



THREE WATERS

2021-2031

- Asset Management Plan Executive Summary -

Table of Contents

1	WHY WE ARE WRITING THIS PLAN	2
2	WHAT WE DO	2
2.1	WATER SUPPLY	3
2.2	WASTEWATER	4
2.3	STORMWATER	5
2.4	COMMUNITY OUTCOMES	7
3	LEVELS OF SERVICE	7
3.1	STRATEGIC LEVELS OF SERVICE	8
3.2	TACTICAL LEVELS OF SERVICE	9
3.3	OPERATIONAL LEVELS OF SERVICE	ERROR! BOOKMARK NOT DEFINED.
4	MANAGING RISK	11
4.1	CRITICALITY	11
4.2	HAZARD AND RISK MANAGEMENT	11
	CRITICAL SAFETY RISKS	12
5	MANAGING GROWTH	12
5.1	GROWTH IN WAIKATO	13
5.1.1	IMPACTS OF COVID-19	13
5.2	FUTURE PROOF GROWTH ISSUES	14
5.3	DEMAND ANALYSIS	ERROR! BOOKMARK NOT DEFINED.
6	SUSTAINABILITY	15
6.1	CLIMATE CHANGE AND ADAPTATION	15
6.2	SUSTAINABILITY INITIATIVES	15
7	LIFECYCLE MANAGEMENT	16
7.1	OPERATIONS AND MAINTENANCE PRACTICES	16
	OPERATIONAL MANAGEMENT PLANS AND MAINTENANCE ROUTINE	16
8	FINANCIAL SUMMARY	17
8.1	RENEWALS FORECAST	17
8.2	KEY PROJECTS	18
9	CONTINUOUS IMPROVEMENT	24
9.1	CURRENT AND TARGET MATURITY SCORES	24
9.2	AM IMPROVEMENT PLANNING PROCESS	25
9.3	IMPROVEMENT PLAN	25

This Activity Management Plan (AMP) is a 10-year programme for the management of the Three Waters assets. This approach ensures that acceptable levels of service are provided in the most cost-effective manner and contribute to the achievement of the Long-Term Plan (LTP) 2021-2031.

A quarterly review of the AMP is to be undertaken. This would be because of changes to:

- The improvement program
- Improved decision-making techniques
- Changes in asset information
- Knowledge of customer expectations
- Council policy

1 Why we are writing this plan

We are writing the plan to provide a single point of truth for all things relating to water supply, wastewater, and stormwater activities.

2 What we do

Three waters activity applies to all drinking water supplies, all wastewater systems, urban stormwater schemes, open drains, and associated assets (excluding roading drainage) owned by Council. This includes all treatment plants, pump stations, reservoirs, and the reticulation network.

The contract between Watercare Services and Waikato District Council came into effect on 1st of October 2019. Majority of the previous Waikato District Council three waters staff have transferred to Watercare. The Water Services business unit at Waikato District Council now consists of the waters contract relationship manager – with touch points from other staff.

Watercare is now responsible for the management and operation of water, wastewater, and stormwater infrastructure in the Waikato district. Key responsibilities include:

- Collecting, treating and distributing water for use by households, commerce, industry and firefighting, ensuring that drinking water is delivered to a safe, reliable and cost-effective standard.
- Collection, treatment and disposal of wastewater. Reticulated wastewater is disposed in a way that does not cause harm to the public health and the environment.
- Management of stormwater in a way that protects impervious surfaces from rainfall runoff and the environment by limiting erosion as much as possible.

2.1 Water Supply

We have the following water schemes servicing the district:

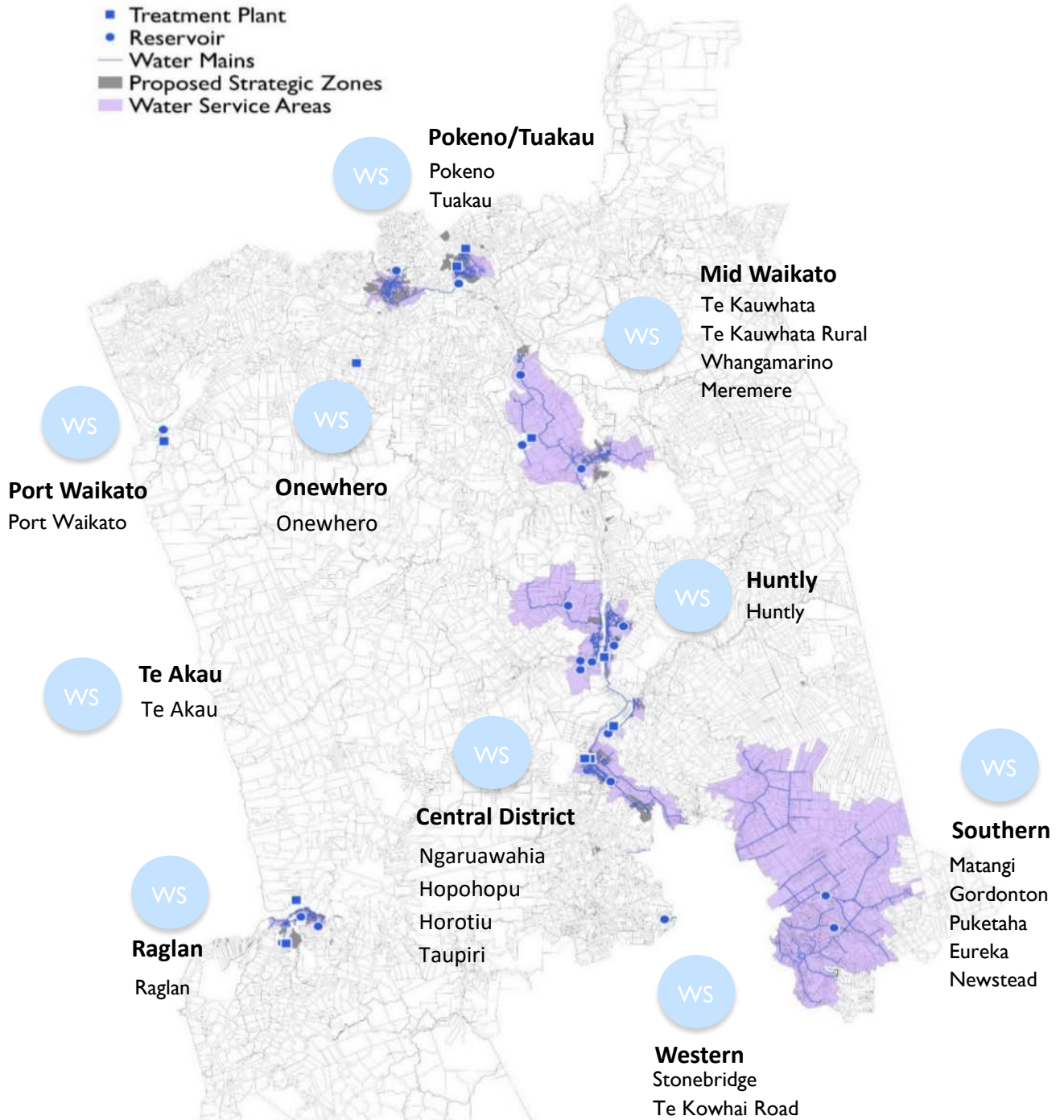


Figure 1: Location of Water Supply Schemes in the Waikato District

2.2 Wastewater

Council’s reticulated wastewater collection, treatment and disposal systems serve the following areas

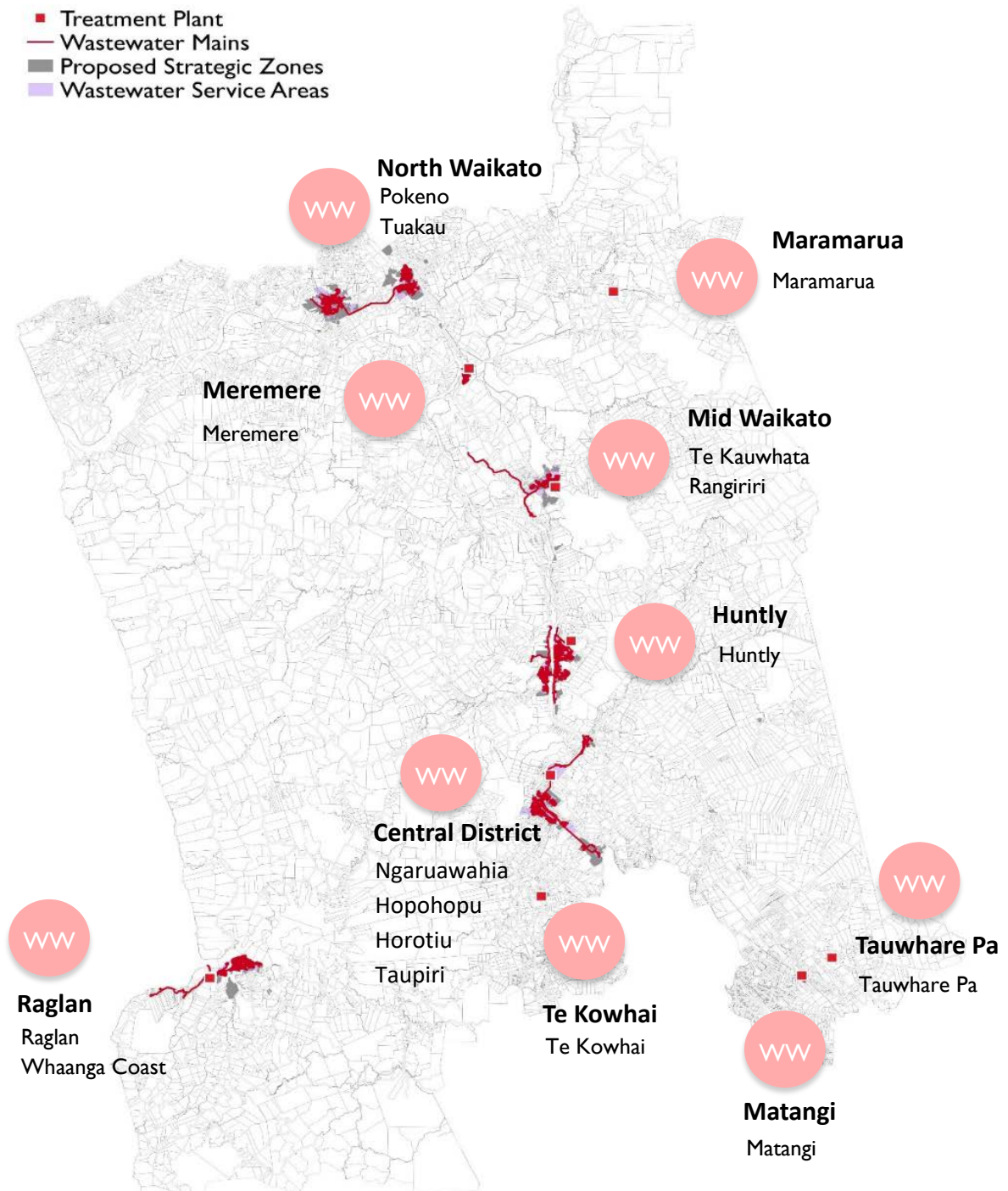


Figure 2: Location of Wastewater Schemes in the Waikato District

Waikato District Council provides a wastewater network to the community for domestic and industrial use. Council currently has wastewater treatment plants at Huntly, Meremere, Central District, Raglan and Mid Waikato with smaller treatment facilities at Maramarua, Matangi, Tauwhare Pa and Te Kowhai.

The Council rating system has a total number of 10,044 wastewater connections throughout the District.

The communities of Glen Afton, Glen Massey, Gordonton, Horsham Downs, Pukemiro, Renown, Rotokauri, Te Akau, Waiokowhai, Whatawhata, Port Waikato and Onewhero have no reticulated wastewater collection system in place. Portions of Horotiu are also unreticulated, Waikato Growth 2070 is proposing further residential growth for this area, this AMP is proposing that a scheme is developed to provide wastewater services for properties currently unserved.

The remainder of the district (where not classified as urban or identified as a specific community) is zoned rural, lifestyle or rural residential. These areas are non-reticulated and rely on on-site wastewater systems for sewage treatment.

2.3 Stormwater

Waikato District Council is responsible for a variety of stormwater activities within the region. The stormwater activity applies to:

- Urban stormwater schemes and
- Watercare maintained open drains and associated assets within the Waikato district

Stormwater asset categories consist of pipe, point, open drains, stormwater attenuation devices, and water quality devices. Council's stormwater systems service the following areas within the Waikato district.

Please note that full information about each of these stormwater schemes, including asset description and condition profile etc. has been provided in detail in the AMP 2021-2031.

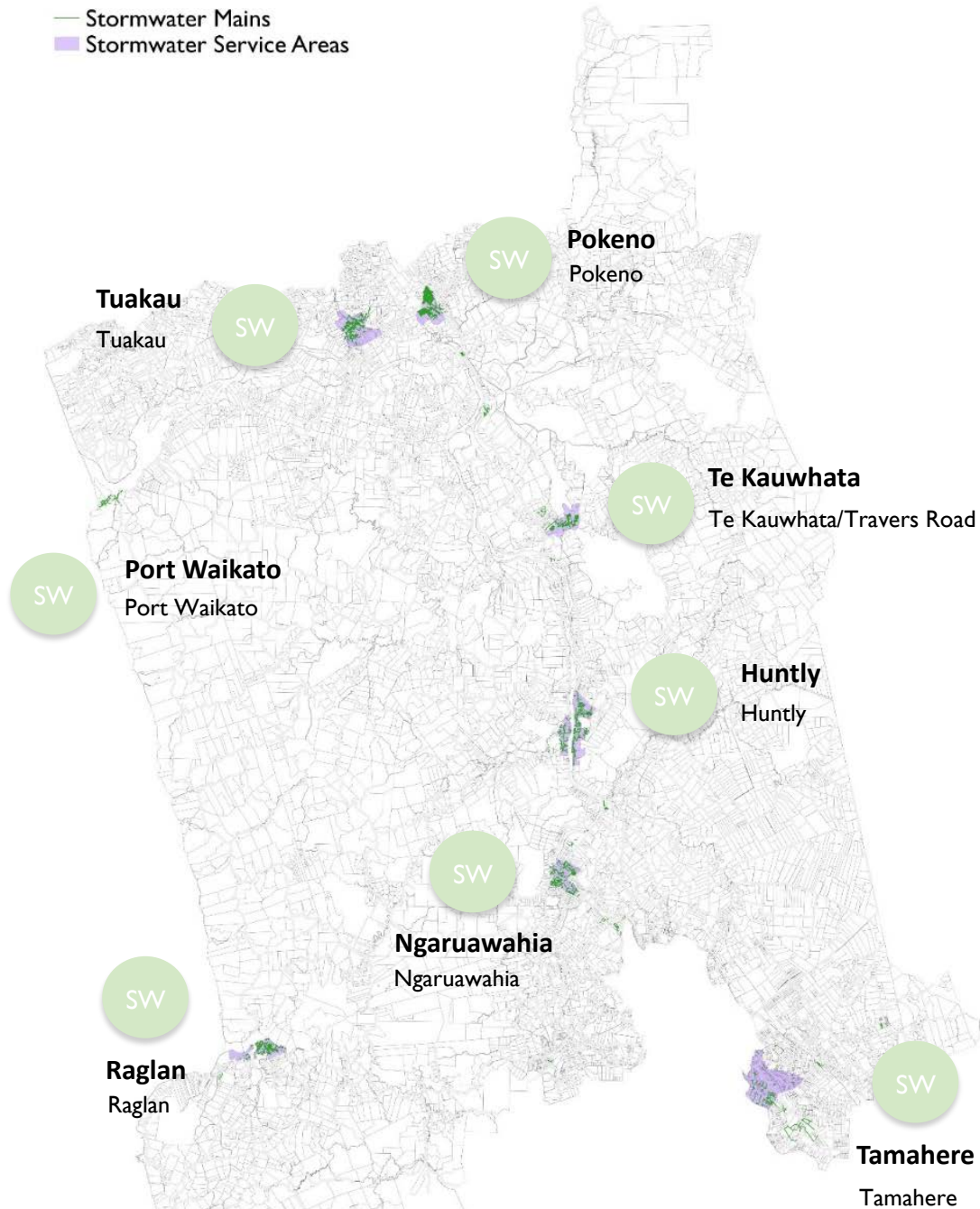
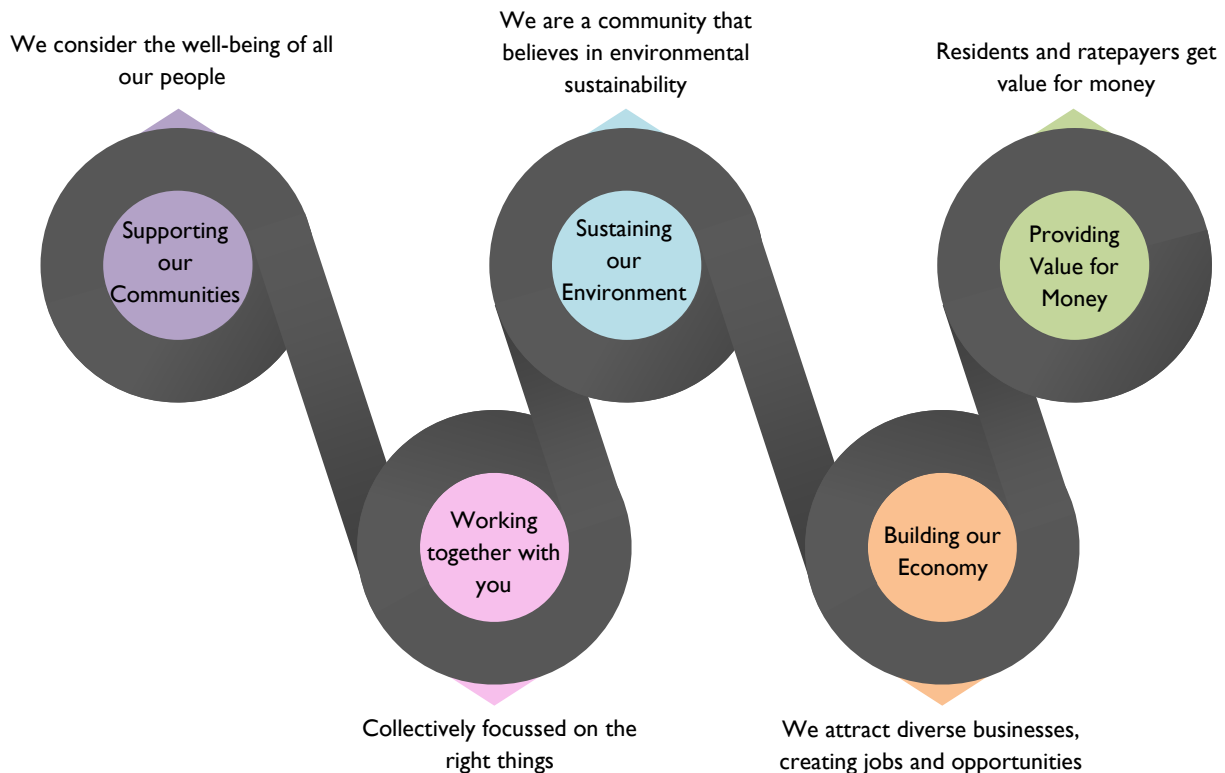


Figure 3: Location of Stormwater scheme in Waikato District

2.4 Community Outcomes

This AMP sets out how the Three Waters Activity will contribute to these outcomes:



3 Levels of Service

Levels of Service are determined by our understanding of customer needs as determined by interaction with the users of service.

Council is responsible for providing ‘value for money’ at an acceptable level across all their assets and services. In order to achieve an appropriate level, there are a number of processes to be performed and these include:

- Identifying community demands,
- Suitable levels of customer consultation,
- Level of service monitoring and
- Meeting the targets set for the levels of service annually.

This AMP enables the relationship between levels of services (LoS) and the cost of the service and risk to be determined. This developed Level of Service framework has a clear alignment from the national, regional, and local objectives down to the individual (water supply, wastewater and stormwater) activity outcomes. Also connecting better with our vision and community outcomes.

This framework categorises levels of service into three groups:

- Strategic – typically requires significant capital investment to solve problems
- Tactical – typically linked to renewal investment
- Operational – focus on the operations and maintenance of the activity

This also clearly identifies the relationship they have in relation to cost and risk.

3.1 Strategic Levels of Service

	Level of Service	Service Level Statement	Community Outcomes
Water Supply	Bacterial Compliance	All zones comply with DWSNZ (18).	Supporting our Communities
	Protozoal Compliance	All zones comply with DWSNZ (excluding those not required to be compliant).	Supporting our Communities
	Water Consumption	Maintain the current water consumption per resident per day (240L).	Sustaining our Environment
Wastewater	Wastewater System Discharge Compliance	Meet the target of less than or equal to 2 notices/orders.	Sustaining our Environment
	Wastewater System Discharge Compliance	No convictions in relation to resource consents.	Sustaining our Environment
Stormwater	System Reliability	Maintain the current target of less than 5 for flood events per annum for properties connected to piped networks maintained by WDC.	Supporting our Communities
	Stormwater System Discharge Compliance	Maintain the baseline of no more than 1 notice.	Sustaining our Environment

Tactical Levels of Service

	Level of Service	Service Level Statement	Community Outcomes
Water	Water Loss	Water loss from the water reticulated network meets targets for each township (as outlined in the AMP).	Building our Economy
Stormwater	System Effectiveness	Maintain the current target of 0.3 (per 1000 properties) for affected floors after the occurrence of a flood event.	Supporting our Communities

3.2 Operational Levels of Service

	Level of Service	Service Level Statement	Community Outcomes
Water Supply	Urgent Fault Attendance	Timely attendance to urgent faults (meets current target of 1 hour).	Supporting our Communities
	Urgent Fault Resolution	Timely resolution of urgent faults (meets current target of 4 hours).	Building our Economy
	Non-Urgent Fault Attendance	Timely attendance to non-urgent faults (meets current target of 5 days).	Working together with you
	Non-urgent Fault Resolution	Timely resolution of non-urgent faults (meets current target of 5 days).	Building our Economy
	Fire Hydrant Testing	All tested fire hydrants comply and provide adequate water supply.	Supporting our Communities
	Customer Satisfaction	Number of complaints received meets current target of 17 (per 1000 connections). Complaints are resolved in a timely manner.	Working together with you
wastewater	Sensitive Environment Overflow (dry weather)	Number of dry weather overflows per 1000 connections affecting sensitive receiving environments maintained at target of <5.	Supporting our Communities

	Non-Sensitive Environment Overflow (dry weather)	Number of dry weather overflows per 1000 connections affecting non-sensitive receiving environments maintained at current target of <5.	Supporting our Communities
	Customer Satisfaction	Number of complaints received maintained at current target of 25 (per 1000 connections).	Working together with you
		Complaints are resolved in a timely manner.	
	Wastewater Fault Attendance	Timely attendance to check faults and blockages (meets the current target of 1 hour).	Working together with you
	Wastewater Fault Resolution	Timely resolution of faults and blockages (meets the current target of 4 hours).	Building our Economy
Stormwater	Customer Satisfaction	Number of complaints received is maintained at current target of <1.	Working together with you
		95% of complaints are resolved in a timely manner.	
	Flood Event Attendance	Maintain the current target response time of <8 hours to attend a flooding event.	Building our Economy

4 Managing Risk

The purpose of risk management is to identify the risks associated with the three waters activity and its assets. This requires considering potential risks from many perspectives, including financial, operational, organisation and public health and safety considerations to name a few.

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 plan has been developed in accordance with Council's Risk Management Policy to guide the development of the AMP programmes in order to ensure managing and mitigating risk is a contributing factor in the identification and prioritisation of the maintenance and capital works programmes.

4.1 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. Critical assets typically require more proactive management to minimise or eliminate this risk.

A three waters criticality assessment has been completed on assets including water, wastewater and stormwater piped networks, in summary results show;

- Pipes located under railway/ state highway/ rivers are the most critical (criticality ranking of 5)
- Largest percentage of water supply pipe network (37%) contain a criticality score of 2 (consequence being minor)
- Largest percentage of wastewater pipe network (72%) contain a criticality score of 3 (consequence being moderate)
- Largest percentage of stormwater pipe network (62%) contain a criticality score of 1 (consequence being insignificant)


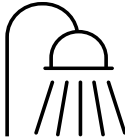

A full criticality assessment of pipe networks and above ground assets have been given in AMP Part 4: Risk Management Planning.

4.2 Hazard and Risk Management

Critical Safety Risks are activities regularly undertaken by a Person Conducting a Business or Undertaking (PCBU) that, if not adequately controlled could result in a serious injury or fatality.

Critical safety risks for the three waters activities are outlined in the following table.

Critical Safety Risks

WATER SUPPLY	WASTEWATER	STORMWATER
 <p>Critical Safety Risk: Extremely Important</p> <p>Related Risks:</p> <ul style="list-style-type: none"> Asbestos On road driving Working in or near trenches/open excavations Working over or near water 	 <p>Critical Safety Risk: Extremely Important</p> <p>Related Risks:</p> <ul style="list-style-type: none"> Asbestos On road driving Hazardous substances Working in a confined space Working in or near trenches/open excavations 	 <p>Critical Safety Risk: Extremely Important</p> <p>Related Risks:</p> <ul style="list-style-type: none"> Asbestos On road driving Working in a confined space Working in or near trenches/open excavations

A full risk register of our Activity is in AMP Part 4: Risk Management Planning.

5 Managing Growth

The ability to predict future demand for services enables Council to plan and identify the best way of meeting that demand. Growth and demand planning highlights areas within the three waters activity that are likely to face long term pressures from changes in the status quo. The key drivers that are likely to change the operating landscape for the three waters activity include:

- Population growth and demographics
- Geographical demand
- Property utilisation
- Service delivery requirements
- Community expectations and external issues
- Requirements of legislation
- Climate change

5.1 Growth in Waikato

The population in the Waikato District in 2020 was approximately 81,473. Overall, rates of growth in our district are increasing by 1.5% annually, and the population is expected to continue growing significantly in some of the key towns and villages:

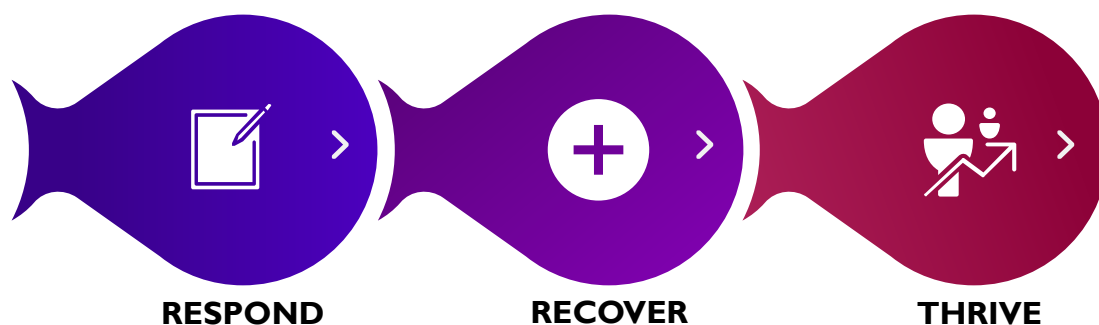
- North Waikato (Tuakau, Pokeno and Te Kauwhata) – proximity to Auckland
- Central Waikato (Huntly, Taupiri and Ngaruawahia) with the opening of Waikato Expressway
- West Waikato (Raglan) – high amenity environment
- Hamilton peri-urban areas (Horotiu, Tamahere and Matangi) – high demand for industrial and rural residential areas

Based on population projections prepared for Future Proof (medium projections) with an updated 2020 baseline, the Waikato District population is predicted to increase by approximately 15,500-19,000 over the next 10 years.

5.1.1 Impacts of Covid-19

Waikato District is currently in a growth phase, however the impacts on asset management will be variable over the short, medium and long term. The financial market and particularly the Covid-19 crisis could have short term impacts on whether the residential, industrial and commercial growth is maintained at its current rate of 1.5%. As a result, the impact of Covid-19 has meant a reassessment of the growth projections for population and household projects in the district.

In the short to medium term, the Proposed District Plan (PDP) review will have a significant impact on asset management and the requirements for new asset infrastructure and facilities, with the new areas zoned for development being a big driver for this. Upgrades will be required in all the main towns in the district over various timeframes.



For further information about growth in Waikato, refer to AMP Part 5: Managing Growth or Waikato 2070 Growth Strategy.

5.2 Future Proof Growth Issues

WATER SUPPLY	WASTEWATER	STORMWATER
Balancing water supply and demand.	Increased Development – larger volumes of wastewater.	Urbanisation – increased volume and decreased quality of stormwater runoff
Urban development – Increasing demand on water resources.	Tangata whenua – Cultural objections to disposal of human waste to surface water.	Increased erosion – through soil disturbance from redevelopment
Urban growth – increasing demand on water resources.	Stormwater infiltration of wastewater networks – poorer wastewater treatments.	Intensification and redevelopment – accelerated stormwater runoff
Increasing water supply standards.	Technologies to avoid disposal to water available – expensive with other human/environmental risks.	Climate change – effecting stormwater outfalls

The full tables of key growth issues and approaches for the three waters activity identified by Future Proof can be found in AMP Part 5: Managing Growth.

6 Sustainability

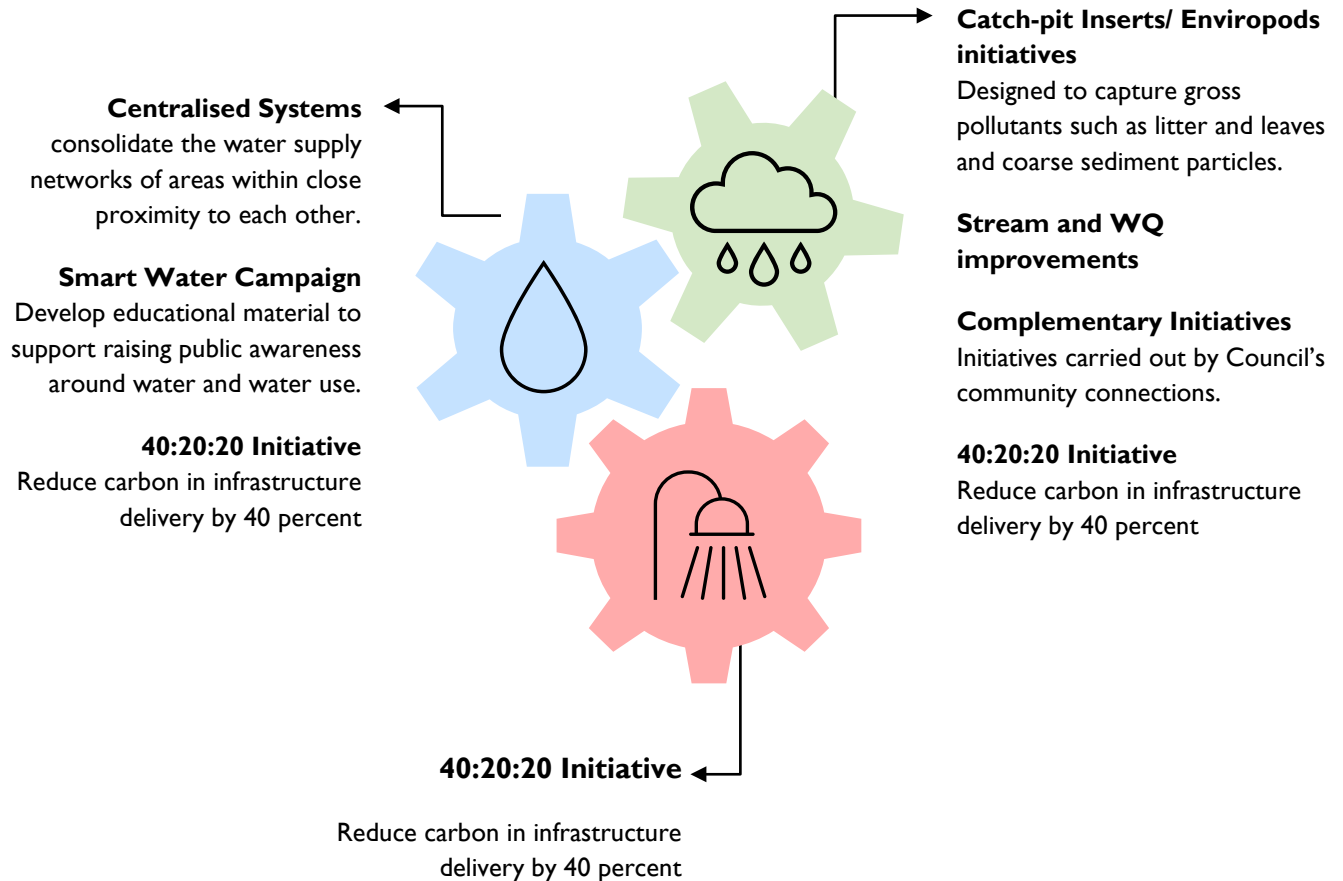
Sustainability is about ensuring that all resources are used and managed for a balance of environmental, social, cultural and economic wellbeing. Asset management practices include actions that recognise the need for these four well-beings.

In recent years, the demand for water from the Waikato River has increased significantly. Council is now legally required to ensure that water is used in a sustainable way. Sustainable development is about maintaining the delicate balance between improving the community’s standard of living and well-being over time, while at the same time preserving the resources and ecosystem on which we and future generations depend.

6.1 Climate Change and Adaptation

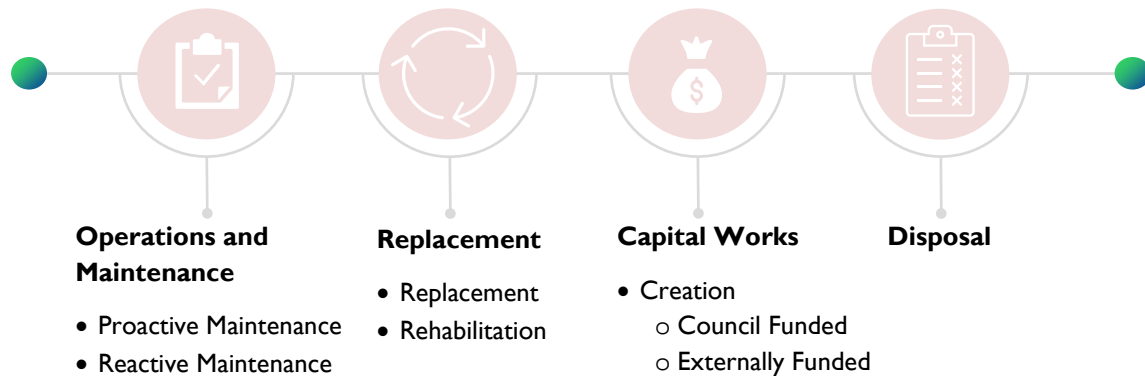
Council formally adopted an internal Climate Response and Resilience policy on Monday 31 August 2020. This policy is significant as it considers the needs of future generations by adopting best practice behaviours through proactive climate change and emissions reduction strategy. Our responsibilities in relation to climate change are clearly outlined in the policy, demonstrating how we will act to minimise the effects of climate change by means of reducing greenhouse gas emissions and development of adaptation measures.

6.2 Sustainability Initiatives



7 Lifecycle Management

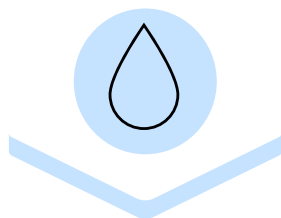
Lifecycle management for three waters are split into three main categories:



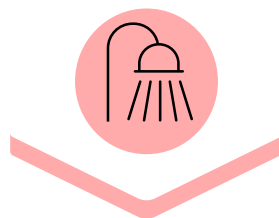
7.1 Operations and Maintenance Practices

The waters treatment and services team carry out maintenance on the water and wastewater networks and treatment plants with special contractors (City Care) engaged as required. The current maintenance activities include: Monitoring, testing, meter readings, preventative maintenance inspections and activities and reactive maintenance.

Operational Management Plans and Maintenance Routine



- Bulk Meter Inspection (Monthly)
- Main Flushing (Monthly)
- Booster Pump Station Inspection (Monthly – Inhouse, Annual – Contractor)
- Te Kauwhata Irrigation Flushing (Monthly)
- Fire Hydrant Checks (Bi-monthly)
- Huntly Rural Flushing (6 monthly)
- District Wide Main Flushing (6 Monthly)
- Critical Pipe Checks (6 Monthly)
- Reservoir Inspections (6 Monthly)
- Scour Irrigation Lines (Annual)



- WW inspec. and washdown (Monthly)
- Raglan critical PS inspec. (Weekly)
- Raglan critical PS inspec. (Weekly)
- District Wide manhole inspections (Rotational Annual)
- Septic Tank Cleaning (3 yearly)
- WW non-return inspec. (Annual)
- WW Jetting (3 Monthly)
- Christmas Jetting of Key Lines (Annually)
- Septic tank clean at 114 Wairenga Rd, TK (6 Monthly)
- Low Pressure network flushing points and air valves inspection (Annually)



- Urban drain inspection and spraying (Annually)
- Floodgate inspections (Annually)
- Raglan Enviropods (2 Monthly)
- Flood Pump Inspection (Annually)

8 Financial Summary

We have prepared the financial information contained within this AMP under generally accepted accounting practice in New Zealand. And in conjunction with Council’s 2021-2031 proposed LTP.

Financial forecasts and information regarding:

- The funding policy
- Valuation which additionally will provide ten-year forecasts for OPEX and CAPEX
- Financial statements
- Funding strategy
- Depreciation forecast
- Charges for our assets in Waikato District

8.1 Renewals Forecast

Renewal/replacement strategies include identification of renewal needs (condition reports, maintenance records), prioritisation of renewal projects (using risk-based process), deferred renewals, general and funding.

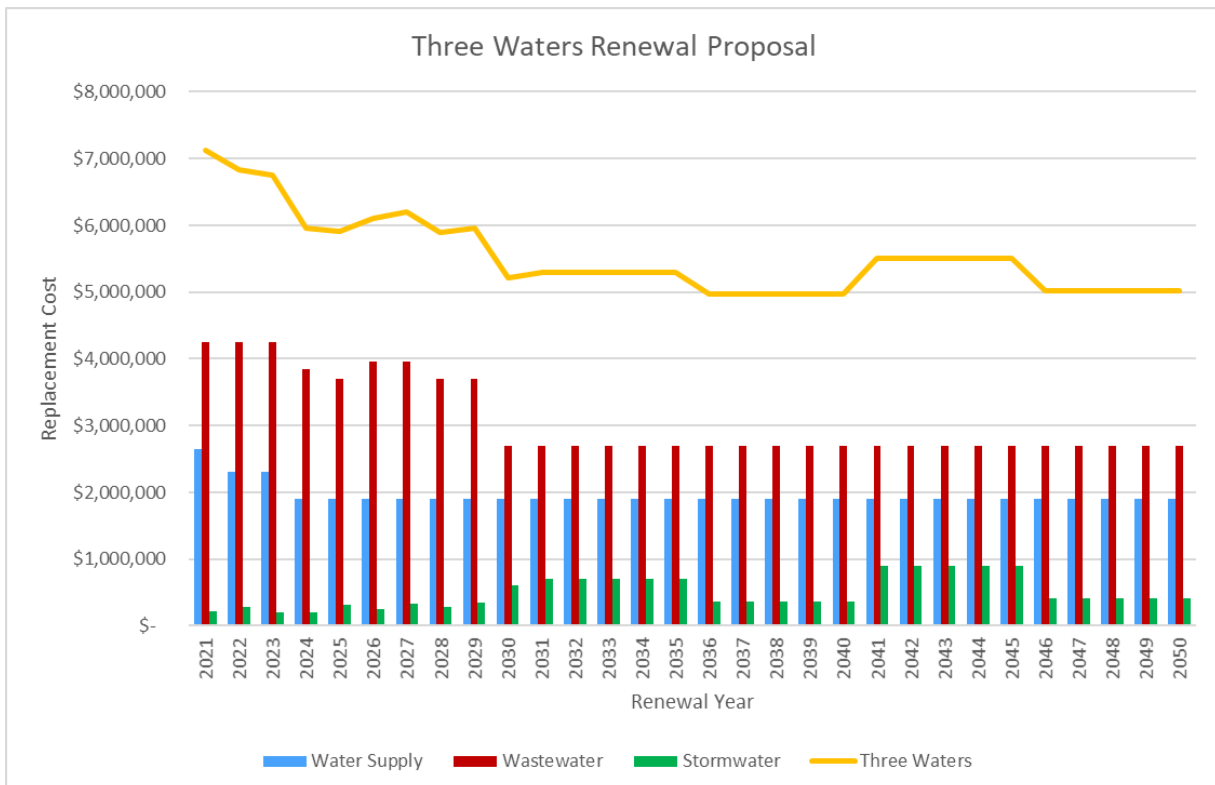


Figure 4: Three Waters Renewal Proposal

8.2 Capital Expenditure

The following figure shows the capital programme which includes capital renewals over the next 10 years for the water, wastewater and stormwater activities.

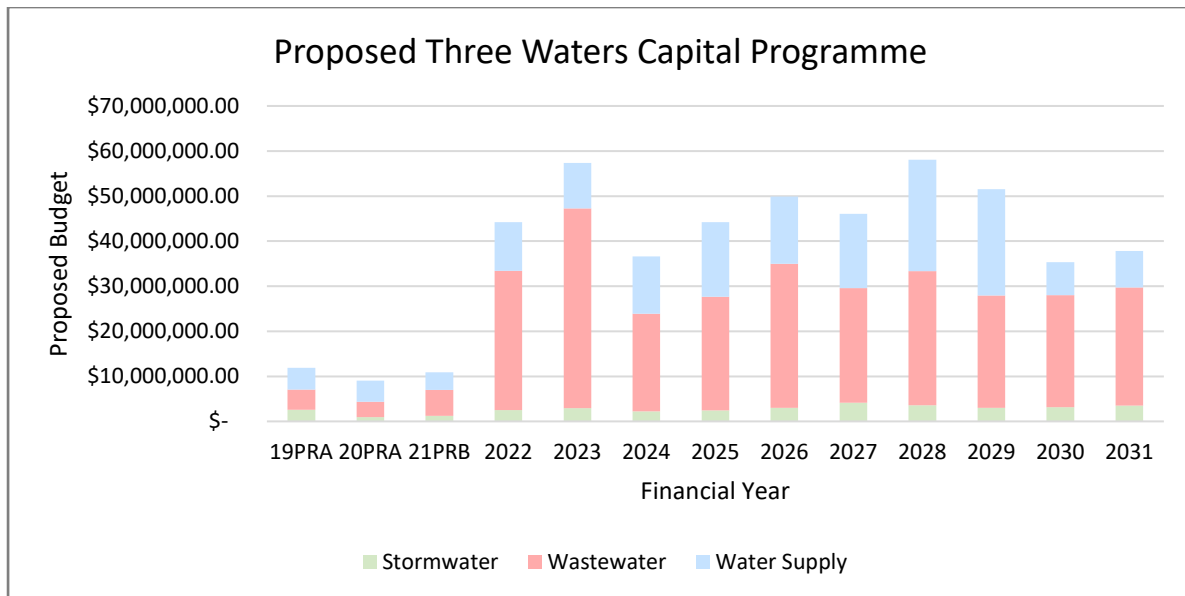


Figure 5: Capital Projects (Including Renewals) for the next 10-Year Period

Water Supply Capital Projects

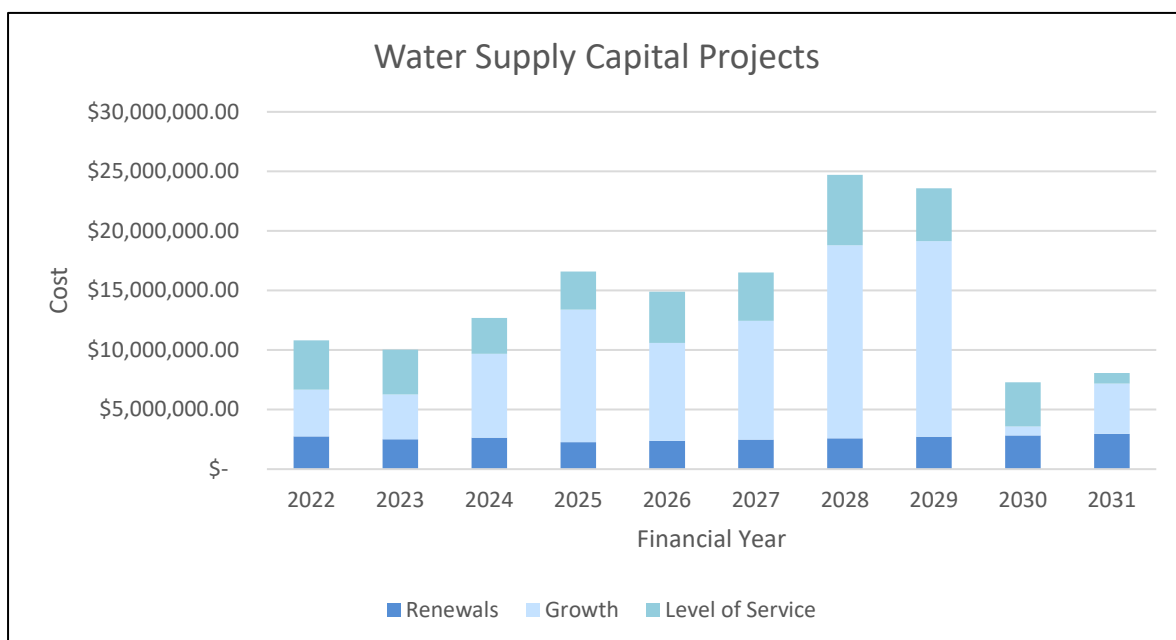


Figure 6: Water Supply Capital Projects - 10 Year Forecast

Wastewater Capital Projects

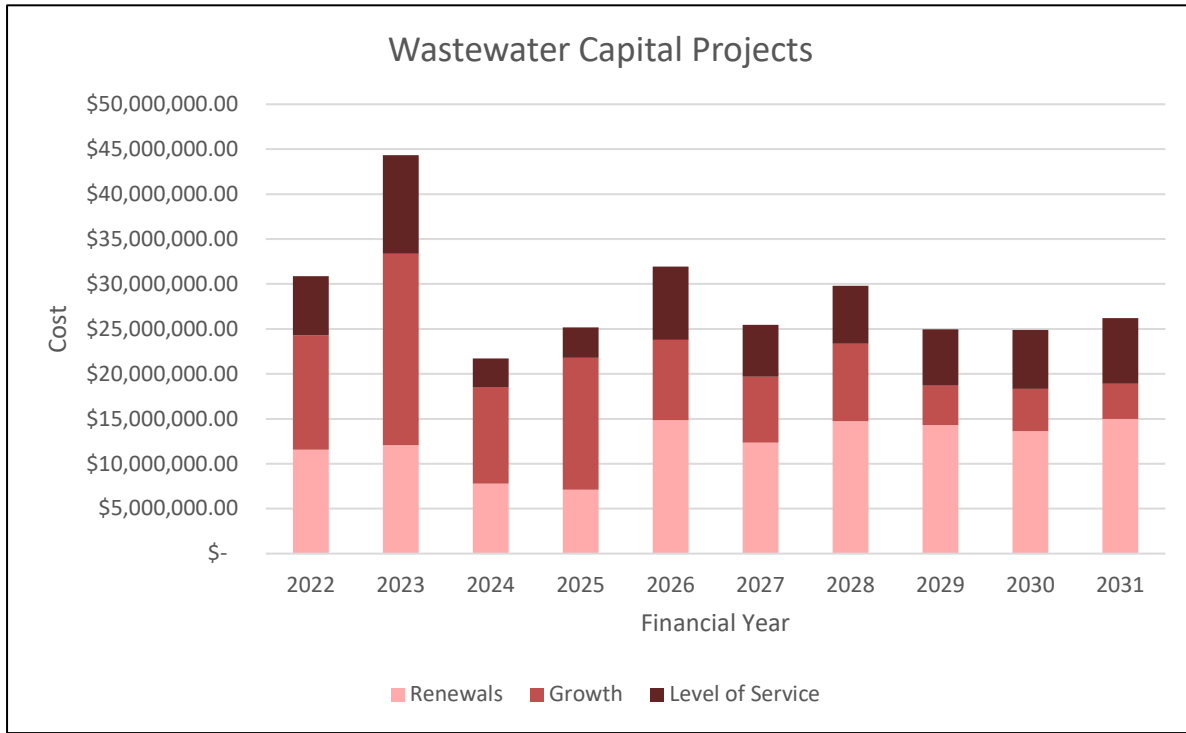


Figure 7: Wastewater Capital Projects - 10-year Forecast

Stormwater Capital Projects

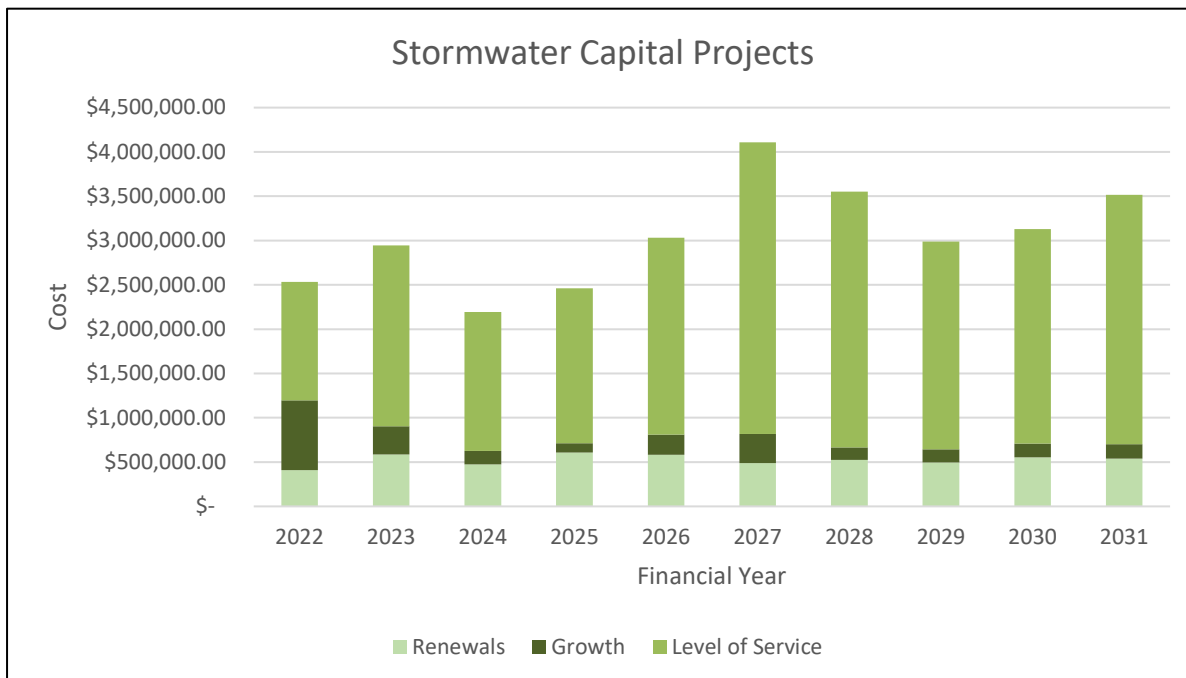


Figure 8: Stormwater Capital Projects - 10-year Forecast

8.3 Operational Expenditure

The following figure shows the 10-year operational programme for the three waters activities.

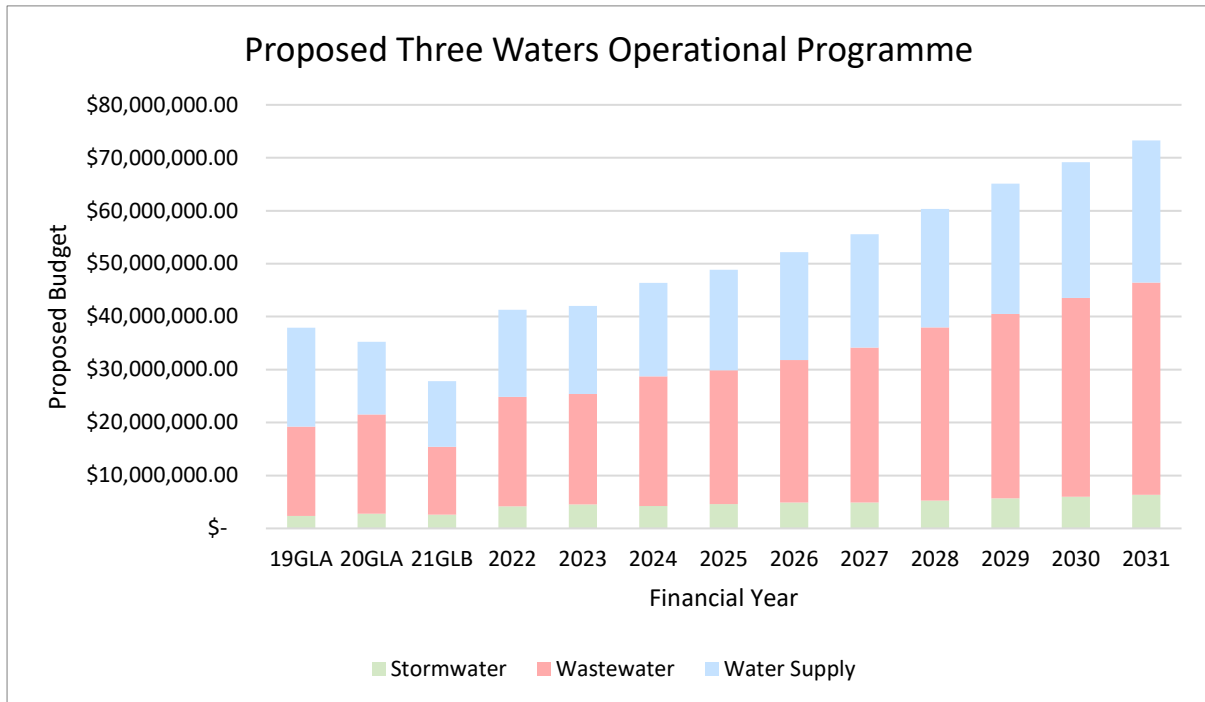


Figure 9: Proposed Operational Programme - Three Waters

Water Supply	Capital Cost	Indicative Year
Te Kauwhata water supply treatment plant renewals	\$36m	2026-29
Te Kauwhata water supply reticulation extensions	\$11m	2022-31
Te Kauwhata water supply reticulation upgrades	\$6m	2025-31
Tuakau water supply reticulation extensions	\$6m	2022-28
Te Kauwhata water supply reservoir extensions	\$6m	2022-28
Southern District Gordonton reservoir and pump station	\$5m	2027-30
Raglan Hills Reservoir No. 2	\$5m	2027-30
Ngaruawahia water supply reticulation upgrades	\$5m	2023-26
Pokeno water supply reservoir extensions	\$4m	2022-24
Pokeno water supply reticulation extensions	\$4m	2024-27
Raglan Water supply reticulation upgrades	\$4m	2022-26

Wastewater

	Capital Cost	Indicative Year
District wide wastewater treatment plant upgrades	\$53m	2029-31
Huntly wastewater treatment plant upgrades	\$47m	2026-28
Te Kauwhata wastewater treatment plant upgrades	\$36m	2022-23
District wide wastewater reticulation renewals	\$32m	2022-31
Raglan wastewater treatment plant upgrades	\$28m	2022-27
Pokeno wastewater pump station upgrades	\$26m	2022-26
Horotiu wastewater pump station upgrades	\$14m	2022-26
Wastewater pump station LOS imp – emergency storage	\$8m	2023-31
Tuakau wastewater pump station upgrades	\$8m	2022-23
District wide wastewater treatment plant renewals	\$6m	2022-31

Stormwater

	Capital Cost	Indicative Year
District Wide WQ, waterway and capacity upgrades	\$9m	2022-31
Tuakau stormwater reticulation upgrades	\$4m	2022-31
Pokeno reticulation upgrades	\$2.4m	2022-31
Raglan stormwater reticulation upgrades	\$2.3m	2022-31

9 Continuous Improvement

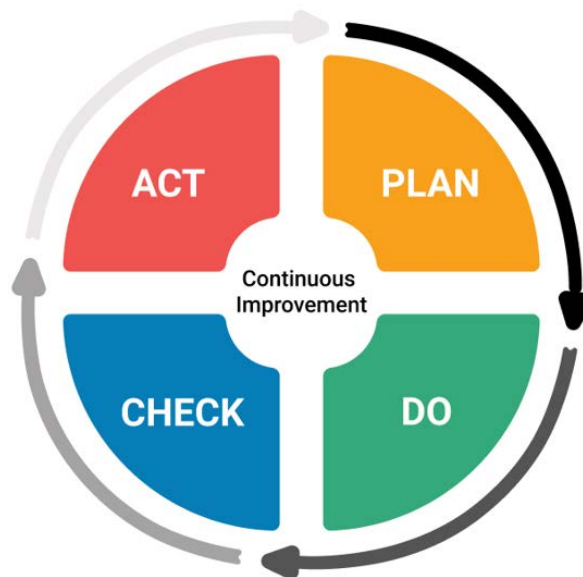
Continuous improvement is about identifying the maturity of asset management practices, improvements made since the last Asset Management Plan review and planning for future asset management improvement areas.

9.1 Overview

We are committed to fostering an environment of continuous improvement and the three waters activity adheres to this approach.

The following continuous improvement functions fall into four parts of the Plan, Do, Check, Act process:

- Plan – Set an Asset Management Maturity Target
- Do – Assess current practice
- Check – Compare current practice against target
- Act – Set Improvement Actions



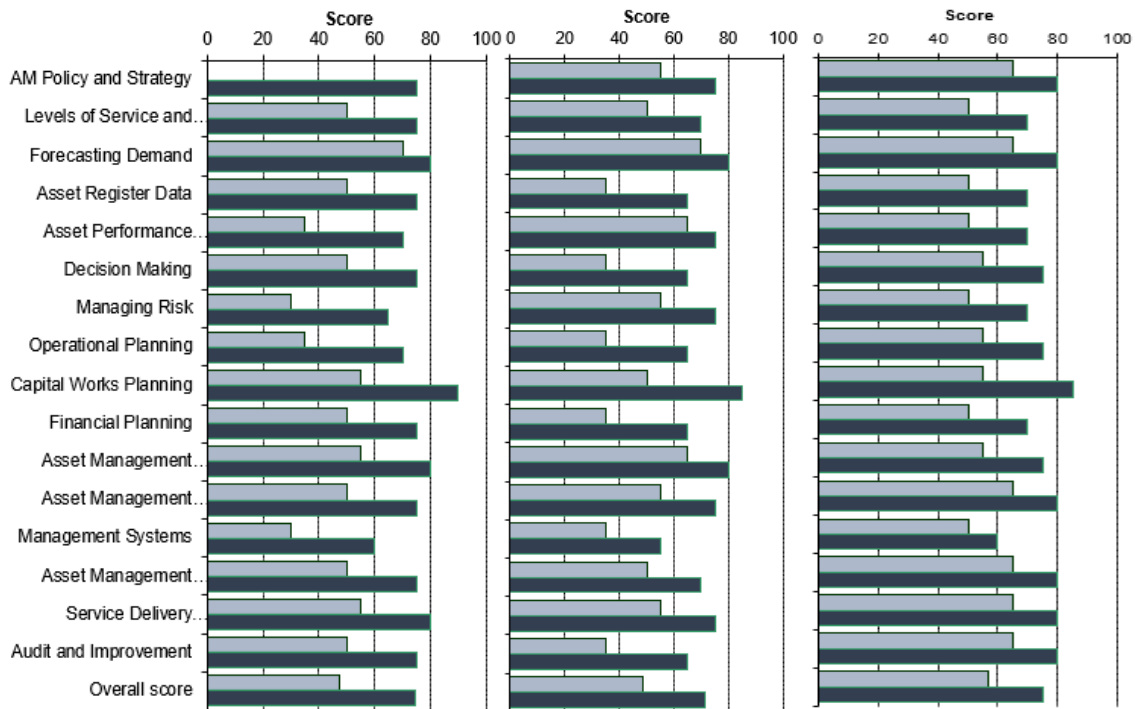
9.2 Current and Target Maturity Scores

Asset management maturity assessment is an effective tool for assessing the current maturity levels and identifying and provoking areas of improvement by measuring the difference between the current and target levels.

The strategic assessment for each activity shows an overall score of:

- Water supply – 48 out of 75, or a percentage of 64 of the target
- Wastewater – 49 out of 71, or a percentage of 69 of the target
- Stormwater – 57 out of 75, or a percentage of 76 of the target

The following figures are a summary of the overall results comparing current and target maturity scores.



□ Current Score
■ Appropriate Target



9.3 Improvement Plan

The purpose of the improvement plan is to identify improvements to this AMP, by:

- Identifying, developing and implementing AM improvement planning processes;
- Identifying additional risk or cost to Council;
- Identifying additional items to be included in the Annual Plan that may have risk or additional costs to Council;
- Identify and prioritise ways to implement cost-effective improvements to the quality of the AM plan; and
- Identifying indicative timeframes, priorities, human and financial resources required to achieve AMP improvements and assets.

A detailed improvement plan has been developed and is included in Part 9: Continuous Improvement.

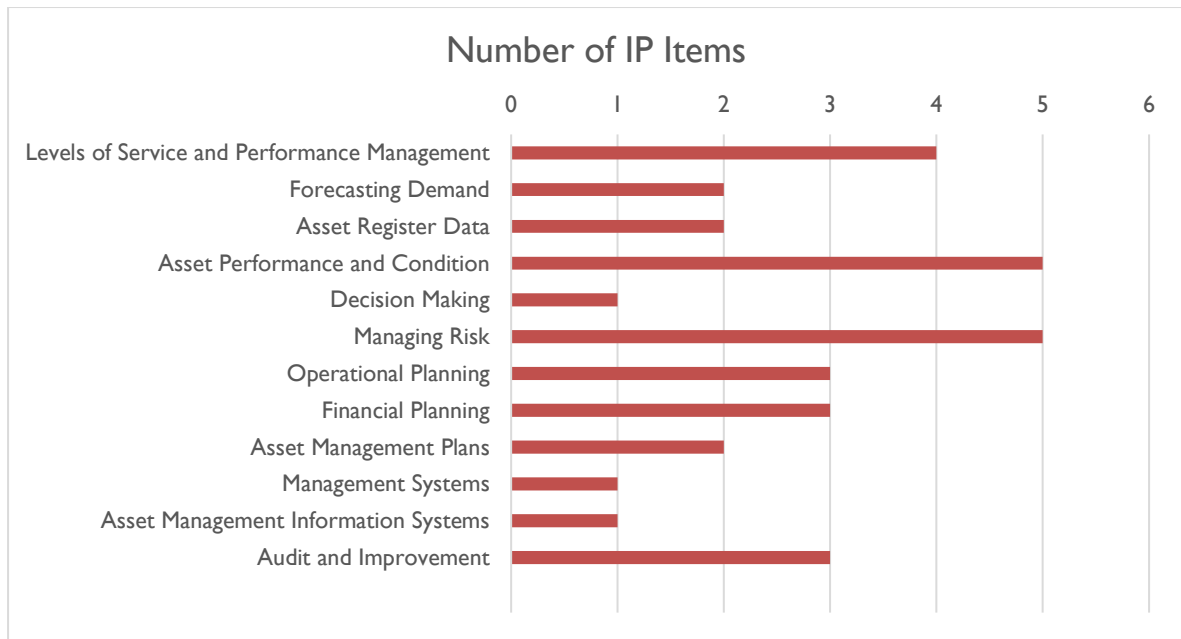


Figure 10: Number of Improvement Plan Items

Reference Icons



Throughout this AMP, there are linkages identified to Council’s other Corporate and Strategic documents, which are considered an essential element to the plan (identified by this symbol).



Throughout this AMP, there are improvement plan items, these are identified by the symbol to the left.