to the community outcomes and describes how we will manage activities we are responsible for;
- Provides integrated decision making and co-ordination of resources; and
- Provides a long-term focus for Stratford District Council's decisions and activities

The LTP provides the direction and strategies that drive the WAMP. Programmes for Capital, Maintenance and Renewal works are linked to the LTP along with essential budgeting requirements. The LTP covers a planning period of 10 years and is reviewed three yearly.

2.4.2. THE INFRASTRUCTURE STRATEGY 2021 – 2051

The Infrastructure Strategy (IS) is a regulatory document pursuant to Section 101B of the Local Government Act 2002 Amendment Act 2019 for the purpose of:

- Identifying significant issues over the period covered by the strategy; and
- Identifying the principal options for managing those issues and the implications of these options.

The identified issues and opportunities from the 30 year strategy inform the relevant AMP and is reviewed every 3 years. Like the LTP, the IS provides the direction and strategies that drive the WAMP but in this case, the planning period primarily focussed on is for 10-30 years.

This strategic document allows Council to make informed decisions and place Council in a better position to understand and plan for major infrastructure investments.

2.4.3. THE DISTRICT PLAN

Developed in compliance with the requirements of the Resource Management Act 1991(RMA), the District Plan specifies land use policies aiming to mitigate and control the detrimental environmental effects of new developments. These areas of growth and development need to be accounted for within the WAMP through the use of water modelling reports, levels of service increase works and forward works programming.

2.4.4. THE ANNUAL PLAN

The Annual Plan is a regulatory document pursuant to Section 95 of the Local Government Act 2002 Amendment Act 2014. The Annual Plan is developed in compliance with section 95 of the LGA 2002 and updates information reported on within the Long Term Plan including its objectives, intended activities, performance, income and expenditure. The Annual Plan shows how that year of the Long Term Plan will be funded.

2.4.5. WATER SAFETY PLANS

Water Safety Plans (WSP) are undertaken in compliance with Section 69Z of the Health Act 1956 for the Stratford, Midhirst and Toko Water Supply. These plans identify risk-mitigating projects which feed into the WAMP and are reviewed every 5 years, as per table below.

Water Supply	Last Review	Next Review	Planned Review
Stratford	May 2020	May 2025	In progress – Completion by Feb 2021
Midhirst	January 2015	January 2020	Completion by April 2021
Toko	January 2016	January 2021	

It is noted that with the Three Waters Reform and the new water regulations, i.e. the Water Services Bill 2020 and its subsequent enactment, there may be a change to the requirements and review frequency of the Water Safety Plans.

Legislative and Strategic Context

Table 7 - District Strategic Drivers

Strategies/ Plans/ Documents	Description	Review Frequency	Relationship to the Asset Management Plan
Financial Strategy	Developed to provide a financial framework for Council debt and rate levels and limits - future proof Council owned and operated assets.	Ten yearly	Provides financial framework for asset management and activity budgeting and expenditure.
Infrastructure Strategy	Prepared for the purposes of identifying significant issues over the period covered by the strategy and identifying the principal options for managing those issues and the implications of these options.	Three yearly	Provides a core infrastructure asset management framework over a 30-year planning horizon.
Economic Development Strategy	Sets the direction for economic development and identifies priorities and measurable goals.	Three yearly	Support asset management planning and good practice.
Structure Plan	Provide a long term planning framework for the future development and redevelopment of the Stratford District. The plan will set out in broad terms, the layout of land uses, key infrastructure and transport links.	Unknown at this stage	Support asset management planning.
Significance and Engagement Policy	Developed in compliance with Section 76AA to set out Councils approach to: <ul style="list-style-type: none"> • The assessment of significance during decision-making. It provides direction on the consideration of community views and 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. • Regarding community engagement and the ways the community can influence and participate in the decision-making of the Council. 	Three yearly	Determines level of engagement required for asset management planning activities/projects
Annual Report (AR)	Reports Council's performance for the previous year.	Annually	Provides annual KPI targets that are reported in the Annual Report.
Assessment of Water and Sanitary Services	Undertaken in compliance with Section 125 of the Local Government Act 2002 as part of Council meeting its obligation under the Health Act 1956 to improve, promote, and protect public health within its district.	Ten yearly	Identified issues and required actions feed into the relevant AMP
Other Council strategies, Policies, By-laws, Programmes, etc.	The tools that guide and direct Council activities (see Appendix 2) <ul style="list-style-type: none"> • Water Supply Strategy; • Water Supply Bylaw; • Policy on Water Supply to Rural Properties; • Backflow Prevention Programme; • Incident Response Plans 	As applicable	Support asset management planning and good practice.

3.0

Asset Information

3.0: ASSET INFORMATION

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3.1. ASSET OVERVIEW

The Stratford District Council owns and operates three urban water supplies servicing the Stratford, Midhirst and Toko communities respectively.

This section details the WAMP activity, the current asset valuation summary and provides details about infrastructure asset components. It identifies the general condition of assets and any issues/opportunities Council will need to consider. It highlights how asset condition is identified and Council's level of confidence in asset data.

3.2. ASSET VALUATION

The Local Government Act 2002, Section 111 requires that the local authorities comply with statement of "General Accepted Accounting Practice" that are prepared by the New Zealand Society of Accountants (ICANZ).

The Local Government (Financial Reporting and Prudence) Regulations 2014, Section 6 requires Local Authorities to disclose information about core assets in its annual report, including the local authority's most recent estimate of the replacement cost. The concept of intergenerational equity in the funding of infrastructure asset is included as one of the principles of financial management. Without accurate knowledge of serviceability of assets, local authorities will only be guessing when they attempt to spread the costs of infrastructure across present and future ratepayers.

As required under the LGA, the Council has its assets re-valued every three years by independent qualified valuers. Valuations will be undertaken more regularly if necessary to ensure no individual item of property, plant or equipment within a class has a carrying value that is materially different from its fair value.

The asset valuations contained in Table 9 were carried out by Infrastructure Associates. Please note that:

- **Replacement Cost (RC)** is the cost of constructing a new asset using present day technology and maintaining its original service potential.
- **Optimised Depreciated Replacement Cost (ODRC)** is the optimised replacement cost after deducting an allowance for wear or consumption to reflect the remaining or economic service life of an asset; and
- **Annual Depreciation (AD)** is the systematic allocation of an amount over an asset over its useful life

The Asset information and asset registers used for the re-valuation undertaken by Infrastructure Associates included:

- Network asset data provided from SDC (from AssetFinda database for the three waters);
- The information received has been discussed with the Asset Manager to ascertain the accuracy and completeness of the information.
- Unit rates and effective lives as agreed with SDC.

Asset information excluded from the re-valuation were:

- All land related to water infrastructure assets;
- Any assets not included in the asset registers supplied by SDC; and
- Abandoned assets

Financial Reporting Standards (PBE IPSAS 17) apply to all SDC water infrastructure assets considered in the re-valuation for the general purpose of financial reports.

Asset Information

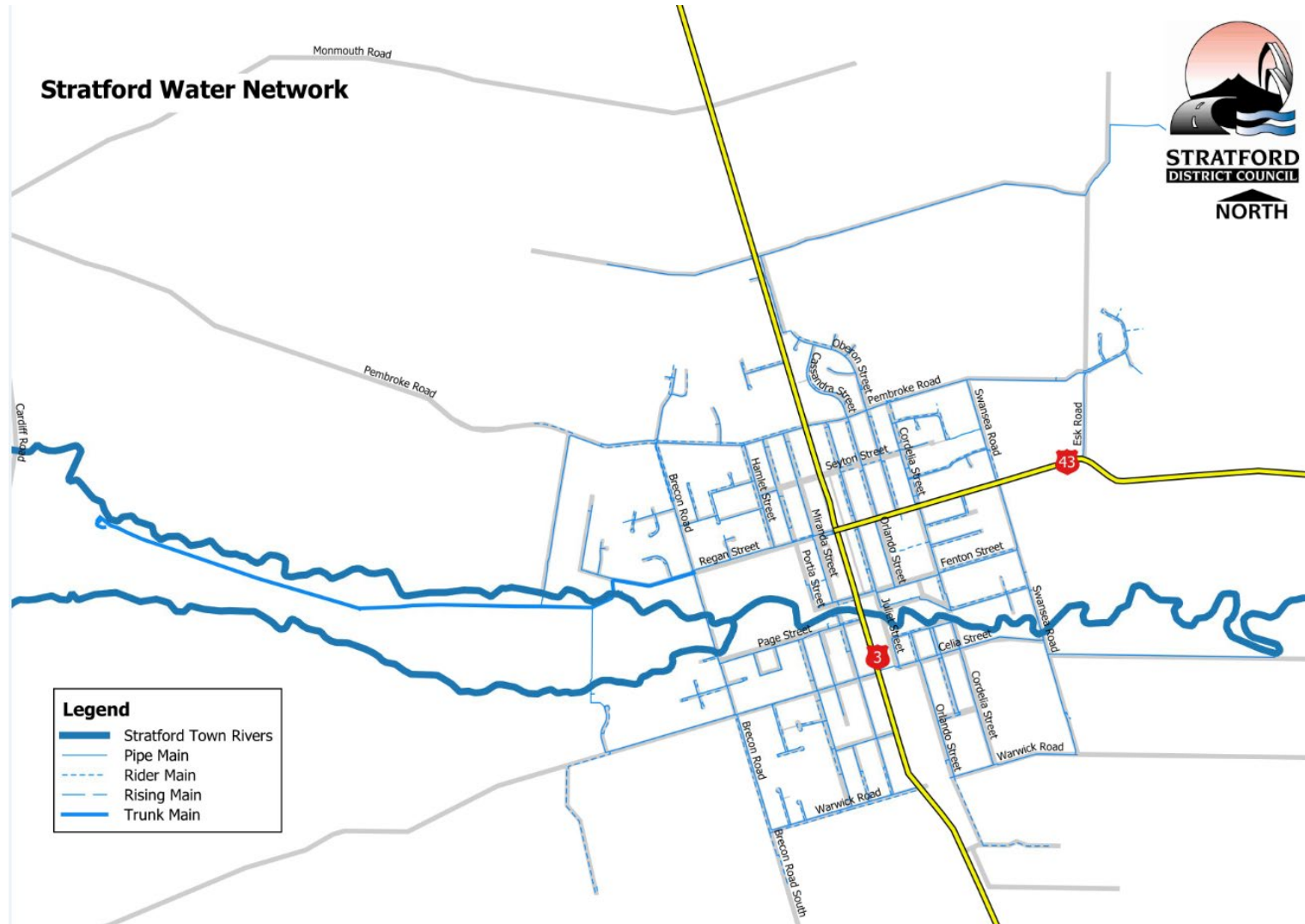


Figure 7 - Water Reticulation Area of Benefit Stratford

Asset Information

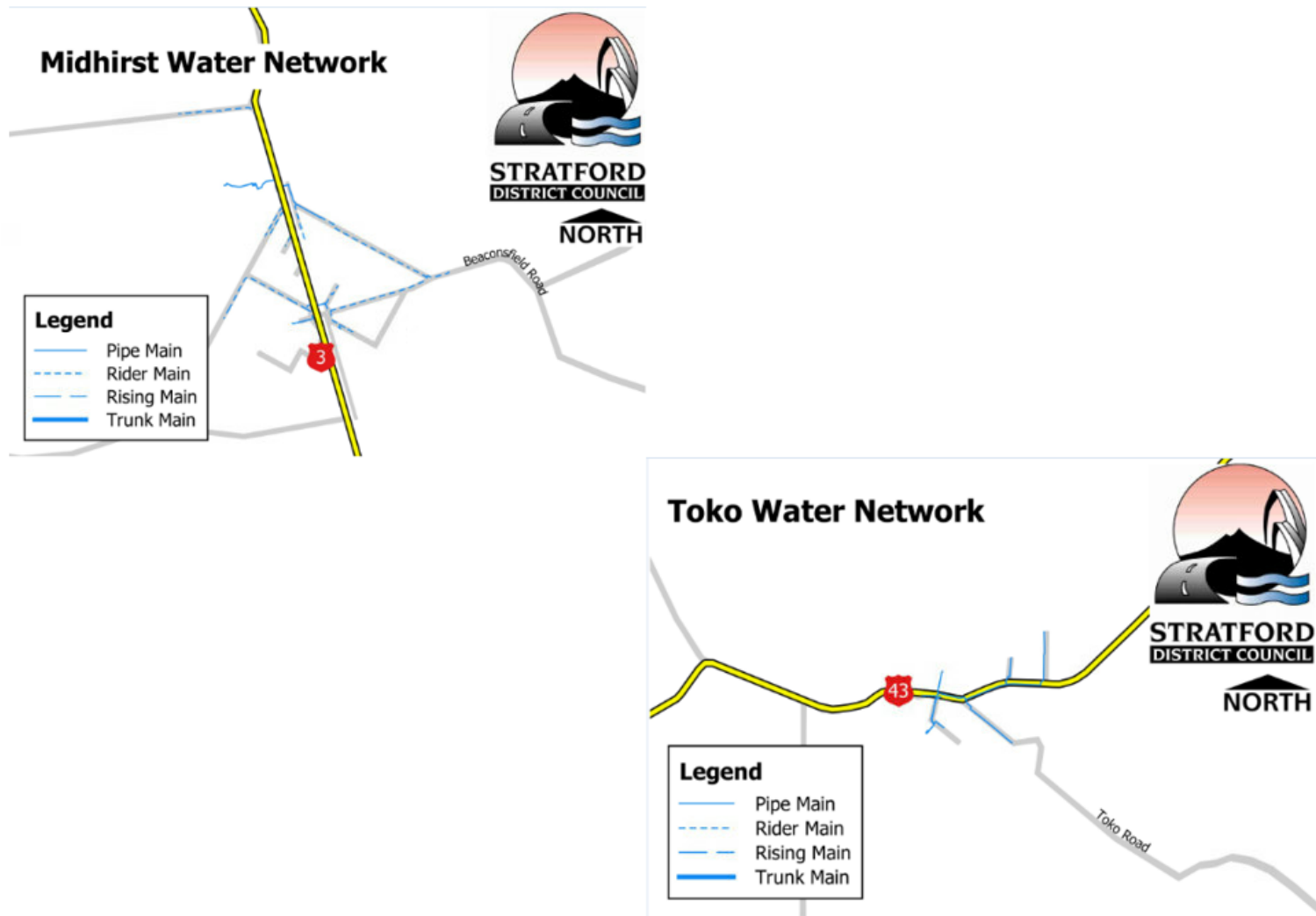


Figure 8 - Water Reticulation Area of Benefit Midhirst and Toko

Table 8 - Stratford Water Supply Asset Valuation Summary

Asset Group	Asset Description	Quantity	Unit	Useful Life (yrs.)	Remaining Useful Life (yrs.)	Values (\$)		
						RC	ODRC	AD
Pipes	Pipework	78,334	m	50-80	Unknown	12,170,006	6,707,398	126,859
Total Pipes						12,170,006	6,707,398	126,859
Fittings	Hydrants	420	No.	50-80	Unknown	1,096,855	763,208	14,624
	Valves	527	No.	50-80	Unknown	1,247,212	716,447	16,611
	Toby	1,460	No.	50-80	Unknown	914,457	334,475	12,331
	Service Connections	2,671	No.	50-80	Unknown	2,014,480	991,545	27,187
	Point of Supply	3,794	No.	50-80	Unknown	463,466	352,423	13,715
Total Fittings (8,872)						5,736,470	3,158,098	84,468
Treatment	Intakes	N/A	N/A	10-100	Unknown	811,355	462,167	10,172
	Ground Features	N/A	N/A	10-100	Unknown	288,744	256,787	4,970
	Infrastructure	N/A	N/A	10-100	Unknown	1,063,533	901,676	40,673
	Filtration	N/A	N/A	10-100	Unknown	433,672	260,203	43,367
	Storage	2	No.	10-100	Unknown	2,213,924	1,603,176	29,064
Total Treatment						4,811,228	3,484,009	128,246
Grand Total						22,717,704	13,349,505	339,573
<i>Note: Asset Valuation Summary as at 01 July 2018 – Stratford District Council Three Waters Infrastructure Asset Valuation Report</i>								

Table 9 - Midhirst Water Supply Asset Valuation Summary

Asset Group	Asset Component	Quantity	Unit	SDC Useful Life (yrs.)	SDC Remaining Useful Life (yrs.)	Values (\$)		
						RC	ODRC	AD
Pipework/Point/Plant	Pipework	5,080	m	50-80	Unknown	587,328	389,330	5,915
	Point Assets	64	No.	50-80	Unknown	47,747	27,077	720
	intakes	3	No.	10-100	Unknown	19,070	12,644	1,428
	Plant Room	8	No.	10-100	Unknown	25,342	21,874	771
	Infrastructure	49	No.	10-100	Unknown	239,730	187,849	11,276
	Filtration	3	No.	10-100	Unknown	20,892	16,427	992
	Storage	3	No.	10-100	Unknown	422,300	144,672	8,413
	Point of Supply	143	No.	N/A	Unknown	15,069	11,025	431
	Service Connections	84	No.	Unknown	Unknown	65,431	43,000	800
Total Pipework/Point/Plant MIDHIRST						1,442,909	853,898	30,746
<i>Note: Asset Valuation Summary as at 01 July 2018— Stratford District Council Three Waters Infrastructure Asset Valuation Report</i>								

Table 10 - Toko Water Supply Asset Valuation Summary

Asset Group	Asset Component	Size	Quantity	Useful Life (yrs.)	Remaining Useful Life (yrs.)	Values		
						RC (\$)	ODRC (\$)	AD (\$)
Pipework/Point/Plant	Pipework	32-100	1858	50-80	Unknown	195,025	140,485	1,954
	Point Assets	N/A	N/A	N/A	Unknown	14,031	12,057	193
	Intakes	N/A	5	50-80	Unknown	47,739	8,219	743
	Plantroom	N/A	2	50-80	Unknown	1,776	1,162	157
	Infrastructure	N/A	26	50-80	Unknown	66,902	55,293	3,946
	Filtration	N/A	7	50-80	Unknown	42,785	38,991	1,473
	Storage	N/A	2	50-80	Unknown	41,785	39,289	696
	Point of Supply	N/A	88	50-80	Unknown	12,243	7,030	333
	Service Connections	N/A	22	N/A	Unknown	41,614	28,746	445
Total Pipework/Point/Plant TOKO						463,900	331,272	9,940
<i>Note: Asset Valuation Summary as at 01 July 2018— Stratford District Council Three Waters Infrastructure Asset Valuation Report</i>								

3.3. USEFUL LIFE

Useful life (or Base Life) refers to either;

- The period over which an asset or component is expected to be available for use by an entity, or
- The number of production or similar units expected to be obtained from the asset or component by the entity. Refer: *International Infrastructure Management Manual (2015)*

The asset Useful lives are expressed as years. The asset **Age** is based on construction dates. The *Remaining useful life* is based on age and useful life of the assets.

3.4. ASSET INFORMATION SYSTEM

The Stratford District Council uses a number of information systems to manage its water assets.

- General Asset Information is managed in the 'AssetFinda' system to support management of the Water Supply Activity. Data on infrastructure assets is collected during inspections and monitoring using both paper based and electronic methods. All data collected is entered into 'AssetFinda' directly by the maintenance contractor and followed up by the Engineering Officer and GIS Officer.
- Operational performance is managed in 'Water Outlook' and the reporting tools within the 'SCADA' system. 'Water Outlook' imports both continuous online data and manual sampling information from the 'SCADA' servers and assists management of the water supply activity by producing pre-formatted reports. These reports can be used to monitor compliance or operational parameters but is not typically used to operate the water supplies.
- Operational control is managed in the 'SCADA' control system for all three Council water supplies. This system receives the most up to date information from all supplies, allowing the operator to intervene and optimise the safe and reliable production of drinking water. Alarms are activated through the SCADA system allowing for a prompt response by the operator if necessary.

3.5. THE WATER SUPPLY SCHEMES

The Stratford District has three separate water supply schemes servicing the Stratford, Midhirst and Toko Townships, as described below.

All schemes are administered at the main Council office, operated and monitored by SDC and STDC staff, and share support services to minimise costs (SCADA, Water Outlook etc.). The management, maintenance and operation of all three water schemes are the responsibility of the Director Assets and Services Asset Manager.

3.5.1. THE STRATFORD WATER SUPPLY

Stratford District Council provides water to 2858 properties in the Stratford Township.

The main water source for Stratford is the Patea River, with a secondary intake from the Konini Stream used during periods when the Patea River flow rate reduces below consent limits. Raw water is extracted from the sources by means of weirs and gravity fed into a grit tank before being pumped to the treatment plant. Once at the treatment plant the raw water is fed through a hollow fibre membrane system, with coagulant added to assist filtration. Filtered water is then dosed with chlorine, caustic soda (for pH adjustment) and fluoride.

Treated water is pumped into two reservoirs (4500m³ and 4000m³) which have enough capacity to hold up to two days supply. From the reservoirs treated water is gravity fed to the reticulation system and distributed to properties connected to the supply.

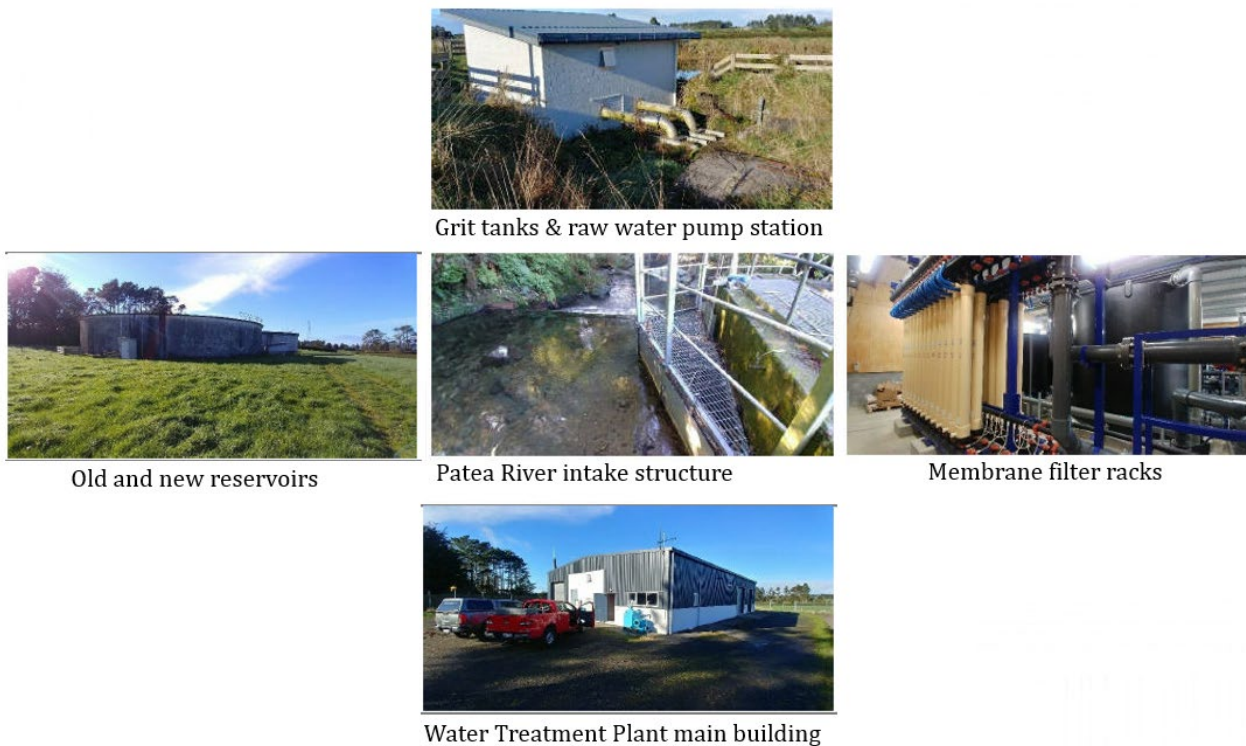


Figure 9 - Stratford Water Treatment Plant Photos

The critical points for the Stratford water supply treatment process are shown in Figure 10, as taken from the *Stratford Water Safety Plan, 2019*.

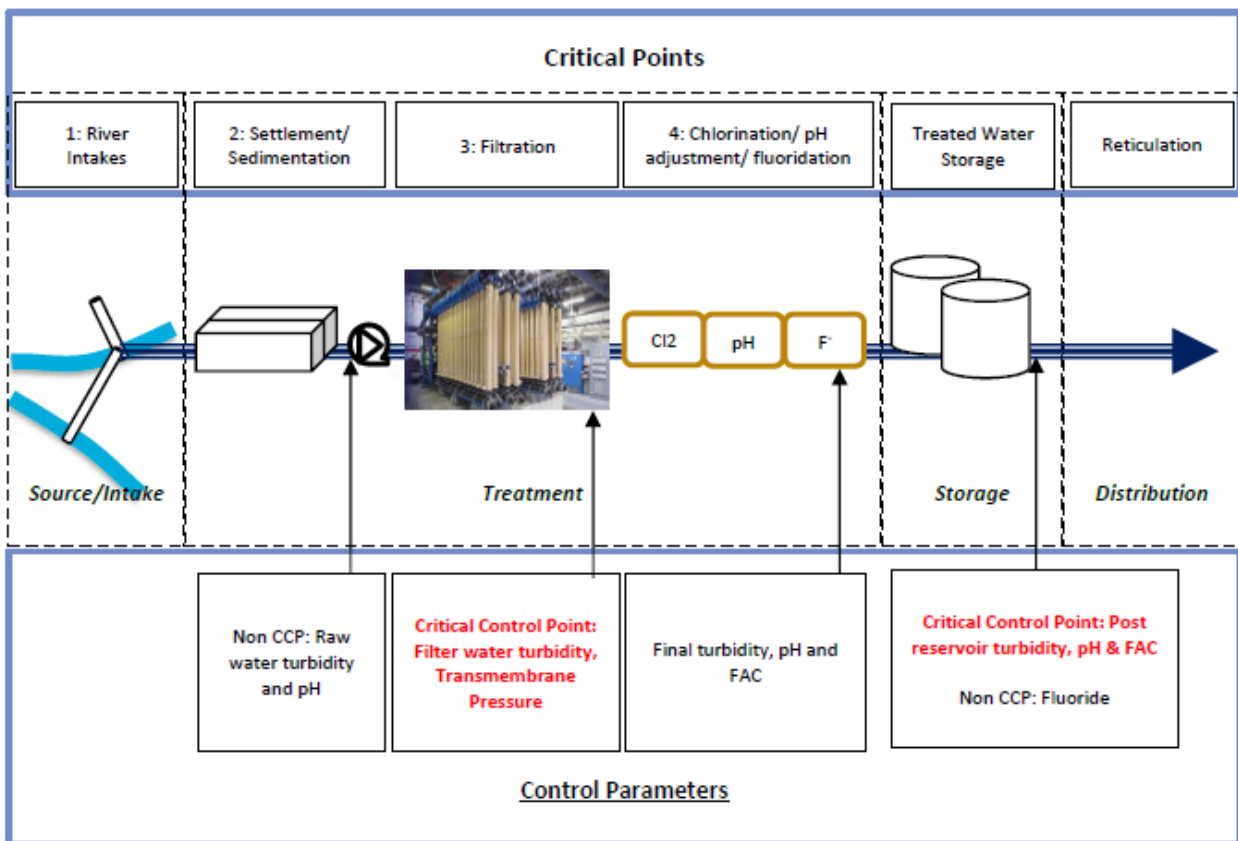


Figure 10 - Stratford Water Treatment Process

The Stratford water treatment plant building and one reservoir were constructed in 2013. Data in the asset management information system (AssetFinda) reports the condition of these assets as excellent. The condition of the original existing reservoir is identified as excellent due to a condition assessment and upgrades being completed during the 2015/2016 year. The condition of reticulation assets is recorded in AssetFinda with most of the data being reliable for asset management purposes. However as new data is collected it will be entered into 'AssetFinda' and the confidence of reticulation infrastructure condition will improve over time.

Due to its automation, the water treatment plant can be operated and monitored remotely. Currently a technician checks the system daily, however once Council is satisfied the system is functioning as expected the frequency of checks will be reduced. Any irregularities in plant operations are detected by the management system which alerts the technician.

3.5.2. THE MIDHIRST WATER SUPPLY

Stratford District Council provides water to 106 properties in the Midhirst town.

The water source for Midhirst water supply is the Te Popo Stream. Raw water is pumped through a small screen attached to a flexible hose from the stream to the treatment plant.

Once at the treatment plant a coagulant is added to assist filtration before the water is fed through two pressure sand filters. Following filtration the water is subjected to UV light to inactivate microbiological contaminants, then dosed with chlorine to maintain a sterile supply throughout the reticulation before being delivered to a reservoir. Filter backwashing is fully automated and occurs once fouling in the filters reaches a set pressure. Wastewater from the backwash is delivered to an underground soakage system.

Treated water is pumped into a 3,500m³ reservoir. The reservoir has enough capacity to hold up to five days supply of treated water. From the reservoir treated water is gravity fed back to the treatment plant where the chlorine levels are retested and adjusted (if required) before being pumped to the reticulation system and distributed to properties connected to the supply. The delivery pump is automated to maintain at least 450kPa within the reticulation system.



Midhirst Intake



Storage reservoir



Reticulation supply pipe suspended over the stream

Figure 11 - Midhirst Water Plant Photos

The critical points for the Midhirst water supply treatment process are shown in Figure 12, as taken from the *Midhirst Water Safety Plan*, 2014.

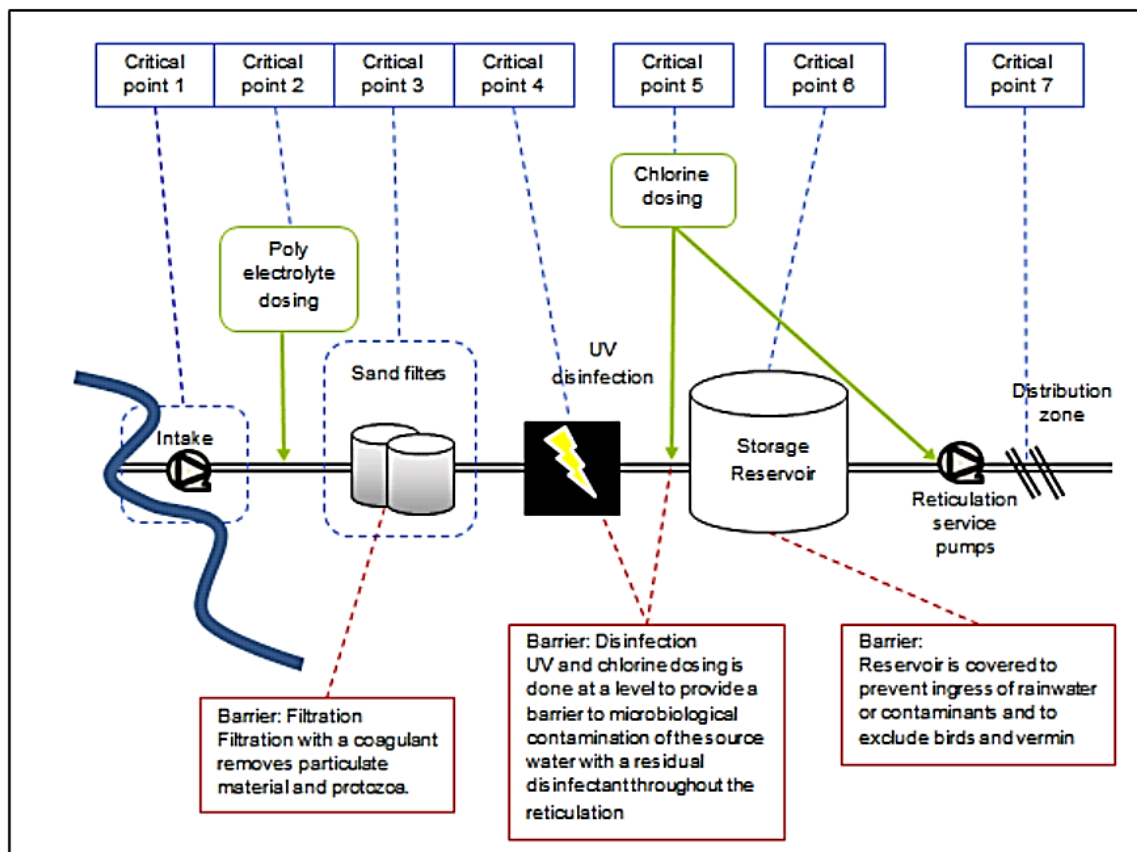


Figure 12 - Midhirst Water Treatment Process

The Midhirst water treatment plant (including building) was constructed in 2014. Data in the asset management information system (AssetFinda) identifies its condition as excellent while condition of the reservoir is identified as good. The condition of reticulation assets is recorded in AssetFinda with most of the data being reliable for asset management purposes. However as new data is collected it will be entered into 'AssetFinda' and the confidence of reticulation infrastructure condition will improve.

Due to its automation, the water treatment plant can be operated and monitored remotely. Currently a technician checks the system daily, however once Council is satisfied the system is functioning as expected the frequency of checks will be reduced. Any irregularities in plant operations are detected by the management system which alerts the technician.

3.5.3. THE TOKO WATER SUPPLY

Stratford District Council provides 33 properties in the Toko township.

The Toko drinking water supply abstracts water from a shallow bore next to the Manawawiri Stream. Raw water is drawn from the bore and dosed with an oxidising additive before being pumped through a fully pressurised treatment system consisting of two sand filters, a cartridge filter and UV disinfection. The water filter is backwashed once a week with wastewater from this processed discharged into a series of soak holes.

Treated water is pumped into one of two 22.5m³ reservoirs located 24m above the township. The reservoirs have enough capacity to hold up to one day's supply of treated water. Treated water is then gravity fed and distributed to properties connected to the supply.

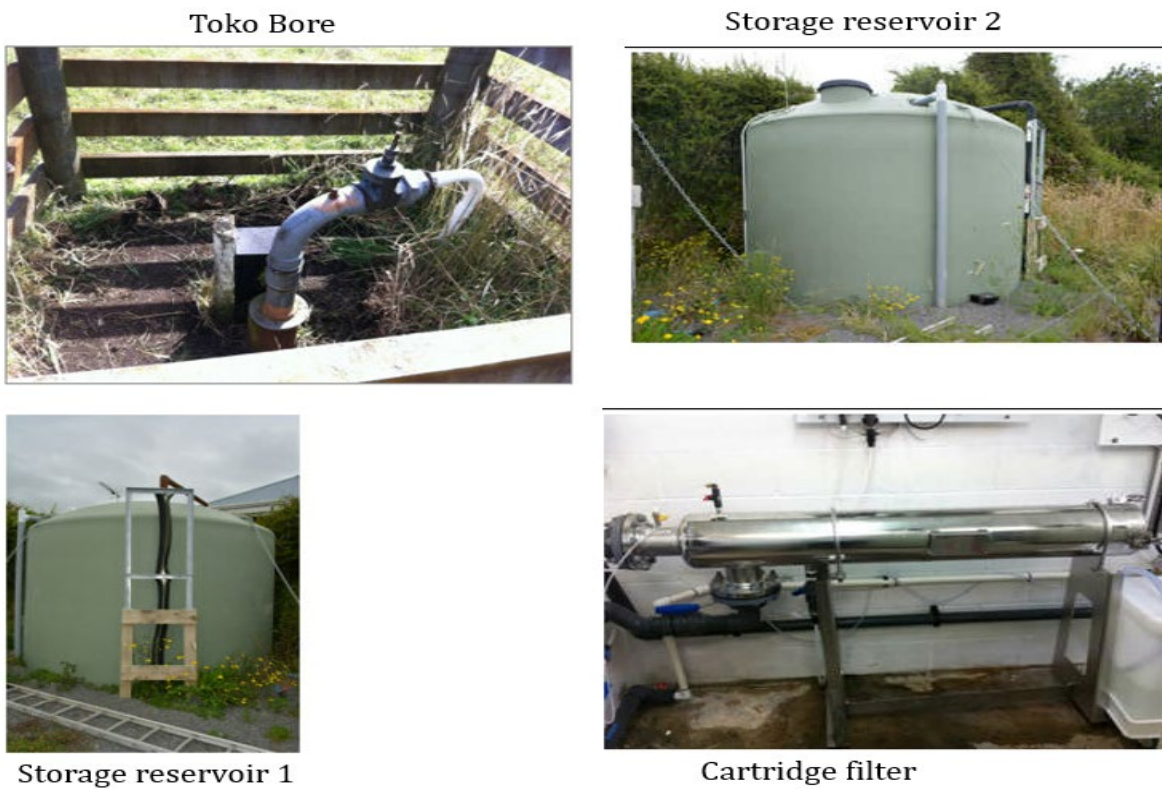


Figure 13 - Toko Bore and Plant Photos

The critical points for the Toko water supply treatment process are shown in Figure 14, as taken from the *Toko Water Safety Plan, 2016*.

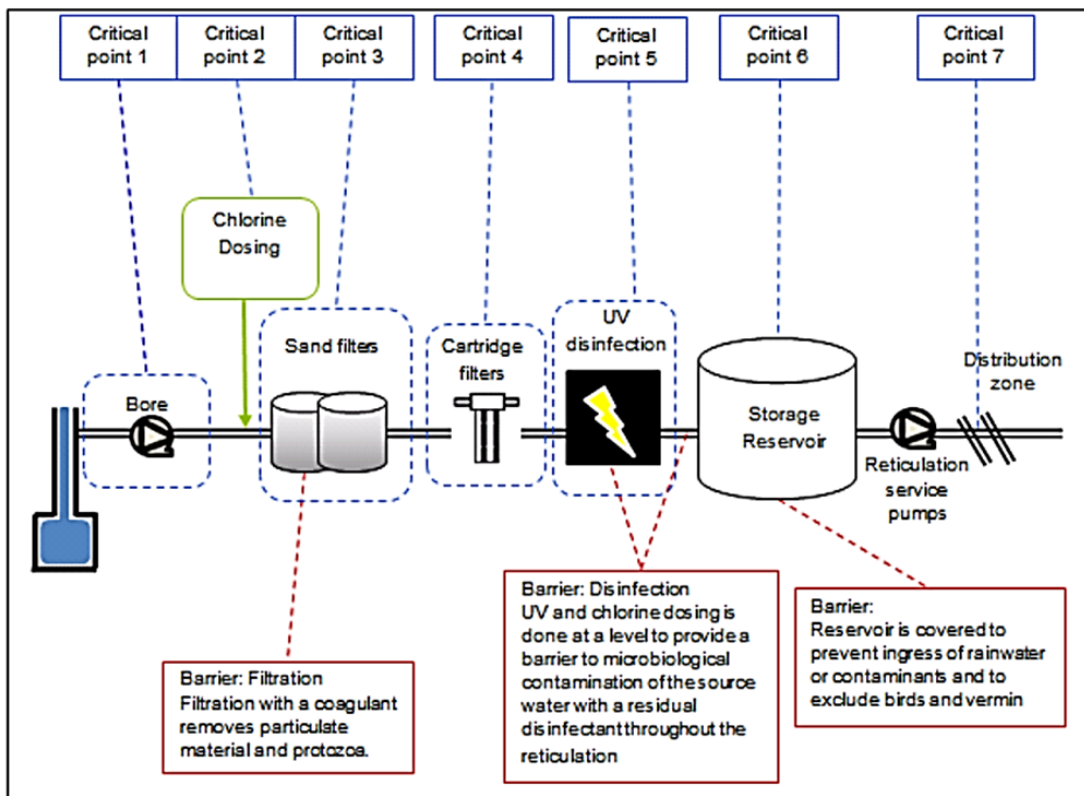


Figure 14 - Toko Water Treatment Process

The Toko water treatment plant was upgraded in 2015. Data in the asset management information system AssetFinda identifies its condition as excellent with Condition of the 2 storage tanks is also identified as excellent.

The condition of reticulation that distributes treated water to the community is largely unknown due to a lack of reliable data. As new data is collected it will be entered into 'AssetFinda' and the confidence of reticulation infrastructure condition will improve.

The Toko water treatment plant is semi-automated and monitored by on-site telemetry that transfers information to the Stratford Water Treatment Plant. Currently a technician checks the system daily, however once Council is satisfied the system is functioning as expected the frequency of checks will be reduced. Any irregularities in plant operations are detected by the management system which alerts the technician.

3.6. ASSET MANAGEMENT MATURITY ASSESSMENT

The Council has assessed its Asset Management maturity across 5 key disciplines of asset management practice including:

- Setting the Strategic Direction;
- Establishing Levels of services;
- Forecasting Future Demand;
- Collecting Asset Information; and
- Monitoring Asset Performance and Condition.

The Asset Management Maturity Index assessment in **Table 12** below provides a snapshot of where the Council is at in its asset management practices and in particular, emphasizes that seeking advanced practice in all areas may not be the best solution across activities, as this depends on the scale and type of assets being managed.

Table 11: 3-Waters Asset Management Maturity Index Assessment

	Asset Management Disciplines	Maturity Index	Maturity Description	What we do
1	Strategic Direction	Intermediate	<ul style="list-style-type: none"> • AM System scope is defined and documented. 	<ul style="list-style-type: none"> • The Council has adopted an Asset Management Policy to provide the overall direction for asset management in the district. • Scope is also refined as a consequence of our Early Conversation discussions with Elected Members, which inform the LTP, and also during our regular workshops to define Strategic Direction for the Council.
2	Defining Level of service	Intermediate to Advanced	<ul style="list-style-type: none"> • Level of service and cost relationship understood. • Customers are consulted on significant service levels and options. • Customer communications plan in place. • Levels of service are integral to decision making and business planning. 	<ul style="list-style-type: none"> • Again, existing levels of service is are generally maintained, however, can be re-defined as result of either legislative requirements; customer feedback or in response t new technology. Re-definition is done as an outcome of our discussions with Elected Members, either prior to the LTP year or as and when required during the year. • The LOS are defined in the AMPs for each work activity. • Redefined levels of service in previous years include: <ul style="list-style-type: none"> ○ Network Planning and modelling ○ Pipe work – increase the size; ○ New management of the trade waste discharges ○ Reduction in the wastewater pipe

	Asset Management Disciplines	Maturity Index	Maturity Description	What we do
				<ul style="list-style-type: none"> inflow/infiltration ○ Addition of new back flow devices; ○ More staff to implement higher LOS defined; ○ Universal metering; ○ Higher wastewater discharge quality;
3	Forecasting future demands	Core to Intermediate	<ul style="list-style-type: none"> • Risk associated with demand change broadly understood and documented. • Demand management considered as an alternative to major project development. 	<ul style="list-style-type: none"> • We have a broad understanding of the issues for each work activity and these are documented in the AMP as “Problem Statements”. • Forecasting is based on population and economic growth statistics in addition to regulatory changes at the central government level.. • Demand Management has been used in the water and wastewater activities, enforced by the Water Supply and Wastewater and Trade Waste Bylaws. Our resource consents also support our demand management initiatives. DM initiatives employed include: <ul style="list-style-type: none"> ○ Universal metering to encourage water conservation; and ○ New PRVs for flow and pressure managements;
4	Collecting Asset Information	Intermediate	<ul style="list-style-type: none"> • A reliable register of physical, financial and risk attributes recorded in an information system with data analysis and reporting functionality. Systematic and documented data collection process in place. 	<ul style="list-style-type: none"> • AssetFinda is the database for our 3-waters assets for recording the physical, financial and risk attributes. • Data is collected, updated and validated on an ongoing basis, particularly when new assets are being installed and maintenance occurs on existing assets.
5	Monitoring Asset Performance and Condition	Core	<ul style="list-style-type: none"> • Condition and performance information is suitable to be used to plan maintenance and renewals to meet over the short term. 	<ul style="list-style-type: none"> • The condition - physical integrity - of an asset is deduced based on the age, material type and analysis of collected statistical data. • The performance, being a measure of whether the asset is delivering level of service requirements – is monitored during routine inspections and asset upgrade.

3.7. ASSESSMENT OF ASSET CONDITION

Asset condition is a measure of an asset's physical integrity, while asset performance is a measure of whether the asset is delivering level of service requirements. Knowing the condition of an asset enables more accurate prediction of asset development, maintenance and renewal/replacement requirements. The Stratford District Council identifies the condition of Water Supply infrastructure assets by age and through visual targeted inspections, analysis of collected data, and through maintenance monitoring.

Generally, the Council takes a risk-based approach to monitoring the condition of assets and conducts condition assessments of its critical assets. Where assets have low risk because they are in the first half of their life, condition monitoring is low. If the consequences of running an asset through to failure are high, the Council, through a more intensive monitoring regime and targeted inspections, hold more information on the asset condition.

The Council has no backlog or deferred maintenance in its work programme.

Targeted inspections are carried out on asset components that are considered critical to Council and the community, have the potential to impact on public health and safety; or where there is a specific requirement, for example to meet regulatory requirements or for asset acquisition, disposal, or justification.

Targeted inspections of water supply infrastructure assets are carried out by Council staff, the Maintenance Contractor, or a specialist Consultant to identify the condition of specific asset components at intervals specified by the Asset Manager or upon request.

To identify the general condition of its water supply assets Stratford District Council undertakes the following targeted inspections:

- Buildings – annually by the Contractor
- Carparks – annually by the Council Roading Engineer
- Reservoirs – Detailed inspection (as part of reservoir clean) every 10 years by the Consultant
- Underground reticulation – by the Contractor during works or as issues are identified
- Underground reticulation – annual videoing of sample section
- Pipe Bridges – Detailed inspection as required by Consultant

Maintenance monitoring is carried out by the Contractor at intervals specified in the Maintenance Contract. Maintenance monitoring is carried out to identify the condition of infrastructure and any item(s) that needs attention or could affect the integrity of the asset and the service it provides. Maintenance monitoring of water supply includes:

- Underground reticulation
- Valves and hydrants
- Pipe Bridges
- Water Meters

Condition Grading: Visual targeted inspections (including sampling), and maintenance monitoring provide both qualitative descriptions and quantitative grading of asset component condition. Condition grading supports the development, maintenance, and renewal/replacement of an asset by enabling more accurate prioritisation of forward works programmes.

Both the New Zealand Infrastructure Asset Grading Guidelines (1999) and the National Asset Condition Grading Standards (2005) provide examples of standard condition grading schedules for infrastructure assets. In line with these the International Infrastructure Management Manual (IIMM) 2015 provides guidance on assessing the condition of assets and approaches to grading the condition.

The IIMM provides guidance on assessing the condition of assets and approaches to grading the condition. In line with this Stratford District Council has developed a condition grading system to support identifying the condition of assets at the group level. Using the system, the expected condition of assets is ranked from 1-5 as illustrated in Table 12 above.

In the last 3 years new water supply assets were installed. 33 sections have been added to the water supply infrastructure with the creation of the new subdivision on Pembroke Road.

Grade	Condition	Description	Indicative Network Assessment
1	Very Good	Asset in structurally sound and excellent physical condition. No work required	34%
2	Good	Asset in structurally sound and acceptable physical condition. Minor work required (if any)	18%
3	Fair	Asset is structurally sound but shows deterioration. Moderate work required to return asset to agreed level of service	14%
4	Poor	Asset failure likely in the short term. Significant work required now to return asset to agreed level of service	16%
5	Very Poor	Asset has failed/is about to fail. Renewal/Replacement required Urgently	18%

Table 12 - Condition Grading System

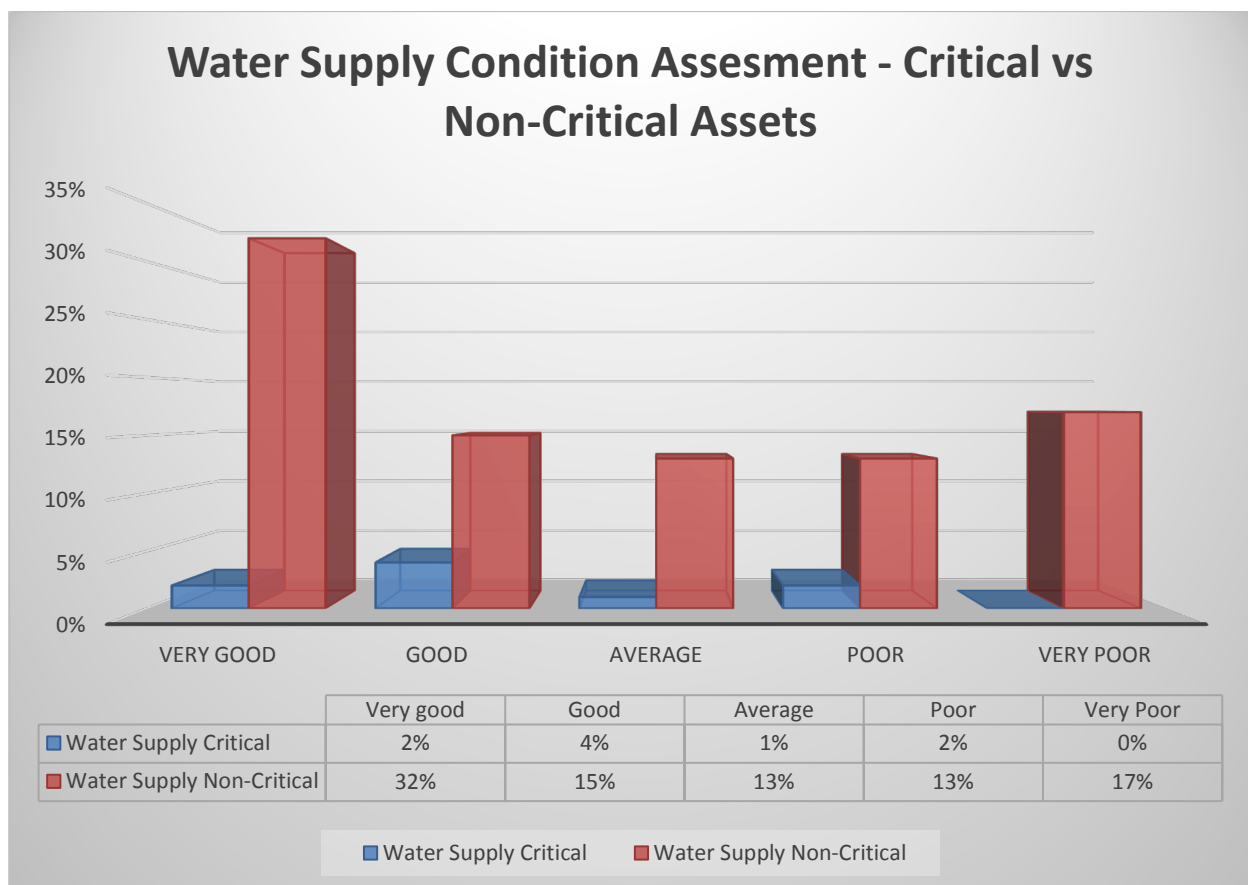


Figure 15: Water Supply Condition Assessment - Critical vs Non-Critical Assets

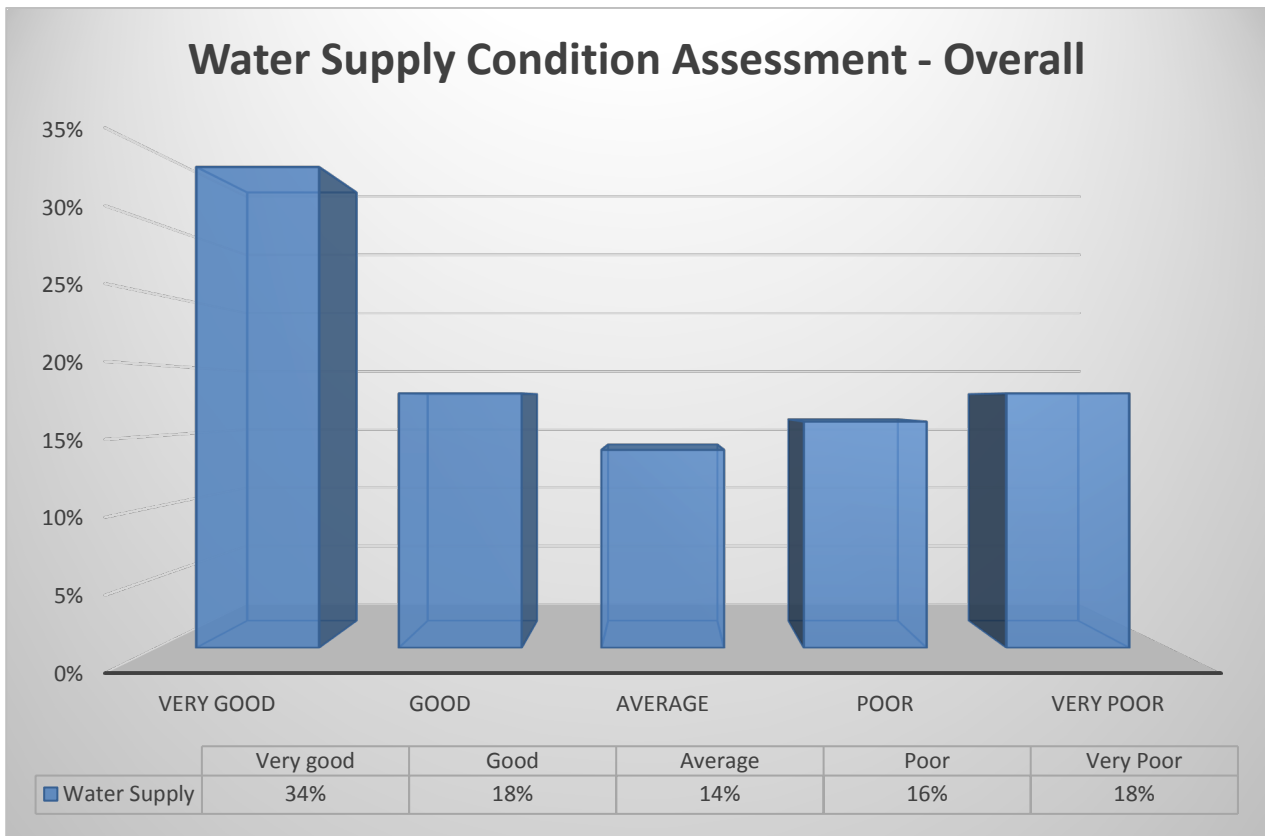


Figure 16: Water Supply Condition Assessment

3.8. DATA ACCURACY AND CONFIDENCE

The accuracy and currency of data is critical to effective asset management. Accurate data enables Council and the community to have confidence in decisions made about asset development, maintenance, and renewal/replacement.

To ensure accurate asset data is entered into the asset management system Stratford District Council has put in place the *Inspection Data Management Process* for managing targeted visual inspection data. Also, to determine the Council’s level of confidence in targeted inspection data.

The Stratford District Council has implemented the *Data Confidence Grading System* in Table 15. Asset Grading by asset group is provided in Table 16.

Step	Management process	Description
1	Collect Data	Data is collected and documented about asset and asset condition.
2	Hold Data	Where feasible data is stored in a temporary place until enough is gathered for sample auditing.
3	Audit a sample of Collected Data	Where applicable a sample of collected data is checked against the asset by authorised Council staff/Consultant – minimum 5%.
4	Enter Data into Asset Management System	Data is entered into the Asset Management System by the staff member responsible for the system.

Table 13 – Inspection Data Management Process

Grade	Confidence Level	Description
1	Highly Reliable	Data based on sound records, procedures, investigations and analysis which is properly documented and recognised as the best method of assessment. dataset is complete and estimated to be accurate +- 2%
2	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. dataset is complete and estimated to be accurate +- 10%
3	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 data is available. dataset substantially complete but up to 50% extrapolated data and estimated to be accurate +- 25%
4	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 and estimated to be accurate +- 40%
5	Unknown	None or very little data held

Table 14 – Data Confidence Grading System

Asset Group	Key Confidence Attributes Percentage (%)				Average	Assessed Confidence Level	Confidence Grading
	Location	Diameter /size	Material	Age			
All Scheme pipes	95	80	80	70	81	Uncertain	3
Service connections	43	43	43	43	43	Very Uncertain	4
Points	90	75	75	70	78	Reliable to Uncertain	2-3
Treatment Plants	95	95	85	85	90	Reliable	2
Critical Assets Assessment	Reliable						
Non-Critical Assets	Reliable to Uncertain						
OVERALL ASSESSMENT	Reliable to Uncertain						

Table 15 – Asset Confidence Grading by Asset Group

While Council's overall confidence around its data quality is *'Reliable to Uncertain'*, the Council is confidence level for the 3-Waters is 'Reliable' for its critical assets and *'Reliable to Uncertain'* for non-critical assets. For other non-critical assets, the confidence is average, translating to 'uncertain'. This uncertainty stems from data held around the age of the non-critical assets, which have been deduced from the approximate date of construction, and also from the quality of data held on our service connections. However, given these are non-critical assets, impact of premature asset failure on continued service delivery is very low, as any disruption to service is limited to a few properties. The associated financial impact is also very low.

It is important to note that these assets do not fail simultaneously, as they are individual assets - any failed part can be isolated and managed, so the risk and consequences of failure is very low. This is evidenced from our annual performance indicators reported every month to the Council and summarized in the Annual Report. Our track record is good. Our strategy to mitigate the impacts of this *Uncertainty* is to be ready at all times to respond to all asset failures. Therefore we have, on hand or ready access to, supplies to replace any failed asset. Our contractors are on board as per the requirements of their maintenance contract.

The Council continues to validate the data in the AssetFinda database - as assets are replaced. Our maintenance contractors interact directly with our asset management system and provide corrections and updates to the condition data which is reviewed and/or updated as new data becomes available. Assets that are frequently interacted with therefore, are better documented than those that only get dug up as part of upgrades, renewals or repair work. It will take some time for the assessment of our 'confidence level' of our non-critical assets to be *'Reliable'*. The charts above provide snapshots of the overall *Condition Grading Assessment* for all assets –critical and non-critical and a summary of the *Data Confidence Levels*.

3.9 IMPROVEMENT PLAN

Actions identified in this Section for improving management of the asset are as follows:

Table 16 - Assets Improvement Plan

Sub Section	Task	Due Date
3.4	Asset Register Data AssetFinda and SCADA programmes maintained and kept up to date with information.	Ongoing
3.7	Information Systems Tablets fully integrated for Three Waters data collection and entry into AssetFinda.	Ongoing
3.7	Asset Condition Condition Grading System now in place and documented in Asset Management Plans. Condition inspection forms put in place for Council owned buildings.	Ongoing
3.7	Update asset condition data Continue to use information collected from maintenance tasks to update asset condition data.	Ongoing
3.7	Improve condition data accuracy and reliability The issues related to condition data for <u>below ground</u> water supply assets does not allow Council to accurately forecast remaining useful life. However, using the information collated from both 'scheduled' and 'reactive' maintenance (under the Services Maintenance Contract), Council is able to update asset condition data regularly. Over time as maintenance and renewals are carried out, the condition information will improve. Therefore, the implementation of additional major projects to assist Council in improving condition data information is not required.	Ongoing

4.0

Future Growth and Demand

4.0: FUTURE GROWTH AND DEMAND

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4.1. OVERVIEW

This section provides a description of population; economic growth trends forecasts and the demand drivers for the provision; development and sustainability of the Water Services to the community. It identifies the demand forecasting model used by the Council and highlights the factors that influence the demand for infrastructure and services and the associated impacts of each driver on the demand for the Water Services.

The demand for the provision of Water Supply services is generally determined by the degree to which customers use the service. The forecasting of future demand for services enables Stratford District Council to plan ahead and identify the best way to meet that demand.

Section 14 of the Local Government Act 2002 requires local authorities to take a sustainable development approach in conducting business. In doing this Stratford District Council must take into account;

- I. the social, economic, and cultural interests of people and communities; and
- II. the need to maintain and enhance the quality of the environment; and
- III. the reasonably foreseeable needs of future generations.

Stratford District Council is committed to planning for the changing needs of its community. As part of this commitment Council utilises demand forecasting in all asset management planning. Information on future growth forecast has been supplied by Infometrics NZ.

4.2. DEMAND FORECASTING

Demand forecasting enables Stratford District Council to identify areas that are likely to experience significant pressures, and plan accordingly. Currently, the Stratford District Council uses a “basic” model for demand forecasting. It is a combination of formal and informal techniques. Central to this is an understanding of how growth and future demand trends will impact on Levels of Service and desired community outcomes. As part of the planning process Council considers:

- the Asset use, demand, and capacity;
- the implementation and planning for quality and process improvements; and
- environmental impacts

Key Information gathered during the forecasting process includes:

- Historical data;
- Observed patterns and trends – use, demand, and popularity;
- Statistical estimates and projections;
- Commercial activity and anticipated business migration;
- Pending legislative changes.

From this, assumptions are formed about what could happen; enabling Council to better plan for the future needs of the community.

4.3. DEMAND DRIVERS AND IMPACTS

Demand drivers are the factors that influence demand for services or the infrastructure that provides those services. Future growth in the Stratford community can be attributed to a number of factors described in detail below, including:

- Population;
- Economic Development;
- Tourism;
- Regulatory Changes;
- Land Use Changes via the Structure Plan; and
- Changing Customer Needs and Expectations.

4.3.1. POPULATION

Under the medium population growth scenario projected by the Infometrics Model, the Taranaki region’s population is expected to grow to over 145,100 by 2051. Under a high growth scenario, higher levels of net migration would lead to a regional population of 163,100 by 2051, while the low growth scenario results in the population growing to approximately 129,000 residents by 2035, and then remaining relatively static at that level until 2051.

For the Stratford District, the forecast under the High growth scenario is to increase from above 10,000 in 2021 to just under 12,000 in 2051. This is equivalent to just under 0.7% increase per annum, an estimated total increase of approximately 18% over these 30 years. Under the low growth scenario, the forecast is to decline from above 10,000 in 2030, to just above 9,000 in 2051

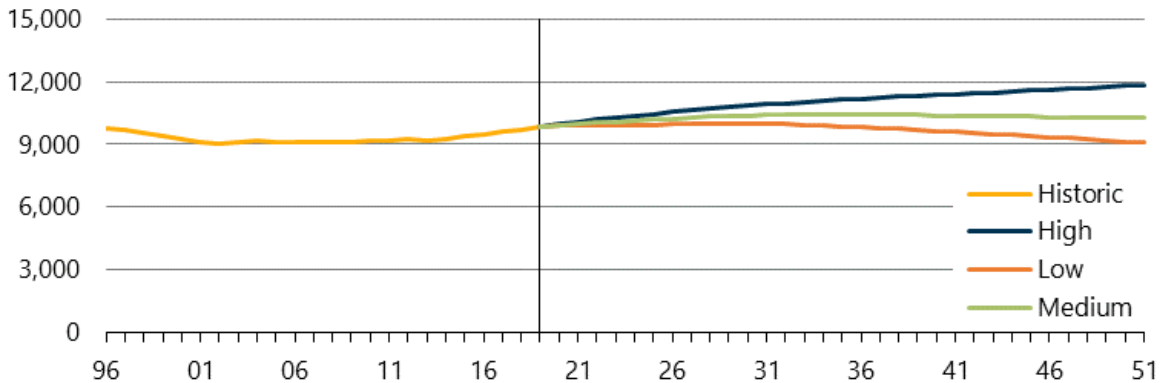


Figure 17 - Stratford District Infometrics projection of population change

Population distribution

Currently, there are 1,250 Maori population – 48% are under 20. Maori make up 13% of district population. Population growth has averaged 0.2% in the last 20 years, and averaged 0.7% in the last 10 years, however, in the last 3 years population growth has increased annually by 0.8% on average.

Population 2019 Infometrics data shows that Stratford district is approximately 9,860 – a growth of 1.3% from previous year. The source of growth was 78% due to natural increase and 22% due to net migration. We are anticipating an annual average population growth of 0.5% over the next eight years, centered around the urban area and mostly as a result of births.

The district’s Population Age Structure and Projection is shown in Figure 18; Components of Population Change in Figure 19 and the Population Geographic Distribution in Figure 20.

Elderly Population

The average age of Stratford residents is expected to increase over the next 30 years from 40 to 42 years. 580 residents (5% of the district population) are aged 80+.

With a rising older population and a potentially declining older working population Stratford District Council and the Water Supply Activity will need to consider the services it delivers and the infrastructure required to deliver these services.

For a clearer picture of the impacts on infrastructure and the demand for services, further assessment is necessary. The cost of this assessment will need to be weighed against the benefits of embarking on the project.

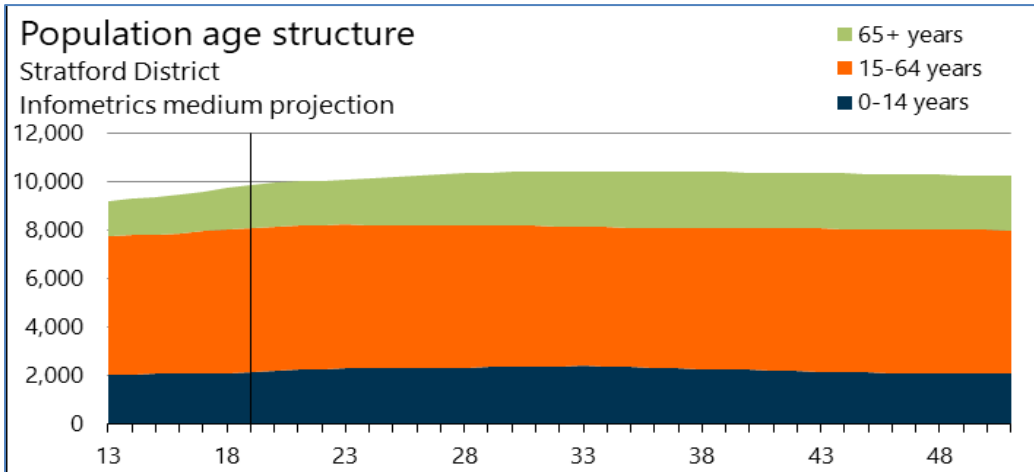


Figure 18 - Stratford District's Population Age Structure

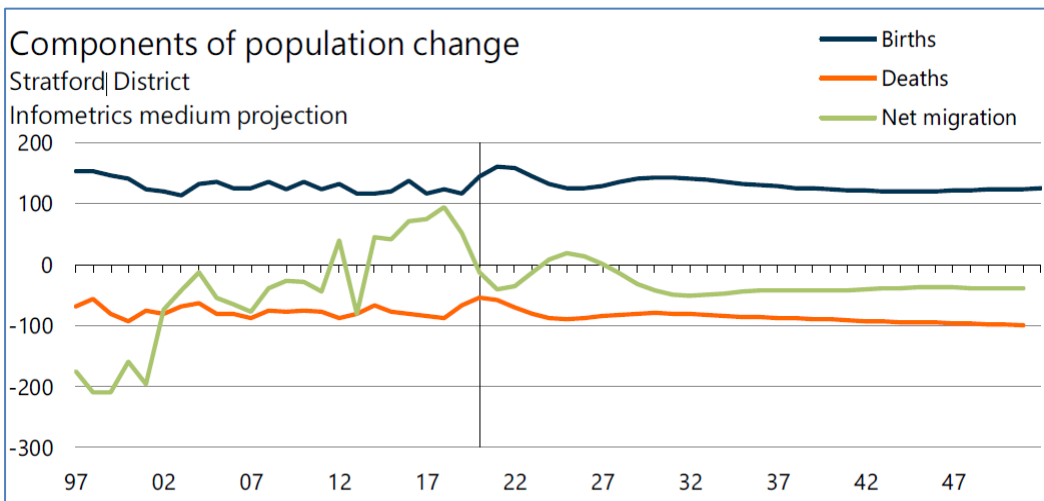


Figure 19 - Components of Population Change

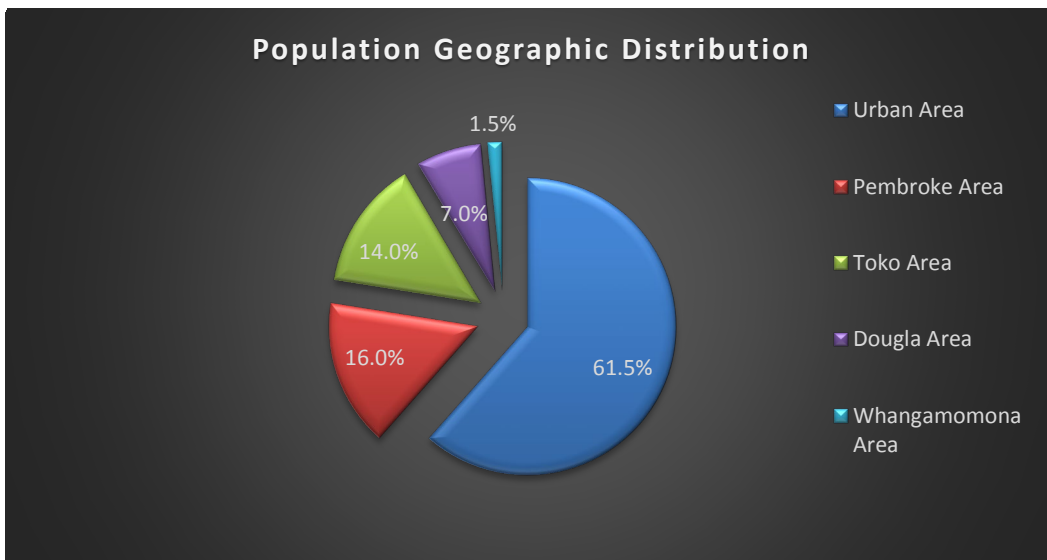


Figure 20 – Current Population Geographic Distribution

4.3.2. ECONOMIC DEVELOPMENT

The four local authorities of the Taranaki region in association with Venture Taranaki and the Ministry of Business, Innovation and Employment (MBIE) have developed a new regional Economic Development Strategy and Action Plan for Taranaki. The Taranaki Regional Economic Development Strategy became official in August 2017 and is known as “Tapuoe Roa - Make Way for Taranaki”.

This strategy sets a direction for economic development and identifies priorities and measurable goals for the region as a whole. It is anticipated that the Strategy will enable and support economic growth and development in the Stratford District.

While economic growth for the Stratford District is desirable Council is aware that growth can have an impact on infrastructure and the services delivered by that infrastructure.

Anticipated impacts of the Regional Economic Development Strategy and any resulting growth on the Water Supply activity and infrastructure are expected to include:

- Increased demand for water services
- Increased pressure on existing infrastructure.
- Increased maintenance and renewal costs.

Economic History and Forecast

According to the Infometrics Model, GDP growth is static to low, and generally under the national average – except for 2009 and 2012 where there were spikes in the district’s GDP compared to the rest of the country.

The two biggest contributing industries in Stratford are the Agriculture and Forestry sector contributing 27% (Dairy Farming making up 16% of this) of district GDP, and the Electricity and Gas Supply contributing 16%. Stratford has the region’s largest electricity generation site at Contact’s 575MW gas powered plant – it is considered a nationally significant generation site.

In 2019, there were 3,462 filled jobs in the Stratford District. The district unemployment rate was 4.4%, compared to the regional unemployment rate of 5.0% and national unemployment rate of 4.3%. Employment growth lags behind the rest of the country (2018 Stratford: 1.5%, National: 3.0%), although it did spike above the national average in 2009.

In terms of industry employment the top five employing industries in 2019 were:

- Education and Training 11%
- Dairy farming 9%
- Health Care and Social Assistance 7%
- Accommodation and Food Services 6%
- Supermarket and Specialised Food Retailing 6%

The biggest increase in jobs in Stratford since 2017 has been in the house construction (building) sector, and in primary education. Stratford generally has a higher rate of self-employment than the national average at 19%, compared to 17% nationally. Stratford also has a higher productivity rating per employee. In 2018, GDP per employee came to \$120,631, compared to the national average of \$97,174.

The 10-year and 30-year GDP and Employment forecast are provided in Figures 21 – 23.

	GDP level (\$m, 2010 prices)			Annual % change	
	2005	2018	2031	05-18	18-31
New Plymouth	3,908	5,349	6,074	2.4%	1.0%
South Taranaki	1,869	1,948	2,080	0.3%	0.5%
Stratford	415	414	459	0.0%	0.8%
Taranaki	6,192	7,712	8,613	1.7%	0.9%

Figure 21 GDP Growth 2005-2031

The Infometrics data above shows minimal change in GDP growth from 2018 to 2031

	Employment level			Annual % change	
	2005	2018	2031	05-18	18-31
New Plymouth	33,926	40,748	47,261	1.4%	1.1%
South Taranaki	13,959	13,952	15,256	0.0%	0.7%
Stratford	3,637	3,434	3,639	-0.4%	0.4%
Taranaki	51,522	58,134	66,157	0.9%	1.0%

Figure 22 - Employment Levels in the Region

Employment was expected to increase over the period to 2031, however the impact of Covid-19 has changed these figures

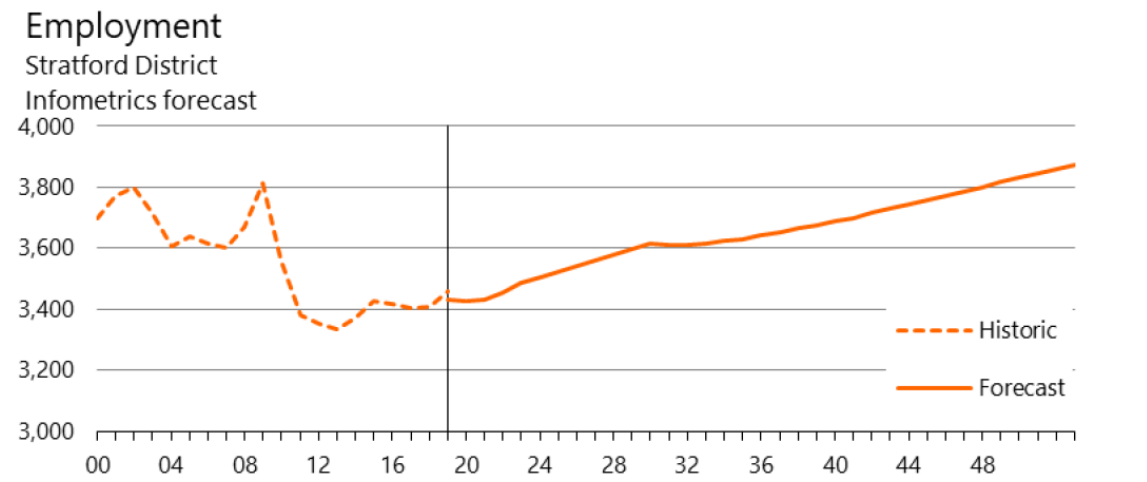


Figure 23 - Employment Forecast for Stratford

Employment is expected to increase slightly over the next 10-30 years

4.3.3. CLIMATE CHANGE

Scientific evidence indicates the earth's climate is changing because of increases in greenhouse gases caused by human activities.

Anticipated impacts for New Zealand over the next 100 years include:

- Changes in temperature
- Projected changes in rainfall
- Extreme weather events
- Decreased frost risk
- Increased frequency of high temperatures
- Increased frequency of extreme daily rainfalls
- Higher snow lines and possible reduced snow coverage
- Possible increase in strong winds
- An increase in average sea level.

At the regional and district level research indicates Taranaki could experience more extreme and varied rainfall patterns and severe weather events.

Extreme weather events and heavy rainfall would see increases in flooding, landslides, avalanches and mudslides during heavy rainfall events while on the flip side a lack of rain during summer months could see prolonged periods of drought. Both extremes place increased pressure on government, private flood insurance schemes, and disaster relief.

The Government's principal policy response to climate change is the New Zealand Emissions Trading Scheme (ETS). In various sectors (such as energy), the Government is also undertaking a range of other policies and measures that are contributing to reducing greenhouse gas emissions while achieving other policy goals.

Council responds to and plans for impacts of climate change as part of asset management practices by monitoring NIWA data in order to plan for and make adjustments to infrastructure where and when needed. Where adjustments are needed they are undertaken through New Works and/or Renewal/Replacement.

4.3.4. TOURISM

The Visitor Sector Action Plan is one of six action plans developed as part of the "Make Way for Taranaki" Regional Development Strategy. The action plan describes the current regional sector dynamic, growth objectives, challenges, opportunities and the actions required to achieve sector growth. It is anticipated that the Visitor Sector Action Plan will enable and support growth in the Stratford District Visitor Sector.

Council welcomes the Stratford District being seen as a visitor destination but is mindful that increases in visitor numbers may have an impact on infrastructure and the services it provides. Anticipated impacts of the Visitor Sector Action Plan and any increases in visitor numbers on the Water Supply Activity and infrastructure are expected to include:

- Increased demand for water services
- Increased pressure on existing infrastructure.
- Increased maintenance and renewal costs.

4.3.5. THE (DRAFT) STRUCTURE PLAN FOR STRATFORD

The SDC is currently undertaking a Structure Plan of the Stratford District, which is in response to an increased demand for residential development sites in Stratford. This 30 year Plan long term Strategy Plan will feed into the District Plan review and the Infrastructure Strategy, to ensure that the growth areas identified herein are duly catered for as and when required.

The Plan will identify key growth areas in Stratford, in addition to areas that lend themselves to in-filling. Roading, Solid Waste Services, Water and Wastewater infrastructure will be planned to service these areas accordingly. Given its proximity and centrality to key employment generators and tourist areas in the New Plymouth and South Taranaki District, the creation of new and affordable residential lots is expected to support the growth forecast for the town.

4.3.6. REGULATORY CHANGES

The SDC regularly reviews regulatory changes that may or will affect the SDC water supplies. This primarily includes updates to resource consents and changes to drinking water legislation and standards. There are no immediate concerns of regulatory changes at the time of writing this AMP, however there is an expectation that the legislation, standards and guidelines related to drinking water will be reviewed and updated in the near future. This is a direct result of the Havelock North inquiry and it is anticipated that SDC water supplies will be affected. It is too early to know what aspects of the inquiry will carry over into legislation/guidelines/standards.

4.3.7. CUSTOMER NEEDS AND EXPECTATIONS

Council has indicated a desire to promote growth in Stratford by developing new residential subdivisions with sections serviced by municipal water supply and wastewater schemes. Inherently, this will have an effect on the Stratford water supply whereby water demand in these areas will increase. To alleviate these effects on the network, the secondary trunk main could be utilised to supply directly to the growth areas where possible.

4.4. IMPROVEMENT PLAN

Table 17 - Future Growth Improvement Plan

Sub Section	Task	Due Date
4.3.1	Further assessment needed to assess the impacts of growth demands on the adequacy of the existing water reticulation system.	On-going

5.0

Levels of Service Performance

5.0: LEVELS OF SERVICE PERFORMANCE

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5.1. OVERVIEW

Levels of Service (LoS) define the form and quality of service that the Stratford District Council provides to the community. They are the balance between what the community wants and what the community is willing to pay for.

Through asset management planning, the relationship between the LoS and the cost of service is determined. Once determined, the relationship is evaluated in consultation with the community to define the agreed LoS, which are then used to:

- Inform customers of the proposed LoS;
- Develop AM strategies to the deliver LoS;
- Develop targets to measure performance;
- Identify and evaluate the costs and benefits of services offered; and
- Enable customers to assess customer values such as accessibility, quality, safety, and sustainability.

The Levels of Service section details legislative and regulatory requirements affecting the operation, management and Levels of Service for the Water Supply activity and infrastructure assets. This section:

- Highlights the current LoS provided by the Stratford District Council;
- Defines the desired LoS for the future; and
- Outlines performance measures that will be used to monitor the delivery of the agreed LoS.

5.2. LEVEL OF SERVICE DEVELOPMENT/REVIEW PROCESS

LoS review is an on-going process which can be triggered by a variety of drivers. The development and review of the LoS will be undertaken following the process diagram in Figure 24 (Source: IIMM (2015)).

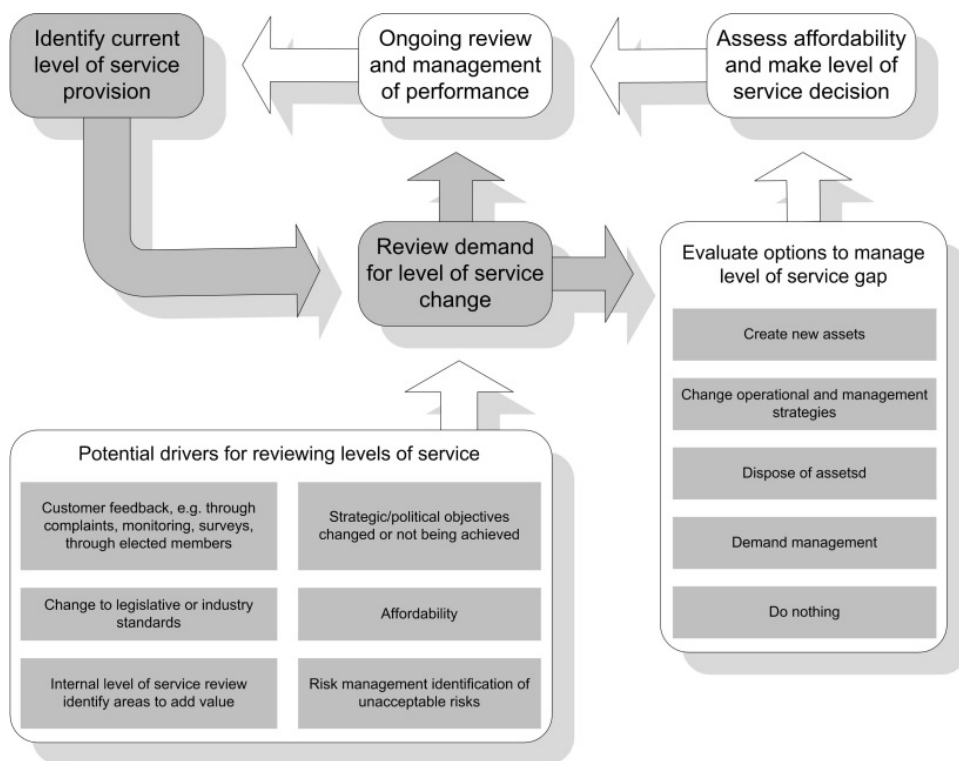


Figure 24 - Levels of Service Review Process

5.3. PERFO

PERFORMANCE MONITORING AND REPORTING

The Stratford District Council has committed to provide a safe and well maintained water supply network that meets LoS expectations and regulatory requirements. To ensure these expectations and requirements are met, the Stratford District Council undertakes performance monitoring of water activities and infrastructure through the use of performance measures and key performance indicators (KPIs).

Performance measures and reporting enable Stratford District Council to identify how well it is delivering on the agreed LoS. KPIs enable Council to regularly measure actual performance against projected targets. By doing this we are able to identify trends, areas of achievement and areas for improvement to be identified.

The results of the performance monitoring are reported internally and externally through:

- monthly reports to Elected Members, also accessible to the public via the Council website; and
- the Long Term Plan, Annual Plan and Annual Report to our customers, key stakeholders and partners.

5.4. CURRENT PERFORMANCE

The Stratford District Council Water Supply infrastructure is required to provide all properties in the water supply zones with a constant, safe and sustainable supply of treated water. To ensure these expectations and requirements are met, the Council undertakes performance monitoring of the water activity and service it provides.

Performance monitoring is undertaken through the use of performance measures and key performance indicators (KPIs). Our current performance is monitored through the measures from two main sources:

- The Department for Internal Affairs (DIA) performance measures; and
- Internal performance measures

The DIA Performance Measures: Since 2014 all local authorities have been required to comply with a standard set of performance measures. The performance measures are intended to provide information that will enable the public to contribute to discussions on future levels of service and participate more easily and effectively in decision-making processes. While these measures, provided in Table 19, are set by the DIA, the targets and response times are set by SDC.

The Internal/Other Performance Measures: These are performance measures put in place by Council but are not considered mandatory. Council believes that including these performance measures allows the monitoring of items that add value to the customers of Council water supplies.

	Level of Service	Performance Measure	Outcome Category
1.	Drinking Water Standards	DWSNZ Bacterial compliance 100% Compliance with Part 4 of the Drinking-water standards (bacteria compliance criteria)	DIA measure
2.		DWSNZ Protozoal compliance 100% Compliance with Part 5 of the Drinking-water standards (protozoal compliance criteria)	DIA measure
3.	Maintenance of Reticulation	Water Loss – The percentage of real water loss from the local authority’s networked reticulation system (including a description of the methodology used to calculate this) is <25%.	DIA measure
4.	Response	Urgent Response Times - The performance measure targets for	DIA measure

Levels of Service Performance

	Level of Service	Performance Measure	Outcome Category
	Times	the median response time for urgent attendance and resolution <ul style="list-style-type: none"> • Attendance for urgent call-out – 1 hour • Resolution for urgent call-out – 8 hours 	
5.		Non-urgent Response Times – The performance measure targets for the median response time for non-urgent attendance and resolution <ul style="list-style-type: none"> • Attendance non urgent call-out – 2 working days; • Resolution non urgent call-out – 5 working days 	DIA measure
6.	Customer Satisfaction	Number of complaints - The performance measure target for customer satisfaction is <32 per 1,000 complaints received for: <ul style="list-style-type: none"> • Drinking Water Clarity; • Drinking Water Taste; • Drinking Water Odour; • Drinking Water Pressure or Flow; • Continuity of Supply; • Council's response to any of these issues. 	DIA measure
7.	Demand Management	Water Consumption - The performance measure target for the average consumption of drinking water per day per resident within the district (in litres) is <275L/resident/day.	DIA measure

Table 18- DIA Performance Measures

	Level of Service	Performance Measure	Outcome Category
8.	Unplanned Disruptions	Unplanned Disruptions - The performance measure target for disruptions. <ul style="list-style-type: none"> • Minor disruptions (between 5 and 50 connections affected) is <5; • Major disruptions (more than 50 connections affected) it is <2. 	SDC measure
9.	Water Pressure	Water Pressure - The performance measure target for water pressure at 50 properties within the water supply zone, including any that have complained about pressure and or flow meets council specifications (flow>10l/min & pressure>350kpa) is 100%.	SDC measure
10.	NZFS Conditions	Fire Hydrants – The performance measure targets the percentage of hydrants meeting the NZFS Code of Practice conditions regarding supply is 100%.	SDC measure

Table 19 - Internal / Other Performance Measures

5.4.1. DRINKING WATER STANDARDS (DWSNZ)

These are measures introduced with the 2015-2025 Long Term Plan in alignment with the DWSNZ coming into force. The measure requires compliance with part 4 and part 5 of the DWSNZ. The compliance performance measure target for 2019/2020 (as stated in the Long Term Plan) is 100% for all three water supplies.

Table 21, as per the Annual Report, presents performance targets for compliance with the DWSNZ standards which were met in 2019/20:

Levels of Service Performance

	2018/2019	2019/2020	Target
Part 4 - Bacterial compliance criteria			
Stratford	100%	100%	100%
Midhirst	100%	100%	100%
Toko	100%	100%	100%
Part 5- Protozoal compliance criteria			
Stratford	100%	100%	100%
Midhirst	100%	100%	100%
Toko	100%	100%	100%

Table 20 - Compliance with DWSNZ Parts 4 & 5

To assist in increasing/maintaining performance in futures years, Council has proposed some **potential projects** for the future during the development of the LTP 2021/2031 including:

- Ensuring the Council continues to meet the Protozoal Compliance Criteria;
- Membrane Module replacement;
- Alternative Water Supply

‘Improve DWSNZ (part 5) Compliance’ - During the 2019/2020 year, the DWSNZ Compliance (Part 5) performance target was achieved for all three water supplies. The Protozoal Compliance is a Taranaki Regional Council requirement and Stratford District Council has a S::can device which feeds light into the water which identifies bugs in the water. This device shuts off the water supply as soon as bugs are found meaning the water supply for the Stratford District is safe.

‘Membrane Module Replacement’

As discussed in previous sections, the Stratford water treatment plant was fully upgraded as a Membrane (Ultrafiltration) treatment plant in 2013. In order for this treatment system to remain effective in removing protozoa, the manufacturer recommends that the Membrane modules are replaced on a 10-yearly cycle. The filters have 10 year warranties and they are replaced under warranty or as required.

‘Alternative Water Source’

The need to explore an alternative water supply source for the Stratford Township is mainly driven by Resilience - in the event that we are unable to source water for treatment from the Patea River. The Patea River, supported by the Konini Stream, is currently the main source of water supply for the Stratford Township.

Inability to source water from the Patea River may arise as a result of severe drought, poisoning, natural disaster or other extreme weather/climatic event.

The starting point is to commission a feasibility study to explore the alternative options available to us. A feasibility study is expected to provide information on groundwater conditions; water supply alternatives; other alternatives to extend supply (including storage), cost evaluations and recommendations, etc.

5.4.2. MAINTENANCE OF THE RETICULATION SYSTEM

This is a measure introduced for the 2015-2025 Long Term Plan. The performance measure target for the percentage of real water loss from the local authority’s networked reticulation system is <25% and has been determined by Council as an appropriate figure (the description of the methodology used to

Levels of Service Performance

calculate this is available). As illustrated below in Table 22, the levels of real water loss have reduced from 2018/2019 and were achieved for Stratford Midhurst and Toko in 2019/2020.

	2018/2019	2019/2020	Target
Water Loss			
Stratford	21.5%	21.4%	<25%
Midhurst	39.1%	10.1%	<25%
Toko	16.7%	12.0%	<25%

Table 21 - Water Loss - Annual Report

5.4.3. RESPONSE TIMES

These are measures introduced with the 2015-2025 Long Term Plan. The performance measure targets for the median response time for urgent attendance and resolution and non-urgent attendance and resolution in 2018/2019 & 2019/2020 (as stated in the 2018-2021 Long Term Plan) are as detailed in Table 23:

Table 23 presents the median fault response time performance target for attendance and resolution of urgent and non-urgent call-outs. The result was 100 % achievement in 2019/2020.

	2018/2019	2019/2020	Target
Urgent Response Times			
Attendance (hrs:mins)	00:44	00:33	1:00
Resolution (hrs:mins)	3:26	2:41	8:00
Non-urgent Response Times			
Attendance (hrs:mins)	5:38	8:01	2 working days
Resolution (hrs:mins)	8:52	11:29	5 working days

Table 22 - Response Times; Urgent and Non-Urgent

Customer Satisfaction

This was a measure introduced for the 2015-2025 Long Term Plan. The performance measure target for customer satisfaction is <32 complaints per 1,000 residents /users received for:

- Drinking water clarity
- Drinking water taste
- Drinking water odour
- Drinking water pressure or flow
- Continuity of supply
- Council's response to any of these issues

This is limited to properties supplied within the water supply zones. As illustrated below the performance target for complaints was achieved in 2019/2020.

Table 23 - Number of Complaints

	2018/2019	2019/2020	Target
No of Complaints	Recording of complaints was not undertaken In accordance with DIA guidance	2.6	<32

5.4.4. DEMAND MANAGEMENT

This is a measure introduced for the 2015-2025 Long Term Plan. The performance measure target for the average consumption of drinking water per day per resident within the district (in litres) is <275L/resident/day.

As illustrated below although there was an increase in the amount of water consumed in 2018/2019, performance targets were achieved in 2019/20, where residents are connected to a Stratford District Council water supply.

	2018/2019	2019/2020	Target
Water Consumption			
Stratford (L/person/day)	239.8	248.1	<275
Midhirst (L/person/day)	210.4	262.1	<275
Toko (L/person/day)	115.2	157.8	<275

Table 24 - Water Consumption

'Water Conservation'

Over the Long Term Plan 2018-2021 capital projects were completed. Universal metering was installed in 2020/2021 due to the flow meters returning questionable data. It is expected that these issues will be resolved as the data quality and confidence improves. The following Capital and Operational projects are planned.

- **Capital Projects:**
 - Installation of pressure reduction valves; and
 - Installation of zoning valves.
- **Operational Projects:**
 - Calibration of Water Model (5 yearly); and
 - Leak detection survey (biennial).

The implementation of the 'Water Conservation' project assists Council in achieving adequate LoS performance in future.

5.4.5. UNPLANNED DISRUPTIONS

This is a measure introduced for the 2015-2025 Long Term Plan. The performance measure target for minor disruptions (between 5 and 50 connections affected) is <5 and for major disruptions (more than 50 connections affected) it is <2 and have been determined by Council as appropriate figures after reviewing the water supply's historical performance.

As illustrated below, the performance targets for the minor unplanned disruptions were not achieved and the major unplanned disruptions was achieved in 2019/2020. The reason for not achieving the 2019/2020 target was the rollout of Ultrafast Broadband throughout Stratford resulting in contractors drilling through the ground hitting pipes as the accuracy of data on pipe location is within a range of 20 m. The targets for this measure have <6 and <3 respectively.

	2018/2019	2019/2020	Target
Unplanned Disruptions			
Minor	8	5	<5
Major	1	0	<2

Table 25 - Unplanned Disruptions

The Council had the following projects completed or underway, including the:

- Water reticulation renewals;
- Patea raw water main renewal; and
- Secondary trunk main.

‘Water reticulation renewals’

Council currently has a water mains renewal programme targeting ‘Everite’ pipes in place, and as the renewals continue, the risk of unplanned disruptions reduces. Therefore, the continued implementation of the water mains renewal project will assist Council in achieving adequate LoS performance in future.

‘Patea raw water main renewal’

Following the upgrade of the Stratford water treatment plant, condition assessment of other treatment assets has occurred. Recently, these assessments have found the existing Patea raw water main to be in a very poor condition. The raw water main is due to be renewed, hence, the implementation of the ‘*Patea raw water main renewal*’ this project will assist Council in continuing to achieve adequate LoS performance in future.

‘Secondary trunk main’

A major disruption or failure to the treated water trunk main could have major consequences for both residential and commercial customers of the Stratford water supply. Therefore, in order to prevent the effects of this type of disruption, Council has constructed a secondary trunk main. Additional benefits of a secondary trunk main with a new alignment and entry zone to the town reticulation (Pembroke Road) includes:

- Allowance to supply future growth areas
- More effective risk management in relation to major, extended disruptions
- Assistance with the shift towards reticulation zones

Therefore, the implementation of the Secondary trunk main project assists Council in achieving adequate LoS performance, allowance for future growth areas, and effective risk management.

5.4.6. WATER PRESSURE

The performance measure target for water pressure at 50 properties within the water supply zone, including any that have complained about pressure and or flow meets council specifications (flow>10l/min & pressure>350kpa) is 100%.

As illustrated in Table 27, In 2019/2020 the water pressure was tested at 52 properties within the Stratford District. All properties tested had 100% water pressure and achieved Level of Service requirements for water pressure.

	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Pressure Achieved	☐	☐	X	☐	☐
Properties Tested	52	51	47	51	52

Table 26 - Water Pressure

5.4.7. NZFS CONDITIONS

The performance measure target for hydrants meeting the NZFS Code of Practice conditions regarding supply is 100%. As illustrated below performance targets for the number of hydrants meeting compliance requirements was achieved in 2019/2020.

	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Compliance with NZFSCOP	X (one failed test)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Properties Tested	35	30	30	31	31

Table 27 - Fire Hydrants

5.5. DESIRED PERFORMANCE

A summary of the Council's targets/ desired performance levels are presented in Table 31. This desire stems from the Council's resolve to maintain its delivery of the agreed levels of service and strengthen the community's confidence in the Council's ability to deliver excellent Water Service to the users

The Council will take into account its Customer Charter in its provision quality service to all our customers. Council will rate its performance against the key performance indicators (KPI's) or targets as per Table 29 below.

Achieved Required actions have been completed and the intended level of service has been achieved, or
Where a long-term level of service is targeted, the results for the year are in keeping with the required trend to achieve the intended level of service.

Not Achieved Not all of the required actions have been undertaken, or
The result for the year is less than the intended level of service, or
Where a long-term level of service is targeted, the results for the year are contrary to the required trend to achieve the intended level of service.

Not Applicable No action was required during the year.

Table 28 - Performance Rating Index

5.6. IMPROVEMENT PLAN

Actions identified in this Section for improving management of the asset are as follows:

Table 29 - Levels of Service Performance Improvement Plan

Sub Section	Task	Due Date
5.4.4	<p>Review the demand management performance measure calculation</p> <p>A review of the values and assumptions used for future calculations will need to be agreed upon. With the universal water metering being installed this will provide a more accurate measure for demand management.</p>	June 2024

Table 30 - Performance Measures - Trends and Targets

Level of Service	Performance Measure	Outcome Category	Trend			Current	Target					How Measured
			2017/18	2018/19	2019/20		2020/21	Year 1 2021/22	Year 2 2022/23	Year 3 2023/24	Years 4-10 2024-2031	
Drinking Water Standards	DWSNZ Part 4 - Bacterial compliance criteria	DIA Measure	Stratford – Ach - 100% Midhirst – Ach - 100% Toko – Ach - 100%	Stratford – Ach - 100% Midhirst – Ach - 100% Toko – Ach - 100%	Stratford – Ach - 100% Midhirst – Ach - 100% Toko – Ach - 100%	100% for all plants	100% for all plants	100% for all plants	100% for all plants	100% for all plants	Plant & reticulation performance records in water outlook. Includes water quality sampling programme records as well as any plant non-performances.	
	DWSNZ Part 5 – Protozoal compliance criteria	DIA Measure	Stratford – Ach - 100% Midhirst – N/A Toko – N/A	Stratford – Ach - 100% Midhirst – Ach - 100% Toko – Ach - 100%	Stratford – Ach - 100% Midhirst – Ach - 100% Toko – Ach - 100%	100% for all plants	100% for all plants	100% for all plants	100% for all plants	100% for all plants	Plant & reticulation performance records in water outlook. Includes water quality sampling programme records as well as any plant non-performances.	
Maintenance of reticulation	Water Loss	DIA Measure	Stratford – Ach - 12% Midhirst – Not/Ach - 36% Toko – Ach - 19%	Stratford – Ach - 21.5% Midhirst – Not Ach - 39.1% Toko – Ach - 16.7%	Stratford – Ach – 21.4% Midhirst – Ach – 10.1% Toko – Ach – 12.0%	<25%	<25%	<25%	<25%	<25%	Calculated annually as per NZWWA Water Loss Guidelines.	

Levels of Service Performance

Level of Service	Performance Measure	Outcome Category	Trend			Current	Target					How Measured
			2017/18	2018/19	2019/20	2020/21	Year 1 2021/22	Year 2 2022/23	Year 3 2023/24	Years 4-10 2024-2031		
Response Times	Urgent Response - Attendance	DIA Measure	Ach – 37mins	Ach – 44mins	Ach – 33mins	1 hour	1 hour	1 hour	1 hour	1 hour	Work order tracking/reporting through Council's asset management system.	
	Urgent Response - Resolution	DIA Measure	Ach – 4hrs 19min	Ach – 3hrs 26min	Ach – 2hrs 41min	8 hours	8 hours	8 hours	8 hours	8 hours		
	Non Urgent Response - Attendance	DIA Measure	Ach - 18hrs 56mins	Ach - 5hrs 38mins	Ach - 8hrs 1mins	2 working days	2 working days	2 working days	2 working days	2 working days	Work order tracking/reporting through Council's asset management system. Affected property numbers provided via GIS/Asset Management System	
	Non Urgent Response - Resolution	DIA Measure	Ach - 23hrs 30mins	Ach - 8hrs 52mins	Ach - 11hrs 29mins	5 working days	5 working days	5 working days	5 working days	5 working days		
Customer Satisfaction	Total number of complaints received for: <ul style="list-style-type: none"> • Drinking water clarity • Drinking water taste • Drinking water odour • Drinking water pressure or flow • Continuity of supply • Council's response to any of these issues expressed per 	DIA Measure	Not recorded	Not recorded	Ach – 2.6 per 1000 connections	<32	<32	<32	<32	<32	Reporting against corporate CRM system.	

Levels of Service Performance

Level of Service	Performance Measure	Outcome Category	Trend			Current	Target				How Measured
			2017/18	2018/19	2019/20	2020/21	Year 1 2021/22	Year 2 2022/23	Year 3 2023/24	Years 4-10 2024-2031	
	1000 connections to council's networked reticulation system.										
Demand Management	Water Consumption in litres / day / resident (l/d/r)	DIA Measure	Stratford – Ach - 205 l/d/r Midhirst – Ach - 228 l/d/r Toko – Achieved 228 l/d/r	Stratford – Ach - 239.8 l/d/r Midhirst – Ach - 210.4 l/d/r Toko – Achieved 115.2 l/d/r	Stratford – Ach – 248.1 l/d/r Midhirst – Ach – 262.1 l/d/r Toko – Achieved 157.8 l/d/r	<275	<275	<275	<275	<275	Calculated from production records ex SCADA/Water Outlook, deducting commercial users as per water meter records as well as any other non-residential use and losses (as per bench loss), divided by number of residential connections and average number of residents per property.
Unplanned Disruptions	Minor	SDC Measure	Ach - 3	Not/Ach - 8	Not/Ach - 5	<5	<6	<6	<6	<6	Work order tracking/reporting through Council's asset management system. Affected property numbers provided via GIS/Asset Management System
	Major	SDC Measure	N/Ach - 2	Ach - 1	Ach - 0	<2	<3	<3	<3	<3	
Water Pressure	Water pressure at 50 properties within the water supply zone, including any that have complained about pressure	SDC Measure	N/Ach 97.8%	Ach – 100%	Ach – 100%	100%	100%	100%	100%	100%	Pressure and flow to be measured at a minimum of 50 properties per annum. Test results recorded by handheld device directly into asset management system against property's

Levels of Service Performance

Level of Service	Performance Measure	Outcome Category	Trend			Current	Target				How Measured
			2017/18	2018/19	2019/20	2020/21	Year 1 2021/22	Year 2 2022/23	Year 3 2023/24	Years 4-10 2024-2031	
	and or flow meets council specifications (flow>10l/min & pressure>350kpa). (Council Measure)										point of supply. Where test at tap inside property fails, test will be repeated at point of supply (toby/meter box) to isolate problems with private pipework from public network. Customer is advised if problem with internal plumbing.
Fire Hydrants	Fire hydrants meet NZFS Code of Practice conditions regarding supply. (Council Measure)	SDC Measure	Ach – 100%	Ach– 100%	Ach – 100%	100%	100%	100%	100%	100%	Flow & pressure testing carried out by council contractor and or NZ Fire Service to NZ Fire Fighting Code of Practice standards.
Ach – Achieved; P/Ach - Partly Achieved; N/Ach - Not Achieved; N/A – Not Applicable											

6.0

Strategic Assessment

6.0: STRATEGIC ASSESSMENT

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6.1. OVERVIEW

The '*Strategic Assessment*' section presents an assessment of the need for investment against strategic outcomes. It defines the problems facing the Stratford District Council; highlights the investment projects necessary to address these problems and the benefits of each identified investment project.

6.2. BUSINESS CASE

Section 17A of the Local Government Act (LGA) 2002 requires the local authority to '*review the cost-effectiveness of current arrangements for meeting the needs of communities within its district or region for good quality local infrastructure, local public services and performance of regulatory functions*'.

6.3. PROBLEM STATEMENTS

Between June and September 2020, Council staff prepared and presented *Early Conversation papers*¹ for discussion with the Elected Members as part of the Long Term Plan (LTP) process. The purpose of these early conversations was to ask elected members for direction regarding some capital projects being proposed in the 2021-2031 LTP.

The Early Conversations with the Elected Members identified:

- Problems and items for improvement in the delivery of our Water Supply Activity;
- Future proofing Objectives in addition to Council Community Outcomes;
- Options for addressing the identified problems; and
- An assessment of each option against Council Outcomes and the identified future proofing objectives;
- Risks and Opportunities associated with each option and
- Preferred Options to address each Problem Area.

The Elected Members considered the information and provided the necessary direction - in some cases modifying the preferred option. The outcomes of these conversations provided a 10-year plan for implementation of the Preferred Options for each Problem area identified. The main problems identified and *workshopped* as part of the Early Conversations are:

- Water Use Efficiency and Conservation;
- Emergency Water Supply; and
- Alternative Water Supply.

6.3.1. WATER USE EFFICIENCY AND CONSERVATION

Universal Water Metering is considered a major option in addressing the water use efficiency and conservation issue, which is driven by many factors including:

- Resource Consent through the Regional Council as the issuing authority of our Resource Consent and via Iwi, as a key Affected Party to our consent renewals as documented in Iwi Management Plans.
- Minimisation of water loss - Bench loss, a key performance measure monitored by the Department of Internal Affairs (DIA) through System Adequacy;
- Spare capacity for future growth - with water metering comes more efficient use of existing water resources;
- Fairness in water tariff system - Inequality currently exists where a household uses more than its intended allocation of (250m³).

The key benefits in implementing universal water metering are provided in Table 32.

¹ *Early Conversation Papers D20/6956, D20/11163, D20/11166, D20/11169, D20/11813*

6.3.2. EMERGENCY WATER SUPPLY

Resiliency analysis has identified approximately 2 days of water supply in the current reservoirs would be available if there were any incidents that rendered the raw water intake unusable. Council Officers have identified an additional 4,500m³ water reservoir to be the solution.

The reservoir will provide an additional day of water supply in the event of failure of the water intake and ensure critical clean, safe drinking water for residents, and also process water for industry in Stratford. The continuity of clean and safe water also gives confidence to existing industry, and new industries which Council are continuing to entice to the northern area of Stratford. The new reservoir will be located beside the existing town supply reservoirs.

6.3.3. PROVISION FOR AN ALTERNATIVE WATER SUPPLY SOURCE FOR STRATFORD

The need to explore an alternative water supply source for the Stratford Township is mainly driven by Resilience - in the event that we are unable to source water for treatment from the Patea River. The Patea River, supported by the Konini Stream, is currently the main source of water supply for the Stratford Township.

Inability to source water from the Patea River may arise as a result of severe drought, poisoning, natural disaster or other extreme weather/climatic event.

The recommendation has been made to commission a feasibility report for future proofing of water supply for Stratford.

6.4. OUR BENEFIT STATEMENTS

The Council has identified projects, as described in Section 6.3, to address the problems in delivering water supply services in a safe and environmentally friendly manner and at the agreed level of service to the community. The benefits of implementing these projects are presented in Table 32 below.

Table 31- Problems, Projects and Benefit Statements

Problem Statements	Identified Projects	Benefit Statements
<p>Problem Statement 1 - Water Use Efficiency and Conservation</p> <ul style="list-style-type: none"> • Fairness in water tariff system; • High water consumption rates; • Water leakages in the network; and • Inefficiency in water distribution. 	<p>Implement Universal Water metering including electronic water meter reading to all properties in the district connected to the Council's water reticulation system.</p>	<ul style="list-style-type: none"> • The optimisation of water use and consumption to ensure and support spare capacity for future growth etc. • Compliance with council's water take resource consent; • Equity in water tariff system; and most importantly, • Reduction in water loss and revenue through leakages and the achievement of Department of Internal Affairs (DIA) requirements; • Extension of water assets life; • Associated reduction in the costs and requirement for wastewater treatment systems to the Council; • Effective identification of high water-use areas
<p>Problem Statement 2- Emergency Water Supply</p> <ul style="list-style-type: none"> • Additional water storage at the Stratford Water Treatment Plant • Capacity Issues; • Criticality 	<p>Construct a new water 4,500m³ Reservoir at the Water Treatment Plant</p>	<ul style="list-style-type: none"> • Resilience in providing an additional day of water supply in the event of failure of the water intake and ensure the continued provision of critical clean, safe drinking water for residents, and also process water for industry in Stratford; and To support growth – planned or unplanned. The continuity of clean and safe water also gives confidence to existing and new industries which Council contuse to encourage to the district.

Problem Statements	Identified Projects	Benefit Statements
<p>Problem Statement 3 - Alternative Water Supply</p> <ul style="list-style-type: none"> • Resilience; • Criticality • Water quantity and quality in the Patea River and Konini Stream 	<p>Commission a feasibility report to explore the alternative water supply options available for the Patea River/Konini Stream Water Take</p>	<ul style="list-style-type: none"> • Provide redundancy in the water supply source to this critical service; and in turn • Allow the Council to continue to perform its duties and responsibilities, under the Local Government Act, to the people of Stratford
<p>Problem Statement 4 - Backflow Prevention</p> <ul style="list-style-type: none"> • Drinking Water quality • Public Health Risk • Water Supply Bylaw Implementation 	<ul style="list-style-type: none"> • Implementation of Backflow Prevention Programme 	<ul style="list-style-type: none"> • Reduced risk of contamination as a result of backflow or syphoning • Enhanced Public Health and Safety
<p>Problem Statement 5 - Resource Consent Renewal</p> <ul style="list-style-type: none"> • Criticality • Water take and distribution; • Public Health 	<ul style="list-style-type: none"> • Renew the Expiring Resource Consent to take water from the Te Popo Stream at Midhirst. This consent expires in June 2021. 	<ul style="list-style-type: none"> • This process is required to satisfy the requirements of the Resource Management Act (1991) for expiring consents. The Council currently takes water from the Te Popo Stream under an authorisation consent from the Taranaki Regional Council, which expires in June 2021. • Continued water supply to Midhirst residents

7.0 Lifecycle Management

7.0: LIFECYCLE MANAGEMENT

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7.1. OVERVIEW

Lifecycle Asset Management focuses on management options and strategies to minimise risks to assets, and any potential risk of assets. It considers all relevant consequences from initial planning through to renewal, replacement, disposal or rationalisation of assets.

Lifecycle Asset Management acknowledges that assets are always in a state of decay and their useful life is primarily influenced by;

- Physical characteristics
- Operating environment
- Customer requirements

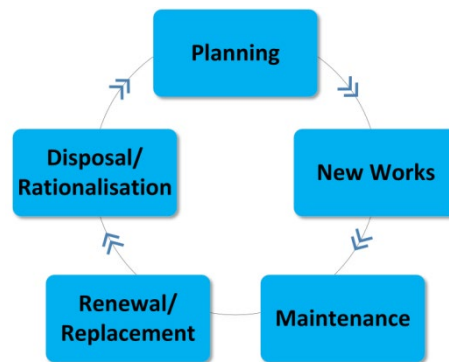


Figure 25 - Lifecycle Asset Management

Lifecycle Asset Management enables Stratford District Council to identify issues, determine appropriate response options and identify strategies and programmes for response to identified issues/opportunities in order to deliver Levels of Service and achieve both asset and organisational goals and objectives.

The Lifecycle Asset Management section contains current Stratford District Council procurement and contractual arrangements and the prioritisation of works:

- That meets the short and long term needs of our community;
- That offers value for money; and
- In a sustainable manner to the least whole-of-life cost.

This section presents a detailed plan of prioritised work over a 10-year planning period in response to the problem and benefit statements highlighted in this AMP. It presents Council's practices and projects to maintain the water assets over its lifecycle through Council's:

- Procurement Policy;
- Management Strategies;
- Contractual Arrangements;
- Programme Business Case for the next 10 years;
- Disposal Strategy; and
- Planning for Improvement

At the time of writing this WAMP, the costs and financial projections were accurate; however changes are expected upon finalisation of the LTP 2021/2031.

7.2. PROCUREMENT POLICY

Procurement for the purpose of implementing projects identified in the work programmes are undertaken in accordance with the Council's Procurement Policy. The Council's Procurement Policy for the purpose of procuring goods works and services is aimed at ensuring that Council:

- Achieves the right outcomes and value for money;
- Manages risk while allowing staff to exercise business judgement and be innovative;
- Demonstrates fairness;
- Reflects best management practice; and
- Has a local procurement policy applying to works with a monetary value up to a limit prescribed by Council.

All personnel involved in procurement procedures are required to maintain the confidentiality of the process. The Council, as a public entity, must act fairly and consistently, in accordance with relevant legislation.

7.3. MANAGEMENT STRATEGIES

The overall management of infrastructure will be driven through strategies aimed at:

- Complying with the legislative and strategic requirements;
- Meeting customer expectations and agreed levels of service; and
- Delivering value for money for ratepayers, funding partners and the Council.

These strategies as presented in Figure 26, are either under review or currently being developed.

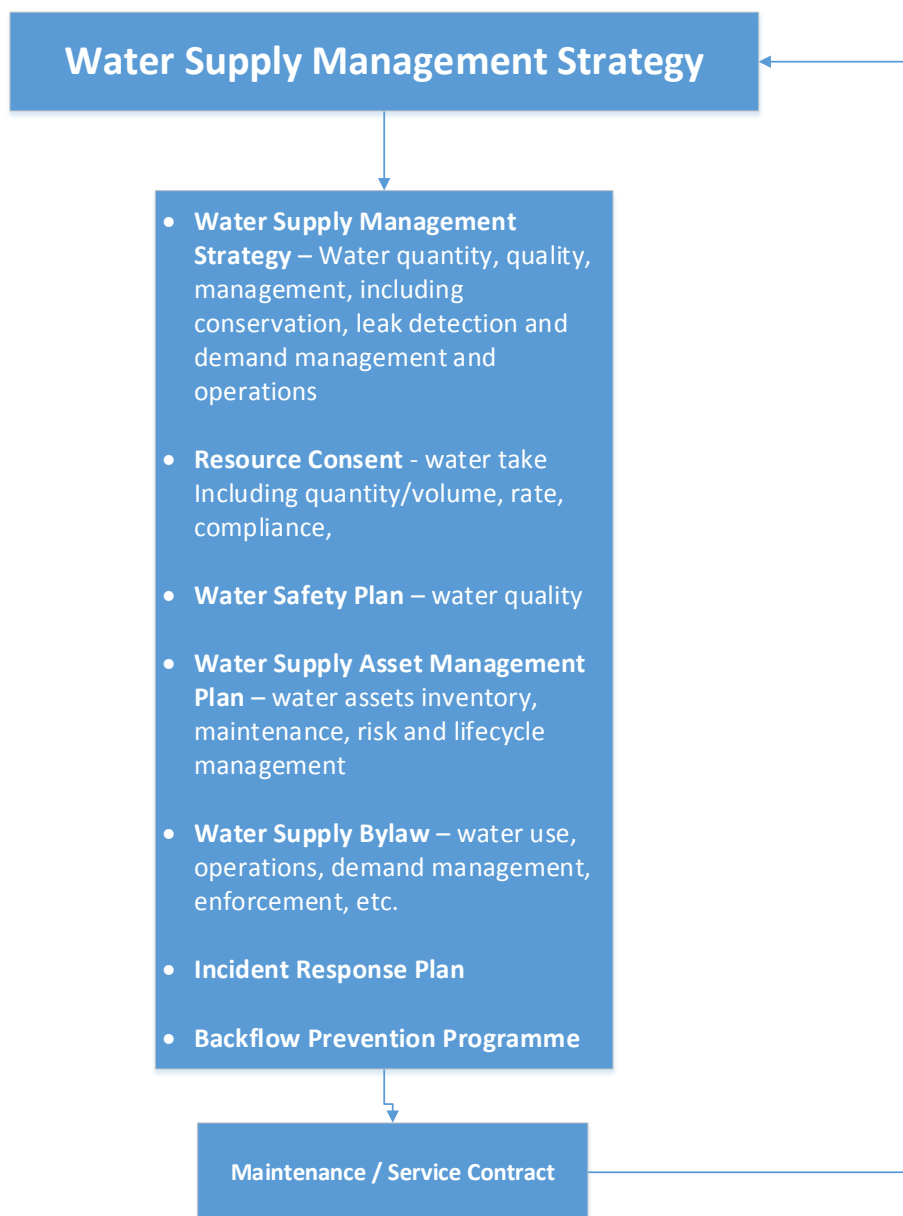


Figure 26 – Water Supply Asset Management Strategies

7.4. CONTRACTUAL ARRANGEMENTS

The Stratford District Council has in place contractual agreements for the delivery of the agreed levels of service. Service is delivered through three main contractual agreements relating to:

- Physical Works;
- Treatment Plant Operations; and
- Maintenance Contracts

Physical Works are mainly covered by the Maintenance Contract. However, where it is not covered, this service is procured in accordance with Stratford District Council's Procurement Procedures.

The Council is responsible for the operation of all three treatment plants and has a Services Maintenance Contract which covers an initial period of 3 years from 1 July 2019 and expires on 30 June 2022. It is a three year service delivery Contract with two rights of renewal of two years each for the continued operation and maintenance of the Stratford District Council's Water Supply, Wastewater and Stormwater Services. The Contract was entered into in 2019 with its first renewal option in 2022.

7.5. PROGRAMME BUSINESS CASE

The programme business case details how the problems identified in the previous sections will be addressed. This is presented in Tables 33 below and shows the identified projects that are proposed to address the identified problems in presented in Section 6 of this report and achieve the DIA and Internal/Other performance measures as per Section 5.

The identified projects are grouped under three main categories of:

- Operations/Maintenance works;
- Renewal/Replacement works; and
- Level of Service Improvements.

The prioritisation of planned maintenance, renewal/replacement and capital projects is based on:

- Level of Service requirements;
- Criticality and risk assessment associated with investment levels that potentially change the level of service;
- Age and condition of the infrastructure; and
- Budgetary constraints.

These key outcomes have been considered for each activity at an asset group level.

7.5.1. OPERATION AND MAINTENANCE

Management strategies provide how the asset will be operated and maintained on a day-to-day basis to consistently achieve optimum use. A key element of asset management planning is determining the most cost-effective blend of planned and unplanned maintenance (ready response).

Operating budgets are detailed in the Financial Forecasts Section of this document.

The operation and maintenance of assets is undertaken through:

- **Routine Maintenance** - The Day to day maintenance which is required on an on-going basis and is budgeted for under the Services Maintenance Contracts as "key tasks" ;
- **Planned Maintenance** - Non day-to-day maintenance which is identified in advance and is incorporated into a maintenance budget for a certain time period; and
- **Ready Response** - Maintenance that is unexpected and necessary to continue operation of the service.

The previous expenditure figures for operations and maintenance, as detailed in the Annual Plan, are presented in Figure 27. The planned works are presented in Table 34 below.

Table 32 –Identified Projects and Performance Measures

Work Category	Identified Projects	Performance Measures							
		DWSNZ Compliance	Water Loss	Response Times	Unplanned Disruptions	Demand Management	Customer Satisfaction	Water Pressure	NZFS Conditions
Operations/ Maintenance	Water conservation (calibrate mode)		✓			✓		✓	✓
	Water conservation (leak surveys)		✓			✓			
	Reservoir Clean	✓				✓			
Renewal/Replacement	Water reticulation renewals (hydrants, laterals, meters, and streetwork mains)		✓		✓				✓
	Pipe Bridges				✓				
	Toko Bore	✓			✓			✓	
	Reservoir Overflow								
	Treatment plants general infrastructure renewal				✓				
	Membrane module replacement	✓			✓				
Level of Service Improvements	Universal metering and electronic meter reading		✓			✓			
	Alternative Water Source								
	New reservoir at Stratford		✓			✓			
	Street-work mains (Riders)				✓		✓	✓	
	Midhirst Reservoirs		✓			✓			
	Installation of zoning valves		✓			✓			

Table 33 - Planned Operation and Maintenance Works

Project	2021/22	2022/23	2023/24	2024-2031
Project - Water Conservation (Operational)				
- Calibration of Water Model	\$15,000			\$15,000
- Leak detection surveys (Stratford, Midhirst and Toko)	\$4,000	\$10,000		\$32,000

Problem Statement LoS Performance (demand management) targets are currently being met.
Resource consent conditions require some form of water conservation to be implemented.

Benefits of investment Assists Council in reducing water losses aiding in meeting demand management performance targets and resource consent conditions.

Consequences of non-investment Risk of continued non-performance against agreed LoS Performance, issuing of infringement notices, and/or non-renewal of resource consent to take water.

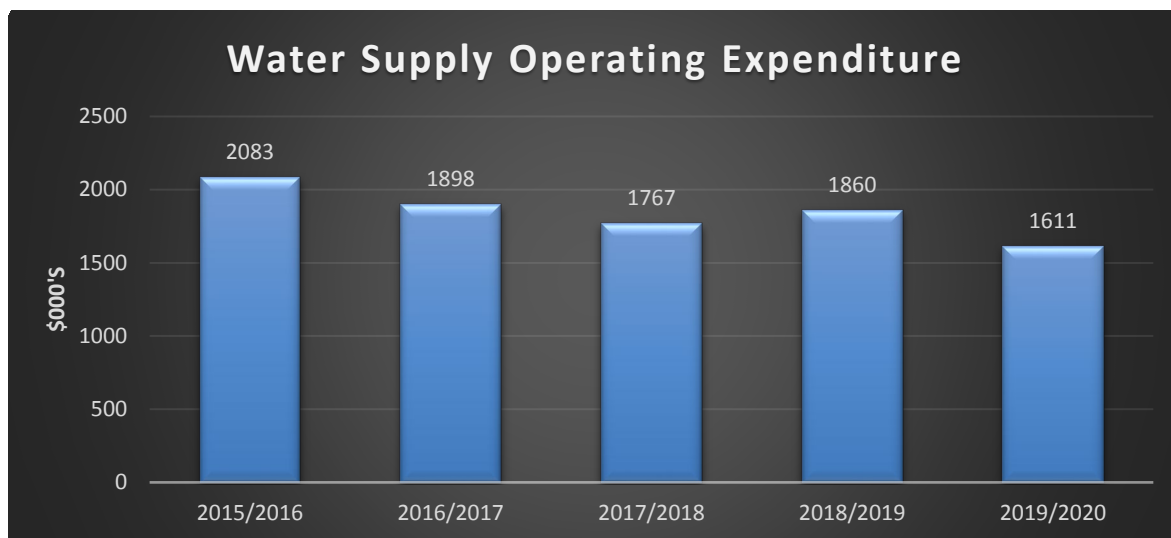


Figure 27 - Operation and Maintenance Expenditure Trends

7.5.2. RENEWAL/REPLACEMENT

Renewal is major work which does not increase the asset’s design capacity but restores, rehabilitates, replaces or renews an existing asset to its original capacity. Work over and above restoring an asset to its original capacity is new asset expenditure. Assets identified for renewal are typically:

- Near or beyond the end of their expected life
- Have known condition and / or performance deficiencies
- Have both known deficiencies and are of a critical nature

The previous expenditure figures for assets renewal / replacement, as detailed in the Annual Plan, are presented in Figure 28. The planned works are presented in Table 35 below.

A 10-year Replacement Profile is provided in Figure 29.

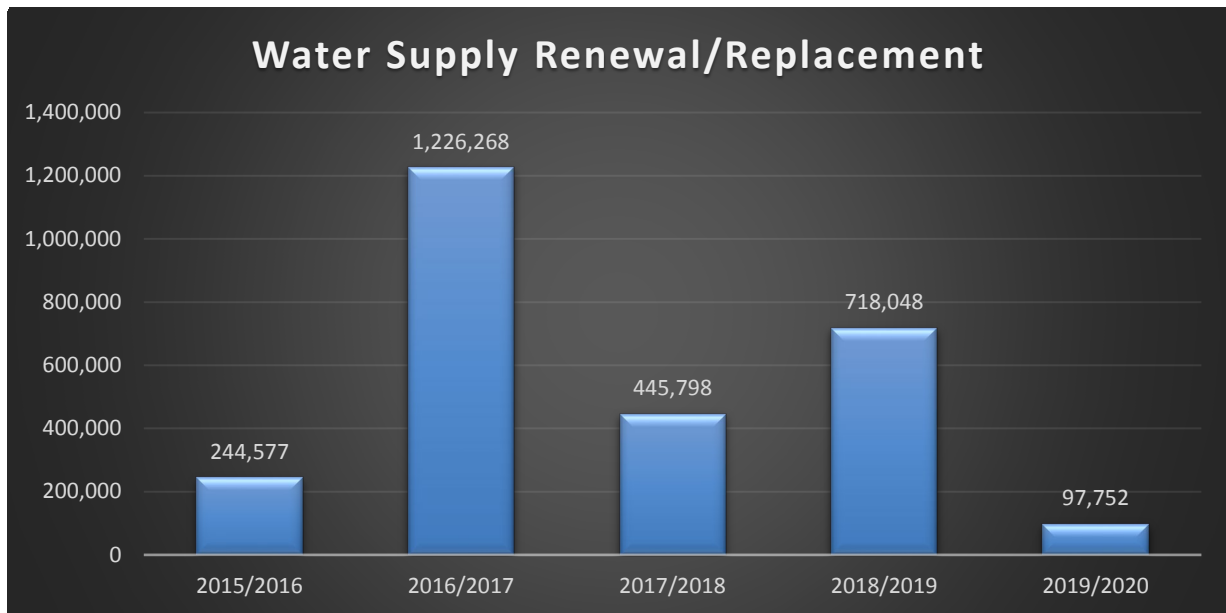


Figure 28 - Renewal/Replacement Expenditure Trends

Table 34 - Planned Renewal /Replacement Works

Project	2021/22	2022/23	2023/24	2024-2031
Membrane Module Replacement	\$150,000			

Problem Statement Performance of the membrane modules reduces over time and need to be replaced as per the manufacturer’s recommendations.

Benefits of investment Effective treatment for Protozoa continues at the Stratford water treatment plant.

Consequences of non-investment Risk of failure of the only treatment barrier for Protozoa with the requirements of Part 5 of the DWSNZ not met.

Project	2021/22	2022/23	2023/24	2024-2031
Water reticulation renewals				
- Hydrants	\$14,800	\$15,300	\$15,700	\$123,800
- Laterals	\$30,600	\$31,600	\$32,500	\$256,100
- Meters	\$50,000	\$51,700	\$53,100	\$4,184,000
- Mains	\$270,000	\$263,900	\$270,700	\$2,188,500

Problem Statement LoS Performance (unplanned disruptions) targets are currently not met.

Benefits of investment Project will assist Council in achieving adequate LoS performance in future.

Consequences of non-investment Risk of an increase in unplanned disruptions causing Council to not meet LoS Performance targets.

Project	2021/22	2022/23	2023/24	2024-2031
Reservoir cleaning (all reservoirs)	\$50,000	-	-	\$57,600

Problem Statement Preventative maintenance required to maintain acceptable LoS Performance (customer satisfaction).

Benefits of investment Project will assist Council in maintaining adequate LoS performance in future.

Consequences of non-investment Risk of an increase in customer taste and odour complaints causing Council to not meet LoS Performance targets.

Project	2021/22	2022/23	2023/24	2024-2031
Toko new raw water source		\$134,500		

Problem Statement Raw water source quality issues currently experienced affecting plant performance and taste/odour complaints.

Benefits of investment Plant optimisation and a reduction in aesthetic issues for the Toko water supply.

Consequences of non-investment Risk of Council not meeting LoS Performance targets.

Project	2021/22	2022/23	2023/24	2024-2031
Reservoir overflow to pond		\$77,600		

Problem Statement The overflow of reservoir to the existing pond

Benefits of investment To ensure reservoir capacity is maintained

Consequences of non-investment Ineffective infrastructure and possible disruption to service

Project	2021/22	2022/23	2023/24	2024-2031
Pipe bridges		\$103,500		

Problem Statement As the pipe bridge comes to the end of its asset life, the Council has programmed for its renewal

Benefits of investment To ensure that the bridge continues to be fit for purpose.

Consequences of non-investment Bridge collapse due to lack of maintenance

Project	2021/22	2022/23	2023/24	2024-2031
Infrastructure general				
- Stratford				
- Midhirst	\$29,500	\$30,500	\$31,300	\$246,900
- Toko				

Problem Statement General infrastructure renewal are programmed for renewal as and when required.

Benefits of investment Continued delivery of service as the required level

Consequences of non-investment Loss of service, which potentially causes disruption to properties

Lifecycle Management

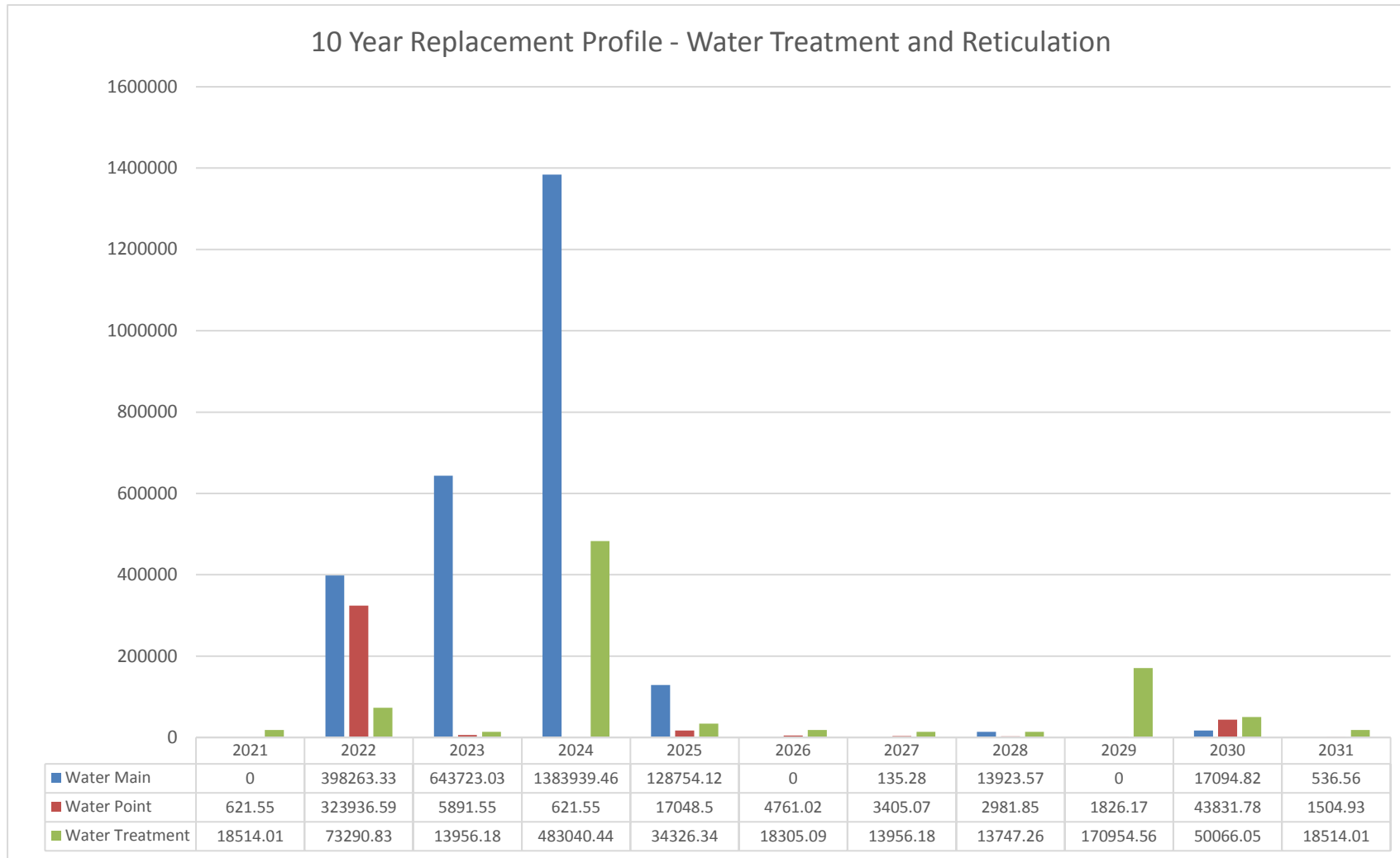


Figure 29 - 10-year Water Replacement Profile

7.5.3. LEVEL OF SERVICE IMPROVEMENTS

The previous expenditure figures for level of service improvements, as detailed in the Annual Plan, are presented in Figure 30; the planned works are presented in Table 36 below.

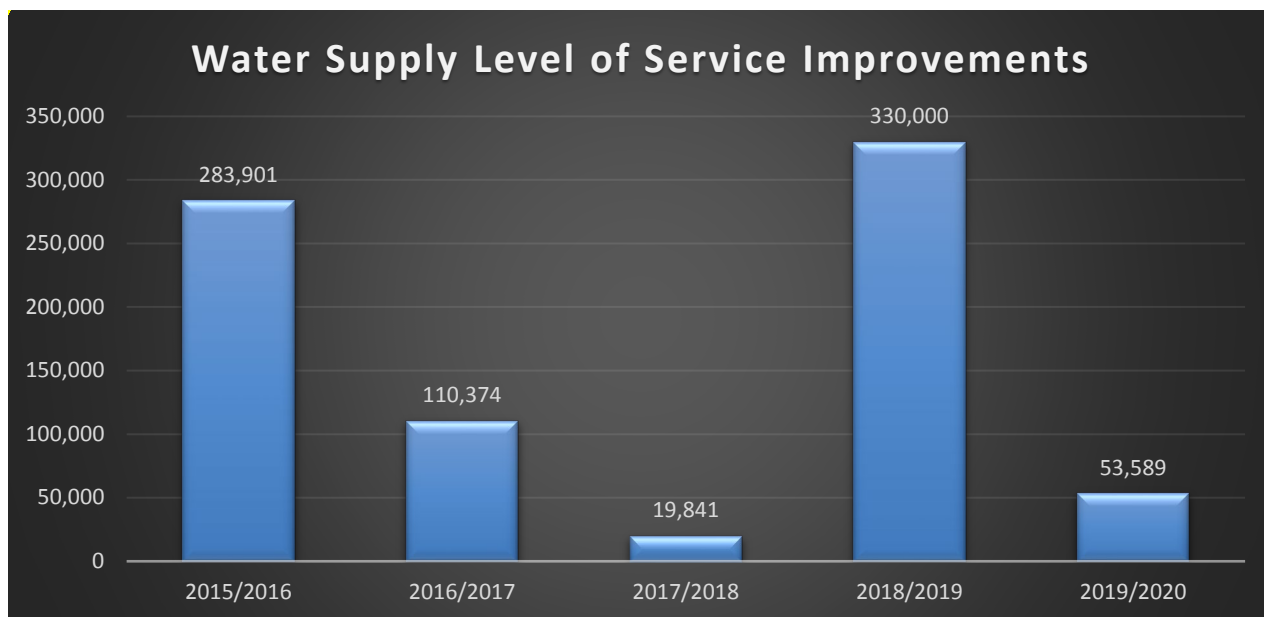


Figure 30 - Levels of Service Improvement Expenditure - Annual Report

Table 35 - Planned Level of Service Improvement Works

Project	2021/22	2022/23	2023/24	2024-2031
Water Conservation (Capital)				
- Water meter upgrade				
- Electronic water reading	\$349,500	\$361,400	\$337,100	\$1,147,000
- New meters to existing manifolds				
- Valves requiring manifolds and meters				

Problem Statement LoS Performance (demand management) targets are currently difficult to attain. Resource consent (water permit) conditions require some form of water conservation to be implemented.

Benefits of investment Assists Council in reducing water loses aiding in meeting demand management performance targets and resource consent conditions.

Consequences of non-investment Risk of continued non-performance against agreed LoS Performance, issuing of infringement notices, and/or non-renewal of resource consent to take water.

Project	2021/22	2022/23	2023/24	2024-2031
Second trunk main				
- PGF funding	\$1,400,000	\$1,511,100		

Problem Statement Total storage for water supply is around two days.

Benefits of investment Project will assist Council in maintaining adequate LoS performance in future by increasing the storage capacity of the water supply.

Project	2021/22	2022/23	2023/24	2024-2031
Midhirst reservoir upgrade				\$327,100

Problem Statement New building regulations require seismic related upgrades to the existing Midhirst reservoir. Council proposes to replace the existing reservoir with a compliant structure.

Benefits of investment Project will assist Council in maintaining adequate LoS performance in future by ensuring the security of the Midhirst water supply.

Consequences of non-investment Risk of Council not meeting LoS Performance (unplanned disruption) targets.

Project	2021/22	2022/23	2023/24	2024-2031
Streetwork ridermains renewals - Stratford		\$31,000	\$31,800	\$143,300

Problem Statement As rider mains come to the end of their asset lives, these are renewed and funded from reserves.

Benefits of investment To continue to perform at the required level of service

Consequences of non-investment Loss of water supply to affected properties.

Project	2021/22	2022/23	2023/24	2024-2031
Zoning	\$30,000			

Problem Statement The Council has identified the need for zoning and renewal or zone valves as and when necessary

Benefits of investment To ensure effective control of water and support water conservation and efficiency.

Consequences of non-investment Ineffective water control and possible disruption of supply to affected properties during water outages.

7.6. DISPOSAL STRATEGY

Disposal is the retirement or sale of assets whether surplus or replaced by new or improved systems. Assets may need to be disposed of for a number of reasons, particularly if they fall under some criteria, including those identified below:

- Underutilisation;
- Obsolescence;
- Cost Inefficiency;
- Policy change;
- Provision exceeds required Levels of Service;
- Service provided by other means (e.g. private sector involvement); and
- Potential risk of ownership (financial, environmental, legal, social).

As part of the lifecycle asset management process, Council considers the costs of asset disposal in the long-term financial forecasts. These costs are generally incorporated in the capital cost of Level of Service increases or asset renewals. While there are assets that fit under one or more of the above criteria, the Local Government Act provides clear instances when assets can be disposed of. At this

time, the Stratford District Council has no plans to dispose of any Water assets other than those that become obsolete as a result of renewal or upgrading works.

7.7. IMPROVEMENT PLAN

Actions identified in this Section for improving management of the asset are as follows:

Table 36 Lifecycle Management Improvement Plan

Sub Section	Task	Due Date
7.3	Maximise AssetFinda capabilities for predictive modelling purposes	Ongoing

8.0

Risk Assessment

8.0: RISK MANAGEMENT

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8.1. OVERVIEW

Risk is the effect of uncertainty on objectives. Risk events are events which may compromise the delivery of the organisation's strategic objectives.

The main risk to asset management planning is the inability to deliver on agreed Levels of Service due to unplanned events and situations.

The Risk Management section highlights the Stratford District Council's risk management framework and process. It identifies significant negative effects and hazards linked to the activity and infrastructure assets. The section also identifies critical assets and our approach to emergency response and health and safety.

8.2. RISK MANAGEMENT FRAMEWORK

The Stratford District Council has prepared a *Corporate Risk Management Framework June 2018* which includes processes that identify, evaluate and manage all risks that may impact on the agreed Levels of Service to the Community. The purpose of this framework is to promote consistency and to describe the components of Stratford District Council's risk management system. The Council wide risk register allocates all council risks into the following 6 categories:

- Compliance and Legislation Risks;
- Data Information Risks;
- Financial
- Health and Safety Wellbeing
- Operational Risks
- Reputational and Conduct Risks;

The potential risks identified for the Solid Waste assets under these six categories are described in detail in this report.

The Council's risk management approach is underpinned by principles that will ensure the minimisation of risks for the principal asset systems through the non-achievement of critical business objectives and impact of system failure. The risk management principles are:

- Adds value by contributing to the achievement of Stratford District Council's objectives and improving performance;
- An integral part of the Stratford District Council's planning, processes, and decision making;
- Structured approach that is well-defined, transparent, and aligned with good practice;
- Responsive to change by monitoring, reviewing, and responding to the changing environment;
- Pragmatic by focusing on the most important risks and allowing informed risk taking;
- Explicitly addresses uncertainty based on best available information; and
- Continuous improvement as we get better at identifying and managing risks and opportunities.

The objectives of the Council's Risk Management framework are to establish a systematic and structured approach to managing risks across the Stratford District Council and to embed risk management practices into business strategy, planning and core operations to ensure that key risks are proactively identified, managed and communicated. Benefits from applying effective risk management include:

- Improved achievement of the Council's strategic direction, objectives and priorities;
- Reduced risks – significant risks are identified and managed and early warning of problems and emerging risks are addressed, with appropriate design and operation of internal controls;
- Improved decisions – decisions are made after analysis of risk;
- Improved planning and resource allocation – risks are prioritised and included in business planning so that resources are better managed; and
- Increased accountability and transparency – clarity of key risks and the responsibility and accountability for their management.

8.3. RISK ASSESSMENT PROCESS

The Stratford District Council's Risk Management Process in Figure 31 identifies risk management strategies to minimise risks associated with the provision of services. It is designed to ensure that:

- All significant operational and organisational risks are understood and identified;
- The highest risks that should be addressed within a ten year planning horizon are identified;
- Risk reduction treatments which best meet business needs are applied; and
- Responsibilities for managing risks are allocated to specific staff and reporting regimes are specified.

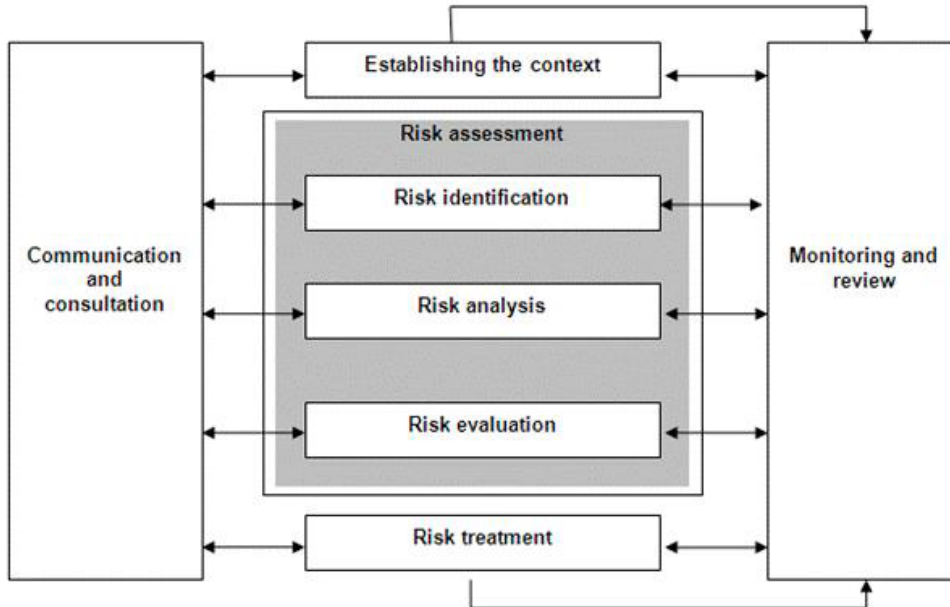


Figure 31 - Risk Management Process

A Risk Matrix allows for easy identification for the highest risks in the Council enabling appropriate resources to be allocated.

		Consequences				
		Minor	Important	Serious	Major	Catastrophic
Likelihood	Almost Certain	2- Moderate	5- High	7- High	20-Extreme	25-Extreme
	Likely	2- Moderate	4- Moderate	6- High	16-Very High	20-Extreme
	Possible	1-Low	3- Moderate	4- High	12-Very High	15-Very High
	Unlikely	1-Low	2- Moderate	3- Moderate	8- High	10-Very High
	Rare	1-Low	1-Low	1-Low	4- Moderate	5- High

Figure 32 - The Risk Matrix, sourced from the Council's Vault system

8.4. POTENTIAL RISKS

The Stratford District Council has made a number of risk assumptions² under the six broad risk areas of Compliance and Legislation, Data Information, Financial, Health and Safety Wellbeing, Operational, & Reputational and Conduct. These are presented in [Appendix 1](#)

8.4.1. TOP TEN RISKS

The Stratford District Council has identified the following top ten Water Supply risks from the 6 categories in the Risk Management Framework ([Appendix 1](#)) in Table 38

While *Compliance & Legislation; Financial & Reputation and Conduct Risks* impact on the achievement of the Organisation's high-level objectives and actions in the Long Term Plan, *Operational Risks* impact people, processes and technologies that support the business-as usual delivery of activities. The *Control Description* is a set of management intervention/ mitigation measures applied in response to risks, while *Residual Risk* is the resulting risk following the application of the mitigation measures.

Table 37 - Top 10 Identified Water Supply Risks

Risk No.	Risk Subject	Risk Description	Risk Score Raw	Control Description	Residual Risk Score
2. Data and Information					
2.2	Server Failure	IF the server failed THEN systems down, data unavailable, potential data loss	12 Very High	<ul style="list-style-type: none"> Restore from backup, backups stored off-site. Fail-over for Melbourne data centre replicates to Sydney data centre. 	3 Moderate
2.3	Cyber Attack	IF the systems are compromised and subject to a cyber-attack, THEN system downtime, loss of data, ransoms may be demanded, potential privacy breach, reputational damage, and potential loss of funds.	15 Very High	<ul style="list-style-type: none"> Council have several security measures in place such as enterprise grade firewalls, email filtering, backups, antivirus and device management. If a breach was detected Council would activate the insurance policy and engage an IT security company resource to assist with recovery. Further controls to be provided by IT suppliers Critical I&E changes limited to selected staff only 	3 Moderate
4. Health and Safety					
4.1	Lone Worker	IF a staff member is seriously injured or killed during field inspections/site visits, THEN possible health and safety breaches, death or serious injury.	12 Very High	<ul style="list-style-type: none"> Quality assurance, Ongoing training/awareness of HSE requirements and responsibilities, Better use of council data/knowledge base on dangerous or insanitary sites before staff member deploys to site, Use of GPS tracking, mobile phone tracking. Compliance officers to wear body cameras when on duty. 	3 Moderate
4.2	Water / Health Safety	IF Council doesn't adequately respond to a complaint and	12 Very High	<ul style="list-style-type: none"> Up to date compliance with the Drinking Water Standards. 	1 Low

² statements that are presumed to be true without concrete evidence to support them

Risk Management

Risk No.	Risk Subject	Risk Description	Risk Score Raw	Control Description	Residual Risk Score
		a member of the public falls ill or dies, THEN Council is at risk of legal proceedings under the Health Act.		<ul style="list-style-type: none"> Ongoing training/awareness of drinking water standards and HSE requirements and responsibilities. Ensure Water Supply bylaw is regularly reviewed. 	
4.5	Exposure to Hazardous Substances	IF staff are affected by exposure to hazardous substances e.g. chemicals, liquids, fumes and other toxic substances THEN there are possible risks to staff health and wellbeing.	8 High	<ul style="list-style-type: none"> The Stratford Water Treatment Plant has site licences for the storage of chemicals, these must be kept up to date. All hazardous substances are correctly labelled and stored according to best practice safety procedures and guidelines. Training is mandatory for all staff working with hazardous substances. Use appropriate PPE gear at all times in the vicinity of the hazardous substances. Regular health checks for staff. Regular testing of hazardous substances and chemicals LABELLING and STORAGE be carried out RANDOMLY. Fire extinguishers are on site, all signage is current and covers off on all of the chemicals held on site, labels are all correct and current. We currently have 5 authorised handlers. Ixom also do site audits when their representative is in the immediate area. 	4 Moderate
6	Water supply network is Contaminated	IF the Water supply network becomes contaminated THEN the public health is at risk and Council could be liable for financial penalties and will suffer reputational damage.	12 Very High	<ul style="list-style-type: none"> Backflow preventers have been installed for high risk properties (currently no programme to roll out across the district, due to cost and resource). Staff training in the use of chemicals. Water chlorination. 	4 High
Operational					
7	Maintenance Contractor fails to deliver	IF maintenance contractor fails to deliver contractual service necessitating termination of contract and re-tendering, THEN assets may become under threat, unreliable, or unable to meet community needs.	8 High	<ul style="list-style-type: none"> Careful assessment of tender to ensure contract price viable for contractor to deliver level of service. Regular liaison with contractor to monitor performance and ensure compliance. Contractor pre-approval process must not be bypassed. 	3 Moderate
8	Natural Disaster or Fire - Response preparedness	IF a Natural Disaster or Fire causes significant damage to infrastructure and buildings THEN		<ul style="list-style-type: none"> Civil Defence Emergency Management plans are in place. Procedures following an emergency event are widely known by a number of staff due to Civil Defence 	12 Very High

Risk No.	Risk Subject	Risk Description	Risk Score Raw	Control Description	Residual Risk Score
		community welfare may be severely compromised, putting people's lives at risk, and staff may be unable to access systems to carry out their day to day duties and functions.	12 Very high	<ul style="list-style-type: none"> Foundational training being rolled out to majority of council staff. Business Continuity Plans need to be in place and practiced regularly for all activities - Directors responsible for having a plan in place for each of their departments to ensure core functions can continue to be delivered. 	
9	Critical Asset Failure	IF a critical asset (water treatment plants, stormwater, wastewater, reticulation, roading) failed, THEN unexpected financial burden may arise and there could be significant disadvantage and risk to the community.	12 Very High	<ul style="list-style-type: none"> Conduct 2 yearly Asset Criticality Review. Ensure there are established Civil Defence Emergency Management response procedures in relation to fixing critical assets in an emergency event. Management practices and staff training, retention to ensure appropriate skill level in critical asset maintenance. 	4 High
10	Government Policy Impacting on Local Government	IF Government Policy significantly changes the services Council delivers or the way they are delivered, THEN this could put financial pressure on the district to fund investment in changes, or it may mean previous investment has become redundant.	12 Very High	<ul style="list-style-type: none"> Where a policy change may have a significant impact on the Council then we must ensure that the Council makes a submission challenging the change and suggesting alternative options. Council officers and elected members need to keep up to date with policy, and anticipate potential impacts of legislative changes and respond strategically, rather than being in a reactive position or being overly proactive. This could include joint collaboration with business and other councils, accessing alternative funding sources, or obtaining legal or professional advice. 	12 Very High

8.5. RISK RESPONSE

The Stratford District Council has a suite of response strategies for the potential risks identified above. They include avoiding, exploiting, transferring/sharing, reducing or accepting the risk. These response strategies are summarised in Table 39 below.

Table 38 - Risk Response Strategies and Definitions

Response	Definition
Avoid	To terminate exposure to a potential risk, generally the organisation needs to exit the activity which gives rise to the risk, or not start an activity which would give rise to the risk

Response	Definition
Exploit	For risks which present an opportunity for Stratford District Council, a legitimate approach is to increase Stratford District Council's exposure to the risk; generally this would represent a situation where Stratford District Council can gain an advantage through their management of this risk.
Transfer/ Share	Risk transfer is getting another party to undertake the activity generating the risk, or getting another party to take on all or part of the risk itself.
Reduce	For risks which present a threat to Stratford District Council, but which cannot be avoided, the development of additional controls or mitigation strategies will reduce the likelihood or impact of the risk.
Accept	Accepting the risk by informed decision. This means continuing with the business activity/project as currently defined, aware of how much risk is being carried, monitoring changes in overall risk, and ensuring appropriate levels of contingency at the Stratford District Council level.

8.6. SIGNIFICANT ADVERSE EFFECTS

The Water Supplies have the potential to have negative effects on public health if they fail to be maintained and operated according to required standards of performance. Therefore, over the last three years Council has created risk assessment documents referred to as Water Safety Plans which are comprehensive risk assessment documents. These plans are reviewed every 5 years.

8.7. CRITICALITY

Critical assets are defined as those assets that are likely to have more significant consequences than other assets if they fail. Failure of critical assets has the potential to have significant economic, social and environmental impacts for the community and Council.

Water Supply assets are considered critical by Stratford District Council because they are a lifeline utility that provides treated safe drinking water to the community.

8.7.1. CRITICALITY EVALUATION

The Stratford District Council establishes criticality by using two rating levels - activity level and corporate level.

Activity level criticality is based on the criticality criteria shown in Table 40; Table 41 provides the Activity Level Criticality Rating with examples. **Corporate level criticality** ranks activities based on the criticality of the service the activity provides at the corporate level as illustrated in Table 42 below.

Table 39 - Activity Level Criticality Criteria

Customers affected	Number of customers affected by asset failure.
Redundancy	Ability to replace or circumvent the failed asset.
Health and Safety	Direct or indirect impact of asset failure on the health of safety of individuals or the community.
Cost of failure	Cost to repair/ replace the asset including cost of temporary service provision.

Table 40 - Activity Level Criticality Rating and Examples

Rating ID	Rating	Description	Example
1	Very High	Critical, no redundancy - Failure of equipment compromises H&S directly (impact, explosion) or indirectly (failure to supply drinking water to hospital).	Stratford Trunk Main
2	High	Critical, no redundancy - Failure of equipment does not compromise H&S but affects production or Level of Service	Midhirst pipe bridge
3	Medium	Critical with redundancy - Failure of equipment does not compromise H&S but affects production or Level of Service	Stratford Water Treatment Plant
4	Low	Not critical, no redundancy - Failure of equipment has no effects on H&S and/or production/Level of Service but cost of repair/replacement is above \$100k	Loss of both Stratford Reservoirs
5	Very Low	Not critical, no redundancy - Failure of equipment has no effects on H&S and/or production/LoS and cost of repair/replacement is below \$100k	Stratford Patea Intakes

Corporate level criticality ranks activities based on the criticality of the service the activity provides at the corporate level as illustrated below in Table 42.

Table 41 - Corporate Level Criticality

Rating	Description
1	Roading, Water Supply assets.
2	Cemeteries. Wastewater (Sewage).
3	Solid Waste and Stormwater.
4	Property
5	Parks and Reserves

8.7.2. CRITICAL ASSETS

The AssetFinda database holds a record of the critical water supply assets. The assets are shown in Table 43. The identified critical assets are ranked according to their functional criticality.

Functional Criticality is a product of the Activity Criticality and Corporate Criticality (i.e. Functional Criticality = Activity Criticality x Corporate Criticality). The functional criticality ranking ranks assets from 1 to 5, with 1 being the highest score (the most critical) and 5 being the lowest (least critical).

In 2017, Stratford District Council undertook an internal review of its critical assets. The review identified that there was a need to:

- Document the formula used for identifying criticality in the Asset Management Plans;
- Link criticality and critical assets to incident response; and
- Prioritise critical assets at the Activity level.

Following the review we have undertaken the following:

- Identified the formula used for identifying functional criticality. This formula is shown in the above paragraph in brackets.
- The linking of criticality and critical assets to incident response is currently being considered as part of reviewing our Incident Response Plans. *Refer: Section 7.8.4.*

Critical assets have been prioritised at the Activity level and added to the asset register (AssetFinda). These critical assets are listed in Table 43.

Table 42 – Critical Water Assets

Activity Priority	Criticality Rating			Asset Description	Criticality Description
	Functional Criticality	Activity Level	Corporate Level		
1	1	1	1	Stratford Trunk Main	Failure would result in the total absence of water supply (2-3 days) causing major disruption to normal community operations - firefighting, drinking water and sanitary services. The event would incur very high recovery costs and could cause significant negative publicity and a loss of faith/good will by community.
2	2	2	1	Midhirst pipe bridge	Failure would result in the total absence of water supply (1-2 days) to the Midhirst community. The event would incur very high recovery costs and could cause significant negative publicity and a loss of faith/good will by community.
3	2	2	1	Stratford Water Treatment Plant	Prolonged failure (approx 4 days) would result in untreated water to be delivered to the community. The event would require a "Boil Water" notice to be issued to mitigate health risks. The event would incur low to medium costs and could cause extensive negative publicity (probably nationally) and a loss of faith/good will by community
4	3	3	1	Loss of both Stratford Reservoirs	Prolonged failure of both reservoirs would result in treated water being delivered directly from the treatment plant to the reticulation. The event would also result in fluctuating supply pressures, minimal firefighting and a slightly elevated health risk. The event would cause incur low to medium costs and could cause significant negative publicity and a loss of faith/good will by community.
5	4	4	1	Stratford Patea Intakes	Failure would necessitate all of the Stratford supply being extracted from the Konini intake which is only capable of delivering approximately 50% of the water required. The event would incur low to medium costs and result in severe water restrictions being introduced.

8.8. EMERGENCY RESPONSE

8.8.1. CIVIL DEFENCE

The Taranaki Region operates a CDEM (Civil Defence Emergency Management) Group Office, called the Taranaki Emergency Management Office (TEMO). TEMO is a shared service between all four councils in Taranaki. In 2017 The Taranaki CDEM group agreed to a constituting agreement that outlined the separate roles of the Group Office (TEMO), Taranaki Regional Council, and the three district councils. Funding for this arrangement comes from the *'Uniform Annual General Charge; (UAGC) Rates*.

The Stratford District Council has plans and resources in place to ensure it can;

- Reduce the risk of emergencies occurring;
- Be ready for an emergency;
- Respond to any emergency; and
- Recover from any emergency.

8.8.2. FIRE

Fire and Emergency New Zealand was established on 1 July 2017 and provides a single approach to improved fire management of urban and rural fires within the District. The District comprises of all lands, within the three Taranaki territorial local authority areas including those lands administered by the Department of Conservation (DOC).

8.8.3. LIFELINES

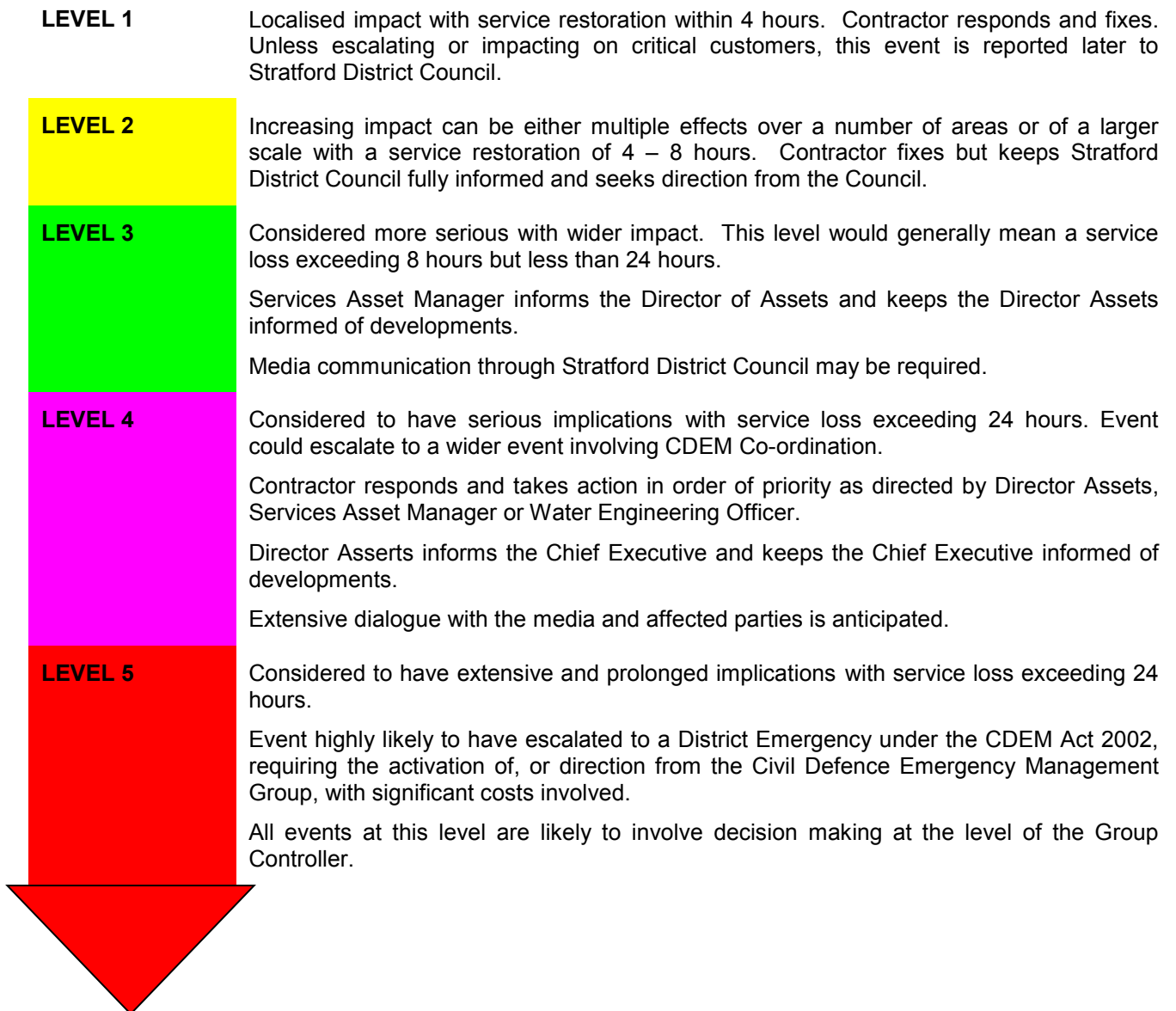
Lifeline utilities are entities that provide essential infrastructure services to the community such as water, wastewater, transport, energy and telecommunications. These services support communities, enable business, and underpin the provision of public services. The Water activity is a lifeline service as described in Part B of Schedule 1 of the Civil Defence Emergency Management Act (CDEMA) 2002.

8.8.4. INCIDENT RESPONSE PLANS

Stratford District Council has an Incident Response Plan³ for the Water Activity. The plan contains schedules and procedures for managing incidents and escalating events that affect the delivery of services. Incidents are ranked on a scale of 1 – 5 to determine response and control level. See Figure 33.

³ D17/26535

Figure 33 - Incident Response Plan



8.9. RISK INSURANCE

The Local Government Act 2002 requires that from 2014 details of insurance of assets be included. This information is included in the following table. Insurance Arrangements as at 30 June 2020 are as follows:

Figure 34 - Asset Insurance Valuations

	CARRYING VALUE (as at 30 June 2020) \$000
ASSETS FROM STATEMENT OF FINANCIAL POSITION	
Property, plant and equipment	328,554
Investment property	168
Total	328,722
LESS	
Land component of operational assets	-8,998
Land under roads	-54,384
Land – restricted assets	-8912
Total	-72,294
NET NON-FINANCIAL ASSETS (EXCLUDING LAND)	256,428

	INSURED VALUE (as at 30 June 2020) \$000	
INSURANCE ARRANGEMENTS		
Material damage cover for buildings, plant, contents	-51,317	Subject to various deductibles including \$5k for most claims except for earthquake or volcanic eruption where deductible is 5% of sum insured or 10% for pre 1935 buildings.
Motor vehicle insurance cover (including leased vehicles)	-183	Insured for market value – carrying value assumed for this purpose.
RISK SHARING ARRANGEMENTS		
Cover for infrastructure assets as a member of LAPP	-22,100	Sum equates 40% of the ORV value of scheduled assets. A deductible of \$150,000 applied. It is anticipated (though cannot be guaranteed) that under the terms contained in the Guide to Civil Defence Emergency Management Plan central government may fund 60% of the qualifying cost of reinstating essential infrastructure with a deductible of \$150,000
Central Government assistance		
Council arrangements for covering deductibles and/or uninsured assets	73,600	
SUM NOT SPECIALLY INSURED	182,828	Note the 60% of the ORV of infrastructure assets which may be funded by central government equates \$33.1m.

The Council has no insurances relating to financial or intangible assets. The uninsured assets consist of the Roding Network, \$202m, which NZTA may assist with in the event of an emergency.

Stratford

- The Stratford Water Treatment Plant is compliant with the DWSNZ.
- Water abstraction is within resource consent limits.
- Sufficient water supply to the Stratford community is not guaranteed past 2025.

Midhirst

- The Midhirst Water Treatment Plant is compliant with the DWSNZ.
- Water abstraction is within resource consent limits.
- The main limit to future provision of treated water for the Midhirst community is how much water Council is permitted to abstract from water sources.
- No public health issues have been identified at this time.

Toko

- The Toko Water Treatment Plant is compliant with the DWSNZ.
- Water abstraction is within resource consent limits.
- No public health issues have been identified at this time.

No actions were identified for Council in relation to its operating the water supply services.

8.10. PUBLIC HEALTH

8.10.1. ASSESSMENT OF WATER AND SANITARY SERVICES

As described in Section 2 of this report, the Stratford District Council undertook an assessment of its water and sanitary services in 2021. In relation to water supply services currently provided by Stratford District Council the assessment concluded that:

In relation to areas of the District where Council does not provide water supply services the assessment concluded:

- Roof/ground level tanks or bore are appropriate in low density areas.
- There are concerns related to cross-contamination in areas of semi high density due to the proximity of septic tanks and septic tank disposal.
- Medium to high intensity development on the periphery will increase the risk of water borne disease at properties that use bore supply waters and have a septic tank.
- It is unclear the exact number of properties on the Stratford, Midhirst and Toko town-ship periphery that currently self-supply. However due to their proximity to Council controlled supplies many of these properties are able, if they choose, to approach Council for connection to the supply closest to them.
- While the existing private supplies carry some risk of contamination, the cost of an alternative (treatment and chlorination) is beyond the means of individuals and small communities. Council does promote water quality initiatives such as First Flush Systems for roof supplies, however is unable to mandate their usage.
- Current private water supply methods appear adequate for the needs of the individual property owners.

No actions were required for Council in relation to un-serviced areas. However, the following action from the 2018 Assessment still applies:

“Scope options to secure access to additional surface and/or ground water for the Stratford community within the next 10 years”

8.10.2. WATER SAFETY PLANS

Stratford District Council is currently reviewing all three Water Safety Plans (WSP) for all Council water supplies.

The WSPs have been developed to aid Council in identifying potential events that present public health risks to the consumers of the drinking water supply. If the risks are not managed sufficiently, the WSP specifies an appropriate future improvement or contingency plan that will resolve or mitigate the effects of the risk. Council is committed to the WSP and to the future improvements to the supplies that have been identified in the WSPs. The current status and review dates of the WSPs are as follows:

Table 43 - Water Safety Plan Status

Water Supply	Last Review	Next Review Requirement	Council's Planned Review
Stratford	May 2020	May 2025	Completion by Feb 2021
Midhirst	January 2015	January 2020	Completion by April 2021
Toko	January 2016	January 2021	Completion by April 2021

New legislation is expected in the next year that may affect the review period requirements in the future.

8.11. HEALTH AND SAFETY

8.11.1. HEALTH AND SAFETY ADVISOR

Stratford District Council employs a Human Resource/Health and Safety Advisor. The Advisor is responsible for the ongoing development and management of our health and safety environment and ensuring staff are adequately trained in all aspects of health and safety.

8.11.2. HEALTH AND SAFETY POLICY

In 2019 Stratford District Council reviewed and updated its Health and Safety Policy to better reflect legislative requirements reinforce its commitment to the philosophy that the health and safety of its employees, volunteers, contractors and subcontractors is of prime importance. SDC is committed to ensuring its operations are conducted in a safe and efficient manner that will not incur injury to personnel or damage to the environment.

8.11.3. INCIDENT/ACCIDENT REPORTING

In accordance with the Stratford District Council Health and Safety Policy all Council staff are required to report any accidents/incident. Accidents/incidents are reported via the Vault incident reporting system. Vault was integrated into Stratford District Council in 2016 as part of a joint initiative between Stratford District Council and South Taranaki District Council.

9.0

Investment Funding Strategy

9.0: INVESTMENT FUNDING STRATEGY

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9.1. OVERVIEW

Our Investment Funding Strategy (IFS) incorporates our *Funding Impact Statement* and sets out how the Stratford District Council plans to finance its overall operations to meet its objectives now and in the future. A key objective of the strategy is the future-proofing of delivery of the Water Supply Activities.

This IFS provides the long term financial forecasting for all Water Supply Activities and projects described in this WAMP. The IFS presents the funding sources determined for each of these to ensure a sustainable long-term approach to planning and asset management.

The historical cost for the Activity by asset group is described in detail in the *Lifecycle Management* Section. This section presents the Council's Capital Investment Strategy for the Water Activity for the next ten years and the financial standards and policies used in developing the strategy.

9.2. FINANCIAL STANDARDS

All prospective Financial Statements (financial statements) within this plan comply with the requirements of FRS 42 issued by the New Zealand Accounting Standards Board of the External Reporting Board (XRB), and the New Zealand equivalent of International Reporting Standard for Public Benefit Entities (NZ IFRS PEB), with Council designating itself as a Tier 2 public benefit entity for the purposes of compliance with these standards.

9.3. FUNDING AND FINANCIAL POLICIES

The Local Government Act in Section 102 requires that the Stratford District Council '*must, in order to provide predictability and certainty about sources and levels of funding, adopt the funding and financial policies listed*' below:

- A Revenue and Financing Policy; and
- A Liability Management Policy; and
- An Investment Policy; and
- A policy on Development Contributions (CD) or Financial Contributions (FC); and
- A policy on the Remission and Postponement of Rates on Maori freehold land.

The Council may also adopt either or both the *Rates Remission Policy* and a *Rates Postponement Policy*.

The Council has adopted all the relevant funding and financial policies described below. These policies guide the funding and financial decisions relating to the management of the Council's Water Supply Assets.

9.3.1. REVENUE AND FINANCING POLICY

The *Revenue and Financing Policy* sets out Stratford District Council's policies in respect of the funding for capital and operating expenditure. The current policy was reviewed in December 2017. The funding sources are detailed in the LTP 2021-2031 and include general and targeted rates, borrowing, grants and subsidies, etc.

9.3.2. TREASURY MANAGEMENT POLICY

The Council's Treasury Management Policy incorporates the *Liability Management Policy* and the *Investment Policy* requirements of the LGA. It guides the Council to prudently manage its revenue, expenditure, assets, liabilities, reserves and investments, in the interest of the Council and district ratepayers. The current policy was reviewed in 2019.

9.3.3. DEVELOPMENT AND FINANCIAL POLICY

The Council's *Development and Financial Contribution Policy* is consistent with the purpose as set out in Section 106 of the LGA. The Council does not require *Development Contributions*, however, the *Financial Contributions Policy* meet the requirement as set out in Section 108 (9) of the *Resource Management Act (RMA) 1991*.

9.4. FUNDING OUR INVESTMENT STRATEGY

The Council's Investment Strategy covers how the Stratford District Council plans to deliver on the services it offers whilst achieving value for money, with a key focus on future-proofing Council's assets.

Capital projects and activities carried out to maintain the Water Supply service for the next 10 years - including Renewal/ Replacement projects and Level of Service Improvements - will be funded as per the Revenue and Financing Policy, through one or a combination of the following sources:

- Loans;
- Reserves; and/or
- Subsidies/ Grants by other Partners.

Generally, the Council expects that:

- Renewal or Replacement projects will be equally funded from Loans and Reserves;
- Operations and Maintenance activities will be funded through Rates; and
- Level of Service Improvements projects will be funded from loans and, where possible, any alternative funding source.

The Council is very pro-active in seeking alternate funding sources. Where appropriate, the Council submits funding requests to the *TSB Community Trust (TSB)* and the *Taranaki Electricity Trust (TET)*. The Council also applies to the *Ministry of Business, Innovation and Employment (MBIE)* for tourism grants and initiatives

A summary of Council's Capital Investment Funding Strategy is shown in Figures 35 - 40. Tables 45 – 46 provide the financial projections for the water activity.

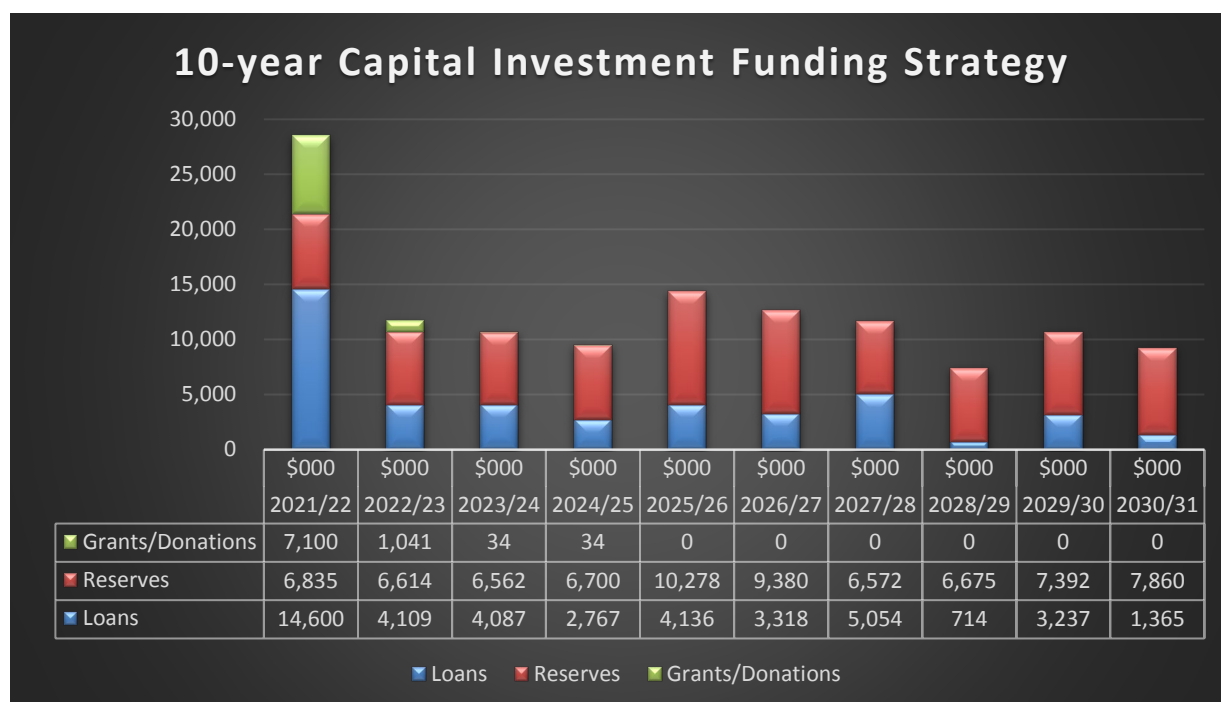


Figure 35 - All Assets Capital Investment Funding Strategy

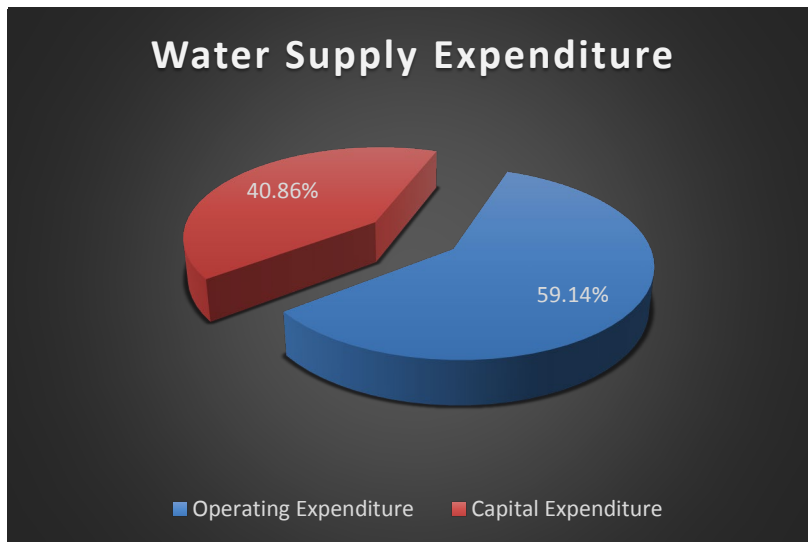


Figure 36 - Water Supply Total Expenditure - Capital vs Operating Expenditure

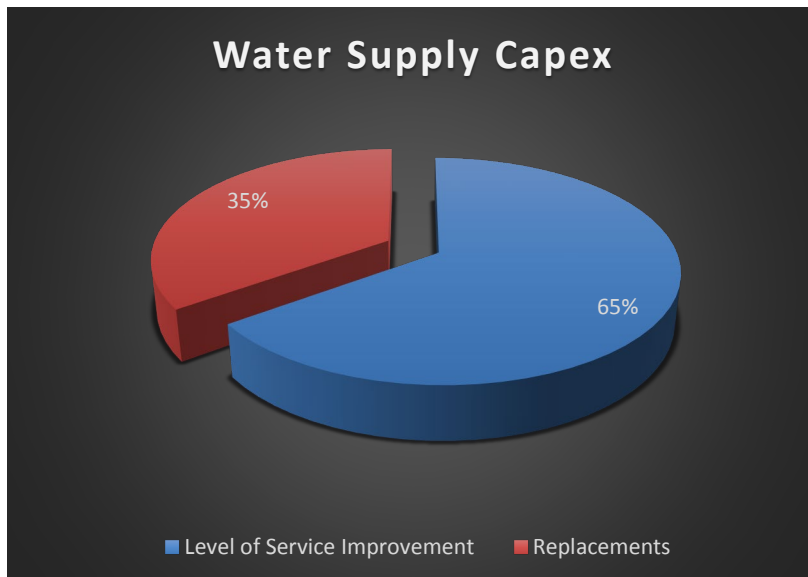


Figure 37 - Water Supply Capital Investment Split - LoS vs Replacement

9.5. RELIABILITY OF OUR INVESTMENT STRATEGY

The Council provides an assessment of the reliability of its Investment Funding Strategy below – overall, the forecast is considered a reliable estimate of the financial investment in the Water Supply Activity:

- The Council’s funding source is largely from rates. Rates will be confirmed for the 2021-2024 period via the appropriate processes for inclusion in the LTP 2021-2031. Once adopted, the rates in the LTP 2021-2031 will constitute a reliable funding source for the delivery of the Water Supply services;
- The Council’s is confident in its ability to raise funds within our financial strategy limits, and is reasonably certain that it would secure loans at an affordable interest rates throughout this period; and
- The Council does not rely on *Fees and Charges* or *Development Contributions* to deliver Water Supply services. Any new demand for new assets to be vested in Council or services will generally be funded by the direct beneficiary of the assets/service.

9.6 FINANCIAL STATEMENTS AND PROJECTIONS

Table 44 - All Asset Capital Expenditure Projection

	Forecast	Projection								
	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
<u>Roading</u>										
Level of Service Improvement	350	619	1,221	929	7,028	5,554	417	306	630	324
Replacements	5,413	4,983	4,920	4,983	4,977	5,085	5,436	5,446	5,983	6,452
<u>Stormwater</u>										
Level of Service Improvement	252	292	533	275	283	291	300	310	321	331
Replacements	53	55	56	167	59	61	63	65	67	122
<u>Water Supply</u>										
Level of Service Improvement	1,780	1,904	369	673	390	401	4,289	37	38	0
Replacements	695	812	510	414	443	496	452	486	502	498
<u>Solid Waste</u>										
Level of Service Improvement	0	0	0	0	0	0	0	0	0	0
Replacements	0	10	0	11	0	11	0	12	14	12
<u>Wastewater (Sewerage)</u>										
Level of Service Improvement	800	362	380	273	281	288	238	184	178	839
Replacements	213	252	258	200	228	211	218	262	271	305
<u>Parks & Reserves</u>										
Level of Service Improvement	97	110	99	69	0	0	0	0	0	0
Replacements	47	0	0	0	0	0	0	0	0	0
<u>Property</u>										
Meet Additional Demand	1,200	1,025	1,049	0	0	0	0	0	0	0
Level of Service Improvement	17,335	1,112	609	607	442	171	64	63	2,454	68
Replacements	114	6	59	114	7	7	7	7	17	8
<u>Administration</u>										
Replacements	186	222	621	788	276	121	142	210	153	266
<u>TOTAL PROJECTS (excl GST)</u>										
	28,535	11,764	10,683	9,501	14,414	12,698	11,626	7,389	10,629	9,225
<u>FUNDING</u>										
Loans	14,600	4,109	4,087	2,767	4,136	3,318	5,054	714	3,237	1,365
Section sales	0	0	0	0	0	0	0	0	0	0
Cash from Investments	0	0	0	0	0	0	0	0	0	0
Reserves	6,835	6,614	6,562	6,700	10,278	9,380	6,572	6,675	7,392	7,860
Grants/Donations	7,100	1,041	34	34	0	0	0	0	0	0
Rates	0	0	0	0	0	0	0	0	0	0
NZTA Financial Assistance	0	0	0	0	0	0	0	0	0	0
<u>TOTAL (excl GST)</u>										
	28,535	11,764	10,682	9,501	14,414	12,698	11,626	7,389	10,629	9,225

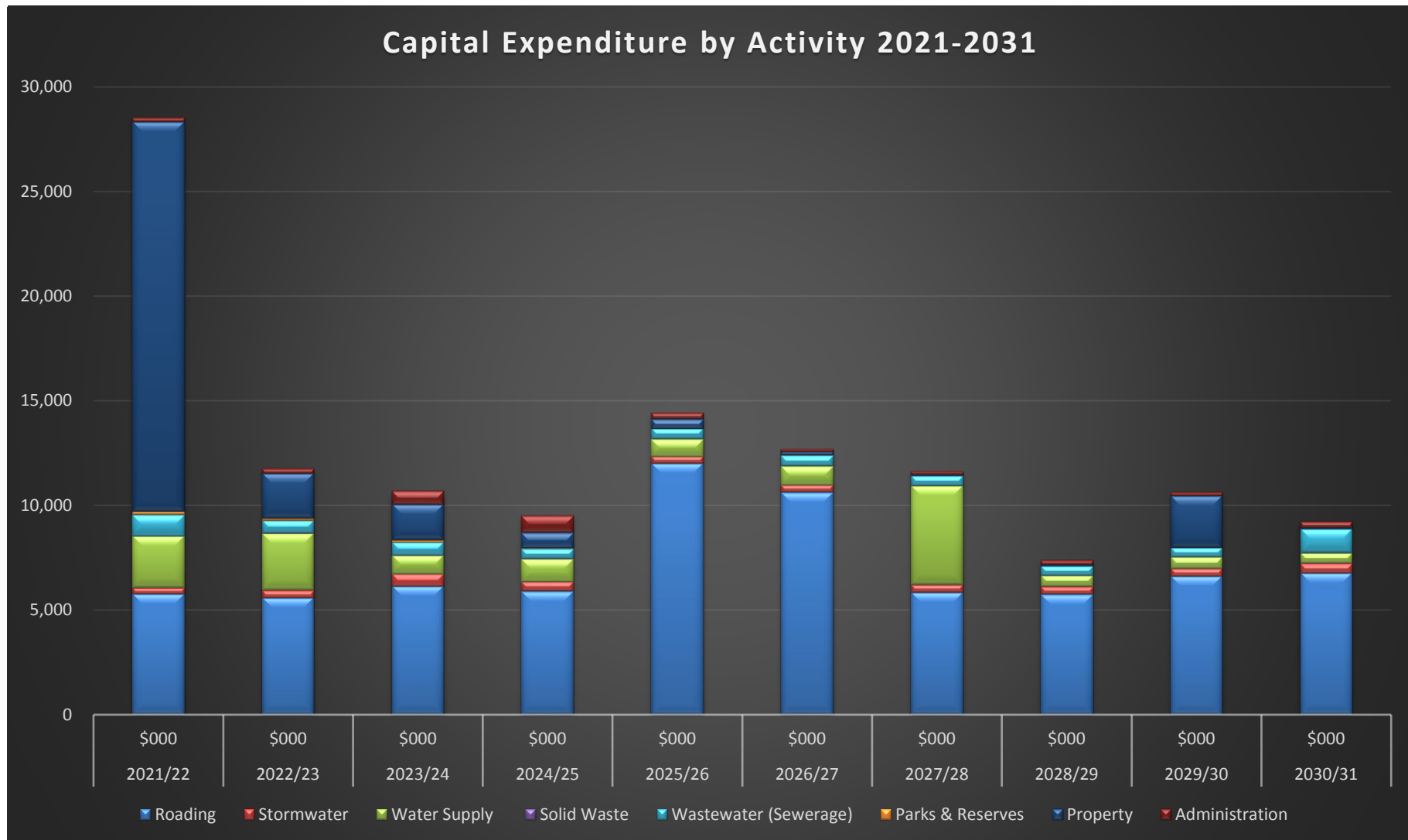


Figure 38 - Capital Expenditure by Activity - All Assets

Table 45 – Water Activity Expenditure and Funding Projection

WATER SUPPLY

Budget 2020/21 \$000		Forecast 2021/22 \$000	Projection								
			2022/23 \$000	2023/24 \$000	2024/25 \$000	2025/26 \$000	2026/27 \$000	2027/28 \$000	2028/29 \$000	2029/30 \$000	2030/31 \$000
1,904	Operating Expenditure	1,836	1,856	1,991	2,043	2,097	2,160	2,331	2,507	2,531	2,629
445	Revenue	376	390	1,082	1,149	1,242	1,281	1,382	1,489	1,505	1,565
1,459	Net Cost of Service	1,460	1,466	910	894	855	879	949	1,018	1,026	1,064
<u>EXPENDITURE</u>											
860	Operating Costs	736	698	758	727	752	777	784	811	820	846
206	Interest	170	179	187	218	221	222	324	375	360	344
414	Depreciation	429	464	502	555	569	576	642	728	729	817
424	Allocated Overheads	501	515	544	543	555	586	580	593	623	622
1,904	Total Operating Expenditure	1,836	1,856	1,991	2,043	2,097	2,160	2,331	2,507	2,531	2,629
339	Principal Loan Repayments	336	355	373	384	393	396	478	548	531	514
1,001	Capital Expenditure	2,474	2,716	879	1,088	833	897	4,741	523	540	498
3,244	Total Expenditure	4,645	4,926	3,242	3,515	3,323	3,453	7,549	3,577	3,602	3,641
<u>FUNDED BY:</u>											
445	Charges for Services	376	390	1,082	1,149	1,242	1,281	1,382	1,489	1,505	1,565
445	Revenue	376	390	1,082	1,149	1,242	1,281	1,382	1,489	1,505	1,565
1,453	Targeted Rates	1,434	1,441	885	867	828	854	921	992	1,003	1,043
0	Transfer (to) from Reserves	0	0	0	0	0	0	0	0	0	0
339	Transfer from Reserves	930	1,063	776	798	836	892	930	1,034	1,033	1,012
0	Depreciation funded from Reserves	0	0	0	0	0	0	0	0	0	0
0	Cash From Investments	0	0	0	0	0	0	0	0	0	0
1,001	Loan Funding - Capital	480	982	475	673	390	401	4,289	37	38	0
0	Grants/Donations - Capital	1,400	1,025	0	0	0	0	0	0	0	0
6	Other Funding	25	25	25	27	26	25	28	25	23	21
3,244	Total Funding	4,645	4,926	3,242	3,515	3,323	3,453	7,549	3,577	3,602	3,641

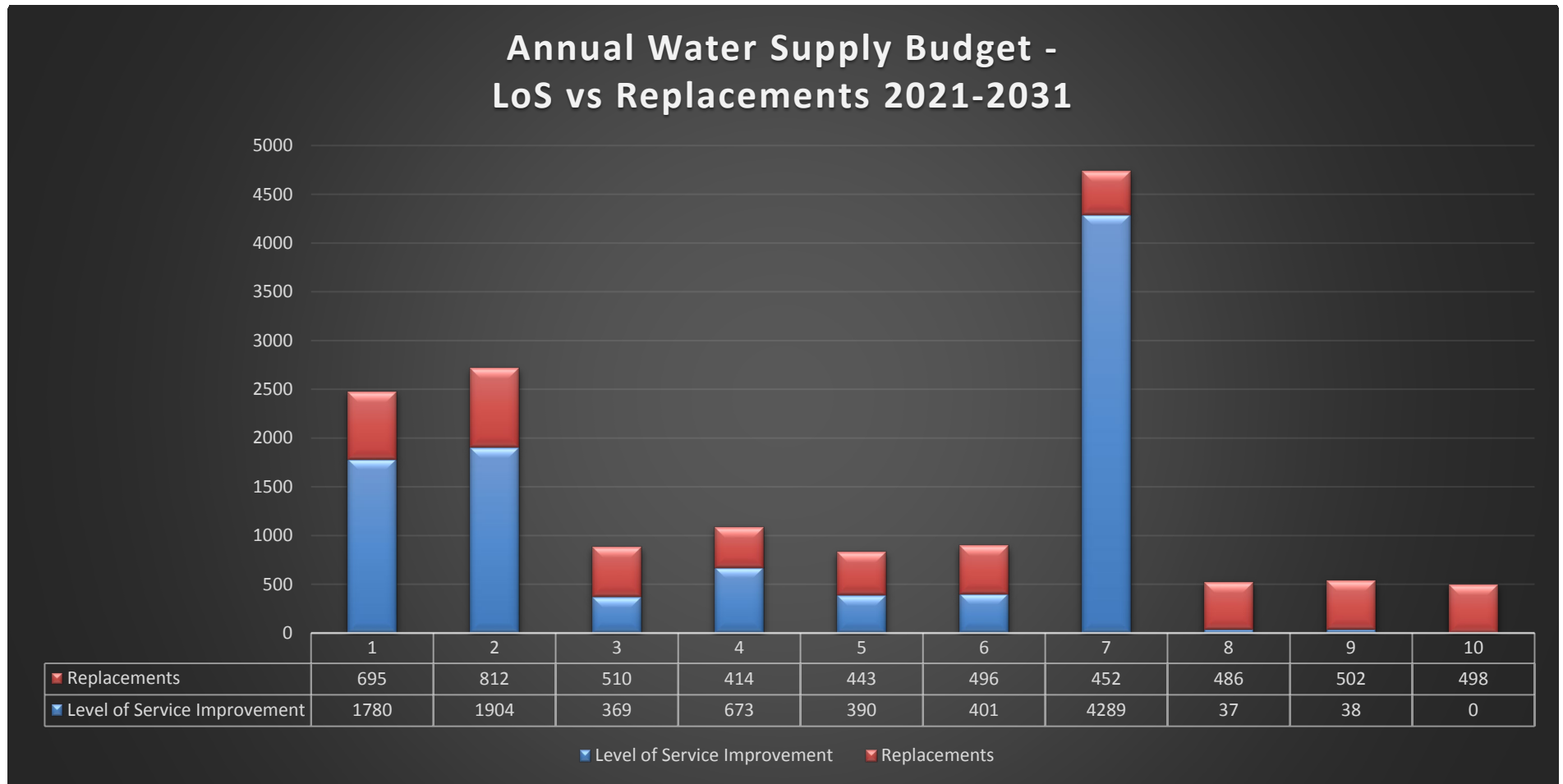


Figure 39 - 10-year Capital Expenditure Budget - Water Supply

10.0

Asset Management Practices and Improvement Plan

10.0: ASSET MANAGEMENT PRACTICES AND IMPROVEMENT PLAN

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10.1. OVERVIEW

Asset management improvement planning is a process. It enables Council to improve the way it manages infrastructure assets and the services they provide.

The Asset Management Practices and Improvement Plan section identifies the maturity of Stratford District Council asset management practices, improvements made since the last Asset Management Plan review and a plan for future asset management improvements resulting from areas for improvement identified in earlier Sections of this plan

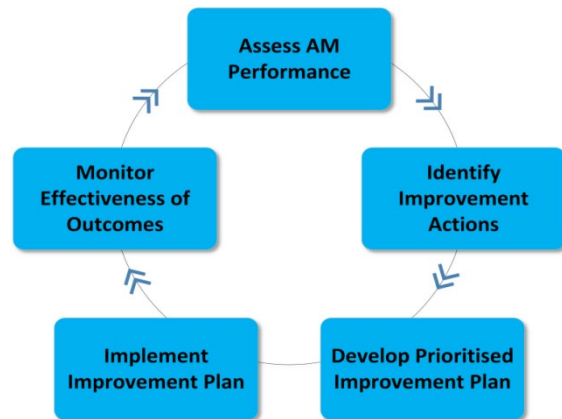


Figure 40 - Asset Management Improvement Process

10.2. ASSET MANAGEMENT PRACTICES

10.2.1. ASSET MANAGEMENT POLICY

The Stratford District Council developed and adopted its inaugural Asset Management Policy in 2016 and a review was completed in 2020. The Policy establishes the first level of Council's asset management framework for managing infrastructure assets in a structured, coordinated, and financially sustainable manner. The objectives of this Policy are:

- Provide for a consistent approach to asset management planning within Council and ensure plans reflect the strategic direction of Council.
- Demonstrate to the community that Council recognises the critical importance of managing the District's assets and related activities in an effective and sustainable manner in order to deliver appropriate Levels of Service to current and future generations.
- Confirm a coordinated process for each asset/activity area that links their contribution to the Community Outcomes with specific Levels of Service performance requirements and desired improvement priorities and strategies.

The Council's Asset Management Policy can be viewed on the Stratford District Council website.

10.2.2. ASSET MANAGEMENT PRINCIPLES, GOALS AND OBJECTIVES

The Council's Asset Management principles, goals and objectives are guided by the Asset Management Policy to drive best practice.

The Council's overarching principles for sound asset management are:

- Asset management goals and objectives are aligned with corporate objectives and community outcomes.
- Affordable and financially sustainable AMPs are developed to industry standard appropriate for the scale of assets and associated risks being managed.
- AMPs reflect the priorities of the Council and are used to drive the day to day management of assets and the associated services;
- Capital, operation and maintenance, and renewal/replacement works are aligned with asset management objectives.
- Sustainability and sustainable development are considered in the selection of options for asset development and service delivery.
- Asset management strategies are established through the use of optimised lifecycle management and costing principles.

Asset Management Practices and Improvement Plan

- Funding is allocated for the appropriate level of maintenance for assets to deliver the required LoS.
- Accurate, up to date asset data is collected for analysis and use throughout asset management planning processes.
- A strategic management approach is taken to improvement planning, asset management plan development and implementing improvement practices.
- Growth and demand forecasting will be integrated as part of all asset management planning to meet current and future needs of the community.
- Risk management will be integrated as part of all asset management planning to recognise the risks associated with the delivery of agreed LoS and manage them appropriately;
- Design, construction and maintenance of assets, so far as reasonably practical, are without risk to the health or safety of any person.

The Asset Management goals and objectives for Stratford District Council are to:

- Provide for a consistent approach to asset management planning to ensure plans reflect the strategic direction of Council.
- Demonstrate to the community that Council will manage the District's assets and related activities in a safe, cost-effective and sustainable manner to deliver agreed LoS to current and future generations.
- Confirm a coordinated process for each asset/activity area that links their contribution to the Community Outcomes with specific LoS performance requirements and desired improvement priorities and strategies.

10.2.3. ASSET MANAGEMENT PLAN DEVELOPMENT

Planning processes tend to be circular with built in reviews. The AMP and LTP need to have regular review cycles so that they remain current and deal with issues at the time. An important function of the review cycle is to monitor performance against the goal levels of service and KPIs that were set some years before.

The AMPs are reviewed every three years in line with the 10 year long term planning cycle but work programmes can change annually. These changes can be brought about by outside pressure, weather events, budget constraints and new projects becoming apparent.

The ability to become responsive each year is through the annual planning process. The AMP details goals, levels of service, goals, KPIs and targets which contribute to Stratford's organisational vision for the district and community.

The review process considers the overall impact of the planned programme to deliver the defined levels of service through the on-going development of the AMP. This review/AMP development process moderates competing priorities within the context of community affordability and may result in some projects being deferred or budgets being re-prioritised. Figure 42 below shows a graphical display of the AMP development process.

10.2.4. ASSET MANAGEMENT MATURITY

We have assessed that our asset management system maturity is predominantly at the Core level. It is largely based on the long-term knowledge of the asset management team. It contains asset data that has been collected over time and held in asset management information systems.

Through continual improvement and development of asset management practices and processes it is our intention that the asset management plans progressively improve.

Our target is to develop our asset management practices and processes to an Intermediate level of maturity where appropriate. The Council in the process of assessing our asset management maturity level to identify areas for improvement. The Council is considering options for undertaking a formal assessment of our asset management maturity. The five levels of asset management plan maturity are shown in Figure 43 and are Aware, Basic; Core; Intermediate and Advanced.

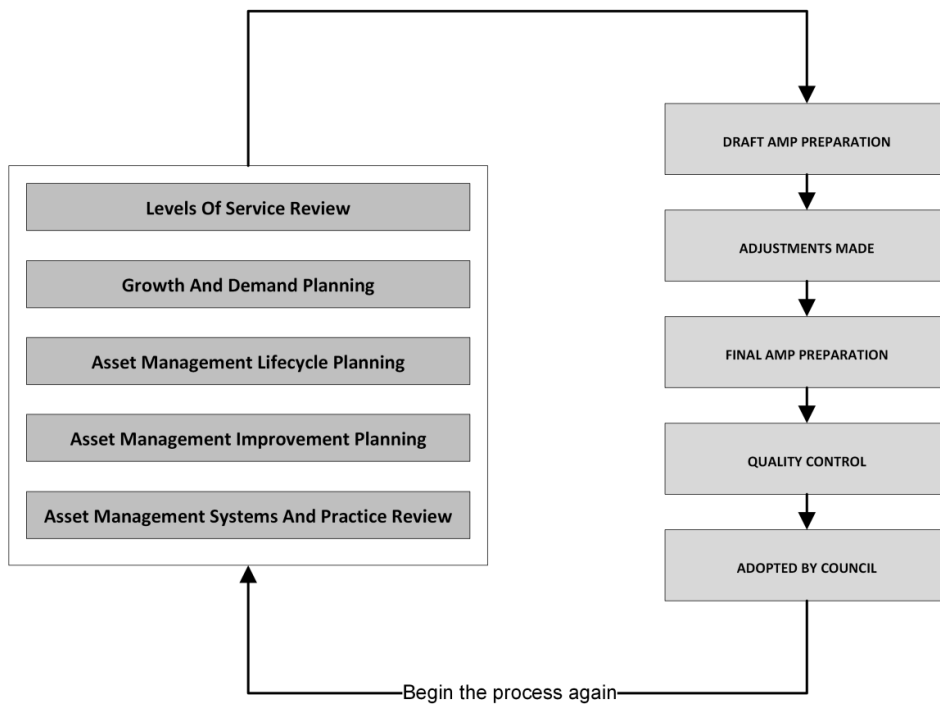


Figure 41 - Asset Management Plan Development Process

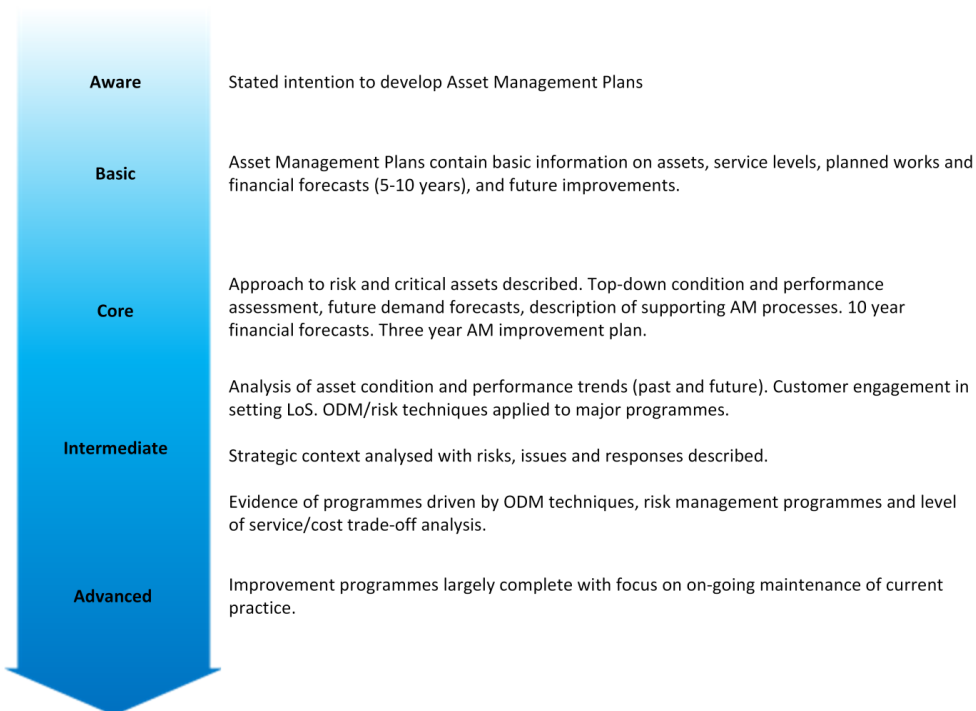


Figure 42 - Asset Management System Maturity Index

10.3. CURRENT AND FUTURE IMPROVEMENTS

Table 46 – Current and Future Improvement Plans

Asset Management Practice Area	Current Improvement/s Made	Date in Place	Future Improvements	Section Identified	Responsibility	Due Date
Asset Information	Asset Register Data Process for verifying data accuracy now in place and documented in Asset Management Plan.	2016	AssetFinda and SCADA programmes will be maintained and kept up to date with information.	3.4	Services Asset Manager Director, Assets	Ongoing
Asset Information	Asset Condition Condition Grading System now in place and documented in Asset Management Plans. Condition inspection forms put in place for Council owned buildings	2016	Continue to use information collected from maintenance tasks to update asset condition data	3.7	Services Asset Manager	Ongoing
Asset Information	Information Systems Tablets fully integrated for Three Waters data collection and entry into AssetFinda.	2016	Ongoing discussions regarding the online meter readings	3.7	GIS Officer Services Asset Manager	Ongoing
Asset Information	Update asset condition data Continue to use information collected from maintenance tasks to update asset condition data	On-going	Targeted inspections of water supply infrastructure assets will continue to be carried out to gather asset condition data	3.7	Services Asset Manager	On-going
Asset Information	Improve condition data accuracy and reliability The issues related to condition data for below ground water supply assets does not allow Council to accurately forecast remaining useful life. However, using the information collated from both 'scheduled' and 'reactive' maintenance. Council is able to update asset condition data regularly. Over time as maintenance and renewals are carried out, the condition information will improve. Therefore, the implementation of additional major projects to assist	On-going	Same	3.7	Services Asset Manager	On-going

Asset Management Practices and Improvement Plan

Asset Management Practice Area	Current Improvement/s Made	Date in Place	Future Improvements	Section Identified	Responsibility	Due Date
	Council in improving condition data information is not required.					
Future Growth and Demand	<p>Population</p> <p>Further assessment needed to assess the impacts of growth demands on the adequacy of the existing water reticulation system.</p>	2018		4.3.1	Services Asset Manager Director, Assets	Ongoing
Levels of Service and Performance	Department of Internal Affairs (DIA) Mandatory Performance Measures in place.	2015-2017	Review suitable information sources to accurately calculate future demand management performance measure	5.3	Services Asset Manager Director, Assets	2024
Levels of Service and Performance	<p>Review the demand management performance measure calculation</p> <p>A review of the values and assumptions used for future calculations will need to be agreed upon. With the universal water metering being installed this will provide a more accurate measure for demand management.</p>	2018		5.4.4	Services Asset Manager Director, Assets	Ongoing
Lifecycle Management	<p>Management Strategies</p> <p>Maximise AssetFinda capabilities for predictive modelling purposes</p>	2021		7.3	Services Asset Manager Director, Assets	Ongoing
AM Policy Development	Asset Management Policy developed and adopted by Council.	2016	Reviewed in 2020 and due for further review 2023	10	Director, Assets	2023

APPENDICES

Appendix 1 - Water Supply Risk Register
Appendix 2 - Water Supply Operational Documents

APPENDIX 1 - WATER SUPPLY RISK ASSESSMENT

COMPLIANCE AND LEGISLATION RISKS

1. Compliance and Legislation Risk Assessment				
Risk Subject	Risk Description	Risk Score Raw	Control Description	Residual Risk Score
Legislation Changes	IF changes to legislation or case law occur and are not implemented by staff, THEN council may be acting illegally and in breach of legislation.	8High Unlikely/ Major	<ul style="list-style-type: none"> Staff will implement the changes Regular review and update Legislative Compliance Register. Staff training and attending relevant industry conferences. Regular policy review to ensure policies and procedures are in line with legislation changes. Ensure maintenance contractor and staff are up to date with legislative requirements through regular updates of legislative compliance register Subscribe to regular email updates from local government and relevant industry bodies, Council list server to ensure staff are notified of legislative changes. 	1 Low Unlikely/ Minor
Incorrect Planning Advice	IF Council gives out wrong advice on LIM, or issues Resource Consent when it should not have, THEN it could be subject to a judicial review or similar form of dispute process involving legal costs, possible fines, and reputational damage.	3 Moderate Unlikely/ Serious	<ul style="list-style-type: none"> Quality assurance. Resourcing and ongoing training of competent staff. Low tolerance for poor quality documentation from consent applicants. Good quality legal counsel. Council has professional indemnity, public liability, and statutory liability insurance. 	1 Low Rare/ Serious
Statutory Reporting Commitment	IF Council does not meet statutory commitments (eg for reporting to the national monitoring system) THEN it may be acting illegally and receive attention from Ministry which could result in financial penalty and council functions being removed, or elected members being replaced.	3 Moderate Unlikely/ Serious	<ul style="list-style-type: none"> Quality assurance. Resourcing levels maintained. Schedule of dates and commitments is regularly maintained and updated by Quality Assurance officer. Regular review and update of Legislative Compliance Register. 	1 Low Rare/ Serious

1. Compliance and Legislation Risk Assessment

Risk Subject	Risk Description	Risk Score Raw	Control Description	Residual Risk Score
Bylaws and Policies	IF Council fails to keep Policies and Bylaws up to date, THEN the Policies and Bylaws may become unenforceable and irrelevant, and council could be acting illegally, or the policy is not fit for purpose.	8 High Unlikely/ Major	<ul style="list-style-type: none"> Quality assurance, Resourcing levels maintained Regular Policy Schedule review by CEO. Regular review of Bylaw timetable maintained in Content Manager. 	3 Moderate Unlikely/ Serious

DATA AND INFORMATION RISKS

2. Data and Information Risk Assessment

Risk Subject	Risk Description	Risk Score Raw	Control Description	Residual Risk Score
Systems Down - Natural Disaster/Pandemic	IF there is a natural disaster THEN systems may be down temporarily, reduction in worker productivity, unable to respond to customers, data unavailable, potential permanent loss of data.	8 High Unlikely/M ajor	<ul style="list-style-type: none"> Backups done daily and stored off-site. Most critical data is in the cloud, data centre is overseas so workers can access system remotely from anywhere. Civil Defence will make hardware available for emergency response. Refer to up to date Water Safety Plans. 	3 Moderate Unlikely/ Serious
Server Failure TOP TEN RISK	IF the server failed THEN systems down, data unavailable, potential data loss	12 Very High Possible/ Major	<ul style="list-style-type: none"> Restore from backup, backups stored off-site. Fail-over for Melbourne data centre replicates to Sydney data centre. 	3 Moderate Unlikely/ Serious
Cyber Attack TOP TEN RISK	IF the systems are compromised and subject to a cyber-attack, THEN system downtime, loss of data, ransoms may be demanded, potential privacy breach, reputational damage, and potential loss of funds.	15 Very High Possible/ Catastrophic	<ul style="list-style-type: none"> Council have several security measures in place such as enterprise grade firewalls, email filtering, backups, antivirus and device management. If a breach was detected Council would activate the insurance policy and engage an IT security company resource to assist with recovery. Further controls to be provided by IT suppliers 	3 Moderate Possible/ Important

2. Data and Information Risk Assessment

Risk Subject	Risk Description	Risk Score Raw	Control Description	Residual Risk Score
			<ul style="list-style-type: none"> Critical I&E changes limited to selected staff only 	
Communication to data centre	IF there is a loss of communication to the Data Centre (due to IT failure, power failure, or other damage to link) THEN systems downtime will cause temporary disruption. Council staff will be unable to access data and complete work and respond to customers satisfactorily.	4 High Possible/ Serious	<ul style="list-style-type: none"> Can access private link or an internet link - reroute the traffic. Backup generator if power supply lost. Refer to the Water Safety Plans (WSP) 	1 Low Rare/ Serious
Uncontrolled access to Physical and Digital Records	IF there is uncontrolled or unauthorised access to archives, THEN records/ files could go missing, privacy breached, possible legislative breaches.	2 Moderate Unlikely/ Important	<ul style="list-style-type: none"> Access to physical archives is limited to IM Specialist and IT Manager, door is locked at all other times. Digital records must be stored in IT approved repositories, with access restricted where necessary. Electronic access is restricted to staff who have a SDC login and have also been granted the relevant security permissions to access applications relevant to their job role. 	1 Low Rare/ Important
Records Handling	IF hard copy protected records are handled in a way that could cause damage, degradation or disorganisation, THEN this could lead to loss of protected records, non-compliance with legislation and potential financial penalties.	1 Low Rare/ Important	<ul style="list-style-type: none"> Access to archives is limited to trained staff. Ensure the Information Management Specialist is fully trained in all areas of protected records management. Maintain a register of archived records, and a process by which records will be archived. Storage area must be restricted and temperature controlled. 	1 Low Rare/ Important
Unapproved online platforms used	IF unapproved online platforms are used for Council business, THEN Council sensitive information and individual private details could be hacked and made available publically.	4 High Possible/ Serious	<ul style="list-style-type: none"> All Council information should only be stored on platforms that are approved by IT and gone through proper procedures and checks by IT. 	1 Low Rare/ Serious

FINANCIAL RISKS

3. Financial Risk Assessment				
Risk Subject	Risk Description	Risk Score Raw	Control Description	Residual Risk Score
Accessing Funding	IF incorrect assessment is made to determine required maintenance funding, all funding options are not sought, or insufficient funding is made available THEN Council may miss out on funding and Council has to fully fund projects.	4 High Possible/ Serious	<ul style="list-style-type: none"> Ensure funding assessments are carried out by sufficiently experienced personnel and strong cases are made for funding. A system should be established to regularly monitor all available funding for council projects. 	1 Low Rare/Minor
Internal Financial Controls	IF internal financial controls are compromised and ineffective, THEN possible fraud, budget blowout, delayed service	4 High Possible/ Serious	<ul style="list-style-type: none"> Good quality controls. Implement annual external and internal audit recommendations. Adhere to Procurement and Delegations Policy. Communications of internal controls to all staff. Recommend internal audit programme every year by independent contractor. 	1 Low Rare/ Serious
Procurement contracts	IF procurement contracts entered into are not cost-effective and do not comply with Council's Procurement Policies THEN council projects could go over budget and council procurement could be subject to industry, media, and legal scrutiny.	6 High Likely/ Serious	<ul style="list-style-type: none"> Ensure procurement policy and procurement manual are appropriate, comply with legislation and good practice, and followed by all staff and significant contracts are reviewed by an independent professional. 	1 Low Rare/ Serious
Significant Population Reduction	IF there is a significant population reduction, resulting in loss of ratepayer base and reduction in property values - THEN this could result in higher rates for others and significant cost reductions may be required.	8 High Unlikely/ Major	<ul style="list-style-type: none"> Ensure variable costs are clearly identifiable, and therefore able to be isolated and adjusted if ratepayer base reduced. Council actions to align with council mission and vision to make Stratford a great place to live. 	3 Moderate Unlikely/ Serious
New Regulations require Significant Investment	IF new environmental regulations or legislation imposed on councils requires a significant increase in capital expenditure, THEN ability to finance investment could be compromised and rates increases could breach limits.	8 High Unlikely/ Major	<ul style="list-style-type: none"> Attempt to keep debt and expenditure low and achieve cost efficiencies regularly so that council can weather any necessary investment in order to be compliant with changing legislative environment. 	3 Moderate Unlikely/ Serious
Theft by Contractors	IF contractors have unrestricted access to council property and/or information, THEN there is an opportunity for theft and consequently loss of Council assets.	2 Moderate Unlikely/ Important	<ul style="list-style-type: none"> All contractors must go through a pre-qualification process. Visitors to Council buildings must sign in. Access to the building has now been restricted with the 	1 Low Rare/ Important

3. Financial Risk Assessment				
Risk Subject	Risk Description	Risk Score Raw	Control Description	Residual Risk Score
			<ul style="list-style-type: none"> use of fobs. Protected records are stored in a safe or locked storage room. 	
Inadequate financial provision to fund asset replacement	IF there is inadequate financial provision in reserves to fund the replacement of assets, THEN the Council may have to borrow more than expected, or asset replacement may need to be delayed which may affect service level performance.	3 Moderate Possible/ Important	<ul style="list-style-type: none"> Ensure annual depreciation is based on accurate fixed asset values (replacement cost) and accurate useful lives. Assets should not, unless necessary, be replaced before the end of their useful life. 	1 Low Rare/ Important
Bribery and Corruption	IF elected members or staff act in a way that is, or is perceived to be, influenced by Bribery or Corruption, THEN the Council's reputation could be damaged, there is potential for legal action against Council, increased scrutiny by the Office of the Auditor General. There is also the risk that Council could have lost financially, or in some other way, by entering into an unethical contract.	3 Moderate Unlikely/ Serious	<ul style="list-style-type: none"> Ensure HR Policy, Procurement Policy, Anti-Fraud and Corruption Policy and Elected Members' Code of Conduct cover these areas sufficiently and that guidance is given to all staff and elected members at least annually on conflicts of interest, and Policies are widely distributed within Council and made available to all staff, particularly new staff. The Fraud Policy includes a process for reporting any suspected instances of bribery and corruption - ensure this is widely available and all staff are aware of reporting process. 	1 Low Rare/ Serious
Management Override of Internal Controls	IF a Manager uses their unique position to override internal controls, THEN the financial statements may be incorrect and potential fraud may result.	4 High Possible/ Serious	<ul style="list-style-type: none"> Audit and Risk Committee oversight. Internal and External audits annually. Internal and external audits annually. Fraud Policy awareness training. Regular review of policies to ensure in line with best practice. SLT to undergo ethics training. Full reference checking of at least one recent, direct manager (particularly for financial and management roles). Zero tolerance for any bullying type behaviour. 	1 Low Possible/ Major

HEALTH AND SAFETY WELLBEING RISKS

4. Health and Safety Wellbeing Risk Assessment

Risk Subject	Risk Descriptions	Risk Score Raw	Control Description	Residual Risk Score
Lone Worker TOP TEN RISK	If a staff member is seriously injured or killed during field inspections/site visits, then possible health and safety breaches, death or serious injury.	12 Very High Possible/Major	<ul style="list-style-type: none"> • Complete quality assurance, Ongoing training/awareness of HSE requirements and responsibilities. • Better use of council data/knowledge base on dangerous or insanitary sites before staff member deploys to site. • Use of GPS tracking, mobile phone tracking. • Compliance Officers to wear body cameras on duty. 	3 Moderate Unlikely/Serious
Water / Health Safety TOP TEN RISK	IF Council doesn't adequately respond to a complaint and a member of the public falls ill or dies, THEN Council is at risk of legal proceedings under the Health Act.	12 Very High Possible/Major	<ul style="list-style-type: none"> • Up to date compliance with the Drinking Water Standards. • Ongoing training/awareness of drinking water standards and HSE requirements and responsibilities. • Ensure Water Supply bylaw is regularly reviewed. 	1 Low Rare/Important
Council Vehicle accident	If a staff member has an accident in a council vehicle, then this could result in possible death or serious injury and damage to motor vehicle asset.	4 High Possible/Serious	<ul style="list-style-type: none"> • All staff must have a full drivers licence and all staff are aware of procedures if there is an accident. • GPS and mobile phone tracking. 	3 Moderate Unlikely/Serious
Staff under Stress	If staff are affected by personal issues or by work pressures and experiencing high levels of stress, then work performance may decline and/or fatigue, illness, unsafe work practices may result.	5 High Almost Certain/Important	<ul style="list-style-type: none"> • Managers are responsible for being aware of the wellbeing of their direct reports • There are various options available for relieving the pressure of staff who are overworked including increasing staff or reallocating work • Ensure access to EAP service is widely known and communicated to all staff • Ensure all staff have a backup option available so they can take annual leave for at least a week at a time 	3 Moderate Possible/Important
Exposure to Hazardous Substances TOP TEN RISK	IF staff are affected by exposure to hazardous substances eg chemicals, liquids, fumes and other toxic substances THEN there are possible risks to staff health and wellbeing.	8 High Unlikely/Major	<ul style="list-style-type: none"> • The Stratford Water Treatment Plant has site licences for the storage of chemicals, these must be kept up to date. • All hazardous substances are correctly labelled and stored according to best practice safety procedures and guidelines. • Training is mandatory for all staff working with 	4 Moderate Rare/Major

4. Health and Safety Wellbeing Risk Assessment

Risk Subject	Risk Descriptions	Risk Score Raw	Control Description	Residual Risk Score
			hazardous substances. <ul style="list-style-type: none"> • Use appropriate PPE gear at all times in the vicinity of the hazardous substances. • Regular health checks for staff. • Regular testing of hazardous substances and chemicals LABELLING and STORAGE be carried out RANDOMLY. • Fire extinguishers are on site, all signage is current and covers off on all of the chemicals held on site, and labels are all correct and current. • We currently have 5 authorised handlers. Ixom also do site audits when their representative is in the immediate area.. 	
Workplace Bullying or Harassment	IF Bullying and harassment in the workplace occurs THEN it can have an impact on the health and wellbeing of staff subject to the bullying and other staff witnessing the behaviour. This may impact on staff productivity and the ability of Council to attract good quality candidates.	4 High Possible/ Serious	<ul style="list-style-type: none"> • Top down culture against bullying and harassment of any kind, policy is followed through by management. • Staff are aware of the reporting process. • The reporting process to deal with bullying and harassment is fair, transparent, and confidential and dealt with in a timely manner. 	3 Moderate Unlikely/ Serious
Asbestos Related Work	IF council buildings are contaminated with asbestos, THEN there is the possibility of asbestos exposure to staff and the public and increased risk of asbestosis and other lung and pleural disorders.	4 Moderate Rare/ Major	<ul style="list-style-type: none"> • Asbestos protocols need to be developed in line with the asbestos regulations. • Staff need to be made aware of Asbestos disposal guidelines. Staff involved in construction work should be appropriately trained in handling of asbestos materials. 	2 Moderate Unlikely/ Important
Muscular discomfort - Ergonomics	IF muscular pain or discomfort or eye strain occurs as a result of the work environment and setting, THEN this will impact on staff health and wellbeing and long term comfort at work.	2 Moderate Likely/ Minor	<ul style="list-style-type: none"> • Apply ACC Habit At Work guidelines. • Workstation assessments should be carried out to reduce the likelihood of onset of long term discomfort and pain conditions. 	1 Low Possible/ Minor
Armed Robbery	IF there is an armed robbery at any of council's services centres, THEN there is the potential for	1 Low	<ul style="list-style-type: none"> • Establish emergency procedures, including use of 	1 Low

4. Health and Safety Wellbeing Risk Assessment

Risk Subject	Risk Descriptions	Risk Score Raw	Control Description	Residual Risk Score
	death or serious harm.	Rare/ Serious	<ul style="list-style-type: none"> • panic buttons. • Security cameras in place. • Ensure staff are trained to deal with potential threat. • Design / limit access to building so that threats are minimised. 	Rare/ Serious
Employee Substance Abuse	IF staff are affected by drugs or alcohol while at work, THEN there is an increased risk of an accident or injury, property damage, and reduced work performance.	8 High Unlikely/ Major	<ul style="list-style-type: none"> • Ensure staff are aware of drug and alcohol policy. • Initial drug testing done prior to employment to filter out regular users. • Utilise EAP. 	2 Moderate Unlikely/ Important
Water supply network is Contaminated TOP TEN RISK	IF the Water supply network becomes contaminated THEN the public health is at risk and Council could be liable for financial penalties and will suffer reputational damage.	12 Very High	<ul style="list-style-type: none"> • Backflow preventers have been installed for high risk properties (currently no programme to roll out across the district, due to cost and resource). • Staff training in the use of chemicals. • Water chlorination. 	4 High Possible/ Serious
Fatigue Management	IF Fatigue affects an employee, as a result of working extraordinary hours, THEN the employee may have limited functionality which could result in personal injury or injury to others. It could also lead to stress and long term mental illness if it is reoccurring and could mean Council is in breach of the Health and Safety Act.	3 Moderate Possible/ Important	<ul style="list-style-type: none"> • Ensure employees take regular, quality rest breaks during the working day, in line with the Employment Relations Act (HR Policy requires this). • Ensure all staff know their responsibilities in terms of managing fatigue. • Ensure shift workers rostered times are manageable. • The Vehicle Use Policy has limits on driving a Council vehicle after exceeding max number of work hours. • Contractor fatigue management to be reported and monitored through regular contractor meetings. 	1 Low Rare/ Minor

OPERATIONAL RISKS

5. Operational Risk Assessment				
Risk Subject	Risk Descriptions	Risk Score Raw	Control Description	Residual Risk Score
Contractor - Damage to Property	IF maintenance contractor damages council or private property while carrying out contracted work, THEN council could be liable for damages and additional expenditure.	4 High Possible/ Serious	<ul style="list-style-type: none"> Stringent Operational procedures: Daily reporting of compliance. Regular liaison with contractor and regulators to monitor performance to ensure compliance. Contractor pre-approval process. Council has material damage insurance policy. 	3 Moderate Possible/ Important
Other Contractors in Network Corridor	IF work by others in Network Corridor results in damage to components of the 3 waters infrastructure THEN services to the public may cease or become unreliable or compromised.	4 Moderate Likely/ Important	<ul style="list-style-type: none"> Co-ordination between services before major projects begin. Ensure all works have Corridor Access Requests. 	1 Low Rare/ Important
Attracting Qualified Staff	IF Council is unable to attract suitably qualified personnel, THEN services may become under threat and may cease.	6 High Likely/ Serious	<ul style="list-style-type: none"> Internal training and succession planning programs. Ensure market wages are offered for all high demand positions. Recruit off shore option should be available for high-demand positions. Make greater use of consultants if necessary and/or shared services with neighbouring Councils. Make Stratford District Council a great place to work - measure staff engagement and respond to any issues expediently. 	2 Moderate Unlikely/ Important
Maintenance Contractor fails to deliver TOP TEN RISK	If a maintenance contractor fails to deliver contractual service necessitating termination of contract and re-tendering, then assets may become under threat, unreliable, or unable to meet community needs.	8 High Unlikely/ Major	<ul style="list-style-type: none"> Careful assessment of tender to ensure contract price viable for contractor to deliver level of service Regular liaison with contractor to monitor performance and ensure compliance Contractor pre-approval process must not be bypassed 	3 Moderate Unlikely/ Serious
Key Person risk	If a key person in the organisation could not work for a significant period of time then this could affect Council's ability to perform core functions and duties.	3 Moderate Possible/ Important	<ul style="list-style-type: none"> Ensure PROMAPP is up to date with all staff day to day processes If known absence ahead of time ensure an appropriate training plan in place 	1 Low Possible/ Minor

5. Operational Risk Assessment

Risk Subject	Risk Descriptions	Risk Score Raw	Control Description	Residual Risk Score
			<ul style="list-style-type: none"> • Make use of local consultants where appropriate • Connect with colleagues from neighbouring three councils to share resource if needed • 	
Natural Disaster or Fire - Response preparedness TOP TEN RISK	IF a Natural Disaster or Fire causes significant damage to infrastructure and buildings THEN community welfare may be severely compromised, putting peoples lives at risk, and staff may be unable to access systems to carry out their day to day duties and functions.	12 Very High Possible/ Major	<ul style="list-style-type: none"> • Civil Defence Emergency Management plans are in place. • Procedures following an emergency event are widely known by a number of staff due to Civil Defence • Foundational training being rolled out to majority of council staff. • Business Continuity Plans need to be in place and practiced regularly for all activities - Directors responsible for having a plan in place for each of their departments to ensure core functions can continue to be delivered. 	12 Very High Possible/ Major
Disease Outbreak/ Pandemic	If there is a human disease outbreak in the district, then this could impact staff and contractors staff available to deliver service	5 High Rare/ Catastroph ic	<ul style="list-style-type: none"> • Health and Safety Advisor to keep aware of any public health notifications of disease outbreaks • Ensure there is a plan to respond to any notifications • Civil Defence covers infectious human disease pandemics and will take responsibility for local management 	1 Low Rare/ Serious
Biosecurity threat risk	IF there is a biosecurity threat to animals, or plant life THEN this could affect the economic wellbeing of the district and the ability of council to financially meet community needs.	4 High Possible/ Serious	<ul style="list-style-type: none"> • Ensure council takes a proactive approach to working with Biosecurity NZ, MPI, TRC and the community where a threat is identified. 	2 Moderate Unlikely/ Important
Critical Asset Failure TOP TEN RISK	IF a critical asset (water treatment plants, stormwater, wastewater, reticulation, roading) failed, THEN unexpected financial burden may arise and there could be significant disadvantage and risk to the community.	12 Very High Possible/ Major	<ul style="list-style-type: none"> • Conduct 2 yearly Asset Criticality Review. • Ensure there are established Civil Defence Emergency Management response procedures in relation to fixing critical assets in an emergency event. • Management practices and staff training, retention to ensure appropriate skill level in critical asset maintenance. 	4 High Possible/ Serious
Heavy/Extreme	IF the Stratford District experiences heavy rainfall	3 Moderate	<ul style="list-style-type: none"> • Asset Management Plans and Incident Control 	2 Moderate

5. Operational Risk Assessment

Risk Subject	Risk Descriptions	Risk Score Raw	Control Description	Residual Risk Score
Rainfall incidents	continually over a period THEN roads may flood, restricting accessibility, landslips and mudslides may restrict road access and cause property damage, productive land areas may flood reducing functions, Stormwater, Wastewater and Water Supply assets may fail from overburdening, and overflows from Wastewater system may result in untreated water entering the Patea River.	Possible/ Important	Response Plans to document critical asset areas and response plan in the event of heavy rainfall incidents.	Unlikely/ Important
Terrorist Attack	IF a terrorist attack occurred in Stratford, THEN loss of life, property damage, and business discontinuity may result.	4 Moderate Rare/Minor	<ul style="list-style-type: none"> Develop Lockdown procedures for all Council public sites i.e. Library, I-Site, Council Office, TSB Pool. Be alert and aware of potential threats, work closely with Police and establish plan to minimize damage to people and property. 	4 Moderate Rare/ Minor
Government Policy Impacting on Local Government TOP TEN RISK	If Government Policy significantly changes the services Council delivers or the way they are delivered, then this could put financial pressure on the district to fund investment in changes, or it may mean previous investment has become redundant.	12 Very High Possible/ Major	<ul style="list-style-type: none"> Where a policy change may have a significant impact on the Council then we must ensure that the Council makes a submission challenging the change and suggesting alternative options. Council officers and elected members need to keep up to date with policy, and anticipate potential impacts of legislative changes and respond strategically. This could include joint collaboration with business and other councils, accessing alternative funding sources, or obtaining legal or professional advice 	12 Very High Possible/ Major
Consents	The Council does not undertake the work in accordance with the resource consent conditions. Council can be fined by the Regional Council for breach of conditions.	3 Moderate Possible/ Important	<ul style="list-style-type: none"> Not negotiable - Consent conditions must be abided by otherwise the consent will be breached Council needs to submit to the Regional Council a methodology about how they are going to undertake the works. 	2 Moderate Unlikely/ Important

REPUTATIONAL AND CONDUCT RISKS

6. Reputational and Conduct Risk Assessment				
Risk Subject	Risk Descriptions	Risk Score Raw	Control Description	Residual Risk Score
Online Passwords	IF online passwords are shared or used inappropriately, THEN there is the risk that staff can access or hack Council owned systems and release sensitive information.	3 Moderate Possible/ Important	<ul style="list-style-type: none"> Ensure that where a staff member leaves and they have access to logins accessible online that the passwords are changed and access ceases. Limit use of online accounts. 	3 Moderate Unlikely/ Serious
Contractor Damage or Breach	If Council and/or Council contractors are found to be liable for public/environmental damage, or any actions that are unsafe or non-compliant with legislation and applicable policies and standards, then fines, possible injury, long-term damage, reputational damage could result.	4 High Possible/ Serious	<ul style="list-style-type: none"> Appropriate procedures and guidelines are in place to monitor contractor actions and our own including health and safety audits, contractor meetings/KPI's The Council requires all physical works contractors to go through a thorough health and safety pre-qualification process and become approved before commencing any physical work All relevant staff are kept up to date with pre-approved contractors register Mini audits and random checks should be built into contracts Contractor public liability insurance required for all major contracts. 	3 Moderate Unlikely/ Serious
Council employees/ contractors abuse members of the public	If Council employees, during the course of their Council duties abuse members of the public,, then the Council may suffer significant reputational damage and potentially be taken to court.	4 High Possible/ Serious	<ul style="list-style-type: none"> All staff in a public facing role, particularly where they must deal with children, must be police vetted before they commence work. Exception is where the role is urgent and requires immediate start - in these situations the employee should not be left alone at any time until a satisfactory police report has been received 	3 Moderate Unlikely/ Serious

APPENDIX 2 - WATER SUPPLY OPERATIONAL DOCUMENTS

Consents	Commencement Date	Expiry Date	CM Reference
1276-3 Te Popo Abstraction	24/05/2011	1/06/2021	D17/20428
6605-1.1 Toko Discharge from Water Treatment Plant	29/04/2005	1/06/2022	D17/20453
6549-1 Repair and maintain weir in Konini Stream	31/01/2005	1/06/2022	D17/20451
1337-3 Abstraction from Bore for Toko water supply	17/06/2005	1/06/2022	D17/20461
1331-3 Discharge to land via soak hole from Midhirst Water Treatment Plant	27/05/2016	1/06/2033	D17/20460
10056-1 Construct watermain bridge over Patea River	23/01/2015	1/06/2034	D17/20483
2452-3 To dam water in the Konini Stream with a 1 metre concrete weir for the Stratford town water supply	25/09/2017	1/06/2034	D17/24428
5353-2 To dam water in the Patea River with a 2.3 metre concrete weir for the Stratford town water supply	25/09/2017	1/06/2034	D17/24427
0068-4 Discharge to Patea River from Stratford Water Treatment Plant	24/06/2016	1/06/2034	D17/20419
0195-3 Patea & Konini Abstraction (Stratford Water Supply)	16/10/2017	1/06/2034	D17/24468
Policies	Commencement Date	Review Date	CM Reference
Asset Management	26/05/2020	2023/2024	D20/4330
Water Supply to Rural Properties	12/03/2019	2023/2024	D19/3406
Procurement Policy	11/06/2019	2022/2023	D18/29563(v3)
Bylaws	Commencement Date	Review Date	CM Reference
Water Supply Bylaw	1/08/2019	1/08/2029	D18/29919
Strategies	Commencement Date	Review Date	CM Reference
Infrastructure Strategy 2021-2051	1/02/2021	2050/2051	D21/2700
Contracts	Commencement Date	Review Date	CM Reference
3 Waters Maintenance Contract (1434)	1/07/2019	30/06/2022	D19/14719