Wastewater Activity Management Plan December 2014







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Part I: The Business We Are In

A. Strategic Alignment

I. Purpose of Activity Management Plan

The purpose of this activity management plan (AMP) is to formally document the management philosophy that is applied to the wastewater infrastructure assets and the provision of wastewater services. 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 2015-2025 (LTP).

This long-term planning approach is considered necessary given the large capital and operating expenditure expected, the long lives of the assets and the lead times in planning for upgrades, replacements and the purchase or building of new assets. This AMP also aims to demonstrate that the service potential of wastewater assets is being maintained.

This AMP is based on Council's Activity Management Policy which aims to provide an intermediate level of asset management for this activity.

Asset Managers are committed to the preparation and implementation of sound AMPs for Wastewater infrastructure. The magnitude of this investment necessitates careful asset management.

2. Plan Timeframe

This AMP covers a 50 year timeframe. The plan assumes that the wastewater assets as a whole have an indefinite life and the main focus of the plan is determining the strategies required for maintaining, rehabilitating and renewing components over the next 50 years. It is intended that this plan be reviewed every year with a major update every three years prior to the LTP process.

3. Guide to the Plan

This AMP is made up of seven sections plus an Executive Summary. Each of the sections describes in detail the key processes, planning and practices that are undertaken for this activity. The Executive Summary is intended as a 'non-technical' summary of the key issues contained in the AMP.



Table 1-1: Guide to the Plan

Activity Manager	ment Plan Structure
Part I	The Business We Are In
Α	Strategic Alignment
В	About the Activity
С	Where We've Come From and Where We're Heading
D	Successes, Issues, Opportunities, Risks
E	Asset Management Plan Improvements
Part 2	The Services We Provide
Α	Our Customers
В	Levels of Service
С	Service Performance
D	Asset Management Plan Improvements
Part 3	Demand For Our Services
Α	Demand Drivers
В	Demand Forecast
С	Demand Management
D	Asset Management Plan Improvements
Part 4	Delivering Our Services
Α	How this Activity is Delivered
В	Sustainable Management
С	Risk Management
D	Disaster Recovery
E	Asset Management Plan Improvements
Part 5	Managing Our Assets
Α	Assets Profile
В	Looking After What We've Got
С	Providing for the Future
D	Capital Works Plan
E	Asset Management Plan Improvements
Part 6	Funding and Financial Strategies
Α	Financial Projections
В	Funding Strategy
С	Valuation Forecasts
D	Asset Management Plan Improvements
Part 7	Continuous Improvement
Α	Improvement Program
В	Data Reliability
С	Asset Management Plan Improvements

4. Strategic Planning Structure

4.1 Statutory Drivers

Statutory requirements impact on the way in which Waikato District operates to meet its obligations to its customers. Some of the key legislation for the wastewater activity is as follows:



Local Government Act 2002

The Local Government Act 2002 (LGA) is based on a sustainable, effective, responsible, responsive and accountable local government being fundamental to providing for the long-term well-being of communities. The LGA 2002 outlines the responsibilities of local government and the decision making process for activities undertaken on behalf of the community, primarily through the adoption of the LTP. The LTP identifies all Council activities, including wastewater and prioritises projects for future development based on the expectant outcomes of the community.

Health and Safety in Employment Act 1992

The objective of the Health and Safety and Employment Act 1992 is to promote the prevention of harm to all people at work, and others in, or in the vicinity of, places of work.

The emphasis of the law is on the systematic management of health and safety at work. It requires employers and others to maintain safe working environments, and implement sound practice. It recognises that successful health and safety management is best achieved through good faith co-operation in the place of work and, in particular, through the input of those doing the work.

Health Act 1956

This Act establishes the government structure required to enact and enforce health requirements, including the activities of local government.

Resource Management Act 1991 & Amendments

The RMA 1991 is New Zealand's primary legislation dealing with the management of natural and physical resources. It provides a national framework to manage land, air, water and soil resources, the coast, subdivision and the control of pollution, contaminants and hazardous substances.

The RMA has a single overarching purpose: "To promote the sustainable management of natural and physical resources."

The RMA establishes a hierarchy of policy documents from national instruments to regional policy statements, and regional (and district) plans. This 'hierarchy' and requirement to ensure consistency between plans, is to promote sustainable management and ensure integrated management of natural and physical resources at a national, regional and local level.

Civil Defence Emergency Management Act (CDEM) 2002

The Civil Defence Emergency Management Act 2002 (CDEM Act 2002) came into force on December 1, 2002. The CDEM Act 2002 ensures that New Zealand has the resources to manage disasters.

The Civil Defence Emergency Management Act 2002 requires:

- That the Waikato District Council and other district and city councils in the region form a Civil Defence and Emergency Management Group (CDEM Group).
- The development of a Civil Defence Emergency Management Plan that identifies risks from hazards and puts readiness, response and recovery procedures in place. The Plan is developed



with public input to ensure hazards and risks are dealt with to a level accepted by the community.

Rating Powers Act 1988

The Local Government (Rating) Act 2002 replaced the Rating Powers Act 1988 with updated and streamlined rating powers. The intention is to ensure that the community has the opportunity to be well informed about what its money is being spent on, and to express its views when major decisions are being made.

The three main purposes of the Act are to:

- Provide local authorities with flexible powers to set, assess and collect rates
- Ensure that rates reflect decisions made in a transparent and consultative manner
- Provide for processes and information to ensure that ratepayers can identify and understand their liability for rates.

Building Act 2004

In New Zealand, the building of houses and other buildings is controlled by the Building Act 2004. It applies to the construction of new buildings as well as the alteration and demolition of existing buildings. The Building Act 2004 has repealed the Building Act 1991 and introduces a number of changes to the law governing building work.

Waikato Raupatu Claims Settlement Act 1995

This Act establishes the framework and processes for council undertaking asset disposals where the land was originally confiscated.

Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010

This Act is recognises the significant relationship that Waikato-Tainui has with the Waikato River and sets out arrangements for co-managing the Waikato River catchment with the Crown. Council has a joint management agreement with Waikato-Tainui for the Waikato River catchment. In 2013 Waikato Tainui developed and adopted an Environmental Plan to provide high level guidance on Waikato Tainui objectives and policies with respect to the environment for resource managers, users and activity operators and those regulating such activities.

Nga Wai o Maniapoto (Waipa River) Act 2012

This Act is recognises the significant relationship that Maniapoto has with the Waipa River and sets out arrangements for co-managing the Waipa River catchment with the Crown. Council has a joint management agreement with Ngati Maniapoto for the Waipa River catchment.

Utilities Access Act 2010

This Act established a framework for a national code of practice to govern how utility operators and corridor managers co ordinate their access to transport corridors (including road and rail). The National Code of Practice for Utility Operators' Access to Transport Corridors allows the corridor managers the effectively manager their corridors while allowing utility operators the ability to use the corridors efficiently as possible to install, maintain and upgrade network infrastructure.



Climate Change Response Act 2002

This Act with incorporated amendments, lays out the legislative framework for the New Zealand Emissions Trading Scheme (NZ ETS). The NZ ETS is to help reduce emissions below business as usual levels and help New Zealand meeting is international obligations under the Kyoto Protocol and the United Nations Framework Conventions on Climate Change (UNFCCC).

Heritage New Zealand Pouhere Taonga Act 2014

4.2 This Act promotes the identification and protection, preservation and conservation of the historical and cultural heritage of New Zealand. National Standards

While there is no national standard relating to wastewater collection and treatment, the Council is obliged to comply with the requirements of the relevant Regional Authority (Waikato Regional Council), including any plans, rules and specific consents.

4.3 Regional Policies and Plans

The Waikato Regional Policy Statement provides an overview of resource management issues in the Waikato region. It provides policies and a range of methods to achieve integrated management of natural and physical resources across resources, jurisdictional boundaries and agency functions, and guides the development of sub-ordinate plans (regional as well as district) and the consideration of resource consents. The Waikato Regional Plan contains policy and methods to manage the natural and physical resources of the Waikato region. The plan implements the Regional Policy Statement.

4.4 Bylaws

Council implemented a Trade Waste Bylaw in July, 2008. Also in 2010, Council adopted the Franklin Trade Waste Bylaw 2007 (amended May 2007). These bylaws are due to be reviewed in 2015.

Activity Improvement 1 - 1: Review the existing Trade Waste Bylaws and create a new one for the whole district.

4.5 Policies & Strategies

Council has developed various policies and works in partnership with other agencies, to fulfil its role and align its activities to other agencies and organisations throughout the region. This means that in establishing its programmes, the council must be aware of the following policies, strategies and guidelines.

Activity Management Policy

Council has an Activity Management Policy which is used to guide all asset management planning processes within the organisation.

The objectives of the Activity Management Policy are:

- To outline the level of asset management appropriate for each activity for Council to achieve best asset management practice and meet statutory obligations.
- To provide for a consistent approach to asset activity management planning within Council and to ensure plans reflect the strategic direction of Council.



- To demonstrate to the community that Council recognises the critical importance of managing the District's assets and activities in an efficient and cost effective manner in order to deliver levels of service appropriate to current and future generations.
- To confirm a coordinated process for each activity that links its contribution to Community Outcomes with goals, specific levels of service, strategies and actions.

Significance and Engagement Policy

Section 76AA of the Local Government Act 2002 requires each Council to adopt a Policy on Significance and Engagement, which sets out:

- Council's general approach to determining the significance of proposals and decisions in relation to issues, assets, and other matters;
- any criteria or procedures that are to be used by Council in assessing the extent to which issues, proposals, assets, decisions, or activities are significant or may have significant consequences;
- how Council will respond to community preferences about engagement on decisions relating to specific issues, assets, or other matters, including the form of consultation that may be desirable; and
- how Council will engage with communities on other matters.

The requirement to have a Significance and Engagement Policy came into effect in August 2014 and replaces the previously required Significance Policy. Council is required to have a Significance and Engagement Policy in place by 1 December 2014.

Strategic Assets Policy

The Local Government Act 2002 (Sections 76AA and 97) requires that this policy shall identify all of the assets the Council considers to be strategic, as defined in Section 5 of the Local Government Act 2002.

Council has determined that wastewater services as a whole are considered to be strategic in nature.

Any decision to transfer ownership or control of a strategic asset or a decision to construct, replace or abandon a strategic asset cannot be made unless it has first been included in the LTP (and in a statement of proposal relating to the LTP).

All such actions relating to a strategic asset are automatically significant and must meet the requirements relating to significant decisions with the LGA, specifically Section 76AA.

Health and Safety Policy

Waikato District's Health and Safety Policy:

The council maintains Health and Safety Policies and procedures to protect the health and safety of the public and staff from injury or death.

This commitment is realised by:



- Managers and supervisors taking responsibility for the safety of staff by ensuring safety procedures and rules are understood and enforced.
- Ensuring that legislative requirements relating to Health and Safety are complied with at all times.
- Ensuring that safe work methods and practices are observed at all times.
- Providing a safe workplace, safe equipment and proper materials.
- Ensuring that safety will take precedence over short-cuts or expediency.
- Health and Safety and loss prevention is the responsibility of everyone and all employees must share in the commitment to act safely at all times for their own welfare and that of other employees, as well as that of the community.

Community Engagement Policy

The Council is committed to best practice community engagement and has adopted a policy to guide community engagement.

The objectives of the Community Engagement Policy are:

- To ensure that engagement between Council and our communities is applied by all staff with the aim of achieving effective outcomes whilst providing our communities with a sense of ownership, assurance and feedback in terms of addressing their specific issues. This will ensure that community engagement goes beyond merely making information available or gathering opinions and attitudes. Establishing standard practices for community engagement.
- Ensuring standard engagement practices are implemented by Council staff and external consultants employed by the Council.
- Ensuring that decision making processes are based on outcomes acquired from community engagement process, relevant legislative requirements and other Council policies.

Consultation Policy

The purpose of this policy is to ensure Waikato District Council complies with the Local Government Act 2002 and adopts a consistent approach to consultation with its community.

This policy sets out the Council's commitment to on-going and effective community consultation, the ways in which we will consult and consultation processes.

Risk Management Policy

The Council's Risk Management Policy documents the Council's response and approach to Risk Management issues and the range of techniques, procedures and actions that will be used to minimise the impact of any risk.

Wastewater Policies

The table below lists some of the key Council policies that are relevant to the provision of wastewater services across the Waikato District.

Table 1-2: Council Policies Relating to Wastewater

Policy Name	Status	Review Dates
Activity Management Policy	Current	September 2016
Trade Waste Agreements (W/1990/6/16, 1997/8/17,	Current (Franklin)	Various dates for each



Memo 17/9/2004, 2007/11/50)		consent
Trade Waste Charging Bylaw (SP/2007/9/25,	Current (Franklin)	2014
2010/5/10)		
Funding of Water and Wastewater Supply	Current	Origin date 2005(no
Extensions by Developers (WDC05/33/1/3)		review date specified)
Council as a Lead Developer (WDC05/33/1/3)	Current	Origin date 2005(no
		review date specified)
Council initiated investigations into Utility Supply	Current	Origin date 2005(no
Extensions (WDC05/33/1/3)		review date specified)

The table below lists some of the key strategies and guidelines that are relevant to the provision of wastewater services across the Waikato District.

Table 1-3: Strategies and Guidelines Relating to Wastewater

Strategy/Guideline Name	Status	Review Dates
Hamilton City Development Manual	Current	No review date specified
District Growth Strategy	Current	No review date specified
Future Proof	Current	
Franklin District Council Code of Practice for	Current (Franklin)	No review date specified
Subdivision and Development		
Sub Regional Three Waters Strategy	Current	2061 with specific goals
		to be reviewed as
		required

4.6 Relationship with other Plans and Documents

Waikato District has a number of key internal and external strategic documents in place that govern many of its activities. These relate to, and will assist, in working towards the achievement of the community outcomes. The relationship between this AMP and other documents is shown in **Error!** eference source not found. and Table I- 4.Error! Reference source not found.

Table I- 4: Cyclic Planning Relationships with other Plans, Reports and Docu	ments
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Plans/Documents	Description	Frequency
Long Term Plan (LTP)	The LTP sets out an agreed vision and community outcomes for Waikato District. The framework of this plan is in line with the requirements of the Local Government Act 2002 (LGA 2002). This plan will assist the Council in promoting sustainable practices as well as assisting the community to determine over time what 'outcomes' could and should be.	Must be produced every three years. Consultation for community outcomes must be undertaken every 6 years.
Annual Plan	The works identified in the AMP should automatically become the basis on which future Annual plans	Must be produced in the intervening years between LTPs. Every third year the annual plan is



	are prepared.	embedded in the LTP
Annual Report	The Annual Report is the mechanism to report back to the community, showing Council's achievement against Annual Plan and LTP targets.	Must be produced every year to report progress
Internal Strategic Plan (Our Plan)	Our Plan is our core internal strategy for how we're going to deliver the Long Term Plan. It contains work streams of multiple projects which contribute to the council's strategic direction and vision.	Three year plan which should be reviewed yearly in conjunction with adoption of the Annual Plan.
Activity Management Plans (AMP)	Levels of service, growth, risk, maintenance, renewal and development works and strategies are identified and budgeted for within this plan. This information automatically feeds into the LTP.	Should be reviewed and aligned every year prior to the LTP and Annual Plan process
District Plans	Policies and objectives for land use and infrastructure, including designations of future works to be reflected in the AMP	As applicable
By-laws, Codes of Practice and Standards	These tools have been developed in support of the AMP and apply mainly to the creation of new assets and subsequent management of them.	As required
Water and Sanitary Assessments	These assess the current provision of wastewater services across the District and identify the potential effects of future growth.	Should be developed by all local authorities and reviewed from time to time.
Business Plans	Business Plans set out the activities and services that each team will undertake and provide during a financial year. They also set out the key performance indicators for each team. Business Plans deliverables are linked to the LTP, Annual Plan, Annual Report and Our Plan.	Developed annually
Contracts	The service levels, strategies and information requirements contained in the AM plan become the basis for performance- orientated contracts let for service delivery.	As required



4.7 Waikato District Council – Strategic Planning Structure

The figure below sets out Waikato District Council's strategic planning hierarchy which links the Council's vision, goals and objectives to specific activities carried out by Council.

Council Vision

Create a district that prides itself on economic excellence, local participation and sustainable communities

Goal

Identifies where the Council wants to be or what it wants to have

(Our goals relate to our Guiding Principles)

Objective

Identifies the **things the Council aims to achieve** in meeting current and future needs of communities and running an efficient organisation

(Multiple objectives can apply to an activity – to align with each goal)

Level of Service

What our customers can expect : The service levels that the Council intents to provide to external and internal customers

(We have levels of service that relate to external customers in the LTP and levels of service that relate to internal customers in business plans)

Action

Describes the specific steps the Council will take to achieve the levels of service and ultimately the goals.

(Actions can relate to the LTP or to business plans. Implementation of actions can exceed a single year)

Key Performance Indicator

Show how well we are performing

(They are used to monitor and assess operations and show our level of performance. Can be reported by type - i.e. LTP/Business etc.)

Figure 1-1: Waikato District Council's Strategic Planning Structure

The relevant goals, objectives and levels of service for wastewater, which link to the LTP, are included on the following page.



Table 1- 5: Relevant Goals, Objectives and Levels of Service Relating to Wastewater

GOAL	OBJECTIVE	LEVEL OF SERVICE
People : We will develop and maintain relationships and partnerships and provide accessible services, facilities and activities, which create a supported, engaged, healthy, safe community.	Waters Infrastructure: To ensure that the council's water infrastructure protects community health and safety, supports safe and healthy sanitary conditions and, minimises disruption and harm to businesses and homes and conforms to established public health standards.	The wastewater system is operated to minimise health risks.
Economy: We will promote sustainable growth, maintain accessible, safe and connected infrastructure and services, create an attractive business environment and provide sound financial governance.	Waters Infrastructure: To ensure that the waters infrastructure networks is managed and maintained to ensure it is both cost effective and reliable, ensuring it supports current and future demands and meets water industry best practice.	The wastewater system is reliable, efficient and effective.
Energy : We will provide active leadership, empowerment and collaboration in our business environment and we will effectively and sustainably manage natural resources.	Waters Infrastructure: To ensure that the water infrastructure network is managed effectively to minimise wastage and ensures that water is sustainably and appropriately collected, treated and disposed of to protect the environment.	Wastewater treatment and disposal minimises harm to the environment.

Note that these are proposed goals, objectives and levels of service and will be confirmed via public consultation through the 2015/2025 Long Term Plan.

AMP Improvement 1 - 1: Update goals, objectives and levels of service when the 2015/2025 Long Term Plan is adopted.



B. About the Activity

I. Activity Description

The wastewater activity applies to all wastewater systems owned and managed by Council. This includes wastewater treatment plants, pump stations and the reticulation network.

2. Rationale for the Wastewater Activity

The Council's wastewater portfolio is retained, managed and operated as a strategic leadership role that the Council takes in supporting economic excellence and sustainable communities in the District.

Economic excellence in the district is retained through ensuring that wastewater is collected and delivered to centralised facilities for treatment in a safe and reliable manner. Discharged water quality is more easily controlled, business overheads are lowered through economies of scale of not having to provide localised solutions.

Similarly, communities are more sustainable through centrally managing our wastewater collection and treatment. Direct benefits of providing a wastewater collection service to entire communities include reduced costs and safer, more reliable treatment than areas without a scheme. The quality of the immediate groundwater is protected, thus resulting in healthy communities. These benefits are of strategic importance as the council seeks to lead the district in supporting sustainable communities.

The legislative justification for asset ownership is covered under the following Acts and Sections:

- Section 130 (Local Government Act 2002) states the obligation of local government to continue to maintain existing water services to communities within the district or region.
- Sections 23, 25, 28 and 29 of the Health Act 1956 imply an underlying obligation to provide wastewater services because of its essential nature to public health. The Act provides guidance to the Local authority to provide sanitary works which covers a range of areas from water supply to cemeteries and includes sewerage works.

3. Effects of this Activity

Schedule 10 of the Local Government Act covers the information required to be included in the LTP. Part I, Section 2 (I) (c) states that an LTP must, in relation to each group of activities of the local authority:

(c) Outline any significant negative effects that any activity within the group of activities may have on the local community.

The purpose of identifying significant negative effects is to ensure that Council activities are conducted in accordance with the principles of sustainability. The wastewater activity has the potential to have negative effects on community wellbeing.



Although legislation requires us to identify the significant negative effects of each activity we have broadened this analysis to include both positive and negative effects, to provide a more balanced picture of the impact of our activities on community well-being.

This sub-section provides information on the effects relating to wastewater.

Wellbeing	Positive Effects	Negative Effects	Mitigation of Effects
People	 Wastewater treatment schemes provide a safe disposal method for urban areas where smaller section sizes are unsuitable for onsite treatment Wastewater treatment schemes decrease the risk of infection in the urban environment as there is no requirement for septic tanks Respects cultural sensitivity around receiving environments 	 The cost of providing, operating and maintaining the schemes is high due to energy requirements Unless properly maintained there can be problems with foul odour Creates an ongoing need for the disposal of sewage sludge 	 We will continue to encourage households to reduce the amount of wastewater they produce, for example through reuse of grey water for garden irrigation We will continue to investigate alternatives for the sustainable disposal of sewage sludge When looking for solutions for small communities, consider alternatives to traditional public wastewater systems.
Economy	 Allows for better use of the available developable land Provides infrastructure to enable business development in the community A wastewater system that is working well and meeting its levels of service, will increase property values and ensure our towns are good places for people to 'live, work and play' 	 Restricted capacity can result in constraints on development potential and business capacity The cost of the investment in infrastructure Significant costs and time to implement system upgrades and overflow reduction improvement projects Significant compliance costs for developers, businesses and individual households 	 We will continue to monitor our wastewater systems to ensure they are working well and meeting levels of service Reduce overflows and mitigate the effects of the overflows
Energy	 Receiving environments are improved Having wastewater treatment plants reduces 	 Receiving waters may be adversely affected if wastewater is not properly treated and, 	• We continue to monitor treated effluent to ensure it meets the conditions of resource

Table 1- 6: Effects	Relating to	Wastewater
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the amount of untreated	where overflows occur,		consents
effluent entering the	could adversely affect	•	Consider low impact
environment	health through		and environmentally
	consumption of		friendly systems when
	contaminated shellfish		planning for wastewater
	and other kaimoana		upgrades or
•	Ecosystems in the		implementation of new
	receiving environments		systems.
	may be adversely affected	•	Environmental damage
	by spills or overflows of		during the construction
	untreated sewage; smell		of new works is
	and noises from the		mitigated through
	wastewater treatment		resource consent
	plants and pumping		conditions
	stations may create	•	Consider options for
	nuisance or impact public		management of biosolids
	health and the operation		in conjunction with
	and maintenance of our		other waste streams and
	assets		dispose biosolids
•	The operation and		appropriately if
	maintenance of our assets		processing is not
	include the production of		feasible.
	greenhouse gases through		
	energy use, wastewater		
	treatment processes and		
	biosolids		

The significant negative effects identified above can be managed and/or mitigated by effective risk management, asset management and operational procedures.

4. Wastewater at a Glance

4.1 Activity Overview

The Service Delivery Group is responsible for the efficient management of all Council's wastewater infrastructure at Ngaruawahia, Hopuhopu, Huntly, Te Kauwhata, Raglan, Tuakau, Meremere, Rangiriri, Taupiri, Horotiu, Matangi, Te Kowhai Road, Maramarua, Te Ohaaki and Tauwhare Pa. Management includes network development, maintenance, and disposal of network components such as pipes, manholes, pump stations and treatment plant equipment.

There are five main wastewater schemes; Huntly, Central District, Raglan, Mid Waikato and North Waikato servicing the urban areas of the district. There are five smaller village schemes; Te Kowhai, Meremere, Matangi, Tauwhare Pa and Maramarua.

Approximately 35% of rateable properties are connected to a council scheme.



Table I- 7: Wastewater Asset Overview below provides a breakdown of the key assets and their value.

 Table 1- 7: Wastewater Asset Overview

Type of Wastewater Asset (as at I st Jan 2014)	No.	
Wastewater pipes*	262km	
Manholes*	3,620	
Pumping Stations*	81	
Number of Connections**	10,575	
Treatment Plants*	9	
Value (as at 30 Jun 2014)		
Gross Replacement Cost***	\$135 M	
Optimised Depreciated Replacement Cost***	\$75 M	

Source: *Asset Finda 2014, **Rates Strike 2013/14, ***2014 Beca valuation.

4.2 Funding

The wastewater activity is funded through targeted rates, development contributions and loans.

Add in summary of costs once Part 6 has been written

5. Organisation Structure

The organisation structure for the WDC is displayed in

Figure 1-2: WDC Organisation Structure

The three main groups are Service Delivery, Customer Support and Strategy and Support. The wastewater activity is primarily managed and operated by the Service Delivery group, with assistance provided from the other two groups, including the following units, Finance and Planning and Strategy.





Figure 1-2: WDC Organisation Structure

5.1 Wastewater Activity Management Structure

The Council management structure for the wastewater activity is shown in Figure 1- 3: Wastewater Service Delivery Structure

. The wastewater activity is entirely delivered within Council. This includes asset management planning, capital and operational project management, operation and maintenance of the wastewater treatment plants and reticulation networks.





Figure 1-3: Wastewater Service Delivery Structure



C. Where We've Come from and Where We're Heading

I. History of the Wastewater Activity

Waikato District Council provides a public wastewater system to the community to collect, treat and dispose of domestic and commercial/industrial wastewater. Generally only the urban areas of the community are provided with this service, but there are a number of small villages that also receive this service. Rural areas outside of the reticulated systems are reliant on on-site wastewater management systems of varying degree.

Council currently manages ten public wastewater schemes, one of which is discharged into a Watercare facility. The treated effluent from each scheme is discharged to land, river or lake.

The locations of the ten wastewater schemes in the District are shown in the figure below.





Figure 1-4: Location of Waikato District Wastewater Schemes



The wastewater schemes are of varying sizes, treatment qualities and age across the district. Several of the schemes that Council now operate and maintain were inherited from businesses and groups within the local community that they served. Only six of the schemes were created by the local government body of the time. Tauwhare Pa is Council's newest scheme.

The key issues facing the wastewater activity are compliance with regional consents and managing demand for high growth areas.

2. Variation between Long Term Plan and Assessment of Water and Sanitary Services and Waste Management Plans

Part 6 of Schedule 10 of the LGA 2002 requires that Council's Long Term Plan identify and explain any significant variation between proposals in the Long Term Plan and Council's Water and Sanitary Service Assessments and Waste Management Plan.

Section 125 of the Local Government Act 2002 requires Council to assess the provision of water services (water supply and wastewater) and other sanitary services (public toilets and cemeteries) from time to time. Waikato District Council last updated its Water and Sanitary Services Assessment in 2008.

Section 126 of the Local Government Act 2002 describes the purpose of water and sanitary assessments as follows:

The purpose of an assessment under section 125 is to assess, from a public health perspective, the adequacy of water and other sanitary services available to communities within a territorial authority's district, in light of:

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

The following outlines the variations from the 2008 assessment in terms of wastewater:

- For Glen Afton, Glen Massey and Renown, the project plan was to undertake a health and environmental impact assessment and apply for funding from the Ministry of Health for a public wastewater system. Health and Environmental Impact assessments have not been undertaken and funding from the Ministry of Health is no longer available. As part of the next WSSA, if these areas are still raised as concerns, the Waikato Regional Council will be contacted to investigate further with support from the Council.
- Huntly and Ngaruawahia wastewater treatment plants have been upgrade to address consent compliance in 2014.
- Wastewater extensions into Harris Street, Te Ohaaki, Whale Bay and Whaanga Coast have been completed.



• Tauwhare Pa now has a reticulated wastewater system.

3. Strategic Direction of the Wastewater Activity

In 2009 Waikato Regional Council, Hamilton City Council, Waipa and Waikato District Councils and Taangata Whenua developed the sub regional growth strategy known as "Future Proof" which covered a 50 year horizon looking at all aspects of growth from planning to infrastructure. This strategy identified that the Three Waters needed to be considered holistically and that the issues facing the Three Waters in the region went beyond the ability to meet growth and demands.

In 2012, Council adopted the Sub Regional Three Waters Strategy, this document sets the strategic focus and direction on critical Three Waters issues across the sub region. Development of a sub regional action plan was a requirement for implementation out of this strategy.

Council has been working with its partner councils (Hamilton City and Waipa District) to develop a sub regional action plan to address the strategic issues identified in the strategy, the aim is to have this adopted before the next LTP.

The development of a Waikato 50 year Wastewater Strategy is underway and is expected to be completed in October 2014. The purpose of this document is to review the wastewater activity at a district wide level and provide direction for how it should develop over the next 50 years. Taking into consideration the different issues our district will face from high rate growth in the north to declining rural communities. This document is expected to support the sub regional strategy with the district focus for Waikato.

From an operational perspective, the focus will initially be on ensuring all wastewater schemes are compliant with all relevant regional consents. With the implementation of the new staff structure (as of January 2013), the aim is for the Waters Operations team to focus more on the maintenance aspects of the activity, move towards proactive rather than reactive management.

Also as part of the restructure, a dedicated position was created with direct responsibility for waters compliance. The Waters Compliance Officer is responsible for ensuring the Council meets its obligations in regards to resource consents and any other legislative compliance required in the wastewater activity.

The operational business plans will be developed by the teams in the Waters unit and will support the business direction of the activity.



D. Successes, Issues, Opportunities and Risks

I. Key Success Factors

In 2012 a shared services agreement with Hamilton City and Waipa District Councils was established, the purpose is to identify and implement areas of the waters activity that could benefit from a shared service approach across all three councils, thus providing efficiencies and costs savings.

There have been two services that have been implemented that directly benefit the wastewater activity:

- Sampling and analysis shared service, which relates to the coordination of all water sampling and analysis needs across the three councils.
- Trade Waste Service, which relates to the coordination and administration of trade waste across all three councils.

2. Key Strategic Issues

The key strategic issues for the sub region and subsequently for Council are as follows:

- Ensuring the protection and improvement of public health and safety and providing appropriate water sanitary services and hazard management practices
- Meeting future anticipated and planned for growth demands
- Planning for and adapting to climate change
- Ensuring that decisions relating to the Three Waters are underpinned by best practice, research and knowledge
- Ensuring quality, efficient and sustainable infrastructure
- The need for integration of:
 - Relevant Council functions
 - Inter Council departments
 - The Three Waters
 - Land use and water planning and management
- The availability and allocation of water
- Ensuring that iwi and hapu are involved in the management of Three Waters and Taangata Whenua values, aspirations and interests are identified and reflected.
- Ensuring protection and where possible the enhancement of the natural environment.

Specific issues for WDC in terms of the immediate future, is managing the demand requirements for Tuakau and Pokeno which are both experiencing high rates of growth due to their proximity to Auckland, which is experiencing a housing shortage.

Demonstrating compliance with regional consents is another critical issue facing the wastewater activity.



3. Opportunities for Future Improvement

Shared service opportunities for the delivery of treatment and reticulation services are currently being considered.

Other areas for shared services will be considered as the opportunities arise.

The treatment plants have undergone an operational review (undertaken by CH2M BECA consultants), a number of recommendations have been made, and are being considered. Any capital works required will be incorporated into the Long Term Plan.

4. Key Strategic Risks to Provision of Service

4.1 Risk Management

The objective of risk management is to identify and manage any uncertain event or condition (risk) that has the potential to have a negative impact on Council. The Waikato District Council has a risk management policy, risk management framework and risk management processes which outline the philosophy and methodologies for systematically identifying, assessing, managing and monitoring risks at various levels within the organisation. The three levels at which risk management is applied are, Strategic level, Operational level and Project level.

Risks associated with the ownership and management of the wastewater assets are classified as Operational risks as they are specific to and managed by the Waters Unit. Once identified and listed in a risk register, there can be the specific business risks, together with any possible risks to the health and safety of employees, other contractors and the travelling and general public, associated with the ownership and management of the water supply assets. This can be used to determine the direct and indirect costs associated with these risks, and form a priority-based action plan to address them.

4.2 Key Risks

Council policy and operation cannot influence all the factors contributing to these events. However, Waikato District Council has a responsibility to assess the risks in order to best manage the network within the resources available to avoid and mitigate the effects of any event. The Waikato District Council also has a responsibility to ensure that plans are in place to ensure business continuity in the case of an event.

In addition, Waikato District Council has highlighted a number of key risk areas across the activity including:

- External Economic Influence (Cost Escalations)
- Inadequate Maintenance / Operations Management
- Loss of Organisational knowledge
- Non-compliance with Legislation and Legal Requirements
- Moderate Natural Hazard Damage
- Loss of services due to system failure



- Lack of Internal Skilled Resources
- Flooding from Increased Rainfall Intensity and Frequency

These are discussed in further detail in Part 4: Delivering Our Services section of the AMP.



E. Activity Management Plan Improvements

Assessment Element	Question Area	New AMP Part Reference	Status
Council has defined the Appropriate AM Practice it has/is adopting	a. AM Policy adopted by Council	IA	Completed
Council has defined the Appropriate AM Practice it has/is adopting	b. AM policy aligned with AM improvement plan	IA	Completed
Clearly identifies issues associated with the service	a. All significant issues are shown and mitigation or resolution shown	ID	Completed
The core services issues are debated	a. Is the need for the service within the district and why do we continue to provide this service, discussed in the AMP	IB	Completed

Table 1-8: AMP Improvement – Progress since 2012 AMP Peer Review

Table 1-9: 2015 Summary of AMP Improvements

AMP Improvement 1 - 1: Update goals, objectives and levels of service when the 2015/2025 Long	
Term Plan is adoptedI	I

Table 1- 10: 2015 Summary of Activity Improvements

Activity Improvement I - I: Review the existing Trade Waste Bylaws and create a new one for th	ne
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4.2	Actual PerformanceIo
	Consent Compliance
D.	Activity Management Plan ImprovementsI



Part 2: The Services We Provide

A. Our Customers

Council sets performance targets for key service levels in the wastewater activity. Some targets are defined by statutory requirement, others in conjunction with the community and some with key stake holders.

I. Wastewater Services

I.I Urban and Rural Consumers

Waikato District Council is responsible for collection, treatment and disposal of wastewater from consumers in the following communities:

- Ngaruawahia
- Horotiu
- Taupiri
- Hopuhopu
- Huntly
- Te Kauwhata
- Meremere
- Rangiriri

- Raglan
- Te Kowhai
- Maramarua
- Matangi
- Tauwhare Pa
- Te Ohaaki
- Tuakau
- Pokeno

2. Key Users

In addition to urban and commercial customers, Brinks and the Spring Hill Corrections facility are key customers.

Through our shared services trade waste team, more focus has now been put on our trade waste area and the customer base for trade waste is steadily expanding.

Spring Hill Corrections is the only customer which has a current individual service agreement in place. In progress are discussions with Yashili, a major dairy company, in developing a special agreement which covers water and wastewater servicing for its site in Pokeno. Once the company is in production (scheduled 2015), Yashili will become Council's largest trade waste customer.

3. Relationships with Key Service Providers

3.1 Wastewater Treatment for Tuakau

Council has a current agreement with Watercare Services Ltd, to take and treat wastewater from Tuakau. This was signed in 2010 as part of the Auckland Council amalgamation.

Council is currently in discussions with Watercare to update and expand this agreement to:



- allow for the future growth demands currently being experienced in Tuakau;
- include the Pokeno wastewater discharge in the agreement (currently this is being discharged through the Tuakau network); and
- include provision of water services, specifically to Tuakau and Pokeno.

AMP Improvement 2 - 1: Update to reflect revised agreement with Watercare Services Ltd when completed.

3.2 Shared Services

Council has partnered with Hamilton City and Waipa District Councils to provide joint services in the areas of Trade Waste, Water Sampling and Analysis and Smart Water (Water Conservation Programme Management and Education).

3.3 Various Consultancies and External Contractors

The Council uses a range of consultancy services and external contractors for operations and construction projects for the wastewater activity.

Council currently has one long term maintenance contract which covers Electrical and Telemetry services for the three waters with Northern Electrical which is due for renewal in 2017.

Activity Improvement 2 - 1: Prepare replacement long term maintenance contract for electrical and telemetry services in 2016.

4. Key Partnerships & Stakeholders

4.1 Key Partnerships

- Neighbouring Councils
- Shared Services (with Hamilton City Council and Waipa District Council)
- Waikato Regional Council
- Community Groups and Boards
- Iwi and Tangata Whenua
- Joint Management Agreements with Waikato Tainui and Ngati Maniapoto
- Watercare Services Ltd

4.2 External Stakeholders

- The community citizens and ratepayers
- Other Government agencies (Fire Service, Department of Building & Housing, Ministry of Health, District Health Boards, Department of Conservation, Department of Corrections)*
- Utility Companies
- Developers
- Contractors



- Professional service providers
- Regulatory and monitoring bodies
- Schools, Ministry of Education

* As the district is vast, with some departments, council is required to liaise with more than one branch, e.g. Waikato Fire Area and Counties Manukau Fire Area, Waikato District Health Board and Auckland District Health Board

4.3 Internal Stakeholders

- Elected Representatives
- Asset Managers and AM Staff
- Operational Staff
- Financial Managers
- Strategic Planners
- Information Technology and GIS staff
- Council Staff (in general)
- Site Managers

5. Community Involvement

Council interacts with its customers and formally agrees community expectations via consultation on the following plans.

5.1 Long Term Plan

Every three years, Council prepares a Long Term Plan (LTP) which outlines the levels of service and planned works to improve or maintain its services to the community. The LTP is updated annually and undergoes a public consultation process. During the consultation period, the community is invited to provide submissions on the LTP, including the wastewater activity.

5.2 Structure Plans

The Council uses structure plans as a framework to guide the development or redevelopment of a particular area. The purpose of a structure plan is to define a community vision for future development and define a spatial layout and pattern of different land uses as well as the location and distribution of key infrastructure and services.

The structure plan programme is set by Council and is reviewed in response to growth demands.

The adopted programme is as follows:

- Tuakau (underway)
- Ngaruawahia (underway)
- Huntly (commence in 2016)
- Matangi (commence in 2018
- Gordonton (commence 2019)



5.3 Community Plans

Community plans are vehicles for discussion on which future outcomes for communities are determined. Community plans outline key issues facing the community and projects which have been identified and prioritised to feed into the Council's long term planning process.

Community plans can be used as a useful reference tool when developing other plans such as the Long Term Plan, the Waikato District Plan and structure plans.

The community plan programme is set by Council and each community plan is reviewed on a 10year cycle.



B. Levels of Service

I. Overview

Activity management (AM) planning enables the relationship between levels of service and the cost of the service (the price/quality relationship) to be determined. This relationship is then evaluated in consultation with the community to determine the levels of service they are prepared to pay for.

Defined Levels of Service (LoS) can then be used to:

- Inform customers of the proposed LoS
- Develop AM strategies to deliver LoS
- Measure performance against defined LoS
- Identify the costs and benefits of services offered
- Enable customers to assess customer values as accessibility, quality, safety, and sustainability.

In this context LoS define the quality of delivery for a particular activity or service against which service performance can be measured.

2. Local Government Act 2002 Requirements

2.1 Purpose of Local Government

Section 10 of the Local Government Act 2002 states:

(I) The purpose of local government is:

(a) to enable democratic local decision-making and action by, and on behalf of, communities; and

(b) to meet the current and future needs of communities for good-quality local infrastructure, local public services, and performance of regulatory functions in a way that is most cost-effective for households and businesses.

(2) In this Act, good-quality, in relation to local infrastructure, local public services, and performance of regulatory functions, means infrastructure, services, and performance that are:

(a) efficient; and

(b) effective; and

(c) appropriate to present and anticipated future circumstances.

The table below describes how the wastewater activity complies with the requirements of Section 10.

Table 2-1: Section 10, Local Government Act 2002 Compliance

Criteria Activity Compliance



Cost effective for households and businesses	Customers pay for Council a wastewater service as part of their annual rates. Charges are fixed based on actual operational costs and set three years in advance to provide certainty to the community. Only customers who receive the service receive a charge. Costs are also benchmarked against other Councils in New Zealand.
Efficient	 Council's wastewater is efficient as: Council has consents in place with the Regional Council with limits around water quality and quantity. Each plant has been specially design to meet those parameters. Council has an infiltration and inflow strategy which describes measures to prevent and eliminate stormwater and groundwater entering the wastewater system. Council has an water use education programme from which wastewater receives a secondary benefit through efficient potable water use.
Effective	 Council's wastewater is effective as: Levels of service are agreed with the community. Works are planned in the draft LTP 2015/25 to allow Council to fully meet its wastewater level of service. Public health environmental and legislative requirements are monitored. Works are planned in the draft LTP 2015/25 to allow Council to fully meet public health, environmental and legislative requirements. Key issues are managed within a formal risk management framework The community is surveyed about this activity and associated services.
Appropriate to present and anticipated future needs	Council has a long term strategy for the wastewater activity, which is updated regularly with predicted population and other future demand information. Works are then programmed in the draft LTP 2015/25 and Infrastructure Strategy to allow Council to meet future needs.

2.2 Developing LoS

Schedule 10, Section 2 (d) of the Local Government Act 2002 provides some specific requirements which must be included within the LTP as follows:

- The intended LoS, its associated performance measures and the measures targets are required to be stated for each group of activities
- Performance measure targets are to be set in detail for the first 3 years and in outline for the next 7 years
- Any intended change to the LoS from what was provided the year previous and the reason for the changes; and
- The reason for any material change to the cost of a service.


2.3 LoS Reporting

Schedule 10, Section 25 of the Local Government Act 2002 states that a statement must be included in the annual report that:

- compares the level of service achieved, with the performance target or targets for the activity; and
- specifies whether any intended changes to the level of service have been achieved; and
- gives the reasons for any significant variation between the level of service achieved and the intended level of service.

2.4 LoS Decision Making Process

Sections 76-81 of the Local Government Act 2002 set out the way in which decisions should be made. This includes the requirement to:

- identify all reasonably practicable options ;
- consider the advantages, disadvantages and costs of each option;
- consider the extent to which community outcomes would be promoted or achieved by each option;
- consider the impact of each option; and
- involve Maori in the decision making process and foster and their capacity to be involved in the decision making process.

2.5 Mandatory Performance Measures

In accordance with 261B of the Local Government 2002, Non-Financial Performance Measures were adopted in late 2013 which require local authorities to report on the performance of the key activities of water supply, wastewater, stormwater, flood protection and roads annually from 2015/16. Further information is provided in section C. Service Performance.

3. LoS for the Wastewater Activity

Councillors and Council staff have developed new LoS statements in response to the new goals and objectives that have been agreed. Council proposes the following LoS which are linked up to Goals and Objectives and down to performance measures for the water supply activity. These will be confirmed following public consultation through the Long Term Plan 2015/2025:

- The wastewater system is operated to minimise health risks;
- The wastewater system is reliable, efficient and effective; and
- Wastewater treatment and disposal minimises harm to the environment.

AMP Improvement 2 - 2: Update with final LoS when LTP 2015/25 when adopted.



4. External Factors Affecting the Wastewater Activity

There are often several external factors which affect the LoS that Council provides for an activity. For example, compliance requirements, consent conditions, legislative and other reporting requirements, and reliance on other providers/suppliers.

External factors which may affect the provision of LoS for the wastewater activity are:

- **Discharge consents** Council requires resource consents from the Waikato Regional Council to discharge wastewater to rivers/streams after it has been treated. To allow Council to sufficiently plan for the current and future needs of its communities these consents must be granted over the long term and allow sufficient capacity for long term growth. Council must also comply with consent conditions which as community expectations on water quality increase, the discharge qualities become more stringent.
- Watercare Agreement Council currently has an agreement with Watercare to take wastewater and provide potable water to Waikato District, this agreement is currently being updated. This agreement covers the expectations around the quality and volumes of wastewater to be discharged at the Watercare Facility, west of Tuakau. Should our wastewater not meet these agreed levels, Council may have to consider installation of pre-treatment in the future.



C. Service Performance

I. Linking LoS to the Organisation

The wider organisational context for levels of service is given in Figure 2-1.



Figure 2-1: Level of Service Linkages



2. Community Outcomes and Performance Measures

The Community Outcomes that the Council's wastewater activity contributes to were defined in 'Part I: The Business We Are In' section of the AMP. This section provides a link between the community outcomes and LoS.

The proposed community outcomes are People, Energy and Economy. These are the goals that form the top of strategic structure. Community outcomes will be confirmed through the Long Term Plan 2015/2025 process.

AMP Improvement 2 - 3: Update Community Outcomes and Performance Measures when the LTP 2015/25 adopted.

3. Customer Expectations and Performance Measures

Customers have a number of expectations of Council's wastewater service.

Performance measures are split into the following types:

- **Customer performance measures** these allow the community to measure Council's level of service performance and are found in public facing documents, such as the Long Term Plan.
- **Business performance measures** these allow activity managers to measure the performance of their activities in relation to LoS and are found in internal documents, such as business plans.
- **Process performance measures** these measures are used in the day to day operation of an activity.
- **Financial Measures** These measures are used to monitor the financial performance of a Group, Business Unit, Project, or Process where financial targets or budgets have been set

3.1 Customer Performance Measures

The tables below make the connection between what customers expect from the wastewater service and how the council measures its performance supplying this service. For the coming LTP (2015-25), it is proposed to only report on the mandatory measures, as this covers the key expectations in terms of delivery of this service.





(1) **Performance measure I (system and adequacy)**

The number of dry weather sewerage overflows from the territorial authority's sewerage system, expressed per 1000 sewerage connections to that sewerage system.

•	• •			
Measure	Current		Proposed T	argets
	performance			
	no./1000	2015/16	2016/17	2017/18 -
				2024/25
	(no/6,271)	no./1000	no./1000	
				no./1000
No. of Dry Weather overflows	Not Measured	5	5	5

Table 2-2: Performance Measures – System and Adequacy

(2) **Performance measure 2 (discharge compliance)**

Compliance with the territorial authority's resource consents for discharge from its sewerage system measured by the number of:

- (a) abatement notices
- (b) infringement notices
- (c) enforcement orders, and
- (d) convictions,

received by the territorial authority in relation those resource consents.

Table 2-3: Performance Measures – Discharge Compliance

Measure	Current	Proposed Targets		
	performance			
	•	2015/16	2016/17	2017/18 -
				2024/25
	l conviction,			
4. Total no. of notices, orders or convictions received.	>10 LODs			
(Abatement notices Infringment		2	2	2
(Abacement notices, initiagment		-	2	4
notices, enforcement orders				
Convictions		0	0	0

Letters of Direction are considered warning letters and do not fall into the above categories.



For reporting to the Department of Internal Affairs, a total number of notices and convictions are required to be reported. The Councillors have requested that separate targets be monitored and reported for notices and convictions.

(3) **Performance measure 3 (fault response times)**

Where the territorial authority attends to sewerage overflows resulting from a blockage or other fault in the territorial authority's sewerage system, the following median response times measured:

- (a) attendance time: from the time that the territorial authority receives notification to the time that service personnel reach the site, and
- (b) resolution time: from the time that the territorial authority receives notification to the time that service personnel confirm resolution of the blockage or other fault.

There are concerns with the setting of fair target for this measure, as the District covers a very large land area, the time to respond is very heavily reliant on the distance to the site. As an example, Port Waikato is at least a 2 hour journey from Ngaruawahia.

Measure	Current performance	Proposed Targets		
	(Median)	2015/16 (Median)	2016/17 (Median)	2017/18 - 2024/25 (Median)
Attendance for sewerage overflows	Not measured	lhr	lhr	lhr
Resolution of sewerage overflows	Report needs to be generated from CRM system	6hr	6hr	6hr

Table 2- 4: Performance Measures – Fault Response Times

Activity Improvement 2 - 2: Create CRM reports to measure Fault Response Times (Non-financial mandatory performance measures)

(4) **Performance measure 4 (customer satisfaction)**

The total number of complaints received by the territorial authority about any of the following:

- (a) sewage odour
- (b) sewerage system faults
- (c) sewerage system blockages, and



(d) the territorial authority's response to issues with its sewerage system,

Expressed per 1000 connections to the territorial authority's sewerage system.



Measure	Current performance	Proposed Targets		
	no./1000	2015/16	2016/17	2017/18 -
	connections	no./1000	no./1000	2024/25
	(72/0,271)			no./1000
Total complaints about water quality and quantity	15	25	25	25

While the requirement is for total complaints across the district, to enable appropriate response in regards to improvements to reduce the number, the complaints recorded will need to identify the schemes to which they relate.

Activity Improvement 2 - 3: Record which schemes receive complaints about the service.

4.1 Business and Process Performance Measures

The following are the business plan measures developed for the teams within the Waters Group, these are still draft and are subject to change.

AMP Improvement 2 - 4: Update Business and Process Performance Measures table when business plan finalised.

KPI description	Team	Year	Target
<u>Business</u>			
Programme of project	Water Asset Management,	2014	90% of projects
works	Operations, Treatment &		complete within
	Services		budget and time
Annual condition assessment, renewal and maintenance programmes are set from asset data information	Water Asset Management	2015	
Activity Management Plans	Water Asset Management	2015	Adopted
Wastewater strategy	Water Asset Management	2015	Adopted



KPI description	Team	Year	Target
30 year Infrastructure Plan	Water Asset Management	2015	Adopted
High level of Resource Consent compliance	Treatment & Services	2014/15	Achieved
Customer			
Completion of CRMs relevant to team within timeframe	Water Asset Management, Operations, Treatment & Services	2014	All CRMs actioned and closed within set timelines
<u>Financial</u>			
Financial management (all budgets are forecasted and managed)	Water Asset Management, Operations, Treatment & Services	2014/15	Within 0.5%
People			
All PPRs are completed on time	Water Asset Management, Operations, Treatment & Services	2014/15	100%
All training identified is undertaken (as per matrix)	Water Asset Management, Operations, Treatment & Services	2014/15	100%
All staff leave is managed as per contracts	Water Asset Management, Operations, Treatment & Services	2014/15	100%
Health & Safety – Reporting	Water Asset Management, Operations, Treatment & Services	2014/15	35 near hits recorded

4.2 Actual Performance

As part of the Long Term Plan 2015-25, all the measures are being reassessed as to relevance to demonstrating that Levels of Service are being met. Targets will be reviewed as to achievability.

Consent Compliance

Regional consent compliance is a priority focus area for Council moving forward, as due to numerous reasons, overall consent compliance for its wastewater treatment plants has not been



achieved. Staff have met with the Waikato Regional Council and to agree a programme of works to address the outstanding non compliances.

Discharge quality limits are becoming more stringent through pressure from external stakeholders to improve the quality of the receiving waters. There is also pressure to consider alternative discharge options for some treatment plants. This creates challenges for Council in particular the wastewater activity, to create the balance of low cost and meeting the levels of service required.

Activity Improvement 2 - 4: Work with Waikato Regional Council to address consent compliance issues.

Hydraulic models have been developed for some of the schemes, historically this occurred to coincide with the structure planning process. Since 2012, Council has implemented a programme to ensure models are developed for all large schemes.

AMP Improvement 2 - 5: Add in details and recommendations from wastewater model network performance analysis to address performance and operational issues when completed.

Level of	LTP Measure	Our Result	Our Result	Our Result
Service		(2011/12)	(2012/13)	(2013/14)
The wastewater scheme does not cause health risks	The percentage of wastewater consents that achieve at least "High Level of Compliance" from the Waikato Regional Council.	New Measure	62.5%	>70%

Table 2-7: Performance Measures – Consent Compliance



D. Activity Management Plan Improvements

Table 2-8: AMP Improvement - Progress since 2012 AMP Peer Review

Assessment Element	Question Area	New AMP Part Reference	Status
Define LOS or Performance	"c. Achievable (AM to show demonstrate how performance gaps will actioned and funded)"	2B	Completed
Define LOS or Performance	"d. Relevant (are they a good indicator of the LoS)"	2В	Completed
Define LOS or Performance	f. Document existing agreed LoS as per LTP	2В	Completed
Define LOS or Performance	g. Detailed explanation to validate position taken for any changes to LOS or reasons not changed	28	Completed
Define LOS or Performance	j. Annual reporting against performance targets shown	2C	Completed
Linkage to strategic/community outcomes	c. Background legislation or regulations which affect asset operation or require certain LoS i.e. LTMA 2003, compliance with resource consents	2В	Completed
Levels of consultation identified and agreed	b. Detail the Consultation with key stakeholders/large users and their linkage to Councils plans/strategies	2A	Completed
Levels of consultation identified and agreed	c. Details of consultation for LoS shown and consistent with Councils requirements	2A	Will be done as part of LTP
- Adoption LOS & Standards after consultation	a. Council adopts LOS after detailed consultation (this may be via adopting AMP) this then feeds into the LTP process	2B	Will be done as part of LTP
- LoS Monitoring & public/internal reporting	a. Reporting on LOS on a basis that allows intervention where LOS are not being achieved and compliance with Section 98 2(a) of LGA	2В	Completed – Included in Annual Report
AMP's reflect agreed LOS & how service is delivered	a. AMP consistent with the detail in the LTP (i.e. reporting on monthly basis and where LOS not achieved for previous reporting period then able to rectify to ensure that future LOS are not affected)	2B	Completed



Assessment Element	Question Area	New AMP Part Reference	Status
Service life of network stated	a. Example is a bridge replacement that may not meet NZTA funding criteria or major water consent	2B	Completed
Sustainability liabilities	c. Extent of consents issued and compliance	2B	Completed
Incorporation of national and regional sustainability policies and plans		2B	Completed

Table 2-9: 2015 Summary of AMP Improvements

AMP Improvement 2 - 1: Update to reflect revised agreement with Watercare Services Ltd when completed
AMP Improvement 2 - 2: Update with final LoS when LTP 2015/25 when adopted
AMP Improvement 2 - 3: Update Community Outcomes and Performance Measures when the LTP 2015/25 adopted
AMP Improvement 2 - 4: Update Business and Process Performance Measures table when business plan finalised
AMP Improvement 2 - 5: Add in details and recommendations from wastewater model network performance analysis to address performance and operational issues when completed

Table 2-10: 2015 Summary of Activity Improvements

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Part 3: Demand for Our Services

A. Demand Drivers

This section describes the strategy that Waikato District Council has to manage growth and demand for the wastewater activity. This strategy encompasses the collection of (source), treatment and disposal of wastewater in a number of communities across the district.

I. Growth and Demand Implications

The following defines the implications of both growth and demand regarding the ongoing function/delivery of the wastewater activity.

Growth - In relation to the wastewater activity, growth mainly refers to the growth in population or areas that are growing due to new residential or commercial developments, e.g. new connections due to additional properties. These changes increase the demand for wastewater services which essentially leads to an increase in the volume of wastewater that needs to be collected, treated and disposed of. Growth can also relate to increases in commercial/industrial activities, particularly if they produce trade waste.

Demand - Demand for services can be influenced by growth, climate change, type of developments (e.g. commercial development will generally have greater requirements) and customer expectations and trends (e.g. seasonal variations, increased flows in winter due to rainwater infiltration into the system).

2. Growth Strategies

2.1 Future Proof: Sub-Regional Growth Strategy

The Future Proof Growth Strategy and Implementation Plan 2009 is a sub-regional growth strategy specific to the Hamilton, Waipa and Waikato Districts. It was developed jointly with Waikato Regional Council, Hamilton City Council, Waipa and Waikato District Councils. Key stakeholders also involved in this project are tangata whenua, the New Zealand Transport Agency (NZTA) and Matamata-Piako District Council. It is expected that the Strategy will be updated in late 2014.

AMP Improvement 3 - 1: Update when Future Proof: Sub-Regional Growth Strategy revised.

Future Proof addresses the big picture and discusses what the region might look like in 50 years' time. Community feedback indicated that a 'business as usual' approach to growth was not sustainable. Therefore the strategy aims to provide direction for a mixture of the following:

- **Compact Settlement** a managed increase in the number of households in urban areas and in some cases increasing the density of housing; and
- Concentrated Growth a major shift to intensify housing, especially in Hamilton City



Vision

The Vision Statement assists in guiding the strategic direction of the Strategy. Its purpose is to provide responses to three crucial questions:

- What sort of community do we want for ourselves and our future generations?
- What things are important to achieving this?
- How will we monitor whether those agreed achievements are being met?

The Future Proof Strategy vision is:

In 2061 the Hamilton, Waipa and Waikato sub-region:

- has a diverse and vibrant metropolitan centre strongly tied to distinctive, thriving towns and rural communities;
- is the place of choice for those looking for opportunities to live, work, invest and visit;
- is the place where natural environments, landscapes and heritage are protected and a healthy Waikato River is at the heart of the region's identity;
- has productive partnerships within its communities, including tangata whenua;
- has affordable and sustainable infrastructure; and
- has sustainable resource use.

The tangata whenua vision for the Future Proof Strategy is:

- Kia tuku atu nga karu atua o te waka hei arahi, hei arataki, hei tiaki;
- To enable guidance, leadership and nurturing. Knowing our future by planning today.

Key Growth Issues and Approaches

The table below outlines the key growth issues and approaches for the wastewater activity identified by Future Proof.



Table 3-1: Future Proof Wastewater Growth Issues and Key Approaches



Wastewater Actions

The table below outlines Future Proof's actions for the wastewater activity and progress since 2009.

Table 3-2: Future	e Proof Wastewater	Actions
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W	astewater – Actions	Progress Against Actions
1.	Ensure through the LTPs of territorial authorities that adequate budgets are available for wastewater infrastructure upgrades, maintenance and expansion	The Waikato 50 Year Wastewater Strategy will address this, along with the AMPs, this information will feed into the LTP.
2.	Ensure through structure planning and other development planning processes that wastewater servicing keeps pace with expanding populations	Infrastructure requirements are specially addressed as part of each structure plan review.
3.	Work closely with tangata whenua in the development of proposals for wastewater treatment, servicing and disposal	Acknowledgement of the Waikato-Tainui Environmental Plan and ongoing communication with Tangata Whenua when proposing any infrastructure works.
4.	Consider the development of a sub-regional wastewater strategy	A Sub-Regional Three Waters Strategy was developed and adopted in 2012.

Figure 3- I: Map Showing Proposed Urban Limits to 2061





Figure 3- 1: Map Showing Proposed Urban Limits to 2061 Source: Council GIS team



2.2 Waikato District Growth Strategy

In line with the Future Proof sub regional growth strategy, the Waikato District Growth Strategy was created in 2009 to address future growth and development over the next 50 years within the district. This strategy requires update and the following growth areas were identified in the more recent Long Term Plan 2012/2015:

- Te Kauwhata;
- Pokeno;
- Tuakau; and
- Tamahere.

The construction of the Waikato Expressway affects the development of these townships.

AMP Improvement 3 - 2: Update when Waikato District Growth Strategy revised.

Key Issues, Drivers and Opportunities

The table below outlines the key issues, drivers and opportunities for the wastewater activity identified in the Waikato District Growth Strategy.



Table 3- 3: Waikato District Growth Issues, Drivers and Opportunities

Key Issues and Drivers	Opportunities	Key Actions		
 Increasing growth pressures from outside the district, notably rising costs in Auckland, Tauranga and Hamilton. Continuing improvements to transport corridors, notably the Waikato Expressway (SH1), rail purchase and airport upgrade. The economic (manufacturing, research, technology and logistics) influence of the Golden Triangle (Auckland, Hamilton, Tauranga). The strength of the key national assets in the south-north corridor. 	 The substantial potential of our villages and towns. The untapped economic potential of passing trade. The greater protection of productive farmland. The future of niche rural markets and productivity increases Greater focus on sustainable farming, agricultural research, energy and waste management practices. Limiting infrastructure costs by concentrating development around existing facilities and maximising capacities. Better connecting services, infrastructure and people. Recognising the impact of subdivision in rural areas. Natural environment and cultural tourism. A young and increasingly educated population. 	 Grow and revitalise the district's towns by attracting additional residents and retaining the residents we have around its existing towns. Strengthen towns and villages to maximise infrastructure. Promote local jobs to reduce traffic movements. Provide for an equitable range of residential housing options. Capture economic investment through industrial growth at Horotiu, Pokeno and Tuakau with appropriately scaled development in existing settlements. Work closely with major stakeholders to leverage economic development and infrastructure investment opportunities, including information communications technology. Recognise that people want options for where they choose to live. Ensure that key infrastructure including information communications technology, roads, rail, water and wastewater treatment and disposal and land use are planned to cope with the expected growth over the 50-year period. Ensure growth integrates with key transport 		



infrastructure and corridor upgrades.

- Ensure that growth is based on high standards of urban design and sustainability principles that will meet environmental standards and is resilient.
- Promote and protect the district's unique landscapes, coastline and cultural assets.
- Work with partner councils and organisations to ensure the strategy remains consistent with the guiding principles of Future Proof.
- Planning will occur across territorial boundaries to maximise infrastructure and investment.



2.3 Franklin District Growth Strategy

The Franklin District Growth Strategy 2007 set out a blueprint to 2051 that identified where growth could be accommodated, and provides guidance through location and scale of future growth.

A main theme of the Strategy was the intention to contain and intensify urban development by concentrating most of the growth within existing urban boundaries.

At the present time, of the former Franklin area that Council has inherited, focus is on growth in Pokeno and Tuakau. These areas will be incorporated into the Waikato District Growth Strategy when it is next revised.

2.4 Integrated District Development Strategy

Work is being carried out on developing an Integrated District Development Strategy to replace the Waikato and Franklin District Growth Strategies. This document will underpin all future planning decisions for development in the district. The Strategy is due to be adopted in late 2015.

AMP Improvement 3 - 3: Update when Integrated District Development Strategy developed.

2.5 North and Central Waikato Scoping Study

This study was undertaken in 2012, the aim of the study was to provide a good understanding of the development opportunities and constraints of the north and central Waikato and to inform the structure plan programme.

2.6 Sub - Regional Three Waters Strategy

The Sub – Regional Three Waters Strategy 2012 sets out how water, wastewater and stormwater will be managed over the next 50 years. It is an action out of the Future Proof Growth Strategy and encompasses three local council areas – Waikato District, Hamilton City and Waipa District.

2.7 50 Year Wastewater Strategy

The 50 Year Wastewater Strategy is underway, this document will encompass the service and demand issues for the main communities across the district over the next 50 years, in line with Future Proof. Levels of Service currently being provided and the requirements to maintain those levels will be assessed for the next 50 years. This work is expected to be completed by the end of October, with the expectations for a review to be undertaken every 3 years to coincide with the Long Term Plan review.

AMP Improvement 3 - 4: Update when 50 Year Wastewater Strategy developed.



3. Key Demand Drivers

The key demand drivers influencing the growth and the demand on Council's wastewater assets are listed below and described below.

3.1 Population Considerations

In 2014, population projections based on 2013 census information were updated for Waikato District in '2014 Review of Demographic, Households and Labour Force Projections for the Future Proof Sub-Region for the Period 2013 – 2063' by the University of Waikato, National Institute of Demographic and Economic Analysis (NIDEA).



Notes: * The 2013 value for SNZ is for 2011 as no equivalent data are available for 2013

Error! Reference source not found.Figure 3- 2 below shows the predicted overall population increase in Waikato District to 2061 compared with previous projections and Statistics New Zealand (SNZ) low, medium and high projections.

At the 2013 census, the District had a population of 63,381 (a gain of 5,796 from 2006) with the largest urban area still being Huntly (the Huntly East census area and the Huntly West census area units combined), with a population just under 7,000.

Overall, rates of growth in the Waikato District are increasing and the population is expected to continue increasing significantly in:

- North Waikato (Tuakau and Pokeno) due to the proximity to Auckland, changes to the Auckland unitary plan to facilitate housing stock increases and intensification, completion of the expressway, and other proposed developments; and
- Hamilton fringe areas (Tamahere) due to high demand for properties and increased subdivision in the country living and rural areas within 20km of Hamilton.



The 2009 population growth prediction from the Future Proof Strategy has been shown to be optimistic. The last five years has shown some growth, but not to the expected levels.

Waikato District Council has updated its population model based on the 2013 census results. While the NIDEA report provides predictions at a district wide level, the Waikato population model forecasts population change for towns and villages within the Waikato District.

Based on population projections from the Waikato population model, the Waikato District population is projected to be 88,448 by 2045.

Figure 3- 2 shows the population projections for the Waikato District over the next 30 year period. The growth rate between 2015 and 2045 is expected to be higher than previous rates.



Figure 3- 2: Waikato District Population Projection Total Source: Waikato District Council, 2014

Figure 3- 3 shows the projected population of the larger towns within the district. The highest rates of growth are expected in Pokeno, Tuakau and Te Kauwhata.





Figure 3- 3: Waikato District Population Projection – Larger Towns Source: Waikato District Council, 2014

The figure below shows the expected growth in villages and rural communities within the district. The highest rates of growth are expected in Horotiu, Tamahere Country Living Zone (CLZ), Te Kowhai, Matangi, Whatawhata and Port Waikato.

Settlement	2011	2012	2015	2025	2035	2045	Change 20	11-2045
Towns								
Huntly	6,945	6,945	6,985	6,950	7,162	7,503	558	8%
Ngaruawahia	5,259	5,278	5,299	5,456	5,913	6,584	1,324	25%
Pokeno	986	995	1,508	3,417	4,613	4,557	3,571	362%
Raglan	2,848	2,849	2,729	2,728	2,837	3,048	200	7%
Te Kauwhata	1,276	1,316	1,771	2,793	3,598	4,016	2,741	215%
Tuakau	4,139	4,261	4,844	6,064	7,537	8,922	4,783	116%
Waikato Towns Total	23,464	23,655	25,150	29,433	33,696	36,675	13,211	56%

Table 3-4: Waikato District Population Projection - By Village or Town



Settlement	2011	2012	2015	2025	2035	2045	Change 20	011-2045
*Eureka	103	105	116	133	151	162	59	57%
*Gordonton	191	194	210	240	264	261	70	37%
Horotiu	634	641	588	643	734	840	207	33%
**Mangatangi	40	41	45	48	53	57	17	41%
**Mercer	143	144	159	169	181	186	43	30%
*Maramarua	65	66	70	79	86	87	21	33%
Matangi	443	453	476	560	625	617	174	39%
Meremere	571	579	499	496	461	454	-118	-21%
**Naike	17	17	16	17	22	34	17	103%
*Onewhero	133	134	125	134	151	173	39	30%
**Port Waikato	1,006	1,015	947	1,017	١,074	٥60, ١	54	5%
**Pukekawa	33	34	31	34	38	42	9	26%
**Otaua	92	93	97	105	114	117	26	28%
*Tamahere CLZ	2,450	2,513	2,579	3,149	3,761	4,227	1,776	72%
*Tauwhare	199	204	209	245	252	224	25	13%
Tauwhare Pa	150	154	155	158	166	164	14	9 %
Taupiri Community	452	453	440	442	453	469	16	4%
*Te Kowhai	638	650	665	771	827	816	179	28%
Rangiriri	65	65	90	94	100	106	41	62%
**Glen Afton	163	165	163	181	173	171	8	5%
**Pukemiro	267	271	267	297	284	280	14	5%
**Renown	122	124	122	136	130	128	6	5%
**Glen Massey	267	271	267	297	284	280	14	5%
**Whatawhata	346	354	375	45 I	508	502	156	45%
Waikato Villages Total	8,591	8,738	8,710	9,895	10,890	11,456	2,865	33%
Waikato District Total	87,530	88,536	92,45 I	105,574	116,801	125,124	37,594	43%

* reticulated water or wastewater only ** without reticulated water and wastewater

Population Demographics

The figure below shows the expected difference in gender and age distribution from 2013 to 2033. By 2033, 22% of the population is projected to be aged 65+ years, up from 12% in 2013. This will increase to about 30% in 2063.

Conversely, the proportion aged 0-14 years is expected to decline from 24% in 2013 to 19% per cent in 2033, and to about 16% by 2063.





Figure 3- 4: Waikato District Age and Gender Distribution Source: NIDEA, 2014

In 2013, Waikato District Council carried out a demographic analysis of larger towns within Waikato District based on the 2006 census information.

Figure 3- 5 shows the breakdown of age group contributions to growth within the main townships of the Waikato District between 2006 and 2012. The proportion of people aged 15 to 49 years living in Huntly and Ngaruawahia decreased and the proportion of people aged 50 years and above increased in all townships. This information suggests that the average age of the District's population is getting older with fewer families with children. Council must be aware of these changes in demographics and plan its services to cater for the changing needs of current and future populations.





Figure 3- 5: Contribution to Growth 2006 to 2012 by Age Group, Waikato District

Compiled from Statistics New Zealand, NZdotStat, Estimated Subnational Population (TA, AU) by Age and Sex at 30 June 2006-12 (2013 boundaries), Table Code 2346

Source: Births, deaths and migration in the Waikato district between 2006 and 2012, A. Marais, October 2013

Number of Households

Projections from the University of Waikato indicate there will be an increase in the total number of households as shown in the figure below.





Figure 3- 6: Projected Increase in Households

Source: Waikato District Council, 2014

Population Effects on the Wastewater Activity

Although Waikato District is in a growth phase the impact on the wastewater activity is expected to be minimal.

Residential growth is currently being experienced and is predicted to continue in the urban areas of Tuakau, Pokeno and Te Kauwahata. The Te Kauwhata treatment plant has been partly upgraded and Council obtained a new resource consent in late 2013. The key expectation from the stakeholders is that Council look at other ways of dealing with the discharge (as opposed to discharge into the lake) and is a reflection on the period of the consent (10 years). This is seen as a priority for the community in particular should the anticipated growth be realised.

In the north of the District residential subdivision is increasing to meet the demand for housing in close proximity to Auckland and to the new commercial and industrial developments in this area of the District. Tuakau currently discharges wastewater into Watercare's Treatment plant, Pokeno's wastewater is planned to be discharged into the Watercare facility via Tuakau's existing network. Council is currently negotiating a new servicing agreement with Watercare to allow for the increase in growth and provide clearer levels of service expectations for both parties

Both Tuakau and Ngaruawahia are undergoing structure plan reviews. Infrastructure requirements are being identified to support these structure plans. Requirements for upgrades and extensions of the wastewater are being incorporated into the 50 year Wastewater Strategy. Ngaruawahia is not expected to experience a lot of growth, the wastewater treatment plant that services Ngaruawahia also services Horotiu, Hopuhopu and Taupiri has sufficient capacity to support the anticipated growth. Infrastructure upgrades have been planned for to support industrial development in Horotiu.



The other areas of the District where significant growth is predicted are in rural communities especially around Hamilton. However these subdivisions result in large sized "lifestyle" sections able to accommodate on-site wastewater systems with effluent disposal fields, therefore alleviating pressure for Council wastewater services. There is however, in areas of intensification of properties, the risk that onsite wastewater treatment and disposal could overload groundwater with nutrients. This is monitored by the Waikato Regional Council.

Increasingly there will be demand for a higher level of service to an urban standard where rural land is being subdivided and populated. Additionally an increase in growth in certain areas may necessitate the need for infrastructure where there currently is no existing infrastructure.

In summary, the main impacts of population growth and residential and commercial development on the wastewater activity are:

- Increased pressure on existing infrastructure;
- Increase in wastewater discharges to the environment;
- Requirement for robust asset data and network modelling to assist in decision making;
- Increase in the number of assets vested in Council;
- Increase in maintenance, operations and depreciation costs to residents;
- Increase in associated operational and maintenance costs;
- Increased need to maximise funding potential; and
- Increased trade waste and therefore impact on treatment processes and efficiency.

3.2 Development Considerations

Trade Waste

The Waikato District Council has the following individual and conditional trade waste customers:

Table 3- 5: Trade Waste Customers

Trade Waste Customer	Location
Carley's Transport Ltd	Te Kauwhata
NZ Eels Processing Company	Te Kauwhata
Van Der Brink Poultry Ltd	Tuakau
Associated Auctioneers	Tuakau
Countdown	Huntly
Quality Bakers	Huntly
Goodman Fielder Ltd (Gluten Free Plant)	Huntly
Goodman Fielder Ltd (Bread Plant)	Huntly
KFC	Huntly
Ohinewai Farm Services Ltd	Huntly
McDonalds Restaurant	Huntly

As development increases particularly in the industrial area, focus on the ability of the wastewater treatment plants to deal with the wastes increases, thus there will be a more detailed focus on trade waste.



Trade Waste Shared Services was established in 2012. It is operated and administered within the offices of Hamilton City Council with the team providing trade waste services across the three councils – Hamilton City, Waikato and Waipa District. One of the objectives of the trade waste team is to identify existing trade waste discharges across the three councils and manage new trade waste discharges.

Industrial Development

The Waikato District is predominantly a rural area with only a very small proportion of land zoned for industrial use. Council has industrial zoned areas for development in Horotiu, Pokeno, Tuakau, and local serving industrial zones in Huntly and Te Kauwhata.

This industrial growth (with the accompanying residential growth) will impact on the wastewater activity. The Ngaruawahia and Huntly plants have been upgraded to meet the additional demand. Demand growth in Tuakau and Pokeno will require an increase in contracted water and wastewater services. Council is currently negotiating a new servicing agreement with Watercare to provide these services now and into the future ensuring capacity for future growth. The impacts of any future industrial development on the activity will need to be reviewed as and when development occurs.

AMP Improvement 3 - 5: Update with capacity details of Ngaruawahia and Huntly wastewater treatment plant details from wastewater strategy when available.

AMP Improvement 3 - 6: Add in reference to Watercare's policy on wet industry.

Industrial Node	Existing Sectors	Anticipated Growth & Demand?
Horotiu	AFFCO Freezing Works	Primary Sector Support Services and Manufacturing
	Northgate Industrial Park	
	RX Plastics	
Pokeno	Yashili Dairy Factory	Warehousing and Logistics
	• Hynds	Primary Sector Support Services
	Mining and Aggregates	Construction Sector Services Manufacturing
Tuakau	• Tuakau Timber Treatment Products	Van Den Brinks/Lowe development
	Tuakau Grains	Warehousing and Logistics

Table 3- 6: Anticipated Industrial Growth and Demand



Van Den Brinks

Primary Sector Support Services

Agriculture/Horticulture Industry

.

Farming is an extremely important part of the district's economy, with over two-thirds of the District's land devoted to agricultural production. Agriculture, Forestry and Fishing made up approximately 27% of the District's gross domestic product (GDP) in 2013. Agriculture and Forestry's contribution of \$530 million, includes \$235 million from dairy cattle farming. Sheep, beef cattle and grain farming contributed a little over \$97 million, horticulture and fruit \$75 million, meat and meat products manufacturing just under \$32 million. Poultry, Deer & Other Livestock Farming along with Forestry, Dairy Product manufacturing and Fishing make up the remainder (Infometrics Economic Profile 2014).

The Waikato District is one of the most significant dairying regions in New Zealand and the Waikato region accounts for about a third of New Zealand's dairy production. (Economic Development Issues and Opportunities, October 2013 – Martin Jenkins and Beca).

There were 2,613 farms in the Waikato District as at 30 June 2012 and 72% of these were sheep, beef cattle or dairy cattle farms (Statistics NZ).

Horticulture is not nearly as significant in the Waikato District as it is in neighbouring Bay of Plenty, but a total of 246 hectares is devoted to growing fruit, (at June 2012, Statistics NZ). Almost half of this land is used in the production of kiwifruit.

Agriculture and horticulture do not generally have a direct effect on the wastewater service, it is the supporting industry for these activities that affect the service. For instance an increase in dairy farming may require industries such as dairy factories to process the products and these supporting industries may require access to wastewater services.

Commercial Development

Growth is anticipated from commercial developments predominantly in the north of the District. Since the establishment of the Spring Hill Facility, there was a separate agreement put in place to account for the additional loading.

Tuakau and Pokeno to a lesser extent will likely become the commercial centres of the district. Commercial floor space in the Tuakau CBD is becoming sought after and supply is falling short of demand. With the redevelopment of the Pokeno town centre, the availability of residential and industrial land close to the expressway will likely attract commercial activity.

Te Kauwhata and communities along the expressway will also attract more commercial interest however it is difficult to predict to what extent at this time.

Commercial growth has minor impact on wastewater demand.



Tourism

Raglan is a significant tourist destination area for the District with its summer population increasing from less than 3,000 to approximately 15,000 at peak.

Raglan is primarily a residential and beach holiday town with little significant industry. There is pressure for more intensive residential subdivision and a high growth scenario is anticipated for this area. There will consequently be pressure for new and upgraded infrastructure to meet the increasing demand.

Raglan residents for the most part represent lifestyles with an affinity to sustainable practices to some degree. It is possible that more emphasis on green approaches to wastewater practices may be expected which could lend itself to opportunities to introduce alternative ways to provide infrastructure.

The Raglan wastewater treatment plant has been upgraded in 2008 to accommodate requirements for increased capacity.

The Whaanga Coast, west of Raglan also receives a large influx of people over the summer period. Parts of the coast had been subdivided into small lots which were unable to support on site wastewater systems, so Council made a decision to provide wastewater services to these affected properties. The construction is currently underway and is expected to be completed in late 2014.

The challenge for the wastewater activity in Raglan is the ability to provide infrastructure that essentially is only required for the summer season and maintaining it during the rest of the year supporting a much lower demand.

AMP Improvement 3 - 7: Update with capacity details of the Raglan wastewater treatment plant detail from wastewater strategy when available.

3.3 Standards and Legislation

Efficient wastewater systems collect, treat and dispose of contaminated waters without compromising public health and safety and the environment. Growth of the community translates to higher demand on wastewater systems and increased risk of system failures. Urbanisation and increasing population densities lead to an increased requirement for wastewater services, both of which result in added demand for wastewater collection and pressure on the existing infrastructure.

Table 3- 7: Minimum	Requirements	for	Public	Health
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Public Health and Safety	Providing wastewater systems to communities that are designed to cope with present needs with sufficient capacity to allow for growth and demand without compromise.
Environmental	On-going increasing environmental concern will drive increasing constraints disposal



Health systems will be subjected to through resource consents.

The following standards and legislative requirements have been put in place to show that consideration of public health and safety has been considered.

- Assessment of Water and Sanitary Services (LGA 2002 Section 125 Requirement to assess water and other sanitary services)
- Civil Defence Emergency Management Act 2002

Should legislation and standards change the demand for wastewater can be affected.

The Assessment of Water and Sanitary Services may in the future identify communities that require services to be provided due to public health issues arising.

Changes to resource consents also could impact the wastewater service, as discharge limits become more stringent. There has been an emphasis on reducing the wet weather loading that occurs at treatment plants and subsequent effect on the discharge. The expectation from the consenting authority is that evidence is shown on improving the operation of the wastewater systems, through reduction in inflow and infiltration levels.

3.4 Community Expectations (Levels of Service)

Community Expectations (Levels of Service) as consulted upon in Council's Long Term Plan can affect the demand for services as discussed in Part 2: The Services We Provide.

If the key stakeholders in the industrial or agricultural sector requested that Council put more emphasis on providing services to these areas, this would affect the demand for wastewater servicing.

3.5 Climate Change

The New Zealand Climate Change Office indicates the Waikato District is likely to become warmer and wetter as a result of climate change with average temperatures increasing as much as 3°C over the next 70-100 years. This could result in longer, drier summers and wetter winters which could create septicity issues in summer and capacity issue in winter (due to rainfall infiltration).

Climatic variation could influence storm intensity, which may affect wastewater systems that are vulnerable to storm events e.g. treatment ponds, outfalls, diffusers and pump stations (i.e. from additional infiltration).

Rising sea levels will limit growth along the coastal regions due to potential flooding and erosion, placing development pressure on inland areas and existing infrastructure.

Table 3-8: Issues and Impacts on the Wastewater Activity

Rising Sea Level Coastal development, in the long-term will need to take into account


	rising sea level and the potential for coastal flooding and erosion.
Extreme weather	Additional loading on reticulation system pump stations and treatment plant.
Drought	Increased septicity of wastewater, causing concerns meeting discharge consent conditions and leading to odour issues.
Increased Rainfall	Further efforts will be needed to monitor and mitigate the risks of stormwater infiltration in to the wastewater collection systems, including septic tanks.

The main effects of climate change on the wastewater activity are:

- Potential increase in pollution through wastewater overflows;
- Additional inflow and infiltration into reticulation network, effectively requiring network capacity upgrades or other measures to reduce these types of flows;
- Potential impacts on groundwater quality;
- Potential damage to structures during extreme events e.g. outfalls, diffusers, treatment plants, etc.

4. Wastewater Demand Characteristics

As a consequence of more efficient use of potable water, this may have a follow on effect on wastewater in reducing the demand for the service. As people look to more efficient uses of water and potential recycling of grey water, this reduces the demand pressures on the wastewater system.

The types of customers and their consequential demands have not been analysed. In conjunction with the rates department and the trade waste team, this analysis can be undertaken as future improvement to understanding the overall demands.

Activity Improvement 3 - I: Analyse wastewater demand by type of customer and add to AMP.



B. Demand Forecast

I. Projected Growth of the Wastewater Activity

AMP Improvement 3 - 8: Update section from 50 Year Wastewater Strategy when available.

Activity Improvement 3 - 2: Develop capital works and consent options and costs for wastewater to meet predicted demands for 2015/45.

Council engaged MWH NZ Ltd in 2014 to develop a 50 Year Wastewater Strategy, part of the strategy included preparing Wastewater influent flow forecasts for the 50 year period.

For the basis of the forecast, influent flows to the WWTP were developed rather than the WWTP discharge flows as influent flows are the basis for the design of any WWTP upgrades. For the larger schemes, historic WWTP inflows were compared to discharge flows to estimate attenuation (if any) of peak flows through the WWTP. It was assumed that properties rated for the wastewater service had a single connection to the network.

Using the population projections from the University of Waikato (2014), MWH developed peak day and average day flow forecast graphs for each water supply scheme. Population growth data was provided for specific areas up until 2045 (30 years). However the area boundaries do not necessarily correspond to the areas serviced by the individual wastewater schemes. Therefore it was necessary to make assumptions in order to make these predictions. Growth rates were determined using population data from communities that were assumed to be either wholly or partially serviced by wastewater schemes.

For the period from 2045-2064, assumptions on growth rates were made from the 30 year projections. The assumptions are all outlined in the Technical Memo Wastewater Schemes Overview (MWH NZ Ltd, 2014).

The following information is based on 2006 data and will be updated as part of the 50 Year Wastewater Strategy.

Using peak discharge per day data from 2006 and the University of Waikato population prediction data, demand projections have been estimated for the main wastewater schemes as noted below.

Population growth data was provided for specific areas. However, the area boundaries do not necessarily correspond to the areas serviced by the individual wastewater schemes. Therefore it was necessary to make assumptions in order to make predictions. Growth rates were determined using population data from communities that were assumed to be either wholly or partially serviced by the schemes.



The on-going increases in flow that can be seen from the following figures, is driven by population growth. These flow predictions do not take into consideration the possibility of volumetric charging for wastewater or any other demand management incentives in addition to those already in place. Note that these figures show the peak discharge in m3/day.

The figures following show the projected consumption for the five larger schemes; Huntly, Ngaruawahia, Te Kauwhata, Raglan and Tuakau.





Table 3- 9: Projected Wastewater Volumes for Huntly, Ngaruawahia, Te Kauwhata, Raglan and Tuakau (assumptions and data from 2006)



2. Asset Performance

Table 3- 10: Schemes Wastewater Treatment and Volumes

Scheme	Wastewater Treatment (Maximum Treatment Plant Capacity) m ³ /day	Maximum Discharge Consent (m ³ /day)	Annual Discharge Volumes (m ³ /year)	Infiltration and Inflow ratios	Total No. of Connections	Average Daily Discharge (m ³ /day)
Huntly		11,500	1,010,301	Unknown	2743	4,152
Central District		11,200	363,131	Unknown	2216	1,337
Meremere		480 (average annual 160m ³ /day)	74,175	Unknown	174	227
Mid Waikato		3,600 (average annual 1,100m ³ /day)	279,417	Unknown	457	785
Raglan		3,400	381,805	Unknown	1820	1,112
Matangi		52	16,078*	Unknown	55	309
Tauwhare		63	11,055	Unknown	43	30
Te Kowhai		12	1,502		22	4
Maramarua		6	1,333		9	7.8
Tuakau/ Pokeno					1513	

Source: Resource Consents, Annual Consents Report 12/13, Rates Strike 14/15



AMP Improvement 3 - 9: Update table from 50 Year Wastewater Strategy when available.

3. Activity Demand Issues

The following table outlines the demands on each scheme and any current issues.

AMP Improvement 3 - 10: Update section from 50 Year Wastewater Strategy when available, growth projections from Future Proof.



Table 3- 11: Anticipated Growth and Demand Effects

Schemes	Expected Growth & Demand	Existing System	Outfall Location/ Diffuser	Daily/Consented Discharge (m3/day) (year)	Resource Consent expiry	Design Capacity	Current Issues (LoS or Demand)
Huntly	Medium Growth			11,500	31 March 2029		
Ngaruawahia	Medium Growth			11,200	31 March 2029		
Meremere	Low Growth			480 (average annual 160m3/day)	5 August 2018		
Te Kauwhata	High Growth			3,600 (average annual 1,100m3/day)	2028		
Raglan	Medium Growth			3,400	14 February 2020		
Matangi	Low Growth			52	30 September 2021		
Tauwhare	Low Growth			63	31 October 2035		
Te Kowhai	Low Growth			12	30 August 2018		
Tuakau	High Growth						
Maramarua	Low Growth			6	December 2014		
Pokeno	High Growth						

*Council is currently preparing an application to renew this consent.



3.1 Meeting Future Demand

Options for meeting future demand is currently being developed as part of the 50 Year Wastewater Strategy.

AMP Improvement 3 - 11: Add future options to meet projected demand in table format



C. Demand Management

I. Demand Management Strategies

Demand management strategies provide alternatives to the creation of new assets in order to meet demand and looks at ways of modifying customer demands in order that the utilisation of existing assets is maximised and the need for new assets is deferred or reduced.

Demand management is practised continuously to maintain the total demand at reasonable and sustainable levels. The five key components of demand management when promoted as a package or strategy rather than in isolation can dramatically reduce the demand on the network.

The key components with examples are provided below:

Demand Component	Wastewater Examples
Legislation/Regulation	Compliance with resource consents
Education	 Education on the relationship between water use and wastewater production. Demonstrate the savings in cost and to the environment by minimising what ends up in the wastewater system Educating communities regarding items that should not enter the system
Incentives	 Use dual flush toilets to save costs on water bills and to reduce space/volume requirements in the wastewater network and treatment facilities.
Operation	 Setting design levels of service and advising the community Minimising infiltration and illegal connections Monitoring existing septic tanks maintenance and monitoring water quality to
	determine potential pollution
	 Rain water reuse with on-site storage for use in tonets etc. Investigating reticulation in small rural areas and the possible funding avenues that could make this a reality
	 Regularly CCTV mains and inspect property connections for signs of infiltration and remedy
	 Seal system manholes and other entry points from direct stormwater ingress.
	 Works programmes for renewals, upgrades and new works
	Undertake optimisation review of existing plant and reticulation network
	 Works programmes for renewals, upgrades and new works
	Pressure Management

Table 3- 12: Demand	Management Strategies
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2. Demand Management Actions

In addition to the above, new technologies can be effective in reducing impacts of growth and demand and the associated costs, such as:

- New materials may become available which provide for a longer life of the assets;
- New construction/rehabilitation methods may make way for savings in reinstatement or renewal costs as well as time savings;



• New treatment systems may achieve high quality water discharged to rivers and streams at reasonable costs.

2.1 National and Regional Legislation/Regulation

The risk of major change is high due to the changing nature of the government and politics. If major changes occur it is likely to have an impact on wastewater.

National Infrastructure Plan 2011

The National Infrastructure Plan is a forward looking strategic document that sets out a vision for infrastructure across New Zealand to be resilient, co-ordinated and contributes to economic growth and increased quality of life across the five sectors of transport, telecommunications, energy, water and social infrastructure.

The Strategic Opportunities identified relating to Water (including wastewater) are:

- Better demand management practices and consistent performance criteria for water infrastructure;
- Promote partnerships and activities within the sector; and
- Ensure that the management of water assets contributes to improved social, economic, environmental and cultural wellbeing of communities.

In order to realise these opportunities the government has assessed each sector against a number of principles and wastewater needs improvement across the following areas.

- Investment Analysis (does not occur or is ineffective);
- Resilience (occurs but could be further developed);
- Funding Mechanisms (does not occur or is ineffective);
- Accountability and Performance (occurs but could be further developed);
- Regulation (does not occur or is ineffective); and
- Coordination (occurs but could be further developed).

As the government focuses on addressing the issues identified in the plan, this will have a resulting impact on the wastewater activity.

Regional Polices and Plans

The Waikato Regional Policy Statement provides an overview of resource management issues in the Waikato region. It provides policies and a range of methods to achieve integrated management of natural and physical resources across resources, jurisdictional boundaries and agency functions, and guides the development of sub-ordinate plans (regional as well as district) and the consideration of resource consents. The Waikato Regional Plan contains policy and methods to manage the natural and physical resources of the Waikato region. The plan implements the Regional Policy Statement.



2.2 District Policies and Legislation

Wastewater Policies

Existing wastewater policies need to be reviewed in regards to the effect on demand. Potential new policies will need to be developed to provide guidance on supplying wet industry (industries which use high volumes of water). This may even extend to development of a wastewater bylaw, as there is only the trade waste bylaw that covers the wastewater activity.

Activity Improvement 3 - 3: Review wastewater policies and investigate the need for a wastewater bylaw.

Waikato District Plan

Although commercial and industrial activity has the potential to contribute to an increase in demand, the main driver for future demand for wastewater services is population growth.

Management is typically through land use zoning in the District Plan. This determines where residential, commercial and industrial development may take place and the conditions or restrictions that are placed on the development. Variation 16: District Wide Growth and Rural and Coastal Subdivision have been adopted, this change to the district plan limits development in rural areas.

2.3 Education

There are no current education initiatives relating to wastewater. With the development of the Smart Water programme, it is anticipated that this will extend into the wastewater sphere, as people use less water, less wastewater is produced.

2.4 Incentives

Future incentives are currently being considered as part of the 50 Year Wastewater Strategy.

2.5 Operation

An improved understanding of the operation of the network will aid in identifying opportunities for improvement and optimisation of the network. Current initiatives in progress such as the development of a district wide infiltration and inflow management plan will eventually have an impact on the wastewater infrastructure.

2.6 Demand Substitution

Council currently does not promote demand substitution, this will be considered as part of future initiatives.

Activity Improvement 3 - 4: Investigate demand substitution options.



2.7 Wastewater Management Techniques

Management techniques for the wastewater activity include:

- Understanding current capacity;
- Minimising inflow into systems from stormwater;
- Undertaking inflow and infiltration investigation;
- Ensuring appropriate development; and
- Undertaking condition surveys to assist with determination of renewals and upgrades.

2.8 Wastewater Network Modelling

To minimise the requirement to increase capacity of the network, network modelling and data capture can be used to help to reconcile the accuracy of asset data as well as identifying the condition of the assets and capacity issues to allow timely upgrades and renewals.

Currently the Raglan and Te Kauwhata wastewater schemes have been modelled. Council intends to model the Huntly, Ngaruawahia schemes and update the Tuakau hydraulic model to account for Pokeno.

With the smaller schemes little benefit is achieved through hydraulic modelling due to the size.

2.9 On-site Wastewater Systems Collection

On-site wastewater systems and septic tanks within and from outside the District are emptied by contractors and discharged at the Huntly wastewater treatment plant's septage facility. When the system was first commissioned, the expectation was that all properties not serviced by a Council system within the district would regularly maintain their onsite systems and dispose of waste at the Council septage facility. The demand was not realised, but this has highlighted the concern that on site systems are not being properly maintained. There are current issues with the septage facility, the system is not actively monitored and there are problems with controlling the quality of wastes coming in. This is suspected to be causing the quality issues at the Huntly Wastewater Treatment Plant, investigations are currently underway.

An additional septage facility has been constructed at the Raglan Wastewater Treatment Plant, this was built to provide a dedicated disposal facility for the local area. Currently septage tankers are discharging into the network. The site has yet to be commissioned. Currently the wastewater network is being extended along the Whaanga coast to service properties in the living zone, it is planned that the decommissioned septic tank waste will be discharged into the new facility at Raglan.

Council has recently been working with the Regional Council to develop closer ties in particular, to work closer with respect to requirements for onsite wastewater maintenance and reporting.

AMP Improvement 3 - 12: Add further details about discussions with Waikato Regional Council about onsite wastewater systems.



2.10Stormwater/Groundwater Infiltration

Stormwater/groundwater infiltration also puts additional load on the treatment plants ultimately compromising the capacity for further residents to join the reticulated network. Council takes measures to investigate and remedy stormwater infiltration including:

- Visual inspections;
- Smoke detection surveys;
- Flow monitoring; and
- Network modelling.

Of the larger systems Huntly, Raglan, Meremere and Te Kauwhata have had a history of known problems with stormwater infiltration. Onsite inspections, smoke testing and CCTV have been undertaken in the past. The issues are related the lack of ability to enforce repairs to private drainage, a wastewater bylaw is one avenue for providing a clear understanding of expectations of the service and subsequent ability to enforce compliance.

If infiltration/inflow could be reduced this would affect the demand for wastewater services.

AMP Improvement 3 - 13: Add details on Inflow/Infiltration Management Plan when available in late 2014.



D. Activity Management Plan Improvements

Table 3-13: AMP Improvement - Progress since 2012 AMP Peer Review

Assessment Element	Question Area	New AMP Part Reference	Status
Forecasts include factors that comprise demand wiew and used consistently across Council and used to plan service		3B	Completed
High level of Capital planning functionality is available	a.Long term strategic plan for the provision of infrastructure and services to the community	3C	50 year plan underway
Demand Management drivers documented documented documented) to capture, update and report on utilisation. This in utilities will be network models for medium sized communities and larger or where higher levels of risk and growth requires this		3C	50 year plan underway
Demand Management drivers documented	e. Service capacity modelling directly reflects growth and demand strategies to confirm and established position on future upgrades	3C	Hydraulic models underway
Demand Management strategies documented	b. Efficiency of service is known with defined targets (In water supplies: unaccounted of water known and cost to community and WW about I &I)	3C	50 year plan underway
Demand Management strategies documented	c. Future predictions of development and asset creation are made based on analysis of all factors to reduce risk of under- or over-investment	3B	50 year plan underway
Sensitivity of asset development (Capital works) to demand changes	a.Forward programs assessments and forecasts based on demand analysis and LoS	3B	50 year plan underway
Sensitivity of asset development (Capital works) to demand changes	b. Capacity/demand forecasts are based on knowledge of all components that make up demand (e.g. population changes, customer types), and changing trends (e.g. changes in service standards)	3B	50 year plan underway
Sensitivity of asset development (Capital works) to demand changes	c. Processes in place to monitor current asset capacity against demand predictions and use this data to plan future asset needs at an asset level	3C	Hydraulic models underway



Assessment Element	Question Area	New AMP Part Reference	Status
Asset Utilisation/ Demand Modelling	a.Capacity modelling directly reflects growth and demand strategies to confirm and established position on future upgrades	3C	Hydraulic models underway

Table 3- 14: 2015 Summary of AMP Improvements

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treatment plant details from wastewater strategy when available
AMP Improvement 3 - 6: Add in reference to Watercare's policy on wet industry
AMP Improvement 3 - 7: Update with capacity details of the Raglan wastewater treatment plant
detail from wastewater strategy when available
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AMP Improvement 3 - 11: Add future options to meet projected demand in table format29
AMP Improvement 3 - 12: Add further details about discussions with Waikato Regional Council
about onsite wastewater systems
AMP Improvement 3 - 13: Add details on Inflow/Infiltration Management Plan when available in late
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Part 4: Delivering Our Services

A. How is this Activity Delivered

I. Wastewater Activity Management Structure

The Council management structure for the wastewater activity is shown in Figure 4-1. The wastewater activity is entirely delivered within Council. This includes asset management planning, capital and operational project management, operation and maintenance of the wastewater treatment plants and reticulation networks.



Figure 4-1: Wastewater Service Delivery Structure

I.I Council Staff

In January 2013, the new Service Delivery structure was implemented. The rationale for the change was as follows:



- To position the organisation to be future focused and to be able to adapt to changes in local government;
- To align better to the Council's vision and guiding principles;
- To simplify the structure and ensure clear leadership and accountability;
- To better align with how services are delivered; and
- To focus more on customers.

The Waters Unit is focused on delivery of water, wastewater, stormwater and solid waste services. Three teams were created in this unit, Asset Management, Operations and Treatment and Services. Outside these teams sits a Waters Compliance Officer who reports directly to the Waters Manager.

The Waters Compliance Officer role was created to provide focused resource dedicated to ensuring all regulatory and legislative requirements for the waters activities were being met. In the past resource consent compliance has been disjointed and not been managed well and has resulted in major non compliances.

The Asset Management team is responsible for long term planning and management of the waters assets and solid waste activity, as well as maintaining the asset management system, Asset Finda.

The Operations team is responsible for day to day management of the waters networks and overseeing the recycling and refuse contracts. The team deals with any operational issues that arise, optimising the system and ensuring that the customer receives a reliable and well managed service.

The Treatment and Services team is responsible for operating and maintaining the treatment plants and the waters network. The team is the works division of the Waters unit and are responsible for ensuring repairs and faults are addressed in a timely manner.

For Wastewater, the treatment plant resource consents require that the plants are operated, maintained and managed by appropriately experienced personnel. Council ensures that all its treatment plant operators and reticulation staff have or are working towards diplomas or certificates in wastewater.



1.2 Contracts and Agreements Associated with Delivering this Activity

Local Authority Shared Services (LASS) is a Council Controlled Organisation (CCO) owned by the Waikato Region local authorities. The members are Waikato, Rotorua, Waitomo, Hauraki, Thames-Coromandel, Waipa, Matamata-Piako, South Waikato, Taupo and Otorohanga District Councils, Hamilton City Council and Waikato Regional Council. The objective of the company is to provide councils in the Waikato region with a vehicle to develop shared services that demonstrate benefit to ratepayers and taxpayers. LASS provides a mechanism for the development of new services which any of its shareholders can be part of. It also provides those councils that wish to develop new services with a company structure under which they can develop and promote services to other local authorities.

In 2011 the Waikato Mayoral Forum was developed to respond to challenges indicating that within local government there were further efficiency opportunities. The Mayoral Forum established four initial work streams (roading, two-waters, planning and governance) to investigate what opportunities there were for collaboration and which were most appropriate to implement in the Waikato.

Service delivery improvements could be made in back-of-office activities by implementing shared services. Benefits can be realised through cost savings, streamlining work processes and improved services.

The benefits of LASS have been delivered in the form of:

- Improved level and quality of service;
- Co-ordinated approach to the provision of services;
- Reductions in the cost of services;
- Opportunity to develop new initiatives; and
- Leverage provided from economy of scales resulting from a single entity representing councils leveraging procurement opportunities.

The current shared services operating under LASS are:

- Shared Valuation Database Service (SVDS) For District Valuation Roll
- Waikato Regional Transport Model (WRTM)
- Insurance

The following initiatives are being developed or considered:

- Three Waters CCO (across Hamilton City, Waipa and Waikato District)
- Chemical Procurement
- Asset Valuation
- IT Services
- Banking Services



- Pipe Procurement
- Accommodation
- Professional Services Panel Procurement
- Legal Services
- Computer generated print, mail and e services
- Shared Debt Services
- Fleet Management

AMP Improvement 4 - 1: Update as Waikato LASS services expanded or revised.

Shared Services with Hamilton City and Waipa District Councils

In August 2012, Waikato District Council entered into a Shared Services agreement with Hamilton City and Waipa District Councils. The purpose of this agreement was for the Councils to work together to provide and receive services to increase efficiency, reduce cost and increase specialisation.

Currently, there are shared services agreements to carry out trade waste, sampling and analysis services for the water supply, wastewater and stormwater services and the coordination and delivery of the Smart Water programme. Other agreements to share other Council services may be created in the future.

The Shared Services Operational team which delivers the agreed services, is employed by Hamilton City Council. The partner councils, Waipa and Waikato Districts contribute financially to maintain these services. This essentially is an arrangement where Hamilton City Council is contracted to provide services to Waipa and Waikato District Councils.

For each service provided under the Shared Service agreement, an objective is agreed with relevant Key Performance Indicators (KPIs) that the team providing the services is expected to meet. No review dates are set in any of the agreements.

The Shared Services manager role has been recently filled, the responsibility of that role is to provide overall management of the Shared Services operational teams.

In 2014, the Shared Services Governance group is currently collaborating on a shared contract to provide meter reading services across the three Councils. Also there are discussions with the chemical suppliers to provide fixed costs for chemical supply to all three Councils.

AMP Improvement 4 - 2: Update as Shared Services with Hamilton City and Waipa District Councils expanded or revised.



Electrical and Telemetry Maintenance of Water and Wastewater Assets

In 2012, the electrical maintenance and telemetry maintenance contracts for the waters reticulation expired. The decision was made to combine the two contracts and to include the services for treatment plants.

The administration of two separate contracts had been challenging, the separation of electrical and telemetry issues are not always clearly known and not easily separated for the purposes of contract administration. Also treatment plant electrical and telemetry services had been provided on an ad hoc arrangement, through purchase orders, this provided no certainty over costs and reliability of the service.

	accu with the Acti		
Contract Number and	Contractor	Services Provided	Expiry/Renewal
Name			Date
12/012 Electrical and	Northern	Electrical and Telemetry maintenance	2017 (5 years)
Telemetry Maintenance of	Electrical	and repair services	
Water and Wastewater			

Table 4-1: Contracts Associated with the Activity

There are plans to develop other operational contracts and agreements to provide for other routine maintenance activities such as instrument calibration and maintenance and mechanical repairs and maintenance.

Activity Improvement 4 - I: Develop operational contracts and agreements to provide for other routine maintenance activities such as instrument calibration and maintenance and mechanical repairs and maintenance

1.3 Delivery of Service Review under Local Government Act 2002

Section 17A of the Local Government Act 2002 came into effect in August 2014. This section requires Council to review the cost-effectiveness of current arrangements for meeting the needs of its communities for good-quality local infrastructure, local public services, and performance of regulatory functions.

This review should be carried out:

- in conjunction with consideration of any significant change to relevant service levels;
- within 2 years before the expiry of any contract or other binding agreement relating to the delivery of that infrastructure, service, or regulatory function;
- at such other times as the local authority considers desirable, but not later than 6 years following the last review

Assets



Council may decide to not carry out a review if it determines that changes cannot be made within the 2 year timeframe for contracts/agreements or that the benefits of a review do not justify the costs of a review.

In July 2014, Council approved support for the development of a jointly funded detailed business case to consider the viability of a sub regional collaboration to deliver water services with Hamilton City and Waipa District Councils. The study will consider a Waters CCO (Council Controlled Organisation), an Enhanced Shared Services model and the options of expanding Council's current agreement with Watercare Services Limited to include management of the waters networks across the district.

1.4 Community Groups Associated with Delivering this Activity

Through current resource consents, Council has committed to forming and reporting to a number of groups. Through the resource consent application process, key stakeholders and affected parties are given the opportunity to submit on the application. Generally the groups identified in the consent have made submissions against the consent, so have an interest in the ongoing compliance of the site.

The current groups are as follows:

- Huntly & Ngaruawahia Wastewater
 - Waikato-Tainui Te Kauhanganui Incorporated (Claims and Environmental Unit),
 - Hopuhopu Manawhenua Roopu
- Raglan Wastewater
 - o Tainui Hapu
 - Meremere Wastewater
 - Watercare Services
 - o Ngati Naho Co-operative Society
 - Mercer Rowing Club
- Te Kauwhata Wastewater Treatment Consultation Group
 - Waikato Tainui
 - Ngaa Muka Development Trust
 - o Taniwha Marae
 - o Waikare Marae
 - Horahora Marae
 - Maurea Marae
 - o Okaerea Marae
 - Waahi Whaanui Trust
 - Auckland Waikato Fish and Game
 - o Department of Conservation
 - o River and Catchment Services Waikato Regional Council
 - Lake Waikare Group



The Te Kauwhata Wastewater Consultation Group is the only group that has a mandate to oversee the consent conditions relating to the wastewater consent and to administer distribution of funds. Five of the group have signed a MOU with Council. This agreement was signed 12th November 2012.

As there are a number of groups, in particular iwi, interested in the management and operation of this activity, Council staff are working to ensure that all groups are identified and appropriately being communicated with in a timely manner.

AMP Improvement 4 - 3: Add in definition of Tainui Hapu for Raglan Wastewater from consent documents.

Activity Improvement 4 - 2: Develop a calendar detailing communication requirements with community groups about this activity.

1.5 Capital and Other Contracts

Procurement Policy

Procurement is an activity that is critical to the effectiveness and efficiency of Council as the Waikato District Council spends a considerable amount of money procuring goods and services. This policy covers activities associated with the purchasing of all goods and services by the Council.

Procurement Manual

Waikato District Council staff are required to comply with the Procurement Manual with respect to making, or planning to make, a financial commitment on behalf of Council. It contains advice and procedures required to comply with Council's Procurement and Staff Delegation Policies and the relevant Acts and Manuals. The Manual also includes guidance on contract law considerations, contract ethics, the use of standard templates, and the carrying out of procurement procedures.

I.6 Reporting Structure

Business Plans

Business plans are in development across the organisation at a team level, the objectives are to:

- Integrate and align the organisation's strategic direction with the operational requirements of units and teams.
- Identify where the teams are now, where they want to be, and how to get there.

The Business plans:

- Clarify what to focus on (set direction)
- Provide the link between day to day business and the strategic direction
- Identify projects and action



- Identify resourcing and skill requirement
- Identify key performance indicators (KPIs)

The current business plan (2014) for the Waters team has the following focus for the next 12 months that affects the wastewater activity:

- Completion of the Wastewater Strategy
- Completion of the Activity Management Plans
- Implementation of condition assessment programme
- Focus on achieving a high level of consent compliance
- Increase treatment operator's wastewater process knowledge
- Implement actions out of Treatment Operational Review

Reporting to Council, Community Boards and Committees.

The elected representatives meet regularly to discuss and make policies regarding the Waikato District through full Council meetings and they also endorse recommendations made through council committees.

There are four Council Committees that are set up to deal with localised issues:

- Infrastructure
- Policy & Regulatory
- Strategy & Finance
- Discretionary & Funding

The Infrastructure Committee monitors and develops the operations of Council's infrastructure and facilities. When required the Committee will make recommendations to Council for amendments to levels of service and financial expenditure as outlined in the Delegations Manual. Most reports relating to the water supply are presented at the Infrastructure Committee, occasionally items are presented in the Policy & Regulatory Committee or Strategy & Finance as appropriate. The Committee generally meets monthly.

Any actions identified by the Council or relevant Committees are conveyed back to staff as "Action Sheets" with recommendations for staff to follow up.

The Audit & Risk Committee is a subcommittee of the Strategy & Finance Committee. The committee provides independent assurance and assistance to Council on risks, control and compliance framework, and its external accountability responsibilities.

There are also a number of Community Boards and Community Committees which look after local interests and are the link between the community and the Council. Infrastructure projects and issues of local interested are included in these meetings from time to time.



Reporting to External Parties

Waikato Regional Council

Resource consents are issued by the Waikato Regional Council to enable to activities associated with wastewater collection and treatment to be delivered. The primary consents issued in relation to this activity are discharge to the environment.

The resources consents issued require a number of conditions to be met. Generally the consents require annual reports detailing overall compliance against the consent. The resource consents conditions imposed tend to be site specific and as such generally have different reporting requirements.

Reporting to the Regional Council has not been well addressed in recent years, hence a number of non compliances have been issued from Waikato Regional Council. Focus on this area of compliance has been addressed through the appointment of a dedicated Waters Compliance role.

Water New Zealand

From time to time Council participates in the National Performance Review of Water Utilities, a benchmarking survey coordinated by Water New Zealand. There is a fee for administration of this report. Council has not participated since 2011/12.



B. Sustainable Management

I. Main Impacts of the Wastewater Activity

Section 14 of the Local Government Act 2002 requires local authorities to take a sustainable development approach, by taking into account the social, economic, and cultural interests of people and communities; the need to maintain and enhance the quality of the environment; and the reasonably foreseeable needs of future generations.

Sustainable development is about maintaining the delicate balance between improving people's standard of living and well-being over time, while at the same time preserving the resources and ecosystems on which we and future generations depend.

The following table outlines the positive and negative effects associated with the wastewater activity.

Wellbeing	Positive Effects	Negative Effects	Mitigation of Effects
People	 Wastewater treatment schemes provide a safe disposal method for urban areas where smaller section sizes are unsuitable for onsite treatment Wastewater treatment schemes decrease the risk of infection in the urban environment as there is no requirement for septic tanks Respects cultural sensitivity around receiving environments 	 The cost of providing, operating and maintaining the schemes is high due to energy requirements Unless properly maintained there can be problems with foul odour Creates an ongoing need for the disposal of sewage sludge 	 We will continue to encourage households to reduce the amount of wastewater they produce, for example through reuse of grey water for garden irrigation We will continue to investigate alternatives for the sustainable disposal of sewage sludge
Economy	 Allows for better use of the available developable land Provides infrastructure to enable business development in the community A wastewater system that is working well and meeting its levels of service, will increase property values and ensure our towns are good places for people to 'live, work and play' 	 Restricted capacity can result in constraints on development potential and business capacity The cost of the investment in infrastructure Significant costs and time to implement system upgrades and overflow reduction improvement projects Significant compliance costs for developers, businesses and individual households 	 We will continue to monitor our wastewater systems to ensure they are working well and meeting levels of service

Table 4- 2: Effects Relating to Wastewater



Energy	•	Receiving environments are improved Having wastewater treatment plants reduces the amount of untreated effluent entering the environment	Receiving waters may be adversely affected if wastewater is not properly treated and, where overflows occur, could adversely affect health through consumption of contaminated shellfish and other kaimoana Ecosystems in the receiving environments may be adversely affected by spills or overflows of untreated sewage; smell and noises from the wastewater treatment plants and pumping stations may create nuisance or impact public health and the operation and maintenance of our assets The operation and maintenance of our assets include the production of greenhouse gases through energy use, wastewater treatment processes and biosolids	· ·	We continue to monitor treated effluent to ensure it meets the conditions of resource consents Wetlands are used for the effluent treatment to promote their retention and development as they are a rare ecosystem in the region Environmental damage during the construction of new works is mitigated through resource consent conditions

2. Sustainability Challenges for the Wastewater Activity

Sustainable Environment – Council's strategic focus is to have an integrated approach to providing sustainable, attractive, affordable and safe options for living, in a way that's in tune with what ratepayers want. This needs to result in more streamlined processes that cost less while still providing required results for both community and the council.

Sustainable Communities – Council's strategic focus is to support economic growth, rather than spatial growth, to enrich our communities through employment, improved quality of life, rather than simply encouraging population growth.

The key risks identified below are associated with the effect on the activity and the effect of operation of the activity if the risk was to be realised.

Table 4-3: Significant Negative Effects of the Wastewater Activity

describes the significant negative effects associated with the wastewater activity.



The key risks identified below are associated with the effect on the activity and the effect of operation of the activity if the risk was to be realised.

Table 4- 3: Significant Negativ	e Effects of the	Wastewater Activity
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Significant Negative Effect	Cultural	Social	Economic	Environmental	Council's Response
Discharges to land and waterways not complying with resource consents	•	•	•	•	Improve processes (may be capital related) and continue to monitor discharge
Odour from manholes, pump stations and at treatment plants	•	•		•	Improve process and implement improvements (capital related)
Surcharges from manholes	•	•		•	Investigate and take remedial measures
Health and safety risks associated with the operation, maintenance, or construction of wastewater infrastructure		•	•		Ensure compliance with legislation and health and safety management plans. Maintain an incidents register
Pump station overflows	•	•		•	Investigate causes and provide additional storage if required.
Chemical spills at treatment plants	•		•	•	Ensure procedures are in place for correct identification, storage and handling of chemicals. Ensure appropriate bunded areas and storage facilities are in place.

Source: Waikato Long Term Plan 2012/2022



3. Sustainability Initiatives

The Smart Water campaign was an initiative rolled out via the Waikato Regional Council in 2008 working with the region's councils. The objective of the Smart Water campaign was to develop educational material to support raising public awareness around water and water use.

In subsequent years, Hamilton City and Waikato District Council's continued to use the Smart Water Brand as part of their own Water Conservation and Education process and to support the two Council's Water Conservation and Demand Management Plans (WCDMPs).

In 2013, through the shared services partnership with Hamilton City and Waipa District Councils, a Smart Water coordinator role was established. The scope of this role was to:

- Develop and implement a Smart Water educational programme for residential, industrial/commercial customers and schools;
- Liaison with external parties to support and enhance the Smart Water educational programmes across the sub region;
- Management of the three Councils' WCDMPs and ensuring the actions are being implemented; and
- Overall management of the Summer Water Campaign for the three Councils (water restrictions and education campaign).

While this initiative is focused on water use, this will have a flow on effect to wastewater as if water use is reduced the resulting water being discharged will be reduced.

4. Sustainability Initiatives for the Future

Looking to the future, Council will be reviewing its WCDMP and there are plans to align all three council's plans and potentially create a sub regional plan. It is anticipated that new actions will be developed out of this review and implementation will be programmed as part of the 2015 Long Term Plan.

As part of the sub regional strategy, a sub regional action plan has been developed and a number of the actions relate to sustainable operation and maintenance of the wastewater activity. The following are the key actions:

- 30-year Sub-regional Three Waters Infrastructure Plan
- Sub-regional approach to risk management for public health for three waters activities
- Sub-regional Infrastructure Technical Specifications for three waters infrastructure
- Sub-regional Three Waters Education Strategy
- Use Integrated Catchment Management Plans and Water Impact Assessments to help achieve integrated and cost effective management of land use and the three waters
- Develop sub-regional optimised decision-making processes for three waters management and apply them when assessing technology (including new and green technology), infrastructure, processes and programmes of work.



Funding for developing these actions will be allowed for in the next LTP 2015-25.

Activity Improvement 4 - 3: Work with partner councils to scope work required to implement subregional strategy actions, determine timing and allocate resources.



C. Risk Management

The purpose of risk management is to identify the risks associated with the wastewater activity and assets. This requires considering potential risks from many perspectives which may include financial, operational, organisational and public health and safety considerations to name a few.

I. Insurance Associated with this Activity

Waikato District Council insures assets as part of the Local Authorities Shared Services (LASS) group. This is outlined in the Local Authorities Shared Services Manual 2013-14. The type and level of insurance cover taken is dependent on the level of risk associated with the activity. Insurance policies taken out by the Council cover infrastructural assets above and below ground. Types of cover include property and business interruption such as material damage as a result of fire, storm, explosion, flooding etc., and the consequential loss of profits from that event. Council employees are also covered for liability risks of a work related injury that is not covered under ACC.

All contractors who undertake work for the Council are required to show that they hold adequate insurance for Public Liability, Professional Indemnity and Contract Works. The level of insurance cover for the contractor is dependent on the nature of work and associated risk exposure.

Under the insurance programme, Council has the following insurance policies:

- Material Damage Excluding Fire
- Material Damage Fire
- Business Interruption
- Boiler Explosion
- Machinery Breakdown
- Forestry
- Computer / Electronic Equipment
- Aviation Airport Owners and Operators Liability

- Civil Defence Emergency Costs
- Employers Liability
- Statutory Liability
- Crime
- Personal Accident
- Marine Hull
- Motor Vehicle
- General Liability and Professional Indemnity – RiskPool

The underground assets are only insured for material damage as a result of a natural catastrophe including Earthquake, Natural Landslip, Flood, Tsunami, Tornado, Windstorm, Volcanic Eruption, Hydrothermal & Geothermal activity and Subterranean Fire and Business Interruption.

2. Corporate Risk Management Framework

Waikato District Council has adopted a corporate level risk management framework using the AS/NZS 4360: Risk Management as a basis.

2.1 Risk Management Policy

The Waikato District Council Risk Management Policy and associated Risk Management Framework were adopted in March 2014. This policy describes the systems that the Council has in place to



identify and manage risks which could prevent the Council from achieving its strategic objectives. This policy is next due for review in March 2017.

The Council's approach to risk management, the risk management process, and the main risk reporting procedures are set out in detail in the Risk Management Framework.

2.2 Risk Management Objectives

The Council's risk management objectives for applying effective risk management are:

- Identify and manage existing and new risks in a planned and coordinated manner;
- Develop a "risk aware" culture that encourages all staff to identify risks and associated opportunities as part of their business as usual activities; and
- Improved achievement of Council's vision, values and strategies with the Executive Team having an active and informed knowledge of the range and priority of the risks that need to be managed by the organisation.

2.3 Risk Management Process

An overview of the risk management process is provided in the following steps.

Stage I – Risk profiling

High level risk profiling is used for service delivery contacts and projects as a first stage filter to identify contracts and or projects that pose the most risk. Risk profiles of either low, moderate, high and extreme are established via a risk profile assessment tool for each contract or project. Each risk profile has a corresponding risk management action according to the level, as shown below. Risk profiling also forms a component to assess and select corporate projects.



Table 4- 4: Action required for risk profiles

Extreme Risk	Project/ Contract escalated to Executive team (ET) for review. ET to decide if project/ contract within organisational risk appetite. If OK to proceed, Stage 2 - detailed risk management required for ongoing project/ contract management with regular risk status reporting to ET
High Risk	Project/ Contract escalated to General Manager for review. Stage 2 - detailed risk management required for ongoing project/ Contract management with regular risk status reporting to GM
Moderate Risk	Project/Contract managed within business unit, Project/ Contract manager to monitor changes that may affect risk profile. Risk profile updated as changes occur.
Low Risk	Manage project/ contract by routine procedures

Stage 2 - Risk identification and management

Risks are identified and managed at three levels; Strategic, Operational and Project level. Each risk level has corresponding processes that provide systematic steps to assess and manage risks relative to the risk level. Risk management processes and resources (guides, notes and templates) are made available to staff through the online process management tool - Promapp.

Once identified, risks are structured into meaningful risk statements and entered into the relevant risk register with the risk consequence category noted, i.e. Financial, reputation/ Image etc.

Strategic, Operational and in some instances, major project risks will use the Promapp risk register. Project risks will be recorded within the project files of the Integrated Project Manager (IPM) software.



The overall risk score is determined by multiplying the Likelihood and Consequence scores

Overall Risk Rating = Likelihood x Consequence

DOC	Possible (2)	2	4	6	8	10
LIHO	Possible (2)	2	T	0	0	10
ш	Rare (1)		2	3	4	5
LIKI						
		Insignificant	Minor	Moderate	Major	Catastrophic
		Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)

Table 4- 5: Risk Assessment

Strategic and Operational risks are further assessed against treatments to determine a Residual risk score; however project risk management moves directly into action or mitigation planning for the highest scored risks.

Prioritise Risk

Final risk scores at each risk level are then prioritised as either an Extreme, High, Moderate or Low risk. Extreme and High risks are then forwarded into the action planning phase and become the main risks on the relevant risk registers that will be monitored and managed. Moderate and low risks should be periodically reviewed in case circumstances change, whereby the risk(s) are escalated for action planning.

Table 4- 6 below shows the comparative levels of risk and associated action required.



Table 4- 6: Comparative Levels of Risk

ACTION REQUIRED FOR RISK

17-25	Extreme Risk - Immediate action required: Risk escalated to Executive team as a priority. Action plans with management responsibility confirmed with close scrutiny required. Only the Chief Executive and or Executive team can accept this level of risk.
11-16	High Risk - Priority risk reported to General Manager. Mitigation action plans and management responsibility specified with periodic scrutiny required. The relevant GM, sponsor, risk manager and programme manager can accept this level of risk.
6-10	Moderate Risk - Risk managed through periodic monitoring & reporting of risk profile (on watch list). The relevant project or risk manager can accept this level of risk.
I-5	Low Risk - Risk managed through routine procedures (on watch list). The relevant project lead/ project manager can accept this level of risk.

Action planning

Each main risk on the risk register is then subject to risk mitigation planning and involves a number of steps to ensure that adequate mitigation measures are in place, including a risk owner that is accountable for managing the risk and reporting on the risk status.

3. Corporate Risk Registers

3.1 Audit and Risk Committee Risk Register

The Audit & Risk Committee is a subcommittee of the Strategy & Finance Committee, which meets quarterly. The committee provides independent assurance and assistance to Council on managing its most critical corporate level risks, and compliance framework, and its external accountability responsibilities.

The table below describes the risks to Council which are monitored by the Audit and Risk Committee. Treatments and actions are managed in Promapp and progress is reported to the Committee on a quarterly basis. Through their active involvement in risk management, the Audit and Risk Committee establish the risk appetite of Council.


Table 4-7: Waikato Audit and Risk Committee Register (as at August 2014)

Risk			Related Risk		Inherent	: Risk		Residual Risk			
Number	Risk Statement	KISK OWNER	Portfolios	Likelihood	Consequence	Inherent Score	Inherent Risk Rating	Likelihood	Consequence	Residual Score	Residual Risk Rating
R00053	Business function is significantly interrupted due to a lack of business continuity planning and organisational resilience.	Portfolio Managers: Communications Manager, Organisational Planning Project Support (OPPS) Team Leader, Planning and Strategy Manager	Reputation/ Image, Political & Strategic	Possible (2)	Catastrophic (5)	10	Moderate	Possible (2)	Catastrophic (5)	10	Moderate
R00056	Significant harm is caused due to poor or inactive Health and Safety procedures.	Portfolio Managers: Communications Manager, Human Resources Manager, Organisational Planning Project Support (OPPS) Team Leader, Organisational Planning Project Support (OPPS) Team Leader	People, Reputation/ Image	Likely (3)	Major (4)	12	High	Possible (2)	Major (4)	8	Moderate
R00057	Failure to provide sustained delivery of core services due to the poor management of assets and inadequate asset management planning.	Portfolio Managers: Communications Manager, Finance Manager, Organisational Planning Project Support (OPPS) Team Leader	Financial, Reputation/Image	Likely (3)	Major (4)	12	High	Possible (2)	Major (4)	8	Moderate



Risk			Related Risk		Inherent	Risk			Residu	ual Risk	
Risk Number F Constall Constall dise poc sen stall R00051 eng WD eco dev nor to u invu infr inte R00019 Cou Oui disi suff Suff	Risk Statement	Risk Owner	Portfolios	Likelihood	Consequence	Inherent Score	Inherent Risk Rating	Likelihood	Consequence	Residual Score	Residual Risk Rating
R00051	Community and key stakeholders are disengaged due to poor customer service or stakeholder engagement.	Portfolio Managers: Human Resources Manager, Organisational Planning Project Support (OPPS) Team Leader	People	Likely (3)	Moderate (3)	9	Moderate	Possible (2)	Moderate (3)	6	Moderate
R00019	WDC inhibits economic development in the northern region due to untimely investment in infrastructure, internal capacity and poor engagement with Auckland Council.	Portfolio Managers: Communications Manager, Organisational Planning Project Support (OPPS) Team Leader, Planning and Strategy Manager	Reputation/ Image, Political & Strategic	Likely (3)	Catastrophic (5)	15	High	Rare (1)	Catastrophic (5)	5	Low
R00058	Our District is disadvantaged and suffers missed funding opportunities due to poor engagement in Regional and or National strategic planning.	Portfolio Managers: Finance Manager, Organisational Planning Project Support (OPPS) Team Leader	Business Continuity, Financial	Possible (2)	Major (4)	8	Moderate	Rare (1)	Major (4)	4	Low



3.2 Strategic Risk Register

The Strategic Risk Register contains critical business level risks that have effect across the whole business. These risks are reviewed by the Executive Team on a quarterly basis.

The table below describes the risks to Council which are monitored by executive team. Treatments and actions are managed in Promapp and progress is reported to the team on a quarterly basis.

Table 4-8: Waikato Strategic Register (as at August 2014)

Risk Number	Risk Statement	Risk Owner Rela			Inherent R	isk		Residual Risk				
Number	Risk Statement		Related Risk Portionos	Likelihood	Consequence	Inherent Score	Inherent Risk Rating	Likelihood	Consequence	Residual Score	Residual Risk Rating	
R00069	Inability to access or loss of organisational knowledge due to poor information management and or non-documented processes.	Portfolio Managers: Finance Manager, Organisational Planning Project Support (OPPS) Team Leader	Business Continuity, Financial	Often (4)	Major (4)	16	High	Often (4)	Major (4)	16	High	
R00016	Business effectiveness and efficiency are compromised because of ineffective, insufficient or unreliable technology.	Portfolio Managers: Information Management Manager, Organisational Planning Project Support (OPPS) Team Leader, Organisational Planning Project Support (OPPS) Team Leader	Business Continuity, Technical	Often (4)	Moderate (3)	12	High	Often (4)	Moderate (3)	12	High	



Risk		Risk Owner	Related Risk Portfolios	Inherent Risk					Residual Risk					
Number	Risk Statement			Likelihood	Consequence	Inherent Score	Inherent Risk Rating	Likelihood	Consequence	Residual Score	Residual Risk Rating			
R00002	Financial loss, reputational damage and failure to deliver community outcomes due to poor delivery of projects and programmes.	Organisational Planning Project Support (OPPS) Team Leader (Portfolio Manager)	Business Continuity	Often (4)	Moderate (3)	12	High	Likely (3)	Moderate (3)	9	Moderate			
R00099	Financial loss, reputational damage and failure to deliver community outcomes due to poor contract management.	Organisational Planning Project Support (OPPS) Team Leader (Portfolio Manager)	Business Continuity	Often (4)	Moderate (3)	12	High	Possible (2)	Major (4)	8	Moderate			
R00066	Levels of service are compromised due to the impact of external economic circumstances	Portfolio Managers: Finance Manager, Human Resources Manager, Organisational Planning Project Support (OPPS) Team Leader	People, Financial	Possible (2)	Major (4)	8	Moderat e	Possible (2)	Major (4)	8	Moderate			
R00067	Destruction or damage of Council assets and or inability to provide expected service level due to the impact of a natural hazard.	Portfolio Managers: Finance Manager, Organisational Planning Project Support (OPPS) Team Leader	Business Continuity, Financial	Rare (1)	Catastrophic (5)	5	Low	Rare (1)	Catastrophic (5)	5	Low			



Risk		Risk Owner	Related Risk Portfolios		Inherent R	isk		Residual Risk				
Number	Risk Statement			Likelihood	Consequence	Inherent Score	Inherent Risk Rating	Likelihood	Consequence	Residual Score	Residual Risk Rating	
R00025	Business operations are disrupted due to the loss of key staff, inadequate staff levels and or inadequate staff capabilities.	Organisational Planning Project Support (OPPS) Team Leader (Portfolio Manager)	Business Continuity	Rare (1)	Catastrophic (5)	5	Low	Rare (1)	Catastrophic (5)	5	Low	
R00128	Unauthorised access to privileged information, theft of digital assets and or malicious code and viruses due to cyber attack.	Portfolio Managers: Communications Manager, Finance Manager, Organisational Planning Project Support (OPPS) Team Leader, Organisational Planning Project Support (OPPS) Team Leader	Business Continuity, Financial, Reputation/ Image	Likely (3)	Major (4)	12	High	Rare (1)	Major (4)	4	Low	
800065	Exposure to financial loss and reputational damage due to the failure to meet consent conditions and or legislative requirements.	Portfolio Managers: Building Quality Manager, Communications Manager, Finance Manager, Monitoring and Bylaws Team Leader, Organisational Planning Project Support (OPPS) Team Leader, Waters Manager	Financial, Reputation/ Image, Environmental	Possible (2)	Moderate (3)	6	Moderat e	Rare (1)	Moderate (3)	3	Low	



4. Activity Management Risk Register

The risk registers for the current and future wastewater activities of Waikato District Council are recorded in Promapp (risk module) and have been developed in consultation with key staff.

The risk registers will be reviewed annually, however there will be a requirement by risk managers (people assigned overall responsibility for each risk) and treatment owners (people or persons assigned responsibility to confirm treatments are operational and effective) to ensure proactive risk management is being conducted. The frequency of these actions for each risk is specified and managed via the Promapp risk module.

The wastewater activity risks were developed by various staff across the Waters team, the operation engineers, treatment staff, asset management staff and the compliance officer. The risks were assessed as a team and the inherent risk rating was calculated. The treatments do require further development and will be done in conjunction with members of the Waters team.

The table below describes the risks specific to the wastewater activity. Treatments and actions are managed in Promapp. Actions that are required to achieve the desired improvements are indicated along with how progress on these actions will be monitored and reported. Where applicable, action tasks detail timeframes for achievement, and responsibility for these actions.

For most registers there is some work required to match the risks to mitigation measures and then specific actions. The latter two are listed under the treatment field in Promapp.

4.1 Link to Activity Management Risk Register

Actions identified in the Risk Management analysis are directly linked to actions identified in Part 7: Continuous Improvement, where resources should be identified, approval of resources noted, and a defined method is provided for revisiting and reviewing progress against each action item.

In all cases, the appropriate risk reference number should be noted in the Improvement Plan.

4.2 Critical Assets

AMP Improvement 4 - 4: Update section to reference final criticality reports when available

As part of the 2012-22 Long Term Plan, funding was put aside to identify and condition rate all the water and wastewater aerial pipes. In the summer of 2013, students went through a process of cataloguing all known aerial pipes and undertaking a basic visual assessment.

Opus have taken the work done to date and incorporated this into a criticality assessment of all pipes across the district, to put together a comprehensive list of critical assets with associated ratings. The aerial pipes deemed to be the worst condition by the students have been further assessed by Opus.



The framework developed by Opus, incorporated analysis of a number of factors including, pipe size, age, location (under railway, state highways, above ground), size of catchment serviced. The following table outlines the outcomes of the criticality analysis completed by Opus.

Criticality Ranking	No of Pipes	Length of pipes (m)	Percentage of network (%)
5 (Most Critical)	33	1,909	0.7
4	991	40,299	15.5
3	447	29,977	11.6
2	1538	43,322	16.7
l (Least Critical)	6,303	143,802	55.5

Table 4-9: Criticality Ranking of Wastewater Pipe Network

A criticality assessment is needed to be undertaken for the treatment plant assets. This will be programmed into the next LTP 2015-25

Assets which are critical to the provision of the wastewater activity will be summarised once the criticality assessment work is completed for all assets across the activity.

NOTE: Further information on these assets is provided in Part 5: Managing Our Assets.

Activity Improvement 4 - 4: Carry out criticality assessment of treatment plant, communication and pump station assets.



Table 4- 10: Activity Management Risks - Wastewater

		Related Risk	Related Risk	Related Risk			Inherent	Risk			Residual	Risk		
Risk Statement	Risk Owner	Portfolios	Classifications	Likelihood	Consequence	Inherent Score	Inherent Risk Rating	Likelihood	Consequence	Residual Score	Residual Risk Rating			
Non compliance with legislation and consents due to inability to meet required standards.	Portfolio Managers: Communications Manager, Finance Manager, Legal Counsel, Organisational Planning Project Support (OPPS) Team Leader, Planning and Strategy Manager	Financial, Reputation/ Image, Compliance/ Regulatory, Political & Strategic	Wastewater, Water Supply	Frequent (5)	Catastrophic (5)	25	Extreme	Often (4)	Catastrophic (5)	20	Extreme			
Wastewater treatment and network failure due to system faults	Portfolio Managers: Information Management Manager, Legal Counsel, Organisational Planning Project Support (OPPS) Team Leader	Business Continuity, Compliance/ Regulatory, Technical	Wastewater	Frequent (5)	Moderate (3)	15	High	Often (4)	Moderate (3)	12	High			
Unconsented discharge of effluent to the environment that could cause a health risk due to system failure/ human error/ power outage or adverse weather.	Portfolio Managers: Building Quality Manager, Communications Manager, Human Resources Manager, Legal Counsel, Monitoring and Bylaws Team Leader, Organisational Planning Project Support (OPPS) Team Leader, Planning and Strategy Manager, Waters Manager	People, Reputation/ Image, Compliance/ Regulatory, Environmental, Political & Strategic	Wastewater	Frequent (5)	Major (4)	20	Extreme	Frequent (5)	Minor (2)	10	Moderate			
Failure to provide a wastewater service to communities due to system failure, human error, power outage or adverse weather	Portfolio Managers: Communications Manager, Organisational Planning Project Support (OPPS) Team Leader	Business Continuity, Reputation/ Image	Wastewater	Possible (2)	Major (4)	8	Moderate	Possible (2)	Major (4)	8	Moderate			



Dial Statement	Disk Ourser	Related Risk	Classifications		Inherent	Risk		Residual Risk			
	KISK OWIEI	Portfolios		Likelihood	Consequence	Inherent Score	Inherent Risk Rating	Likelihood	Consequence	Residual Score	Residual Risk Rating
Inadequacy of infrastructure due to poor quality and or non- conformance of constructed assets.	Organisational Planning Project Support (OPPS) Team Leader (Portfolio Manager)	Business Continuity	Wastewater, Water Supply	Likely (3)	Moderate (3)	9	Moderate	Possible (2)	Moderate (3)	6	Moderate
Loss of service due to treatment service provider failure (Watercare)	Portfolio Managers: Communications Manager, Organisational Planning Project Support (OPPS) Team Leader	Business Continuity, Reputation/ Image	Wastewater	Rare (1)	Major (4)	4	Low	Rare (1)	Major (4)	4	Low



D. Business Continuity Planning

I. Business Continuity Plans

Business Continuity Plans (BCPs) are a requirement under the Civil Defence Emergency Management Act 2002, in that: "a local authority must ensure that it is able to function to the fullest possible extent, even though this may be at a reduced level, during and after an emergency".

Managing risk is an integral part of good management practice and an essential element of good corporate governance. BCPs provide for preparedness and response frameworks for any event that significantly (or potentially significantly) impacts on:

- the delivery of any essential council service and
- health and safety of staff and the public.

Business Continuity is a key risk category within the Council Risk Management framework. Business Continuity management is defined within a Policy that supports the Risk Management Policy approach by setting guiding principles for the proactive development of treatment plans and processes for critical business functions.

Council's Audit & Risk Committee has identified six strategic risks of which they will monitor closely. Top of this list is the risk statement: "Business function is significantly interrupted due to a lack of business continuity planning and organisational resilience."

The objective of the business continuity framework in Waikato District Council is to achieve for Council and stakeholders:

- A confident and rigorous basis for decision making and planning,
- A robust basis of identifying the opportunities and threats,
- Proactive rather than reactive management,
- Effective use and allocation of resources,
- Improved stakeholder confidence and trust,
- Improved compliance with relevant legislation,
- Better corporate governance.

A BCP project is underway that has put in place the high level process to undertake business continuity and will also identify and capture all critical business processes. The priority is then to ensure these processes are mapped and approved in Waikato District Council's corporate risk management and process system module, Promapp. The BCP associated project programme of works, policy, framework and processes can be found within the Promapp System.

Activity Improvement 4 - 5: Update the business continuity plan for this activity.



2. Civil Defence Emergency Management

The relationship of Civil Defence Emergency Management is outlined in Figure 4 - 1. The primary legislative drivers for emergency management are the Civil Defence Emergency Management Act 2002 (CDEM), the National CDEM Strategy, National CDEM Plan and Guide and Waikato CDEM Group Plan.



Figure 4 - 1: Civil Defence and Emergency Management in the Waikato Region

Source: Group Recovery Plan 2013, Waikato CDEM Group

2.1 Civil Defence Emergency Management Act (CDEM) 2002

The CDEM Act came into force on December 1, 2002. The CDEM Act ensures that New Zealand has the resources to manage disasters.

Emergency Management focuses on 'the 4Rs':

• **Reduction** – identifying and analysing risks to human life and critical infrastructure.



- **Readiness** developing capabilities before an emergency occurs.
- **Response** taking action immediately before, during or directly after an emergency.
- **Recovery** initiating activities after impact, and extending them until the community's capacity for self-help is restored.

2.2 Waikato Civil Defence and Emergency Management Group

The CDEM Act required the Waikato District Council and other regional, district and city councils to form Civil Defence Emergency Management Groups (CDEM Group). A CDEM Group is a consortium of the local authorities in a region working in partnership with emergency services, amongst other things, to:

- identify and understand hazards and risks; and
- prepare CDEM Group plans and manage hazards and risks in accordance with the 4Rs (reduction, readiness, response and recovery).

The Waikato CDEM Group was established in 2003 and is governed by a Joint Committee that consists of representatives from all local authorities within the Waikato region. These representatives are generally elected members, or where this is not possible, representatives have the delegated authority of the council on behalf of the local authority.

The work undertaken by the Waikato CDEM Group is overseen by the Coordinating Executive Group (CEG), which consists of executive representation from all local authorities, as well as emergency services, welfare providers and lifeline utilities.

The Waikato CDEM Group is administered by the Group Emergency Management Office (GEMO). The GEMO is currently hosted by the WRC and (along with administrative support to the Waikato CDEM Group) provides professional CDEM support and coordination to all eleven local authorities within the Waikato CDEM Group.

2.3 Waikato District Council Local CDEM Coordinator Arrangement

In July 2013 WDC entered into an agreement with the WRC (specifically the GEMO) to provide a CDEM Coordinator to develop and sustain a local CDEM programme for the district. The individual, employed by the WRC, would operate under the management of the Waikato CDEM Group Controller/GEMO Manager but would be fully integrated at the local level working under the daily supervision of WDC staff. This arrangement provides full access to the professional and technical capabilities of the GEMO team at the local level. Regardless, of this arrangement, the WDC maintains the responsibility for integration of the approved work programme across all departments, the success of which is measured via the means of an independent audit completed by the Ministry of Civil Defence Emergency Management.



2.4 Civil Defence and Emergency Management Plan

The Waikato CDEM Group (which includes the Waikato District Council) is required by the CDEM Act 2002 to develop a Civil Defence and Emergency Management Plan. The plan looks at the hazards we live with, tells us how to prepare and what to do if an emergency occurs, and outlines the agreed roles of local authorities and emergency services. The Waikato CDEM Group Plan 2011-2015 was effective from November 2011, and will be formally reviewed every 5 years. The plan guides the delivery of CDEM across the Waikato CDEM Group and outlines the following:

- The vision, goals and principles of the Waikato CDEM Group;
- The hazard and risk profile for local authorities within the Waikato CDEM Group;
- CDEM measures necessary to manage the hazards and risks identified;
- Organisational and community readiness;
- Response arrangements, including for declaring states of emergency, and cooperation and coordination with other groups.

3. Waikato Lifelines Utility Group

The purpose of Waikato Lifeline Utilities Group (WLUG) is to identify measures and coordinate efforts to reduce the vulnerability of the Waikato's lifeline infrastructure to hazard events and to improve service reinstatement after an emergency, so that the community can recover as quickly as possible.

Lifeline infrastructure is the essential infrastructure in our community that supports the life of our community. These services include water, wastewater, stormwater, power, gas, telecommunications and transportation networks.

The CDEM Act 2002 requires lifeline utilities to establish planning and operational relationships with CDEM groups. At the heart of this relationship is the requirement for each lifeline utility to be able to exchange relevant information around their risk management processes and the key elements of their readiness and response arrangements. To support this collaboration, the director of Civil Defence Emergency Management has released guidelines to assist in meeting the obligations of the CDEM Act;

• Director's Guideline for Lifeline Utilities and Civil Defence Emergency Management Groups (2014)

The Waikato Lifelines Utilities Group (WLUG) is a voluntary group but is funded through contributions from members and the Waikato CDEM Group. The group has a business plan and group charter. Part of the funding received goes towards the Lifeline Utility Coordinator (LUC), a role provided by Waikato Regional Council. The LUC is responsible for Lifeline Utilities Liaison and is involved in delivering a number of projects on behalf of the group.

In 2014, the current projects underway are as follows:



- Critical Fuel Supply Plan
- Priority and Alternative Routes Plan
- WLUG Vulnerability Study



E. Activity Management Plan Improvements

Table 4- 11: AMP Improvement – Progress since 2012 AMP Peer Review

Assessment Element	Question Area	New AMP Part Reference	Status
Legislation requirements for risk met	a. Lifelines and emergency management awareness to Civil Defence Management Act (Risk reduction, readiness, response and recovery status)	4D	Completed
Legislation requirements for risk met	d. Corporate insurance policy/requirements and updating of asset insurance costs	4A	Completed
Identify associated risks and Risk Management strategies for critical assets	a. Procedures in place for rapid and structured response to emergency failures	4C	Business Continuity under review
Identify associated risks and Risk Management strategies for critical assets	b. Risk management considered at both corporate and service level.	4C	Completed
Recognition & application of principles of integrated Risk Management to assets demonstrated	e. Business plans and commercial enterprises/associations are discussed and risks (including financial) are considered	4A	Completed
Risk Management integrated with other corporate processes - Lifelines, disasters recovery, Continuity plans	b. Lifeline based risk assessment & disasters recovery & continuity plan	4D	Business Continuity under review
Risk Management integrated with other corporate processes - Lifelines, disasters recovery, Continuity plans	f. Processes in place for determining need and development of emergency response plans with specific plans for critical events (e.g. Pandemic) and critical asset failures	4D	Business Continuity under review
Identify critical Assets	a. All assets assessed for criticality (including facilities assets)	4B	Completed



Identify critical Assets	b. Asset criticality shown in Asset register for individual assets	4B	Completed
Identify associated risks and Risk Management strategies for critical assets	c. Documented risk management strategies and mitigation considered and used where necessary for critical assets	4C	Complete
Recognition & application of principles of integrated Risk Management to assets demonstrated	a. Understand and implement risk management across all areas of that service that includes documented options to manage the assessed risk and systems and process in place to support risk management	4C	Complete
Recognition & application of principles of integrated Risk Management to assets demonstrated	b. The risk management process is applied to all significant/critical assets at an individual level , and to less critical assets at a group or facility level	4C	Complete

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Part 5: Managing Our Assets

A. Assets Profile

This section provides an overview of the major assets for the wastewater activity including their condition, capacity and performance. It also outlines what is planned in order to operate the assets to the agreed levels of service, while optimising lifecycle costs.

I. Wastewater Delivery Overview

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 large plants treat the wastewater from a total of approximately 16,638 residents and the minor schemes service a total of approximately 78 dwellings. (Source: Waikato District Council Wastewater Supply Asset Management Plan 2006-2016)

The Council rating system indicates a total number of 10,031 wastewater connections throughout the District. This includes 349 commercial customers. AssetFinda lists 6,271 connections. There is work required to reconcile the differences between the two systems.

Activity Improvement 5 - 1: Reconcile the number of wastewater connections between the Council rating system and AssetFinda.

Activity Improvement 5 - 2: Improve asset information for wastewater treatment plants, point assets, telemetry and SCADA in AssetFinda.

Council's reticulated wastewater collection, treatment and disposal systems serve the following areas within the District:

Scheme	Town/Village	Treatment P lant Location	No of Connections
Central District	Hopuhopu	Ngaruawahia	
	Horotiu	Ngaruawahia	
	Taupiri	Ngaruawahia	
	Ngaruawahia	Ngaruawahia	
Huntly	Huntly	Huntly	

Table 5 - 1: Wastewater Scheme Locations



Scheme	Town/Village	Treatment Plant	No of Connections
		Location	
	Te Ohaaki	Huntly	
Mid Waikato	Rangiriri	Te Kauwhata	
	Te Kauwhata	Te Kauwhata	
Raglan	Raglan	Raglan	
Meremere	Meremere	Meremere	
Maramarua	Maramarua	Maramarua	
Matangi	Matangi	Matangi	
Tauwhare Pa	Tauwhare Pa	Tauwhare	
Te Kowhai	Te Kowhai	Te Kowhai	
North Waikato	Tuakau	Tuakau*	
	Pokeno	Tuakau*	

*Tuakau Treatment Plant is owned and operated by Watercare

The location of these wastewater schemes are shown in Figure 5 - 1 below.





Figure 5 - 1: Location of Wastewater Schemes in Waikato District



I.I Non Reticulated Systems

The communities of Glen Afton, Glen Massey, Gordonton, Horsham Downs, Pukemiro, Renown, Rotokauri, Te Akau, Waiokowhai, Whale Bay, Whatawhata, Port Waikato and Onewhero have no reticulated wastewater collection system in place.

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.

The condition and age of private on-site wastewater systems varies, with the newer subdivided areas having newer and more sophisticated systems. Some of the areas present a general drainage health hazard due to high water table, small section sizes and poor draining soils.

Some non-reticulated areas have public health issues caused by onsite disposal systems. Funding was provided by the Ministry of Health for two extensions on the Huntly network, connecting Harris Rd and Te Ohaaki Rd into the scheme and a new scheme for Tauwhare Pa. This work was completed in 2011.

In addition to these approved projects, the Council has continued to work through the consultation process with the community on the Whaanga Coast to build the preferred option to address failed septic systems there. This community was unable to receive a subsidy due to the deprivation index being too low to meet the criteria for the funding. Via Council resolution in 2011 the decision was made that the general rate would subsidise the cost of the scheme extension, residents were asked to contribute 60%. The subsidy was offered on the basis that the residents signed up before the end of the construction period, residents who choose to connect after the works are completed are expected to contribute the full cost of the connection.

Table 5 - 2 gives the overview summary information of each wastewater scheme.



Table 5 - 2: Wastewater Scheme Summary (Source: Asset Finda 2014)

Wastewater Scheme Summary

Wastewater Scheme	GRC	ODRC	Depreciation	No. of connectio ns	Length of reticulation (m)	Average Daily Discharge (m3/day)	Discharge per connectio n (m3/day)	Scheme Population Design Capacity
Central District	\$21,599,015	\$12,831,637	\$348,054		59,998			
Huntly	\$27,132,012	\$10,153,484	\$379,865		71,775			
Maramarua	\$43,211	\$18,077	\$571		233			
Matangi	\$1,079,778	\$696,389	\$25,880		2,111			
Meremere	\$2,615,830	\$1,187,945	\$44,670		7,137			
Mid Waikato	\$8,976,260	\$6,888,521	\$146,608		27,902			
North Waikato	\$16,539,046	\$11,547,204	\$236,557		45,574			
Raglan	\$18,117,907	\$10,993,525	\$330,954		44,951			
Tauwhare Pa	\$811,869	\$688,557	\$41,092		1,453			
Te Kowhai	\$131,518	\$53,145	\$1,738		403			
Total	\$97,046,446	\$55,058,485	\$1,555,990		261,536			

Source: AssetFinda, 2014.

Wastewater Asset Summary - District Wide

Asset type	Qty	Base Life (avg)	Asset Age (avg)	Condition (avg)	GRC	ODRC	Depreciation
Pipes	260,107	80	31	2	\$60,018,353	\$34,777,761	\$734,170
Plant	277	36	6	1	\$2,464,638	\$1,590,769	\$133,287
Points	3,862	79	31	1	\$22,026,109	\$13,395,472	\$285,485
Pump Station	1,685	26	17	1	\$12,226,648	\$5,024,134	\$399,134
Total					\$96,735,748	\$54,788,136	\$1,552,076

below is a summary of the wastewater assets currently owned by Waikato District Council, including average age, condition and expected useful life.



Table 5 - 3: Wastewater Asset Summary

Wastewater Asset Summary - District Wide

Asset type	Qty	Base Life (avg)	Asset Age (avg)	Condition (avg)	GRC	ODRC	Depreciation
Pipes	260,107	80	31	2	\$60,018,353	\$34,777,761	\$734,170
Plant	277	36	6	1	\$2,464,638	\$1,590,769	\$133,287
Points	3,862	79	31	1	\$22,026,109	\$13,395,472	\$285,485
Pump Station	1,685	26	17	1	\$12,226,648	\$5,024,134	\$399,134
Total					\$96,735,748	\$54,788,136	\$1,552,076

Source: AssetFinda, 2014.

I.2 Wastewater Assets

Treated Effluent Discharge

Treated effluent from the schemes of Huntly, Central District, North Waikato and Meremere discharge into the Waikato River. This accounts 80% of the annual treated effluent discharge for the Waikato District.

The Mid Waikato scheme discharges into Lake Waikare. Raglan discharges into the harbour. The small schemes of Te Kowhai, Matangi, Tauwhare Pa and Maramarua discharge to land.

Figure 5-1 below gives a pictorial representation of the proportion of treated effluent discharge across different receiving environments.

AMP Improvement 5 - 1: Add in figure showing proportion of effluent discharge across different receiving environments.

Treatment Plants

Wastewater Treatment Plants are specifically designed to effectively treat incoming sewage to a level that can be discharged to the environment without causing adverse environmental effects. The schemes have treatment systems that operate under Resource Consents to ensure the quality of the effluent being discharged is safe.

Waikato District Council has 9 wastewater treatment plants. The treatment plant assets are comprised of component assets categorised as follows:

Oxidation Ponds
 Pumps



- Aerators
- Electrical Equipment
- Buildings
- Chemical Dosing
- Tanks
- UV

- Mechanical Equipment Valves, etc
- SCADA and control
- Aquamats
- Recirculating Sand Filters
- Flow Meters
- Actiflo

Pump Stations

Pump stations are strategically located to pump wastewater from low points within the system to maintain gravity flow to the treatment plants.

Council has recently started to install low pressure systems, in these particular situations Council has taken responsibility of the connection from individual pump stations on each individual property and will be maintained along with the other distribution pump stations across the district. Te Ohaaki, Tauwhare Pa and Whaanga Coast are the current systems operating.

Waikato District Council has 83 pump stations across the District. Each pump station includes some or all of component assets categorised as follows:

- Backflow Preventor
- Building
- Water Supply
- Pump

- Mechanical Equipment Valves, etc
- Electrical Equipment and Controls
- Pipework
- SCADA/Telemetry

Pipes

The function of pipe reticulation is to convey wastewater away from developed areas, minimising risks to the environment and public health. The pipes are predominantly gravity mains and rising mains and in total there are 262km of wastewater pipe across the District's networks.

Figure 5 - 2 below shows the material types that are prevalent in the network.





Figure 5 - 2: Pipe Length by Material

Source: AssetFinda, 2014.

The most common material is polyvinyl chloride (PVC) (25%, 78km), followed by earthenware (EW) (25%, 77km), asbestos cement (AC) at 24% of the network (73 km) and PE (19%, 57km).

Pipes are the most significant asset in the network.

In the last few years, the focus has been to replace earthenware pipe in areas where blockages and overflows have occurred, the plan is to continue to address areas with known operational issues. Along with implementation of the condition assessment programme, the worst areas can be prioritised for replacement.

AC rising mains are another area where issues are arising, the focus will be on these rising mains over the next 10 years.

Activity Improvement 5 - 3: Prepare programme to replace AC rising mains prioritised on condition and criticality.

Criticality assessments of the entire piped network have been undertaken using a framework developed by Opus Consultants (Condition Assessment Strategy, Opus Consultants, 2013). The most critical pipes identified (rating 5) represents 0.7% of the network. These pipes are single service pipes which service large parts of the network (more than 100 properties) and are located across bridges or under railways and state highways.



Point Assets

Point assets include the following:

- Manholes (3,620)
- Service Connections (4,815)
- Valves, meters, inspection chambers and other points assets (631)

Point assets account for 22% of the GRC for the network, with a total value of \$22million as at 2014.

Manholes represent the largest value of the point assets. Manholes are used at changes in pipeline grade, direction or diameter or as collection points for multiple private service connections. They are generally constructed of circular reinforced pre-cast concrete sections founded on pre-cast or site-constructed concrete bases, with concrete benching from inlet pipe/s to outlet pipe, to improve effluent flow.

Service connections represent the second largest segment of point assets.

The service connection is the length of pipe from the property to the Council reticulated system. The service connection pipe is generally the property owners' responsibility, and Councils' maintenance responsibility would typically end at the property boundary. The exceptions are the low pressure systems where Council responsibility begins on the property at the individual pump station.

Currently there still remain properties not connected to the Council wastewater system in locations where connections are available. Council will allocate annual capital growth expenditure to accommodate the connection of these properties.

Telemetry and SCADA Systems

Telemetry is the technology which allows communication of measurements and other operational status information from remote station to a central location and the sending of operational instructions from a central location to a remote station (i.e. remote control). SCADA (Supervisory Control and Data Acquisition) is the software package that is positioned on top of a real time control system. SCADA receives all the measurements and operational status information, displays it in an easy to understand human machine interface (HMI) display, and allows remote operators (or computer logic code) to control a process by sending operational change instructions back to remote stations.

Council's QTech Telemetry system was installed in the early 90's, previous to the QTech system, there was a pager based alarm system. The system was initially set up to monitor the basic operations of the plants and pump stations.

Over the years as data and monitoring requirements have increased and the increased need to monitor sites in real time, the existing telemetry system has been added to and upgraded in an ad hoc manner. Intouch SCADA was introduced to the treatment plants and RS View to the Raglan



wastewater plant. Due to staff changes and loss of technical knowledge the telemetry control system has not been well maintained or utilised to its full extent and no real ownership has been in place. The associated SCADA interface that was introduced was not set up with clearly defined standards and protocols and is currently a mixture of Datran, Abbey, Intouch and Rockwell RSView HMIs (Human Machine Interface) and databases.

In 2010, with the Auckland amalgamation, Council inherited water assets from the disestablished Franklin District Council, including the Abbey telemetry system. It was realised that a strategy needed to be developed to upgrade the existing system and to provide guidance for the long term direction of electronic monitoring, control and data collection for the water, wastewater and stormwater sites throughout the District.

In simplified terms the strategy document (Waikato District Council SCADA Development Strategy, Streamline Ltd 2011) recommended that the Council move to a single communications platform, QTech RTU (radio telemetry units) and single SCADA system, Wonderware software.

In 2013, following a major wastewater overflow event which was partially attributed to the failings of the telemetry/SCADA system, ERGO was engaged to review the strategy and to provide direction in terms of a detailed design and implementation plan. The review highlighted a few changes in direction in light of the event and taking on board Council's needs in terms of operational and legislative requirements.

ERGO is currently providing services to deliver the upgrade from detailed design to implementation, training and handover, this work is expected to be completed by the end of 2014.

The data and communications system represents a substantial cost associated with the activity. Historically the hardware has been captured in the asset management system in an ad hoc manner, e.g. radios were captured as part of the pump stations. Moving forward, the plan is to capture all hardware including repeaters, communication cables, etc in the asset data systems, thus ensuring depreciation is allowed for replacement of these items into the future. Consideration is also being made as to whether the software should also be captured as intangible assets, further discussions with the finance team are to be had.

Activity Improvement 5 - 4: Add SCADA software to the intangibles or other asset register.

I.3 Resource Consents

Council has a number of resource consents issued that relate to wastewater management activities including discharges to water, discharge to air and to land. In accordance with both Regional and District Plans, there are a number or requirements that must be met during the life of the consent. These requirements will stipulate monitoring conditions in the consent and will require the consent holder to report on the compliance with those conditions.



Council monitors discharges for a number of parameters including (BOD, Faecal Coliforms, Heavy Metals, Suspended Solids, Dissolved Oxygen, pH, Conductivity etc), as per the conditions stipulated in the relevant resource consents. Council is required to rectify any issues, where parameters are not met, in a timely manner and report back to Waikato Regional Council.

Council has used CS Vue to manage its resource consents. CS Vue is a web based compliance management system where resource consents and associated conditions are entered into a database, compliance requirements are identified and responsibilities assigned to individual staff members. Over recent years, use of CS Vue has reduced and is currently being underutilised. As staff have moved on, the systems has lacked overall ownership and responsibility, hence consents have not been maintained in the system.

Council is considering options for managing the consents moving forward, either continue with CS Vue or adopt the use of the Risk and Compliance module within Promapp (Corporate Process Management system). Whichever system that is used, it will be vital that the system is utilised, ownership and responsibilities are clearly defined, documented procedures, processes and work methods are developed, and resourcing allowed for managing and maintaining the system.

Activity Improvement 5 - 5: Develop and maintain resource consent management system in CS-Vue or Promapp.

In late 2013, an overall review of consent compliance across the waters and solid waste activities has been undertaken triggered by Council receiving of a number of Letters of Direction from the regional council. The review highlighted that the required reporting was not being consistently carried out, operational requirements were not being implemented and where volume and quality parameters were not being met, there seemed to be no evidence of anything being done to address non compliance.

Since the review, Council has undertaken to work with the regional council to review and prioritise the outstanding consent conditions and issues, and to develop a programme to ensure full consent compliance as soon as possible.

From a financial perspective, it is now common practice to capitalise and value significant resource consents as intangible assets. Over the years this has been done in an ad hoc manner, the current list of consents is incomplete and out of date. Protocols need to be further defined around when consents should be capitalised and the process for accurate recording of this data in the financial register.

The following are the current wastewater consents have been capitalised (Total \$863,134):

• Matangi, Discharge to Land Consent 10551, Current Asset Cost \$9,600



- Meremere, Discharge to Water Consent 105031, Current Asset Cost \$10,400
- Meremere, Land Use Consent (Outfall) 105033, Current Asset Cost \$39,100
- Raglan, Discharge to Harbour 971390, Current Asset Cost \$310,250
- Raglan, Discharge to Air 971392, Current Asset Cost \$137,486
- Raglan, Consent to Occupy (Outfall) 971391, Current Asset Cost \$22,950
- Te Kauwhata, Discharge to Water Consent 117991, Current Asset Cost \$329,088
- Te Kowhai, Discharge to Land Consent 116151, Current Asset Cost \$4,260
- Ngaruawahia and Huntly Consents, Discharge to Water Current Asset Cost \$79,000

Activity Improvement 5 - 6: Add all wastewater consents to the intangibles register.

Below is the complete list of all current consents related to wastewater activities held by the Council.

Discharge	Consent Number	Consent limit (m³/day)	Compliance Rating*	Expiry Date
To Water- Raglan Harbour (Raglan Scheme)	971390	3,400	Partial Compliance (Letter of Direction and prosecution)	14 February 2020 (Issued 2005)
To Water – Waikato River (Central District)	119642	11,200	Partial Compliance (Letter of Direction)	31 March 2029 (Issued 2011)
To Water – Waikato River (Huntly)	119647	11,500	Partial Compliance (Letter of Direction)	31 March 2029 (Issued 2011)
To Water – Lake Waikare (Mid Waikato)	117991	3,600 (Average Annual limit I,100m³/day)	New Consent (Full Compliance against previous)	2028 (Issued 4 July 2013)
To Water – Waikato River (Meremere)	105031	480 WWF 160 DWF	Partial Compliance (Letter of Direction)	5 th August 2018 (Issued 2003)
To Land – Matangi	105551	52	Partial Compliance (Letter of Direction)	30 September 2021 (Issued 2001)
To Land –	101961	6	High Level of	I December 2014

Table 5 - 4: Volume limits for Wastewater Discharge Resource Consents



Discharge	Consent Number	Consent limit (m³/day)	Compliance Rating*	Expiry Date
Maramarua			Compliance	(renewal underway)
To Land – Te Kowhai	116151	12	Partial Compliance	30 August 2018 (Issued 2008)
To Land – Tauwhare Pa	121024	63	Full Compliance	31 October 2035 (Issued 2012)
As at July 2014				

Activity Improvement 5 - 7: Programme consent renewal applications in the LTP 2015/2025.

Table 5 - 5: Consents to Operate the Treatment Process or Network

Consent Type	Consent Number	Compliance Rating*	Expiry Date
Licence to Occupy – Lorenzen Bay (Raglan Wastewater)	118281, 11893	Not audited	30 April 2043 (Issued 2012)
Licence to Occupy – Raglan Harbour (Raglan Wastewater)	971391	Not audited	14 February 2020 (Issued 2005)
Discharge to Air – Raglan Plant (Raglan Wastewater)	971392	Partial Compliance (Letter of Direction and prosecution)	14 February 2020 (Issued 2005)
Discharge to Air – Ngaruawahia Plant (Central District Wastewater)	119643	Partial Compliance (Letter of Direction)	31 March 2029 (Issued 2011)
Licence to Occupy – Outfall (Ngaruawahia Wastewater)	119645	Partial Compliance (Letter of Direction)	31 March 2029 (Issued 2011)
Discharge to Land – Biosolids (Ngaruawahia Wastewater)	124828	Not audited	30 November 2022 (Issued 2012)
Discharge to Air – Huntly Plant (Huntly Wastewater)	119648	Partial Compliance (Letter of Direction)	31 March 2029 (Issued 2011)



Consent Type	Consent Number	Compliance Rating*	Expiry Date
Licence to Occupy – Outfall (Huntly Wastewater)	119649	Partial Compliance (Letter of Direction)	31 March 2029
			(Issued 2011)
Discharge to Water (via seepage) – Huntly Plant (Huntly	119650	Not audited	31 March 2029
Wastewater)			(Issued 2011)
Discharge to Water (via flooding of wetlands – Huntly Plant (Huntly	119651	Not audited	31 March 2029
Wastewater)			(Issued 2011)
Discharge to Air – Te Kauwhata	117992	Not audited	2028
Plant (Mild Vvalkato VVastewater)			(Issued 2013)

As at July 2014

I.4 Trade Waste

Trade waste management is an area which Council has not managed well over the years. In August 2012, Waikato District Council entered into a Shared Services agreement with Hamilton City and Waipa District Councils. The purpose of this agreement was for the Councils to work together to provide and receive services to increase efficiency, reduce cost and increase specialisation. Trade waste was seen as a priority area, which required focus which Shared Services could provide.

The main functions of the Trade Waste team are to:

- Manage the consent process to ensure that trade waste customers are being captured at building and land use consent stage
- Identify existing trade waste customers within the district and ensure that they are registered and assist in ensuring they are compliant.

1.5 Operations and Maintenance Manuals

Operations and Maintenance (O&M) manuals have only been generated in response to a treatment plant upgrade. Over the years, the manuals have been developed to differing standards and qualities. Through the resource consent review, it was identified that O&M manuals are a requirement for some consents with regular reviews required to be undertaken. The Operational Review of Water and Wastewater Treatment Plants (undertaken by CH2M Beca 2014), identified that incomplete and out of date O&M manuals attributed to inconsistent operation of the treatment plants, with operators relying on their learned knowledge to operate and maintain systems.

The long term aim will be to develop O&M plans for all schemes and have a consistent template across the board.



Activity Improvement 5 - 8: Create/update O&M management plans for all wastewater treatment plants.

Table 5 - 6: Wastewater Scheme O&M Documentation

Wastewater Scheme	Creation Date/Author	Update Date
Huntly Wastewater	September 2011 Cliff Boyt Consulting	
Maramarua Wastewater	October 2012	12 September 2013 Peter Saward (Treatment Plants Engineer)
Matangi Wastewater	Innoflow Technologies	July 2008 Reflection Systems
Meremere Wastewater	Unknown	April 2012
Central District Wastewater	September 2011	April 2014 Cliff Boyt Consulting
Raglan Wastewater	June 2010 Hudson Cameron (Treatment Plants Engineer)	
Tauwhare Pa Wastewater	February 2012 Innoflow Technologies	
Mid Waikato Wastewater	May 2007 Harrison Grierson	
Te Kowhai Wastewater	May 1998 Innoflow Technologies	
Tuakau Wastewater	None	

I.6 Agreed Levels of Service

This is discussed later in section 5.

Table 5 - 7: Wastewater Scheme Level of Service Summary

Wastewater Scheme

Scheme Analysis not available



AMP Improvement 5 - 2: Add in table summarising levels of service for each wastewater scheme.

Activity Improvement 5 - 9: Discuss with HCC regarding servicing of border properties.

I.7 Critical Assets Overview

Previously the critical assets across the wastewater supply schemes were not documented, the knowledge of the at most risk and critical assets are retained with the long serving staff. It is commonly acknowledged that aerial pipes are known to be vulnerable due to the fact that they are exposed to wear and tear more rapidly than underground assets.

As part of the 2012-22 Long Term Plan, funding was put aside to identify and condition rate all the water and wastewater aerial pipes. In the summer of 2013, students went through a process of cataloguing all known aerial pipes and undertaking a basic visual assessment.

Opus have taken the work done to date and incorporated this into a criticality assessment of all pipes across the district, to put together a comprehensive list of critical assets with associated ratings. The aerial pipes deemed to be the worst condition by the students have been further assessed by Opus.

The framework developed by Opus, incorporated analysis of a number of factors including, pipe size, age, location (under railway, state highways, above ground), size of catchment serviced. The following table outlines the outcomes of the criticality analysis completed by Opus.

Criticality Ranking	No of Pipes	Length of pipes (m)	s Percentage of network (%)
5 (Most Critical)	33	1,909	0.7
4	991	40,299	15.5
3	447	29,977	11.6
2	1538	43,322	16.7
l (Least Critical)	6,303	143,802	55.5

Table 5 - 8: Wastewater Pipe Criticality

*This currently includes services lines


Table 5 - 9: Wastewater Scheme Summary of Critical Assets

Wastewater Scheme

AMP Improvement 5 - 3: Add in table summarising criticality for each wastewater scheme.

1.8 Condition and Performance Overview

Council's asset renewal planning is currently based on pipe age and material. Similarly, asset valuation and depreciation is currently based on the age of the pipes, with limited consideration given to actual condition.

The Council has limited information on the actual condition of the pipe networks. The need for more comprehensive condition assessment has been recognised. This will:

- Identify pipes in imminent risk of failure, enabling proactive replacement before service is lost and/or the development of contingency measures.
- Result in more accurate prediction of renewal requirements.
- Provide more accurate asset valuations and rates of depreciation, which will enable revenue and debt requirements to be set in line with future renewal requirements.
- Focus limited funding to replacement of those assets that most need replacement, considering cost, risk and level of service issues.

AMP Improvement 5 - 4: Add in information from condition assessment programme when available.

All new pipes constructed or vested in Council are assigned a condition rating of I.

Knowledge of the performance of the system currently is retained with the operational staff, when repeated issues arise the staff raise the request for the asset to be replaced. A work order process is currently being developed to capture this information into the asset management system.

Activity Improvement 5 - 10: Develop work order system to capture maintenance activities against wastewater assets.

Activity Improvement 5 - 11: Review all schemes with sand filters and programme renewals/upgrades



as required in LTP 2015/2025.

Activity Improvement 5 - 12: Review all schemes and programme sludge removal and disposal as required in LTP 2015/2025.

Condition Assessment Model

The condition assessment model in Table 5 - 10 is being used as the basis for assessing the asset condition of Council's wastewater assets.

Table 5 -	10:	Typical	Condition	Rating	Model
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Grade	Condition	Description of Condition
I	Very Good	Sound physical condition. Asset likely to perform adequately without major work for 25 years or more.
2	Good	Acceptable physical condition; minimal short-term failure risk but potential for deterioration in long-term (10 years plus). Only minor work required (if any).
3	Fair	Significant deterioration evident; failure unlikely within the next 2 years but further deterioration likely and major replacement likely within next 10 years. Minor components or isolated sections of the asset need replacement or repair now but asset still functions safely at adequate level of service. Work required but asset is still serviceable.
4	Poor	Failure likely in short-term. Likely need to replace most or all of assets within 2 years. No immediate risk to health or safety but works required within 2 years ensuring asset remains safe. Substantial work required in short-term, asset barely serviceable.
5	Very Poor	Failed or failure imminent. Immediate need to replace most or all of asset. Health and safety hazards exist which present a possible risk to public safety, or asset cannot be serviced/operated without risk to personnel. Major work or replacement required urgently.

International Infrastructure Management Manual: 2011

2. Wastewater Schemes Descriptions

AMP Improvement 5 - 5: Add process schematics for all wastewater schemes.

2.1 Central District Scheme

Overview

The Central District scheme collects and treats wastewater from Ngaruawahia, Horotiu, Taupiri and Hopuhopu.

Wastewater is pumped from the towns to the oxidation pond at Ngaruawahia, treated in the oxidation pond, wetland and gravel bed before being gravity discharged into the Waikato River.



There are 14 pump stations in Ngaruawahia, 5 in Horotiu, 2 in Hopuhopu and 5 in Taupiri all of which are connected to the SCADA system.

• Ngaruawahia

The Ngaruawahia wastewater scheme was installed in the early 1970's with the treatment pond being commissioned in 1972.

• Hopuhopu

The Hopuhopu scheme was originally installed to service the military camp constructed in the 1930's. By 1990 the New Zealand Army had left the site and the Hopuhopu wastewater treatment plant was gifted to Council. It is no longer used and has been decommissioned and demolished. All treatment is now via the Ngaruawahia treatment plant.

• Taupiri

An 8.6 km reticulation network with 5 pump stations was installed in the Taupiri settlement in 2007 to service the community. Wastewater is collected from the properties and pumped to the wastewater treatment plant in Ngaruawahia for treatment and disposal.

• Horotiu

The wastewater scheme in Horotiu was originally built by the Waipa District Council, the waste was treated at the AFFCO plant. In the mid 90's due to changes in AFFCO's consent, the Waikato District inherited the reticulation and waste was diverted into the Ngaruawahia treatment plant.

Treatment Plant Discharge and Quality

The Ngaruawahia treatment plant is consented to discharge treated effluent to the Waikato River, this consent was granted in 2011.

The treatment system comprises of oxidation pond, Actiflo, UV and gravel bed wetlands. There are 5 cage aerators and a series of curtains in the oxidation pond that form part of the treatment process.

The plant has recently undergone an upgrade (2013), in order to meet the requirements of the current consent. An Actiflo system (tertiary treatment) has been installed, specifically to address the suspended solids level in the wastewater which is high in summer due to algae blooms.

Asset Description

The scheme has 4,815 connections and an average discharge rate of 1,737m³/day. Specific capacities at the treatment plant are shown in the table below.

Table 5 - 11: Capacities of the Ngaruawahia Treatment Plant

Asset	Capacity



Oxidation Pond	65,700m ²

Resource Consent was granted in 2011 and expires in 2046.

The table below summarises the assets at component level, indicating the expected life, age, condition and financial information for each item.

Table 5 - 12: Central Scheme Asset Information

Asset type	Qty	Base Life (avg)	Asset Age (avg)	Condition (avg)	GRC	ODRC	Depreciation
Pipes	60,014	80	29	2	\$13,526,809	\$8,245,014	\$171,055
Plant	1	80	0	1	\$132,919	\$132,919	\$1,661
Points	808	79	26	1	\$4,283,617	\$2,975,941	\$55,856
Pump Station	528	27	16	1	\$3,655,682	\$1,477,764	\$119,287
Total					\$21,599,027	\$12,831,638	\$347,859

Central District Scheme

Source: AssetFinda, 2014

Asset Condition

Limited condition information is currently available, a programme to gain a better understanding of condition is underway at a district wide level.

Condition and performance Issues

Following the upgrade, the treatment processes are being refined to accommodate the changes/additions made. This has resulted in fluctuations in the quality parameters. While the Actiflo unit was originally specified to run only in the summer months to reduce the total suspended solids (TSS), staff have found that they need to operate the system in the winter period to ensure consent compliance.

Currently the sludge from the Actiflo unit goes into geobags which will need removal in the future, and the supernatant is being returned into the oxidation pond. There is concern that the supernatant will cause process issues in the future and is not considered sustainable.

In terms of the reticulation, infiltration and inflow (I&I) is an issue. The main points of overflow from the network are at the pump stations, a programme is underway to install emergency storage at all pump stations. There are of parts of the network which require flushing on a regular basis due to sags and build up in the pipes. These pipes will be put into the condition assessment programme for priority assessment.



Development of a hydraulic model is currently programmed for the 14/15 year, this will assist in understanding the constraints with the system and quantify the existing l&l levels and to be able to consider growth as part of the structure planning process.

2.2 Huntly Scheme

Overview

Wastewater is collected in a reticulated network and passes through two oxidation ponds and tertiary treatment of wetlands and UV, prior to final discharge to the Waikato River via a 1km pumped discharge line.

The scheme was developed in 1944 with the discharge straight to the river via a septic tank, in late 70's the treatment ponds were commissioned and put into operation.

The scheme includes 22 pump stations. All of the pump stations are connected to SCADA/Telemetry with the exception of the North End motel pump station.

Treatment Plant Discharge and Quality

The existing discharge consent contains quality and quantity conditions to the effluent volumes entering and exiting the treatment plant. The treatment process comprises oxidation ponds, wetlands and UV disinfection. The oxidation ponds (primary and secondary contain a total of 5 aerators and series of curtains.

The treatment plant has recently undergone an upgrade (2013), in order to meet the requirements of the current consent (granted 2011). The existing wetlands were rehabilitated and UV disinfection was installed.

A septage receiving facility was constructed in 2008 on the treatment plant site. Historically septage was being discharged across the district and was causing problems with the treatment processes, it was acknowledged that the majority of the septage was coming from within the district from properties with on site systems, so a dedicated disposal point was created.

The septage goes through a receiving unit and is discharged into a holding pond, the liquid component is then discharged into the oxidation ponds, with the sludge being held in geobags for future removal. As part of the upgrade works, the sludge was removed from the oxidation ponds in 2011.

Asset Description

The current capacity of the treatment plant and operating structures/equipment is adequate for the current demand and the forecast demand. Specific capacities at the treatment plant are shown in the table below.

Table 5 - 13: Capacities of the Huntly Treatment Plant

Asset	Capacities
Primary Pond (I)	76,500m ² (112,00m ³)



Secondary Pond (1)	36,000m ² (51,600m ³)
Wetlands (9cells, 2 rock filters)	29,000m ²
Inflow Structure	400mm
Consented Discharge	I I,500 m³/day

In 2011, the resource consents for both Ngaruawahia and Huntly were renewed with an expiry date of 2029. The consents were issued with parameters set as cumulative totals for both plants. This allows flexibility in what treatment methodologies are used at either plant for the specific parameter.

Additional equipment is to be installed as part of the upgrade, including inlet screens, front-end sludge settling ponds and a septic tank receiving facility.

In 2011, the network was extended to service the Te Ohaaki Marae and surrounding area, this puts additional load on the overall system.

Table 5 - 14 summarises the assets at component level indicating the expected life, age, condition and financial information for each item.

Table 5 - 14: Huntly Asset Information

Asset type	Qty	Base Life (avg)	Asset Age (avg)	Condition (avg)	GRC	ODRC	Depreciation
Pipes	70,549	73	44	3	\$16,905,444	\$5,979,512	\$206,571
Points	1,114	79	45	1	\$6,668,126	\$2,889,564	\$87,340
Pump Station	418	26	22	1	\$3,274,349	\$1,039,404	\$82,940
Total					\$26,847,919	\$9,908,480	\$376,851

Huntly Scheme

Source: AssetFinda, 2014

Asset Condition

Limited condition information is available, a programme to gain a better understanding of condition is underway at a district wide level.

Condition and Performance Issues

Following the upgrade, the treatment processes are being refined to accommodate the changes/additions made, this has resulted in fluctuations in the quality parameters.

The rehabilitation works done to the wetlands has made minimal difference to the treatment process, the plant is still exceeding the permitted levels for Ammonical Nitrogen (NH_4) and Total



Suspended Solids (TSS), Funding for Actiflo or similar works may have to be accelerated as part of the Long Term Plan 2015-25.

The current aerators on site are requiring a lot of maintenance, and it may be more cost effective to replace them with the newer types which require less maintenance. The treatment team is currently working through the options.

While the primary oxidation ponds were partially desludged in 2008, the build up has resulted in the need to be desludge earlier than originally planned.

The septage facility has had numerous issues since its installation, issues with continual blockages and the electronic system for contractor access failing continually. There is concern that contractors are disposing of waste other than septage, and this is contributing to the issues as the system relies on honesty from the contractors. The system itself needs reassessment and may need a to consideration of the type of unit used. A more robust, resilient system may be required.

Infiltration and inflow levels in the Huntly system are high. Anecdotally it is considered one of the worst across the district. This has impacts not only on the reticulation, with overflows occurring at pump stations and low points in the network during rain events, but also at the treatment plant. The oxidation ponds have been known to overtop and the outfall pipeline to the river has a number of raised manholes which also have been known to surcharge. To make matters worse, when the river levels are high this also contributes to the water ingress through low lying manholes along the river.

Pump station storage and replacement of the outfall pipeline are to be programmed into the next Long Term Plan 2015-25. An I&I strategy and implementation plan is underway.

The main State Highway I and the North Island Main Trunk railway both run through the middle of Huntly alongside the river, the wastewater assets that are underneath the networks are of a critical nature and require urgent condition assessment to ensure they are proactively replaced. Over the years these assets have failed and emergency works have been undertaken to repair them, but the costs associated with doing so and the disruption caused are high.

The newest part of the network is the low pressure sewer installed in the north to service the Te Ohaaki community including local marae. There have been a few issues including blockage of the main line into the gravity system, due to the length, clearing of the network has been challenging. This has been addressed through installation of a flushing point. The other main issue with this new part of the network is dealing with the continual pump blowouts and blockages due to residents disposing of waste material other than basic domestic waste, the proliferation of products that while the manufacturer are stating are biodegradable the older internal pipework is not able to handle.

Generally because of the soils conditions, ground movement is commonplace in Huntly, this has resulted in some parts of the network with sags in the pipe and gradient shifts, along with the age of the infrastructure this is creating issues. Known areas are in Huntly West, Smith Street and James Henry Crescent.



2.3 Maramarua Scheme

Overview

The wastewater system was originally constructed for the Carter Holt Harvey Timber Mill workers' houses. When the mill closed and the houses were sold, a body corporate was formed that then petitioned Council to take on ownership and management of the scheme. Council has maintained and administered the scheme on behalf of the residents since July 1994. Council does not own the land which the treatment plant sits on.

The Maramarua scheme consists of 8 houses served by a small re-circulating sand filter and sand mound disposal wastewater treatment system. The wastewater is collected via gravity pipes and settled in two septic tanks before being gravity fed into a pump station / re-circulation tank, then pumped to a sand contactor. From the sand contractor effluent is drained to a treated effluent tank then pumped into a disposal mound. Very little capital or operational funds have been expended on the system.

The treatment plant was upgraded in 1990 and a DATRAN system was installed in 2002.

Treatment Plant Discharge and Quality

The existing discharge consent contains no quality discharge conditions. Periodic testing to monitor outflow characteristics were not outlined in the consent. The consent is due to expire in late 2014, Council currently is in the process of applying for a new consent.

Activity Improvement 5 - 13: Obtain new wastewater discharge consent for the Maramarua scheme.

Asset Description

The current capacity of the treatment plant facility and operating structures/equipment is adequate under normal conditions, for the current demand and the forecasted demand. Specific capacities are shown in the table below.

Table 5 - 15: Capacities of the Maramarua Treatment Plant

Asset	Capacity
Main Pump Well	9.7 m ³ Concrete Tank
Concrete Chamber	500 mm (diameter)
Septic Tanks (2) Connected in series	3,300 litre concrete tanks
Sand Contractor	30m ³ *surface area of concrete surround
Treated Effluent Tank	9m ³
Disposal Mound	700m ³ approx sand are with 300mm clay cap
Scheme Discharge	6m³/day

The design population for the system is 8 dwellings with 6m³/day scheme consented discharge. Currently 8 dwellings plus one office are served by the system.



The area is zoned Rural which means that should there be population growth, section sizes will be large enough to accommodate individual septic tanks, requiring no capacity upgrade for the Maramarua scheme.

The water supply for the treatment plant is sourced from a bore owned by a neighbouring property, the water fills a tank from which water is pumped to provide for maintenance purposes.

The table below summarises the assets at component level indicating the expected life, age, condition and financial information for each item.

Table 5 - 16: Maramarua Scheme Asset Information

Asset type	Qty	Base Life (avg)	Asset Age (avg)	Condition (avg)	GRC	ODRC	Depreciation
Pipes	233	78	44	2	\$29,675	\$11,985	\$402
Points	3	80	44	1	\$13,536	\$6,090	\$168
Total					\$43,211	\$18,075	\$570

Maramarua Scheme

Source: AssetFinda, 2014

Asset Condition

Limited information currently is available, a programme to gain a better understanding of condition is underway at a district wide level.

Condition and Performance Issues

The resource consent renewal application has been made (2014). Council has been liaising with the community and key stakeholder to ensure that any concerns highlighted and addressed if possible to ensure the consent application is processed with no issues. The main concerns raised were of the impact on ground water sources and the effectiveness of the current system, Regional Council annual reports and test results of the local ground water sources will be provided to the concerned stakeholders.

The consent application has been made for a period of 35 years with the only change being to the consented volume being changed to 90th percentile daily discharge limit. The Council does have issue with I&I in the system. Work has been done in the past to determine the source, but unsuccessfully. As part of the consent process, Council will commit to replacing the entire reticulation as part of the next Long Term Plan 2015-25.

The maintenance for the plant has been very minimal, there are concerns about the effectiveness of the sand filter. This will be checked by staff along with the maintenance of the irrigation fields.



2.4 Matangi Scheme

Overview

Matangi has a re-circulating sand filter wastewater treatment system serving 55 dwellings. Wastewater is collected from the individual septic tanks in the Matangi settlement and pumped into two Council septic tanks. From there it is pumped into sand contactor beds, passing through on average four times to achieve bacteriological breakdown. The treated effluent is discharged into an irrigation field.

Treatment Plant Discharge and Quality

The consented discharge is 52 m³/day. The consent does not require standard discharge levels to be met. Quarterly testing is undertaken of all parameters and levels of nitrogen in kg/Ha/year.

There are three sampling bores to measure contamination of ground water. There had previously been problems before the replacement of the sand filter media.

The resource consent for this scheme expires on 30 September 2021. The consent was reissued in 2008.

Asset Description

The current capacity of the treatment plant and operating structures/equipment is adequate for the current demand and forecasted demand. Specific capacities at the treatment plant facility are:

Asset	Capacity
Septic Tanks (2)	55 m ³
Recirculating Tank (1)	55 m ³
Sand Contactor Beds (4)	256 m ²
Treated Effluent Pump Chamber (1)	1.8 m (dia) x 3 m
Soakage Beds	256 m ³
Drip Irrigation Field	750 m ²

Table 5 - 17: Capacities of the Matangi Treatment Plant

The drip irrigation field will be extended when more land is purchased.

The design population is for 50 dwellings. Currently the reticulated area contains 49 dwellings including Matangi School. Council has no plans to extend the system.

Table 5 - 18 summarises the assets at a component level indicating the expected life, age, condition and financial information for each item.



Table 5 - 18: Matangi Scheme Asset Information

Matangi Scheme

Asset type	Qty	Base Life (avg)	Asset Age (avg)	Condition (avg)	GRC	ODRC	Depreciation
Pipes	2,033	97	23	1	\$255,316	\$191,346	\$2,585
Plant	43	33	9	1	\$470,832	\$232,562	\$11,299
Points	42	79	20	1	\$179,802	\$137,439	\$2,259
Pump Station	35	26	5	1	\$162,400	\$124,767	\$9,612
Total					\$1,068,350	\$686,114	\$25,755

Source: AssetFinda, 2014

Asset Condition

Limited information currently is available, a programme to gain a better understanding of condition is underway at a district wide level.

Condition and Performance Issues

There are ongoing issues with the sand filters clogging at the treatment plant, the filters have been replaced several times over the life of the system. Analysis is required into the issues and whether it would be more cost effective to have textile filters instead.

Emergency storage at the plant has had to be installed to cater for the peak wet weather loading that occurs resulting in non compliance in terms of volumes with the resource consent.

The plant has very little automated control, the installation of a PLC would improve operations on site and remotely.

Activity Improvement 5 - 14: Investigate SCADA requirements and upgrade Matangi scheme.

With the reticulation, ongoing infiltration and inflow is an issue, anecdotal information suggests the main source of the infiltration are the septics tanks which are of varying condition. The septic tanks are cleaned out on a 3 yearly basis.

There are only 2 pump stations, to assist with better demand management, a meter at the Matangi pump station is required. Good Street was upgrade in 2012, but there have been ongoing odour issues. It is suspected that the odour is attributed to an unconsented trade waste discharge. The trade waste team are yet to investigate.

Activity Improvement 5 - 15: Install meter at Matangi pump station to monitor flows.



Activity Improvement 5 - 16: Investigate ongoing odour issues at Good St pump station.

2.5 Meremere Scheme

Overview

Since 1990 Council has managed the Meremere wastewater scheme originally built during the 1960s by the Meremere Power Station to serve the workers houses that made up the Meremere village.

Wastewater is collected from the village, and treated in an oxidation pond. Baffles were installed in the pond to prevent short-circuiting and a rock filter added at the outlet for further filtration of the effluent. The treated effluent is pumped through UV disinfection at the site prior to discharge via a diffuser nozzle at the outlet into the Waikato River.

Treatment Plant Discharge and Quality

There is a resource consent for the outlet at the river and one for the treatment plant.

In 2002 Waikato Regional Council granted a new resource consent, following an Environment Court decision. This consent expires in 2019.

Asset Description

The current design capacity of the treatment plant and operating structures/equipment is adequate for the current demand and forecasted demand. Specific capacities at the treatment plant are:

Table 5 - 19: Capacity of the Meremere Oxidation Pond

Asset	Capacity
Oxidation Pond	8,100m ³

The design population is 500. The present population of the reticulated area is 499. The Meremere urban area population is projected for low growth, therefore the capacity of the treatment plant and operating structures/equipment is anticipated require upgrade in the future.

Table 5 - 20 summarises the assets at component level indicating the expected life, age, condition and financial information for each item.



Table 5 - 20: Meremere Scheme Asset Information

Meremere Scheme

Asset type	Qty	Base Life (avg)	Asset Age (avg)	Condition (avg)	GRC	ODRC	Depreciation
Pipes	7,138	76	42	2	\$1,597,813	\$721,854	\$21,222
Plant	2	28	6	1	\$136,380	\$96,342	\$5,346
Points	109	79	44	1	\$490,136	\$217,148	\$6,279
Pump Station	54	28	19	1	\$391,500	\$152,571	\$11,787
Total					\$2,615,829	\$1,187,915	\$44,634

Source: AssetFinda, 2014

Asset Condition

Limited information currently is available, a programme to gain a better understanding of condition is underway at a district wide level.

Condition and Performance Issues

The main issue with the Meremere scheme is the level of inundation of wastewater during wet weather. The reticulation is known to be of poor quality due to the construction methods of the time and porous nature of the concrete manholes used. This overloads the oxidation ponds at the treatment plant, and requires that discharge to the river occurs outside consented times.

The biggest constraint to the treatment plant operations is the short period allowed for discharge, this was a consent condition imposed at the time in response to the Mercer Rowing Club who objected to the discharge consent.

There are issues with the diffuser requiring regular clearing due sand build up.

Over the years, the population of Meremere has steadily decreased, this has resulted in large parts of the network being decommissioned and not maintained. Recently, development has picked up, the empty lots now have houses being built. This will require Council to allow funding to reinstate these parts of the network.

2.6 Raglan Scheme

Overview

The Raglan wastewater scheme was first constructed in the 1970's, the treatment consisted of 2 oxidation ponds which discharged into the harbour mouth. The scheme services the Raglan urban area. In 2008/09 the treatment process was upgraded, the treatment consists of 2 anaerobic ponds and 4 aerobic ponds and a treated effluent storage pond. There are aquamats installed in the 1st bank of aerobic ponds, with UV disinfection installed at the end of the process which goes to a pump station that pumps the treated effluent on the outgoing tide.



A septage receiving facility has been built on site with the expectation, that the waste is discharged into the inlet of the treatment system.

The original oxidation pond was retained with the view to drying a sludge removed from the ponds and the aquamats.

Table 5 - 21: Capacity of the Raglan Oxidation Ponds

Asset	Capacity
Anaerobic Ponds (2)	
High Rate Oxidation Ponds (4)	
Roadside Balance Pond	

The scheme has 17 pump stations to pump the wastewater to the treatment plant. The treated effluent is then pumped via an outlet pipe into the harbour mouth on the outgoing tide. There is screening on the influent and UV treatment on the discharge prior to the outfall line. A sludge pond with a pump station reprocesses liquid.

Treatment Plant Discharge and Quality

The current resource consent for the wastewater discharge from the Raglan treatment plant to Raglan Harbour expires in February 2020. The consent was granted in 2005.

The quality of the discharge effluent is generally good with high Dissolved oxygen (DO) levels consistently maintained. However over the peak summer holiday period high biochemical oxygen demand (BOD) loadings are occasionally experienced.

There are issues with Total Suspended Solid levels in the effluent, this has been attributed to the long retention times in the ponds, the plant was designed for a population increase that has not been realised.

The Raglan scheme is consented to discharge daily up to 3,400 m³ of treated effluent from 2010.

The consent requires discharge only during high tide and that Council must publicly display an indication of the discharge flow.

Asset Description

Specific capacities at the treatment plant are shown in the table below.

Asset	Capacities
Oxidation Pond (2) Concrete Wavebands	3.7 hectares surface area 1.2m depth
Cage Rotor Aerator	
Submersible Pumps (2)	
Consented Discharge	2,600 m³/day until 2010 then 3,400 m³/day from 2010
	onwards



Table 5 - 23 summarises the assets at component level, indicating the expected life, age, condition and financial information for each item.

Table 5 - 23: Raglan Scheme Asset Information

Asset type	Qty	Base Life (avg)	Asset Age (avg)	Condition (avg)	GRC	ODRC	Depreciation
Pipes	44,813	79	29	2	\$10,222,243	\$6,677,470	\$127,802
Plant	180	39	6	1	\$1,060,217	\$582,195	\$75,812
Points	747	80	28	1	\$3,986,831	\$2,556,221	\$49,674
Pump Station	376	26	19	1	\$2,833,419	\$1,162,535	\$77,274
Total					\$18,102,710	\$10,978,421	\$330,562

Raglan Scheme

Source: AssetFinda, 2014

Asset Condition

The scheme has 4,815 connections and an average discharge rate of 1,737m³/day.

Condition and Performance Issues

The wastewater system has experienced a number of issues since the upgrade, partly attributed to the design, partly to the operations and maintenance and partly due to issues with the network contributing to non compliances at the treatment plant.

The Aquamats were a new technology when installed, and they require regular maintenance. The mats clog up and require regular clearing. This has not been done as per the frequency recommended.

The anaerobic ponds were bypassed not long after the upgrade as the long retention times had created odour issues which resulted in a number of complaints from locals. Staff are currently looking into bringing the ponds back online (2013) to improve the discharge quality.

Total suspended solids are the main non compliance issue at the treatment plant. Again this has been attributed to the long retention times and the algae growth that occurs in the summer months.

The Raglan system experiences high infiltration and inflow levels. During wet weather, pump stations are known to overflow and also the treatment plant gets inundated and requires treated effluent to be discharged outside consented times. Recently due to a number of issues from operator error system failure and wet weather flows, the Raglan plant overflowed into a local waterway. Subsequently, the Council was prosecuted for the spill and fined. The resultant investigation has outlined a number of recommendations which staff are currently working through.



2.7 Mid Waikato Scheme

Overview

The Te Kauwhata scheme collects and treats wastewater from Te Kauwhata, the Springhill Correction Facility and the village of Rangiriri.

The original plant was upgraded from 2005 – 2007 to accommodate the loading from Rangiriri, the Correction Facility and future growth in the area. A reticulation network was constructed in 2008 in the Rangiriri township (previously unreticulated) to enable wastewater collection from the township and treatment at the Te Kauwhata plant.

Wastewater in the Te Kauwhata scheme is treated in two high rate oxidation ponds with tertiary treatment by wetlands and rock filter. The treated effluent is discharged to Lake Waikere via a continuously metered submerged gravity outfall pipe. Coagulant dosing is used to reduce phosphorus. The system also receives leachate from the closed landfill. There are aquamats installed in the oxidation ponds.

A number of ground water sampling boreholes are utilised for sampling in conjunction with water samples taken from the lake near the outfall.

The scheme has 5 pump stations in Te Kauwhata, I in Rangiriri and I from the prison to pump the wastewater to the treatment plant, all but one of which are connected to SCADA.

Treatment Plant Discharge and Quality

The existing discharge consent contains quality and quantities conditions to the effluent exiting the treatment plant. The total nitrogen loading to the wetland must be no greater than 50 kg/ha/day. Council have complied with this condition over the past year.

Phosphorus levels are also a condition of the consent.

The consent for the scheme expired in 2008, Council was granted a new consent in December 2013. The consent process has highlighted that the community are not happy with the discharge into the lake and council has committed to investigating other discharge options such as land disposal.

Asset Description

The current capacity of the treatment plant and operating structures/equipment is adequate for the current demand. Specific capacities at the treatment plant are shown in the table below.

Asset	Capacities
Oxidation Ponds (2)	1.2 hectares surface area
Concrete Waveband	I.0-I.5 m depth
Wetlands	2.17 hectares
(4 cells, 1 rock filter)	
Cage Rotor Aerators	



Consented Discharge	I,080 m³/day	

In February 2000 an automatic dissolved oxygen (DO) monitoring system was installed at the treatment plant. This is connected to SCADA and effectively controls the operation of the aerators.

The scheme is designed to discharge 957 m³/day of dry weather flow.

Table 5 - 25 summarises the assets at component level, indicating the expected life, age, condition and financial information for each item.

Table 5 - 25: Mid Waikato Asset Information

Asset type	Qty	Base Life (avg)	Asset Age (avg)	Condition (avg)	GRC	ODRC	Depreciation
Pipes	27,897	89	18	1	\$6,132,961	\$4,960,165	\$69,003
Points	302	79	20	1	\$1,893,005	\$1,435,414	\$23,772
Pump Station	123	26	9	1	\$950,300	\$492,961	\$53,785
Total				~	\$8,976,266	\$6,888,540	\$146,560

Mid Waikato Scheme

Source: AssetFinda, 2014

Asset Condition

Limited information currently is available, a programme to gain a better understanding of condition is underway at a district wide level.

Condition and Performance Issues

Generally there are no major issues with the Te Kauwhata scheme, as with the other plants in the district, the wetlands are an issue. While the capital cost outlay is low, wetlands require ongoing maintenance to ensure effectiveness. As with Raglan the maintenance upkeep of the aquamats has been an issue.

Sludge buildup in the ponds is an issue that will be addressed as part of the LTP 2015-25, with funds for desludging and removal from site.

During rain events the wetlands and rock filters are known to flood, this is primarily due to the design. While there are Infiltration and Inflow issues in the network, the levels are not high and does not result in overflows to the environment.

The older parts of the network, Eccles Ave and surrounds is suspected to have poor quality infrastructure.



2.8 Te Kowhai Scheme

Overview

The original Te Kowhai wastewater treatment system was commissioned in 1984 to treat effluent from the surrounding nine dwellings which housed some of the employees of the, now closed, Dairy Factory. The system was a standard Ministry of Works design, which was quite common at the time. At the time the system was installed Te Kowhai was part of the Waipa County Council area. Te Kowhai was transferred to the Waikato District Council after the local body amalgamations in November 1989. The Te Kowhai scheme services 17 houses in the Te Kowhai community.

The Council upgraded the system with Innoflow Technologies re-circulating sand filter system in 1998. Wastewater is collected from the individual and privately owned septic tanks at the properties and discharged into a communal septic tank. After filtering the solids, the treated effluent is discharged into a re-circulating tank then to soakage trenches for disposal.

Scheme maintenance is minimal:

- The filter in the communal septic tank is cleaned quarterly
- Solids are removed every 2 3 years
- Council cleans the individual property septic tanks every 3 years.

The sand media was replaced in 2006.

Treatment Plant Discharge and Quality

The quality of the effluent that has passed through the sand filter generally compliant, but there are issues with the nitrogen levels. The re-circulating tank ensures bacteriological breakdown of the effluent by passing it at least four times through the sand filter beds. The pipes pumping the effluent through the sand filter beds are covered with gravel to minimise odour concerns.

Extensive testing was carried out over the 2007/08 summer and there was no evidence of contamination discovered in the stream.

The resource consent has no specific testing requirements other than frequency. Monthly testing is required for this scheme.

Asset Description

The specific capacities of the treatment plant are as shown in the table below.

Asset	Capacities
Septic Tank	27 m ³
Re-circulation Tank	23 m ³
Sand Filter Beds (I)	42 m ²
Scheme Discharge	12 m³/day

Table 5 - 26: Capacities of the Te Kowhai Treatment Plant



The design population for the Te Kowhai scheme is 17 dwellings which is the size of the current population connected to the scheme.

Table 5 - 27 summarises the assets at component level, indicating the expected life, age, condition and financial information for each item.

Table 5 - 27: Te Kowhai Asset Information

Asset type	Qty	Base Life (avg)	Asset Age (avg)	Condition (avg)	GRC	ODRC	Depreciation
Pipes	402	81	42	2	\$45,911	\$15,348	\$669
Points	12	80	42	1	\$85,608	\$37,797	\$1,068
Total					\$131,519	\$53,145	\$1,737

Te Kowhai Scheme

Source: AssetFinda, 2014

Asset Condition

Limited information currently is available, a programme to gain a better understanding of condition is underway at a district wide level.

Condition and Performance Issues

The current scheme does not service the entire Te Kowhai community, a study was undertaken in 2012 to assess the ability of the plant to be expanded to cater for the rest of the community and future growth. The study stated that in order for expansion, more land would need to be acquired for treatment, no viable waterways are in the area to cater for a water discharge. A potential alternative option would be to approach Hamilton City to connect the scheme to their system. A project to investigate this further will be included in the next LTP 2015-25.

As with the other package plants, the sand filters are an issue, consideration is to be made as to whether to replace with textile filters.

The treatment system is currently unable to treat to the nitrogen levels consented, consideration of requesting consent change is underway.

Infiltration and inflow is an issue with the network, over the years investigations have been undertaken to find the issues. The old dairy company was connected and this has now been disconnected, but there are still issues with the network.



2.9 Tauwhare Pa Scheme

Overview

Tauwhare Pa and the associated Papakainga is located between Matangi and Tauwhare villages. There have been concerns with the effect of the onsite systems on the local environment. In 2010, Council developed a proposal to provide a public wastewater system to the community. The Ministry of Health (MoH) was approached for funding through SWSS (Sanitary Works Subsidy Scheme), this was successful.

The treatment plant and associated reticulation was constructed in 2011.

Treatment Plant Discharge and Quality

The treatment comprises of a Innoflow package plant with textile filters that discharge to an effluent disposal field next to the treatment plant.

Asset Description

The reticulation is a low pressure system with Eone pumps that convey the waste to the plant. There are 43 connections to the scheme.

Table 5 - 28 summarises the assets at component level, indicating the expected life, age, condition and financial information for each item.

Table 5 - 28: Tauwhare Pa Scheme Asset Information

Asset type	Qty	Base Life (avg)	Asset Age (avg)	Condition (avg)	GRC	ODRC	Depreciation
Pipes	1,453	100	3	1	\$142,599	\$138,321	\$1,426
Plant	51	27	3	1	\$664,290	\$546,751	\$39,169
Points	4	10	3	1	\$4,980	\$3,486	\$498
Total					\$811,869	\$688,558	\$41,093

Tauwhare Pa Scheme

Source: AssetFinda, 2014

Asset Condition

As the scheme has only been constructed in the last 5 years, the assumption is that the condition is very good.

Condition and Performance Issues

Since commissioning there have been few issues with the treatment plant and the reticulation.



The irrigation fields have had to be replaced due to damage which occurred during maintenance. A better understanding of the system by the operators is required, along with better controls on the use of the land by others. A more robust lease arrangement is required.

The main issue with the network is dealing with the continual pump blowouts and blockages due to residents disposing of waste material other than basic domestic waste, the proliferation of products that while the manufacturer are stating are biodegradable the older internal pipework is not able to handle. Harsh cleaning products in use have also contributed to the issues experienced at the treatment plant with non compliance of the discharge parameters, BOD and TSS.

A wastewater bylaw and education programme would provide better controls on the system.

2.10 North Waikato Scheme

Overview

Previous to 2010, Franklin District Council owned and operated the wastewater system that services Tuakau and Pukekohe. As part of the Auckland amalgamation, the wastewater system was split. Watercare Services retained the treatment plant and the Pukekohe reticulation, the Tuakau network was handed over to Waikato District Council.

The Tuakau wastewater system was constructed in the early 1960's.

A structure plan review was undertaken by Franklin District Council for Pokeno and was adopted in 2010. The structure plan is planned to accommodate a future population of just under 5,000 by 2045. At the time Pokeno did not have access to a public wastewater system, the decision was made to provide public reticulation and convey the wastewater to Tuakau for eventual treatment at the Watercare treatment plant west of Tuakau.

Up until 2012, Veolia Water provided operations and maintenance services for this system. Since then the services are provided by in house staff.

Treatment Plant Discharge and Quality

Currently Watercare owns and operates the treatment plant to which Tuakau discharges to. There are current non compliance issues that Watercare is in the progress of addressing. Subsequently Watercare has imposed quality limits on the wastewater being discharged to the plant.

Asset Description

The Tuakau network is primarily gravity based with 3 pump stations designed to capture the small catchments near the extremities of the network, there are currently 2 connection points into the Watercare trunk main from the system.

The Pokeno network constructed to date includes 3 pump stations and a dedicated rising main to convey the waste to Tuakau. The only properties currently serviced are in the new residential development to the North. Council is currently extending the network to service the CBD and is in discussions with the community to service the remainder of the existing village.



Table 5 - 29 summarises the assets at component level, indicating the expected life, age, condition and financial information for each item.

Table 5 - 29: North Waikato Scheme Asset Information

North Waikato Scheme

Asset type	Qty	Base Life (avg)	Asset Age (avg)	Condition (avg)	GRC	ODRC	Depreciation
Pipes	45,575	85	23	1	\$11,159,582	\$7,836,746	\$133,435
Points	721	79	23	1	\$4,420,468	\$3,136,372	\$58,571
Pump Station	151	25	10	1	\$958,998	\$574,132	\$44,449
Total					\$16,539,048	\$11,547,250	\$236,455

Source: AssetFinda, 2014

Asset Condition

Limited information currently is available, a programme to gain a better understanding of condition is underway at a district wide level.

Condition and Performance Issues

The general performance of the network in Tuakau is good, a hydraulic model was recently undertaken which demonstrated that the network is functioning well and infiltration and inflow levels have not increased since the last model in 2009.

The main area of concern is the capacity and condition of the network that services the Brinks Chicken processing facility. This will be assessed for replacement as part of the LTP 2015-25.

Activity Improvement 5 - 17: Investigate capacity of Tuakau network servicing the Brinks Chicken processing facility and programme upgrades.

The timing of the Pokeno infrastructure has had to be accelerated due to the rate of development in Pokeno. The establishment of a milk powder facility has required that new wastewater and water works are required ahead of time. The timing of the infrastructure will be the main focus of the next LTP 2015-25.

Activity Improvement 5 - 18: Review the timing of the development of the Pokeno wastewater network to meet growth demand.



B. Looking After What We've Got

I. Life Cycle Management Categories

The life cycle of any asset includes the following management categories:

I.I Operations and Maintenance

Operations and Maintenance work is that required for the day-to-day operation of the network whilst maintaining the current levels of service. Costs associated with this type of work are:

- Overheads
- Minor replacements
- Maintenance costs associated with the following three work categories: Routine works, maintenance projects and reactive works.

I.2 Renewal Works

Renewal expenditure is work that restores an existing asset to its original level of service, i.e. capacity or the required condition. These broadly fit into the following work categories as follows:

- **Rehabilitation** Involves the repair of an existing asset, or asset component. Rehabilitation does not provide for a planned increase in the operating capacity or design loading. It is intended to enable the assets to continue to be operated to meet the current levels of service.
- **Replacement** Does not provide for a planned increase to the operating capacity or design loading. Some minor increase in capacity may result from the process of replacement, but a substantial improvement is needed before asset development is considered to have occurred.

1.3 Capital Works (New Works)

Capital works (new works) are the creation of new assets, or work, which upgrade or improve an existing asset beyond its current capacity or performance in response to the following drivers:

- **Growth** Any asset development (Council funded or externally funded) that is required as a result of growth.
- Levels of Service Any asset development that is required as a result of an increase in levels of service.
- Legislative Any asset developed to meet legislative requirements.
- **Vested** Any assets vested (gifted) with Council.

As required by Schedule 10 of the LGA 2002, with respect to Council funded development work, this AMP also identifies and differentiates requirements of additional asset capacity in terms of increased demand (e.g. growth) or increase in service provision levels and standards.

I.4 Disposals

As part of the whole life cycle management of assets, it is vital to consider the costs of asset disposal in the long-term financial forecasts for an asset. The cost of asset disposal is expected to be incorporated within the capital cost of new works, or asset renewals.



Disposal is the retirement or sale of assets whether surplus or superseded by new or improved systems. Assets may become surplus to requirements for any of the following reasons:

- Under utilisation
- Obsolescence
- Provision exceeds required level of service
- Assets replaced before its predicted economic life
- Uneconomic to upgrade or operate
- Policy changes
- Service provided by other means (e.g. private sector involvement)
- Potential risk of ownership (financial, environmental, legal, social).

Life Cycle Management for the wastewater assets is split into three main categories, Figure 5 - 3 illustrates the components of these categories.





These categories are described in more detail in Part 6: Funding and Financial Strategies.

2. Monitoring the Wastewater Assets

2.1 Asset Renewal and Replacement

The overall renewal plan objective is to steadily renew assets considering the following:

- The age profile
- The condition profile
- The level of on-going maintenance
- The economic lives of the materials used



• Financial and customer risks

Renewals are reviewed regularly, with any deferred work re-prioritised alongside new renewal projects and a revised programme established where required. A lack of accurate condition data requires a renewals programme based on asset life and engineering judgement. Council has adopted a 'just-in-time' approach to asset renewal with renewals planned as shown in Table 5 - 30 below.

Table 5 - 30: Asset Renewal

Asset	Renew	al Occurrences
Pipes	Repeated failure along pipe section	
	•	Reached end of life (subject to condition verification prior to renewal)
	•	Evidence of underperforming / hindering deliverance of service levels
Plant Assets	٠	According to failure and maintenance records
	٠	Reached end of life (unless 100% standby redundancy)

2.2 Asset Management System

Waikato District Council uses the AssetFinda asset management system for its wastewater activity. This system includes functionality to include an asset register of all utility assets which are represented spatially. Mapped geometries are connected to asset attribute information and held together inside the Asset Finda database. The assets are held in three discrete tables within the database – pipes, points and plant.

The finance team do not hold a separate fixed asset register and utilise Asset Finda, which can be used to manage revaluation and depreciation calculations.

Implementation of this system required the development of standards and processes for:

- Asset identification
- Asset data collection:
 - Physical attributes
 - \circ Condition
 - Performance
 - Finance
- Data entry
- Updating
- Validation.

The system was introduced in stages from 2002 and has been fully operational since 2003. Council uses Asset Finda to generate asset renewal profiles based on age.



A Work Order module is in development, Council will utilise this once it becomes available

2.3 Data Confidence and Reliability

Table 5 - 31 provides the confidence framework (NAMS IIMM) used to determine the confidence in the asset data used in this AMP.

Confidence Grade	General Meaning
A Highly Reliable	Data based on sound records, procedure, investigations and analysis, documented
	properly and recognised as the best method of assessment. Dataset is complete
	and estimated to be accurate ±2%.
B Reliable	Data based on sound records, procedures, investigations and analysis,
	documented properly but has minor shortcomings, for example 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 $\pm 10\%$.
C Uncertain	Data based on sound records, procedures, investigations and analysis which is
	incomplete or unsupported, or extrapolated from a limited sample for which
	grade A or B is available. Dataset is substantially complete but up to 50% is
	extrapolated data and accuracy is estimated ±25%
D Very Uncertain	Data based on unconfirmed verbal reports and/or cursory inspection and analysis.
	Dataset may not be fully completed and mist data is estimated or extrapolated.
	Accuracy ±40%
E Unknown	Non or very little data held

Table 5 - 31: Asset Data - Confidence Grades

Table 5 - 32 and Table 5 - 33 reflect the confidence in the asset data for the wastewater activity. The tables show the accuracy, completeness, condition and performance of the data for each asset type.

Asset Type	Highly Reliable	Reliable	Uncertain	Very Uncertain
Pipes		\checkmark		
Pump Stations		\checkmark		
Treatment			\checkmark	
Plants				
Point Assets			\checkmark	
Telemetry and			\checkmark	
SCADA				
Resource		\checkmark		
Consents				

Table 5 - 32: Overall Inventory Data Accuracy and Completeness



Asset Type	Highly Reliable	Reliable	Uncertain	Very Uncertain
Pump Stations			\checkmark	
Treatment Plants			\checkmark	
Point Assets			\checkmark	
Telemetry and			\checkmark	
SCADA				
Resource Consents			\checkmark	

Table 5 - 33: Condition & Performance of Critical and Non Critical Assets

There are plans underway to capture maintenance histories through Work Orders. This will also enable the ability to confirm asset information at the time of maintenance work being undertaken.

There is also an asset data improvement programme developed which identifies data gaps and improvements. This programme is outlined in the continuous improvement section and will be prioritised.

Activity Improvement 5 - 19: Improve asset information for wastewater treatment plants, point assets, telemetry and SCADA in AssetFinda.

2.4 Reliability (Performance)

Service reliability standards are met by minimising the number of service failures, the duration of any single service failure and the number of properties affected by that failure and increasing or ensuring security of supply. The frequency of service failures across the network can be minimised with planned maintenance, increased redundancy and renewals programmes. The outage duration is restricted by responsive and effective reactive maintenance, and emergency response plans.

As more data is collected it will be possible to track the changes in request types over subsequent years to determine if there are any trends that could indicate how the service is performing.

2.5 Capital Works Plan

Capital works are generally initiated through triggers such as:

- Growth
- Levels of Service
- Regulatory
- Operational efficiency
- Vested (gifted) through subdivisions.

Budgeted provision is made on an annual basis to connect properties to the wastewater network in areas where network is available.



Council intends to continue to develop hydraulic models of the wastewater networks in the urban centres of Huntly and Ngaruawahia. Raglan and Te Kauwhata were developed as part of the structure planning process and Tuakau is currently being updated and calibrated to include Pokeno. This will enable assessment of the networks regarding existing performance and as a result allow identification of assets requiring renewal. With the inclusion of growth areas in the model it will be possible to identify areas where new assets will be required.

AMP Improvement 5 - 6: Update section with recommendations from wastewater models as they are updated/developed.

3. Operating and Maintenance Practices

3.1 District Wide O&M Practices

The Waters Treatment and Services team carries out maintenance on the wastewater networks and treatment plants with specialist contractors engaged as required. Until July 2012, Veolia Water has the contract for operation and maintenance of the water and wastewater assets in the former Franklin District (Wastewater network in Tuakau and Pokeno).

Current maintenance activities include:

- Monitoring
- Testing
- Preventative maintenance inspections and activities
- Reactive maintenance.

The majority of the existing operating and maintenance practices across the wastewater activity have been in place for many years and have not been altered, in particular in the treatment plant area. Lack of documented operational plans and processes have meant that staff rely on institutional knowledge to operate the system. Generally staff have ensured the systems run, but their knowledge may not be up to current industry standards.

In April 2014, Council engaged CH2M Beca consultants to undertake an operational review of the water and wastewater treatment plants across the Waikato District.

The aim of the report was to undertake a high level review of current operational activities and processes at the treatment plants and identify some short term improvements and some long term improvement opportunities.

The report highlighted the following issues:

- Operator knowledge of biological processes were limited
- Limited data management, sampling and analysis reporting
- Standard Operating Procedures (SOPs) required updating to ensure consistent operations



- Limited proactive maintenance schedules developed
- Critical assets not identified
- Lack of automation, thus increasing operator hours
- Lack of knowledge of compliance requirements, hence issues of non compliance not reported through

A three year priority action plan has been developed to address these issues and was adopted by Council in May 2014. Key areas of focus for the 14/15 year include operator training, acquisition of data management software and update of documented processes.

Work Safe New Zealand (health and safety regulator) has recently undertaken audits of the treatment plants and have identified a number of deficiencies. There is a work programme in place to address the issues.

Activity Improvement 5 - 20: Develop and document existing and future maintenance programmes for assets (Pump Stations, etc.)

Council also has plans to develop a standardised template for Operations and Maintenance manuals and this will be rolled out to all schemes.

3.2 District Wide O&M Deficiencies

The operation and maintenance deficiencies of the wastewater assets are listed below.

Point Assets

 Table 5 - 34: Key Operating and Maintenance Issues of Point Assets

Point Asset	Key Issues
Manholes	• Meremere, Huntly and other areas with older manholes cast insitu have
	problems with cracked or broken naunching and ground water ingress;
	• Blockages in manholes;
	Stormwater inflow and infiltration;
	• Locating buried manholes (in carriageway, driveways, gardens etc);
	 Maintenance for manholes is mainly reactive e.g. complaints re surcharging;
	• Programme for planned manhole maintenance being put together currently;
Service Connections	 Exact number of connections unknown – need to match rating database with AssetFinda
	• The condition of the service connections is unknown;
	 Stormwater infiltration and inflow and blockages within the reticulation system;
	 Root intrusions are a common cause of blockages and breaks;
	• Typically there are not many customer complaints relating to service
	connection. Predominantly reported problems stem from items of customer



Point Asset	Key Issues
	 property being accidentally flushed or dropped into drains Building Inspectors are supposed to send as-builts to be recorded in the asset register however in the past there was a long period were no information was collected and therefore connections were not added to the asset register.
Other Point Assets	 There are 5 outfalls in the network; Meremere, Huntly, Ngaruawahia, Raglan and Te Kauwhata, that require ongoing maintenance It is assumed the inspection bend assets have been listed in the register from new as-builts.

Pipes

- Infiltration and inflow are concerns in all areas;
- Programme to be developed for CCTV inspections to inspect service and structural condition of pipes and record condition assessment;
- Currently there is no programme in place to manage the CCTV tapes or data that results from inspections;
- Inflow and infiltration management programme required including smoke surveys and CCTV;
- Hydrogen Sulphide attack in areas where pump stations are discharging into gravity systems;
- Some lines with dips are causing problems. These need to be on a scheduled maintenance programme to keep regularly jetted;
- Earthenware pipes in carriageways should be looked at for replacement;
- Computer modelling of wastewater network needs to continue, to date Raglan and Te Kauwhata has been completed and Huntly and Tuakau are underway.
- Huntly has shown subsidence areas affecting new pipes
- Data not being recorded correctly in Council systems.

Activity Improvement 5 - 21: Develop CCTV record management system.

Activity Improvement 5 - 22: Develop jetting maintenance programme for wastewater pipelines which have dips causing performance issues.

Activity Improvement 5 - 23: Identify earthenware pipes in carriageways, assess condition and programme for replacement.



Pump Station

- Overflows (pumping and storage). There are planned works to reduce overflows through storage installations;
- A number of pump stations cannot keep up with wet weather flows resulting in overflows;
- Power issues no standby generators but Council is determining pricing for the facility to plug in generators at pump stations;
- Critical pump stations not identified;
- Most pump stations have redundancy pumps at normal flow levels.

Activity Improvement 5 - 24: Determine standby power generation requirements and implement.

Activity Improvement 5 - 25: Identify critical wastewater pump stations.

Activity Improvement 5 - 26: Undertake a performance assessment programme of all pump stations to understand issues and constraints (part of modelling programme).

Treatment Plant

Table 5 - 35: Key Operating and Maintenance Issues of Treatment Plants

Treatment Plant	Key Issues
Re-circulating Sand Contactors	 Most of the systems installed are 10 years old 1st generation Innoflow technology. All have had refurbishment and maintenance already. Council may move to the next generation technology. Tauwhare Pa is a new scheme which has had the next generation of Innoflow Technologies installed. Non-compliance with resource consent conditions, potential future monitoring; Consent requirements include low level testing;
Oxidation Ponds	 Information gathered on the Inspection Sheets is regarded as possibly unreliable or incomplete; The wetlands are failing and are not maintainable; Algal blooms occur in all of the ponds.
General	 Odour complaints are received regarding the Raglan plant. Future capacity is not sufficient for infiltration & wet weather flows (exceeding allowable discharge levels in all areas); Treatment plant sites are fenced with farm fences and signage. All of the plants are in rural settings;



Treatment Plant Key Issues

•

Unauthorised duck shooting at some sites.

Activity Improvement 5 - 27: Identify critical assets within wastewater treatment plants.

Activity Improvement 5 - 28: Develop wetlands renewal programme.

Activity Improvement 5 - 29: Investigate and determine the need for a wastewater bylaw to protect the wastewater network.

Activity Improvement 5 - 30: Develop process/policy around connections to low pressure areas (Te Ohaaki, Tauwhare Pa and Whaanga Coast)

Activity Improvement 5 - 31: Understand and document hydraulic, bacteriological and nutrient removal capacities of the treatment plants

SCADA/Telemetry

An upgrade of the SCADA system is currently underway.

3.3 Wastewater Schemes - Operating and Maintenance Issues

The wastewater operating and maintenance deficiencies within each of the ten schemes are detailed below.



Table 5 - 36: Operating and Maintenance Deficiencies

Scheme	Operating and Maintenance Deficiencies
Central District	Effluent quality is currently not meeting the environmental requirements;
	 A \$3 million (plus) treatment plant upgrade of Huntly and Ngaruawahia is completed.
	There are occasional summer complaints regarding the smell from the oxidation ponds;
	• Infiltration is a problem for treatment and overloads the reticulation resulting in wet weather overflows in parts of the network;
	No independent metering on the Tainui outlet into the network to monitor infiltration.
	Taupiri scheme poorly constructed, assets may need replacement earlier than expected.
	• Not long after commissioning the odour complaints were received from the residents, this has been attributed to the long retention time of the wastewater in the system, subsequently going septic.
Huntly	 Infiltration rates are exacerbated by the growth of tree roots into pipe joints and lack of gully traps;
	 Occasional exceedance of allowable consented nutrient discharge levels from treatment plant;
	 Flooding of wetland from adjacent swamps;
	• Sewer lines in Huntly West in poor condition with aging pipes, dips in lines, cracked earthenware, fat build up and lack of maintenance;
	 Some manholes have been covered over requiring relocating and possibly upgrading;
	• Waikato Regional Council have increased the required discharge quality in the current consent;
	General blockages in the network;
	Odour issues;
	 Current and future capacity is sufficient except for during times of severe wet weather;
	• Wetland was poorly constructed making maintenance difficult as it is not possible to get machinery onto the banks;
Maramarua	Overloaded due to infiltration;
	• The sand beds filter media has been replaced within 10 years of installation (expected life was 20 years);
	• First generation plant technology is not providing the quality of treatment required. Council is looking at moving to 2nd generation (textile filter);
	• The treatment plant is situated at a considerable distance in comparison to the other wastewater schemes. This causes issues with maintenance;



Scheme	Operating and Maintenance Deficiencies
	• The treatment plant is located in a paddock not owned by Council and has no control over what the Body Corporate owners do on the land.
Matangi	 This area experiences high ground water levels during winter;
	• Better flow measurement is needed on the system. Needs to be connected to SCADA to get daily flow information required for
	the consent. There is currently no flow meter on the inlet;
	The pumps are operating more often due to high ground water;
	• The sand beds have just been replaced within 10 years (expected life 20 years) of installation. They failed with overloading and
	operational issues for about the last 3-4 years;
	 An additional re-circulating tank to be installed to provide additional volume for flow spikes of 3 m3/day to 50 m3/day;
	 There is insufficient capacity for additional properties to be connected to the system;
	The SCADA cabinet is at the end of its useful life.
	 Matangi WWTP can't meet discharge consent conditions (disposed to relatively high water table);
Meremere	• Stormwater entry into wastewater network. Remedial works have included inspecting and renovating (as necessary) all
	manholes; smoke detection survey and visual property inspections. These works have helped with a reduction in pump hours
	with significant works to reduce stormwater entry are still to be undertaken;
	 Major renewals are required due to the age of the scheme assets including the upgrade of pipework and of the submersible
	pumps, switchboards and communication units;
	• There is anecdotal evidence that the reticulation is in poor condition (1950s earthenware pipes, cracked and displaced). An
	investigation programme is underway to confirm this;
	Many of the manholes are without bases.
Raglan	Infiltration and direct inflow of stormwater into wastewater reticulation network. Remedial works have included visual property
	inspections and smoke detection surveys and rehabilitation of manholes and pipes. Infiltration investigations are ongoing;
	• The treatment plant has been upgraded in 2008 to discharge 3,400 m ³ over 24 hours. The consent requires that the treatment
	plant can only discharge during high tide. During heavy rain this pumping restriction means the system cannot cope, as the buffer
	pond is too small to accommodate the additional wet weather volume. However the consent does allow 20 days per year for
	storm events;



Scheme	Operating and Maintenance Deficiencies			
	• Failure of Aquamats in primary ponds is not 100% resolved. Possibly due to heavy metal contamination from the sludge pond construction;			
	 Ongoing odour complaints from one adjacent neighbour. Complaint is possibly atmospheric triggered; 			
	 Marine Parade and East Street pump stations is ugraded to incorporate additional storage to service new developments and provide emergency storage during wet weather flows; 			
	Pump station overflows occur at Wallis Street during extreme weather conditions			
Te Kauwhata	Infiltration and direct inflow of stormwater into wastewater network is a concern.			
	Some manholes require remedial work;			
	The rock filter is not performing as was originally intended, this has now been rehabilitated.			
Te Kowhai	 The current treatment system installed in 1998 was built on top of a Ministry of Works system; 			
	The scheme does not have a SCADA system;			
	• The Te Kowhai scheme has been re-consented. Council was required to install a flow meter as a condition of the new consent and do additional testing;			
	There is limited space on the current site for expansion of the plant.			
North Waikato	Accelerated growth in Pokeno, faster than expected			
	Limits on the discharge to the Watercare plant, limit the ability to accept new trade waste customers			
Tauwhare Pa	Ongoing issues with residents disposing of waste not permitted in system			
	Treatment plant is not meeting resource consent conditions			



3.4 Capacity Assessment of the Wastewater Schemes

Table 5 - 37: Scheme Capacity Summary

Scheme	Capacity Comments
Central District	The 50 year wastewater strategy is underway and will provide the information for this section.
Huntly	The 50 year wastewater strategy is underway and will provide the information for this section.
Maramarua	The 50 year wastewater strategy is underway and will provide the information for this section.
Matangi	The 50 year wastewater strategy is underway and will provide the information for this section.
Meremere	The 50 year wastewater strategy is underway and will provide the information for this section.
Raglan	The 50 year wastewater strategy is underway and will provide the information for this section.
Mid Waikato	The 50 year wastewater strategy is underway and will provide the information for this section.
Te Kowhai	The 50 year wastewater strategy is underway and will provide the information for this section.
Tauwhare Pa	The 50 year wastewater strategy is underway and will provide the information for this section.
Tuakau & Pokeno	The 50 year wastewater strategy is underway and will provide the information for this section.

AMP Improvement 5 - 7: Add in summary of wastewater scheme capacity assessment from wastewater strategy when available.

4. Replacement Requirements of the Wastewater Assets

4.1 Overview of Replacement Costs

Gross Replacement Cost (GRC)

Based on the 2014 asset valuation (Beca Consultants, 2014), the total GRC for the wastewater infrastructure is \$134,901,129.


A breakdown for each asset type is shown below in Figure 5 - 4. The Beca valuation includes a 10% overhead on all unit costs.



Figure 5 - 4: Gross Replacement Cost for Waikato's Wastewater Infrastructure

Source: AssetFinda, 2014.

Optimised Depreciated Replacement Cost (ODRC)

Based on the 2014 asset valuation (Beca Consultants, 2014), the total ODRC is \$75,389,149.

A breakdown by asset type is shown in Figure 5 - 5. The Beca valuation includes a 10% overhead on all unit costs.







Source: AssetFinda, 2014.

Annual Depreciation Costs

Based on the 2014 asset valuation (Beca Consultants, 2014), the Annual Depreciation (AD) is \$2,539,312 as shown in Figure 5 - 6. The Beca valuation includes a 10% overhead on all unit costs.



Figure 5 - 6: Annual Depreciation Costs for Waikato's Wastewater Infrastructure



4.2 Asset Age of the Wastewater Assets

The figures below under each wastewater asset show the estimated life-end dates within the Waikato District against the 2014 replacement costs.

Due to the large spikes for replacement that occur, replacements of assets are averaged out over 10 year periods. This ensures that work programmes are more manageable and provides better financial management of expenditure.

• Point Assets

The point assets represent 22% of the total replacement cost of wastewater assets. There are a significant amount assets requiring replacement in 2030, 2036, 2054 and 2056.



Figure 5 - 7: Estimated Point Asset Replacement Dates and Costs

Source: AssetFinda, 2014.

• Pipes

The pipes are the most significant asset in the network. The total replacement cost of these assets is \$60,329,093 (as at July 2014, Asset Finda), this represents 72% of the total network. There are significant assets requiring replacement in 2016, 2034, 2036, 2044 and 2046.

Work programmed to condition assess the assets in the ground may change this profile as the current base lives have been based on age only.





Figure 5 - 8: Estimated Pipe Replacement Dates and Costs

Source: AssetFinda, 2014.

• Pump Stations

Pump stations make up 12% of the GRC for the network, with a total value of \$12.2 million.

Figure 5 - 9 shows the component assets groups of the pump station assets, and combined asset replacement value (1 July 2014). The highest value is in the pump station electrical cabinets.





Figure 5 - 9: Pump Station Components Replacement Cost

Source: AssetFinda, 2014.

A total of \$4M worth of have reached or are past their estimated useful life (as indicated by the spike at 2014 shown on the graph).



Figure 5 - 10 shows the estimated life-end dates for the pump station assets against the 2014 replacement costs. Further analysis is underway to understand what these values represent.



Figure 5 - 10: Estimated Pump Station Replacement Costs and Dates



• Treatment Plants

Figure 5 - 11 shows the component assets groups of the treatment plant assets, and combined asset replacement value (1 July 2014). The way the assets are recorded within Asset Finda is undergoing a review, some of the assets have been adjusted into the new hierarchy, but most remain in the general category.



Figure 5 - 11: Treatment Plant Components Replacement Cost



Figure 5 - 12 shows the estimated life-end dates for the treatment plant assets against the 2014 replacement costs.

Treatment plant assets valuing \$0.4million have reached or are past their estimated useful life (as indicated by the spike at 2014 shown on the graph). Considerable expenditure will potentially be required following 2018, 2028, 2038, 2048 and 2048 when significant proportions of treatment plant assets reach the end of their estimated useful lives.



Figure 5 - 12: Estimated Treatment Plants Asset Replacement Dates and Costs



Figure 5 - 13 shows the estimated life-end dates for the wastewater assets against the 2014 gross replacement costs (GRC). Life-end dates are calculated using the estimated base life assigned to each asset.



Figure 5 - 13: Estimated Asset Replacement Dates and Costs



4.3 Asset Age of Individual Wastewater Schemes

The following figures show the estimated life-end dates for each of the 10 wastewater schemes assets against the 2014 replacement costs.

• Central District

Below is the replacement profile for Central District.



Figure 5 - 14: Estimated Replacement Dates and Costs for the Central District Scheme



• Huntly

A total of 8.2 km of reticulation and pump stations assets valued at \$0.5 million have exceeded their estimated useful lives.



Figure 5 - 15: Estimated Replacement Dates and Costs for the Huntly Scheme





• Maramarua





• Matangi



Figure 5 - 17: Estimated Replacement Dates and Costs for the Matangi Scheme



• Meremere



Figure 5 - 18: Estimated Replacement Dates and Costs for the Meremere Scheme



• Raglan



Figure 5 - 19: Estimated Replacement Dates and Costs for the Raglan Scheme



• Mid Waikato



Figure 5 - 20: Estimated Replacement Dates and Costs for the Te Kauwhata Scheme





• Te Kowhai







North Waikato





• Tauwhare Pa

As this scheme is recently constructed, there will very little to replace until 2018. The pipes do not require replacement within the 50 years.



Figure 5 - 23: Estimated Replacement Dates and Costs for the Tauwhare Pa Scheme



C. Providing for the Future

I. Projected Operational Expenditure

The figure and table below set out the 30 year projected operational expenditure for the wastewater activity.

The figures only include operational projects. Overheads and reactive and planned maintenance will be included when available later in the LTP process.



Figure 5 - 24: Projected Operational Expenditure for 2015/16 to 2044/45



Table 5 - 38: Projected Operational Expenditure for 2015/16 to 2044/45

Priority	Project Name	Project Detail	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026- 2030	2031- 2035	2036- 2040	2041- 2045
	Wastewater Activity Management Improvements	AMP Activity Improvements	\$165.0K	\$110.0K	\$155.0K	\$35.0K	\$175.0K	\$175.0K	\$175.0K	\$175.0K						
	Wastewater Consent Conditions - Performance Reviews District Wide	Existing Resource Consents require regular review on performance and associated reporting refer to Consent register for detailed programme	\$25.0K	\$125.0K	\$125.0K	\$125.0K	\$125.0K									
	Wastewater Consent Requirements, Te Kauwhata	Mitigation works as a result of discharge, detail to be developed by Consultation Group	\$45.0K	\$135.0K												
	Wastewater Hydraulic Models Update, District Wide	Update models to align with LTP revisions					\$100.0K			\$100.0K			\$200.0K	\$200.0K	\$100.0K	\$200.0K
	Wastewater Hydraulic Models, District Wide	Hydraulic Models for outstanding schemes (Te Kauwhata, Raglan, Meremere)	\$100.0K	\$100.0K	\$100.0K											
	Wastewater Infiltration and Inflow Plan, District Wide	District Wide Infiltration and Inflow Action Plan Implementation	\$65.0K	\$182.5K	\$201.5K	\$110.0K	\$45.0K	\$37.5K	\$78.5K	\$102.5K	\$59.0K	\$20.0K	\$125.0K	\$125.0K	\$125.0K	\$125.0K
	Wastewater Network Condition Assessment, District Wide	Condition assessement of pipe material to improve renewal programme	\$107.6K	\$108.9K	\$97.9K	\$99.5K	\$112.9K	\$114.6K	\$106.9K	\$108.0K	\$120.5K	\$120.7K	\$588.4K	\$1.6M	\$588.2K	\$598.0K
	Wastewater Network Growth Extensions, North Waikato	Watercare Infrastructure Growth Charge, North Waikato											\$2.7M	\$2.7M	\$2.7M	\$2.7M
	Wastewater Network Growth Extensions, Pokeno	Watercare Infrastructure Growth Charge, Pokeno						\$530.0K	\$530.0K	\$530.0K	\$530.0K	\$159.0K				
	Wastewater Treatment Maintenance, District Wide		\$450.0K	\$700.0K	\$200.0K	\$25.0K										
Operational Projects Total			\$957.6K	\$1.3M	\$824.4K	\$339.5K	\$362.9K	\$802.1K	\$820.4K	\$945.5K	\$814.5K	\$419.7K	\$4.0M	\$4.9M	\$3.8M	\$3.9M
Annual Average													\$802.7K	\$973.2K	\$755.6K	\$780.6K



D. Capital Works Plan

2. Projected Renewals and Capital Expenditure

The figures and tables below summarise the projected renewals and capital expenditure to be undertaken over the next 30 years for each wastewater scheme. This renewal expenditure data will be refined as data confidence, accuracy and asset condition assessments are improved and updated.

More detail on funding sources for these projects is outlined in Part 6: Funding and Financial Strategies.



Figure 5 - 25: Projected Renewals Expenditure for 2015/16 to 2044/45





Figure 5 - 26: Projected Capital Expenditure for 2015/16 to 2044/45

AMP Improvement 5 - 9: Update section with proposed capital and renewals expenditure for next 30 years.



Table 5	- 39: Projecte	a Renewals Exp	penditure	TOF 2015/	16 to 2044	43										
Priority	Project Name	Project Detail	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026- 2030	2031- 2035	2036- 2040	2041- 2045
		Prelim work														
	Wastewater	for consent														
	Consent	renewal														
	Renewal,	(consent														
	Central	expires														
	District	March 2029)											\$100.0K			
		Renewal of														
		resource														
		consent,														
	Wastewater	Process and														
	Consent	application														
	Renewal,	(consent														
	Central	expires														
	District	March 2029)											\$100.0K			
		Renewal of														
		resource														
		consent,														
		Process and														
	Wastewater	application														
	Consent	(consent														
	Kenewai,	expires Sept						¢ΕΟ ΟΚ								
	Wastowator	2021)						220.0K								
	Consent															
	Renewal															
	Meremere			\$100.0K	\$100.0K											
	Wastewater			9100.0K	9100.0K											
	waste water															

Table 5 - 39: Projected Renewals Expenditure for 2015/16 to 2044/45



Consent \$125.0K \$125.0K Renewal, Raglan Renewal of resource consent, Process and	
Renewal, Raglan Renewal of resource consent, Process and	
Raglan Renewal of resource consent, Process and	
Renewal of resource consent, Process and	
resource consent, Process and	
consent, Process and	
Process and	
FI UCESS and	
Wastewater application	
Consent (consent	
Renewal, expires	
Tauwhare October	
Pa 2035) \$100.0K	
Prelim work	
Wastewater for consent	
Consent renewal	
Renewal, Te (consent	
Kauwhata expires 2028) \$200.0K	
Renewal of	
resource	
consent,	
Wastewater Process and	
Consent application	
Renewal, Te (consent	
Kauwhata expires 2028) \$100.0K	
Renewal of	
resource	
consent,	
Process and	
Wastewater application	
Consent (consent	
Renewal, Te expires Aug	
Kowhai 2018) \$50.0K	
Wastewater Combined	
Pump budget for \$609.0K \$4.0M \$4.0M \$4	4.5M \$4.5M



Station pump pump Renewals, stations - pumps, District pumps, mechanical as per Asset inda predictive model as per Asset inda predictive model Wastewater Network Network Se51.0K \$651.0K \$651.0K <t< th=""><th>Renewals</th><th></th><th>\$2.0M</th><th>\$1.7M</th><th>\$1.8M</th><th>\$1.8M</th><th>\$1.5M</th><th>\$1.6M</th><th>\$1.5M</th><th>\$1.5M</th><th>\$1.5M</th><th>\$1.5M</th><th>\$11.3M</th><th>\$10.9M</th><th>\$11.3M</th><th>\$11.3M</th></t<>	Renewals		\$2.0M	\$1.7M	\$1.8M	\$1.8M	\$1.5M	\$1.6M	\$1.5M	\$1.5M	\$1.5M	\$1.5M	\$11.3M	\$10.9M	\$11.3M	\$11.3M
Station Renevals, District pumps, pumps, pumps, wide electrical and mechanical as per Asset Finda predictive model electrical and mechanical as per Asset Finda predictive electrical and finda predictive electrical and finda finda predictive finda fi	Total															
Station pump Renewals, stations - District pumps, Wide electrical and mechanical as per Asset Finda - predictive - model - Wastewater - Network - District - Wastewater - Renewals, - District - Vastewater - Renewals, - District - Vastewater - Renewals, - Question - - Network - </td <td>Wastewater Treatment Renewals, District Wide</td> <td>Replacement of Treatment Plant Assets Huntly, Maramarua, Matangi, Meremere, Te Kauwhata, Raglan, Tauwhare and Te Kowhai</td> <td>\$262 5K</td> <td>\$2 5M</td> <td>\$2 5M</td> <td>\$2.0M</td> <td>\$2 0M</td>	Wastewater Treatment Renewals, District Wide	Replacement of Treatment Plant Assets Huntly, Maramarua, Matangi, Meremere, Te Kauwhata, Raglan, Tauwhare and Te Kowhai	\$262 5K	\$262 5K	\$262 5K	\$262 5K	\$262 5K	\$262 5K	\$262 5K	\$262 5K	\$262 5K	\$262 5K	\$2 5M	\$2 5M	\$2.0M	\$2 0M
Station pump Renewals, stations - District pumps, Wide electrical and mechanical as per Asset Finda predictive model	Wastewater Network District Wide Wastewater Network Renewals, Huntly	Design and Replace Huntly Wastewater Outfall pipe	\$651.0K \$472.5K	\$651.0K	\$677.3K	\$651.0K	\$4.3M	\$4.3M	\$4.8M	\$4.8M						
	Station Renewals, District Wide	pump stations - pumps, electrical and mechanical as per Asset Finda predictive model														



30	\$2.3M	\$2.2M	\$2.3M	\$2.3M
year 11 to				
annual for				
Average				

Table 5 - 40: Projected Capital Expenditure for 2015/16 to 2044/45

Priorit	Project	Project	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026-	2031-	2036-	2041-
У	Name	Detail	2010	2017	2010	2015	2020	2022		2020		2020	2030	2035	2040	2045
		Contribution														
		to														
		developers														
	Wastewater	for new														
	Network	residential														
	Growth	areas in														
	Extension,	Ngaruawahi														
	Huntly and	a and Huntly														
	Ngaruawahi	(from														
	а	District Plan)	\$52.5K													
	Wastewater															
	Network															
	Growth								÷							
	Extension,							4	\$420.0							
	Te Kauwhata							\$42.0K	К							
	Wastewater															
	Network															
	Growth		64.05.0	éaca F		ć=00.0	6500 Q	6500.0	6500.0							
	Extensions,		\$105.0	\$262.5	\$262.5	\$262.5	\$262.5	\$262.5	\$262.5	\$262.5	Ş262.5	ćeo ek	\$500.0 K	\$500.0 K	\$500.0	\$500.0
	тиакай		K	K	ĸ	K	K	K	К	К	K	Ş52.5K	К	K	K	K
	Wastewater															
	Network		\$52.5K	Ş315.0										\$400.6		

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Priorit Y	Project Name	Project Detail	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026- 2030	2031- 2035	2036- 2040	2041- 2045
	Growth			К										К		
	Upgrade, Te Kauwhata															
		Relocate														
		Raglan														
	Wastewater	Wastewater														
	Network	Outfall														
	Upgrade,	beyond														
	Raglan	Harbour							\$10.4M							
	Wastewater															
	Pump															
	Station															
	Extonsions					\$105 O										
	Horotiu				636 8K	\$102.0	¢3 8M									
	Wastewater				230.0K	N	φ 5.0 ΙΨΙ									
	Pumn															
	Station															
	Growth															
	Extensions,									\$420.0						
	Te Kauwhata								\$42.0K	K						
	Wastewater															
	Pump															
	Station															
	Growth															
	Upgrade,						\$105.0									
	Pokeno						К	\$1.7M								
	Wastewater	Design -														
	Pump	Undertake														
	Station	pump							\$840.0							
	Growth	station						\$84.0K	K							



Priorit y	Project Name	Project Detail	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026- 2030	2031- 2035	2036- 2040	2041- 2045
	Upgrade, Tuakau	design for growth PSB														
	Wastewater Pump Station Storage,		670.04	\$262.5	\$472.5	\$262.5	\$472.5	\$262.5	\$472.5	\$262.5	\$472.5	\$262.5	\$500.0	\$500.0	\$500.0	\$500.0
	Wastewater Treatment Upgrade, Huntly		\$78.8K \$105.0 K	к \$1.6М	K	K	K	K	K	K	K	K	к \$2.8М	K	K	K
	Wastewater Treatment Upgrade, Meremere	Upgrade Meremere to achieve consent compliance - nutrient removal			\$2.1M											
	Wastewater Treatment Upgrade, Ngaruawahi a			\$52.5K	\$462.0 К											
	Wastewater Treatment Upgrade, Raglan			\$105.0 K	\$1.1M		\$157.5 K	\$2.0M								
	Wastewater Treatment Upgrade, Te Kauwhata									\$210.0 K	\$105.0 K	\$5.2M				



Priorit y	Project Name	Project Detail	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026- 2030	2031- 2035	2036- 2040	2041- 2045
	Total Capital Projects		\$393.8 К	\$2.6M	\$4.5M	\$682.5 K	\$4.8M	\$4.3M	\$12.4M	\$1.2M	\$892.5 K	\$5.5M	\$3.8M	\$1.4M	\$1.0M	\$1.0M
	Average annual for year 11 to 30												\$750.0 К	\$280.1 K	\$200.0 K	\$200.0 K



3. Disposal Plan

Waikato District Council has no plans to dispose of any wastewater assets within majority of the wastewater schemes at this time. This exempts assets that reach the end of their useful life within the 10-year period and are replaced as part of the renewal programme.



E. Activity Management Plan Improvements

Assessment Element	Question Area	New AMP Part Reference	Status
Lifecycle and Asset Management Practices	d. Documented assessment and reporting of asset performance (for utilities to include water or effluent quality, fire fighting compliance)	5A	Underway
Lifecycle and Asset Management Practices	e. Documented assessment and reporting of asset condition	5A	Underway
Lifecycle and Asset Management Practices	i. Renewal planning is detailed for short term (3 years) and known/documented for long term (minimum of 15 years to indicate any major expenditure outside the LTP planning period)	5D	Underway
Lifecycle and Asset Management Practices	j. Mtce planning is detailed for short term (3 years) and known/documented for long term (minimum of 10 years) and takes into consideration known mtce, capital and renewal projects and issues	5D	Underway
Lifecycle and Asset Management Practices	I. Deferred maintenance and renewals are identified and reason for deferral shown	5B	Underway
Lifecycle and Asset Management Practices	o. Clear, defined documented procedures exist for as-builts and associated data transfer into information systems	5A	Underway
Lifecycle and Asset Management Practices	p. Developer created assets are well managed and controlled to ensure vested assets are to council standards	5A	Underway
Evaluation and ranking based on criteria of options for capital invest decisions	a. Long term consideration of \$ and that includes mtce and other costs	5D	Underway
Maintenance Outcomes, Strategies, Standards and Plan documented	a. Maintenance Outcomes, Strategies, Programmes, Standards and Plans are known and documented for critical assets and effects of critically are reflected in the maintenance plan	5B	Underway
Maintenance Outcomes, Strategies, Standards and Plan	b. Asset register contains sufficient and accurate maintenance data appropriate to asset size/value	5B	Underway

Table 5 – 41: AMP Improvement - Progress since 2012 AMP Peer Review



Assessment Element	Question Area	New AMP Part Reference	Status
documented			
Asset renewal optimisation	a. Documented process for 3 yearly review of asset useful lives	5B	Complete
Asset renewal optimisation	b. Renewal planning is detailed for short term (3 years) and known/documented for long term (minimum of 20 years) with 50 year plan indicated	5B	Underway
Asset renewal optimisation	e. Condition and performance is incorporated in overall reporting and assessment umbrella with linkage with asset register	5A	Underway
Asset renewal optimisation	i. Design processes - Documented design/construction standards exist, are routinely used for assets, and are regularly updated	5A	Underway
Apply agreed evaluation tools to prioritise work programmes	c. Processes ensure that projects are carried out at optimal timings and to maintain service level targets	5B	Underway
Apply agreed evaluation tools to prioritise work programmes	d. Critical assumptions and estimates are tested for sensitivity of results	5B	Underway

Table 5 – 42: 2015 Summary of AMP Improvements

AMP Improvement 5 - 1: Add in figure showing proportion of effluent discharge across different	
receiving environments.	.6
AMP Improvement 5 - 2: Add in table summarising levels of service for each wastewater scheme	16
AMP Improvement 5 - 3: Add in table summarising criticality for each wastewater scheme	17
AMP Improvement 5 - 4: Add in information from condition assessment programme when available).
	17
AMP Improvement 5 - 5: Add process schematics for all wastewater schemes	18
AMP Improvement 5 - 6: Update section with recommendations from wastewater models as they	
are updated/developed4	49
AMP Improvement 5 - 7: Add in summary of wastewater scheme capacity assessment from	
wastewater strategy when available	57



AMP Improvement 5 - 8: Update section with proposed O&M expenditure for next 30 years. Error!
Bookmark not defined.
AMP Improvement 5 - 9: Update section with proposed capital and renewals expenditure for next
30 yearsError! Bookmark not defined.

Table 5 – 43: 2015 Summary of Activity Improvements

Activity Improvement 5 - 1: Reconcile the number of wastewater connections between the Council	I
rating system and AssetFinda	. I
Activity Improvement 5 - 2: Improve asset information for wastewater treatment plants, point	
assets, telemetry and SCADA in AssetFinda.	. I
Activity Improvement 5 - 3: Prepare programme to replace AC rising mains prioritised on condition	n
and criticality	.8
Activity Improvement 5 - 4: Add SCADA software to the intangibles or other asset register I	0
Activity Improvement 5 - 5: Develop and maintain resource consent management system in CS-Vue	e
or PromappI	11
Activity Improvement 5 - 6: Add all wastewater consents to the intangibles register I	12
Activity Improvement 5 - 7: Programme consent renewal applications in the LTP 2015/2025I	3
Activity Improvement 5 - 8: Create/update O&M management plans for all wastewater treatment	
plantsI	15
Activity Improvement 5 - 9: Discuss with HCC regarding servicing of border properties I	6
Activity Improvement 5 - 10: Develop work order system to capture maintenance activities against	
wastewater assets	17
Activity Improvement 5 - 11: Review all schemes with sand filters and programme renewals/upgrade	es
as required in LTP 2015/2025I	17
Activity Improvement 5 - 12: Review all schemes and programme sludge removal and disposal as	
required in LTP 2015/2025	18
required in LTP 2015/2025I Activity Improvement 5 - 13: Obtain new wastewater discharge consent for the Maramarua scheme	।8 ३.
required in LTP 2015/2025. Activity Improvement 5 - 13: Obtain new wastewater discharge consent for the Maramarua scheme	I8 ∍. 24
required in LTP 2015/2025	I8 ∍. 24 27
required in LTP 2015/2025. I Activity Improvement 5 - 13: Obtain new wastewater discharge consent for the Maramarua scheme Activity Improvement 5 - 14: Investigate SCADA requirements and upgrade Matangi scheme. Activity Improvement 5 - 15: Install meter at Matangi pump station to monitor flows.	I8 ≥. 24 27 27
 required in LTP 2015/2025. Activity Improvement 5 - 13: Obtain new wastewater discharge consent for the Maramarua scheme Activity Improvement 5 - 14: Investigate SCADA requirements and upgrade Matangi scheme. Activity Improvement 5 - 15: Install meter at Matangi pump station to monitor flows. Activity Improvement 5 - 16: Investigate ongoing odour issues at Good St pump station. 	18 ≥. 24 27 27 27
required in LTP 2015/2025. I Activity Improvement 5 - 13: Obtain new wastewater discharge consent for the Maramarua scheme 2 Activity Improvement 5 - 14: Investigate SCADA requirements and upgrade Matangi scheme. 2 Activity Improvement 5 - 15: Install meter at Matangi pump station to monitor flows. 2 Activity Improvement 5 - 16: Investigate ongoing odour issues at Good St pump station. 2 Activity Improvement 5 - 17: Investigate capacity of Tuakau network servicing the Brinks Chicken 2	18 24 27 27 28
required in LTP 2015/2025	18 24 27 27 28
required in LTP 2015/2025	18 24 27 27 28 38
required in LTP 2015/2025. I Activity Improvement 5 - 13: Obtain new wastewater discharge consent for the Maramarua scheme 2 Activity Improvement 5 - 14: Investigate SCADA requirements and upgrade Matangi scheme. 2 Activity Improvement 5 - 15: Install meter at Matangi pump station to monitor flows. 2 Activity Improvement 5 - 16: Investigate ongoing odour issues at Good St pump station. 2 Activity Improvement 5 - 17: Investigate capacity of Tuakau network servicing the Brinks Chicken processing facility and programme upgrades. 3 Activity Improvement 5 - 18: Review the timing of the development of the Pokeno wastewater network to meet growth demand. 3	18 24 27 27 28 38
required in LTP 2015/2025	18 e. 24 27 27 28 38
required in LTP 2015/2025	18 e. 24 27 27 28 38 38 38
required in LTP 2015/2025. I Activity Improvement 5 - 13: Obtain new wastewater discharge consent for the Maramarua scheme 2 Activity Improvement 5 - 14: Investigate SCADA requirements and upgrade Matangi scheme. 2 Activity Improvement 5 - 15: Install meter at Matangi pump station to monitor flows. 2 Activity Improvement 5 - 16: Investigate ongoing odour issues at Good St pump station. 2 Activity Improvement 5 - 16: Investigate capacity of Tuakau network servicing the Brinks Chicken processing facility and programme upgrades. 3 Activity Improvement 5 - 18: Review the timing of the development of the Pokeno wastewater network to meet growth demand. 3 Activity Improvement 5 - 19: Improve asset information for wastewater treatment plants, point assets, telemetry and SCADA in AssetFinda. 4	18 e. 24 27 27 28 38 38 38
required in LTP 2015/2025. I Activity Improvement 5 - 13: Obtain new wastewater discharge consent for the Maramarua scheme 2 Activity Improvement 5 - 14: Investigate SCADA requirements and upgrade Matangi scheme. 2 Activity Improvement 5 - 15: Install meter at Matangi pump station to monitor flows. 2 Activity Improvement 5 - 16: Investigate ongoing odour issues at Good St pump station. 2 Activity Improvement 5 - 17: Investigate capacity of Tuakau network servicing the Brinks Chicken processing facility and programme upgrades. 3 Activity Improvement 5 - 18: Review the timing of the development of the Pokeno wastewater network to meet growth demand. 3 Activity Improvement 5 - 19: Improve asset information for wastewater treatment plants, point assets, telemetry and SCADA in AssetFinda. 4 Activity Improvement 5 - 20: Develop and document existing and future maintenance programmes for assets (Pump Stations, etc.) 5	18 24 27 27 28 38 38 48 50
required in LTP 2015/2025. I Activity Improvement 5 - 13: Obtain new wastewater discharge consent for the Maramarua scheme Activity Improvement 5 - 14: Investigate SCADA requirements and upgrade Matangi scheme. Activity Improvement 5 - 15: Install meter at Matangi pump station to monitor flows. Activity Improvement 5 - 16: Investigate ongoing odour issues at Good St pump station. Activity Improvement 5 - 17: Investigate capacity of Tuakau network servicing the Brinks Chicken processing facility and programme upgrades. Activity Improvement 5 - 18: Review the timing of the development of the Pokeno wastewater network to meet growth demand. Activity Improvement 5 - 19: Improve asset information for wastewater treatment plants, point assets, telemetry and SCADA in AssetFinda. Activity Improvement 5 - 20: Develop and document existing and future maintenance programmes for assets (Pump Stations, etc.).	18 24 27 27 28 38 38 48 50 51
required in LTP 2015/2025	18 24 27 27 28 38 38 48 50 51



Activity Improvement 5 - 23: Identify earthenware pipes in carriageways, assess condition and	
programme for replacement	51
Activity Improvement 5 - 24: Determine standby power generation requirements and implement5	52
Activity Improvement 5 - 25: Identify critical wastewater pump stations	52
Activity Improvement 5 - 26: Undertake a performance assessment programme of all pump stations	5
to understand issues and constraints (part of modelling programme)	52
Activity Improvement 5 - 27: Identify critical assets within wastewater treatment plants	53
Activity Improvement 5 - 28: Develop wetlands renewal programme	53
Activity Improvement 5 - 29: Investigate and determine the need for a wastewater bylaw to protect	t
the wastewater network5	53
Activity Improvement 5 - 30: Develop process/policy around connections to low pressure areas (Te	е
Ohaaki, Tauwhare Pa and Whaanga Coast)	53
Activity Improvement 5 - 31: Understand and document hydraulic, bacteriological and nutrient	
removal capacities of the treatment plants	53



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2 3 C. 1.1 1.2 1.3 1.4 2	Expenditure	13 16 17 17 17 17 17 17 17 18
2 3 C. 1.1 1.2 1.3 1.4 2 2.1	Expenditure Assessment between AMP and Adopted LTP 2015/2025 Valuation Forecasts Asset Valuation Introduction Accounting Standards Accounting Standards Industry Guidelines Depreciation and Valuation Policies Depreciation Revaluation Valuation Process & Methodology Asset Register	13 16 17 17 17 17 17 17 17 18 19
2 3 C. 1 1.1 1.2 1.3 1.4 2 2.1 2.2	Expenditure	13 16 17 17 17 17 17 17 17 17 18 19 19
2 3 C. 1.1 1.2 1.3 1.4 2 2.1 2.2 2.3	Expenditure Assessment between AMP and Adopted LTP 2015/2025 Valuation Forecasts Asset Valuation Introduction Accounting Standards Industry Guidelines Depreciation and Valuation Policies Depreciation Revaluation Valuation Process & Methodology Asset Register Valuation Assumptions Replacement Cost	13 16 17 17 17 17 17 17 17 17 19 19 19


Part 6: Funding and Financial Strategies

A. Financial Projections

To undertake a sustainable, long-term approach to asset management, it is essential to prepare longterm financial forecasts. This allows a long term view of how the activity will be managed, how much this will cost and when additional funding may be required to meet expected service levels. These financial forecasts are a culmination of:

- Community Consultation
- Levels of Service
- Demand Management
- Lifecycle Management
- Asset Lives
- Condition Ratings
- Asset Valuation
- Sustainability

The above forms the basis of the long-term operations, maintenance and capital requirements. Funding requirements have also been included in the financial statements.

I Financial Forecast Summary

The tables below contain the wastewater collection and disposal statement of Financial Performance, which incorporates the projected income and funding sources to fund operational, renewal and capital expenditure for the next 30 years (2015/16 - 2044/45). Forecasts shown are for the financial year ending in June.

This information will be updated once the LTP 2015/25 is adopted in June 2015.



Table 6-1: Wastewater Element of the Funding Impact Statement 2015/25

Wastewater	2014/15 Annual Plan \$'000	2015/16 \$'000	2016/17 \$'000	2017/18 \$'000	2018/19 \$'000	2019/20 \$'000	2020/21 \$'000	2021/22 \$'000	2022/23 \$'000	2023/24 \$'000	2024/25 \$'000
Sources of operating funding											
General rates, uniform annual general charges, rates penalties Targeted rates	317	200	204	208	212	216	219	222	224	227	229
	5,212	5,866	6,642	7,208	7,604	8,028	8,488	9,010	9,543	10,102	10,740
Subsidies and grants for operating purposes	-	-	-	-	-	-	-	-	-	-	-
Fees and charges	704	1 524	1 574	1710	1.400	1 700	1.072	1.070	2.074	2 102	2.214
Internal charges and overheads recovered	/84	1,524	1,574	1,618	1,690	1,780	1,862	1,960	2,074	2,192	2,316
	98	52	60	67	76	98	159	138	139	181	215
Local authorities fuel tax, fines, infringement fees, and other receipts	-	261	279	297	314	331	350	370	390	417	469
lotal operating funding	6,411	7,903	8,759	9,398	9,896	10,453	11,078	11,700	12,370	13,119	13,969
Applications of operating funding											
Payments to staff and suppliers	2 6 4 3	2 5 8 5	3 072	2 745	2 355	2512	3 343	3 570	3 951	4 035	4 271
Finance costs	2,045	- 2,303	5,072	2,743	2,333	2,312	3,373	3,372	5,751	7,033	7,271
Internal charges and overheads applied	-		-	-	-	-	-	-	-	-	-
Other operating funding applications	3,413	3,608	3,713	3,864	4,108	4,136	4,204	4,383	5,040	5,118	5,088
	83	102	107	112	115	119	123	128	133	138	144
Total applications of operating funding	6,139	6,295	6,892	6,721	6,578	6,767	7,670	8,083	9,124	9,291	9,503
Surplus (deficit) of operating funding	272	1,608	1,867	2,677	3,318	3,686	3,408	3,617	3,246	3,828	4,466
Sources of capital funding											
Subsidies and grants for capital expenditure		-									
	-		-	-	-	-	-	-	-	-	-



Development and financial contributions	1 (00	1 707	1.041	1 000	2.025	2.007	2 1 2 0	2.240	2.214	2 274	2 422
Increase (decrease) in debt	1,677	1,796	1,841	1,900	2,035	2,086	2,138	2,260	2,316	2,374	2,433
Gross proceeds from sale of assets	207	184 -	2,063	4,355	284	701	2,555	9,742	578	730	5,432
Lump sum contributions	-	-	-	-	-	-	-	-	-	-	-
Other dedicated capital funding	583	-	-	-	-	-	-	-	-	-	-
Total courses of conital funding	-		-	-	-	-	-	-	-	-	-
Total sources of capital funding	2,489	1,980	3,904	6,255	2,319	2,787	4,693	12,002	2,894	3,104	7,865
Applications of capital funding											
Capital expenditure											
- to meet additional demand	20	107	F / 4	2/0	454	4 / / 7	2.405	1.012	000	200	
- to improve the level of service	20	196	564	369	454	4,667	2,405	1,913	898	377	1,833
- to replace existing assets	322	184	2,063	4,355	284	701	2,555	9,742	578	730	5,432
Increase (decrease) in reserves	1,360	2,415	2,288	2,345	2,355	2,146	2,270	5,344	2,360	2,441	2,530
	1,059	793	856	1,863	2,544	(1,041)	871	(1,380)	2,304	3,362	2,536
Increase (decrease) of investments	-	-	-	-	-	-	-	-	-	-	-
Total applications of capital funding	2.761	3,588	5.771	8.932	5.637	6.473	8.101	15.619	6.140	6.937	12.331
Surplus (deficit) of capital funding	(272)	() (00)	(1.0(7.)	() (77)	(2,210.)	(2 (0 ()	(2,400.)	(2 (17)	(2.2.4(.))	(2,020.)	,
Funding balance	(272)	(1,608)	(1,867)	(2,677)	(3,318)	(3,080)	(3,408)	(3,017)	(3,246)	(3,828)	(4,400)
-	-	-	-	-	-	-	-	-	-	-	-
Additional information:											
Depreciation and amortisation	2,282	2,861	3,002	3,158	3,332	3,452	3,640	3,842	4,151	4,328	4,511





Table 6- 2: Wastewater 2026 to 2045

Operational spend for 2026 to 2045

Wastewater	2026/2030	2031/2035	2036/2040	2041/45
	\$'000	\$'000	\$'000	\$'000
Total operational expenditure	54,717	68,623	85,186	104,484

Capital spend for 2026 to 2045

Wastewater	2026/2030	2031/2035	2036/2040	2041/45
	\$'000	\$'000	\$'000	\$'000
Capital expenditure				
- to meet additional demand	4750	1 220	973	1117
- to improve the level of service	4,037	1,550	763	1,117
	717	831	963	1,117
- to replace existing assets	16,128	18,198	21,674	25,127



Table 6- 3: Wastewater Capital Projects 2015/16 – 2024/25

	2014/15 Annual Plan	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Growth											
District Wide wastewater reticulation extensions		52	F 4		F.7	50	<i>(</i> 0	(2)			(0
Horotiu wastewater pump station extensions	-	53	54	55	57	58	60	62	64	66	67
Pokeno wastewater pump station upgrades	-	-	-	39	113	4,200	-	-	-	-	-
	-	-	-	-	-	117	1,900	-	-	-	-
Ragian wastewater reticulation upgrades	20	-	-	-	-	-	-	-	-	-	-
Te Kauwhata wastewater pump station extensions	-	-	-	-	-	-	-	50	514	-	-
Te Kauwhata wastewater reticulation extensions	-	-	-	-	-	-	48	497	-	-	-
Te Kauwhata wastewater reticulation upgrades	-	39	242	-	-	-	-	-	-	-	-
Te Kauwhata wastewater treatment plant upgrades	-	-	-	-	-	-	-	-	-	-	1,695
Tuakau wastewater pump station upgrades	-	-	-	-	-	-	96	994	-	-	-
Tuakau wastewater reticulation extensions	-	104	268	275	284	292	301	310	320	333	69
Total for growth	20	196	564	369	454	4,667	2,405	1,913	898	399	1,833
Level of service											
District Wide wastewater pump station	-	79	269	497	284	526	301	559	321	597	344
District Wide wastewater treatment plant planning and manage	13	-		-		-	-	-	-	-	-
Huntly wastewater reticulation upgrades	126	-	-	-	-	-	-	-	-	-	-
Huntly wastewater treatment plant upgrades	-	105	1,633	-	-	-	-	-	-	-	-



Meremere wastewater treatment plant upgrades				0.174							
Ngaruawahia wastewater pump station	-	-	-	2,176	-	-	-	-	-	-	-
upgrades	63	-	-	-	-	-	-	-	-	-	-
Ngaruawahia wastewater treatment plant			54	495							
Raglan wastewater pump station upgrades	-	-	Ът	105	-	-	-	-	-	-	-
	39	-	-	-	-	-	-	-	-	-	-
Ragian wastewater reticulation upgrades	81	-	-	-	-	-	-	-	-	-	-
Raglan wastewater treatment plant upgrades											
Te Kauwhata wastewater treatment plant	-	-	107	1,197	-	175	2,254	9,183	-	-	-
upgrades	-	-	-	-	-	-	-	-	257	133	5,088
Total for level of service	322	184	2,063	4,355	284	701	2,555	9,742	578	730	5,432
Renewal											
District Wide wastewater pump station renewals											
District Wide westswater pump station	139	709	726	745	765	789	813	839	867	896	929
upgrades	189	-	-	-	-	-	-	-	-	-	-
District Wide wastewater reticulation renewals	000	050	070	020	020	054	004			1.007	1.124
District Wide wastewater treatment plant	929	858	8/9	930	928	954	984	1,015	1,050	1,086	1,126
renewals	25	835	371	381	392	403	416	429	443	459	475
Huntly wastewater reticulation renewals	38	-	-	_	_	_	_	_	_	-	-
Huntly wastewater treatment plant renewals	50										
Motopoi wootowotor trootmont plant planning	40	-	-	-	-	-	-	-	-	-	-
and management	-	-	-	-	-	-	57	-	-	-	-
Meremere wastewater treatment plant planning			100	105							
and management Radian wastewater reticulation upgrades	-	-	103	105	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	3,061	-	-	-
Raglan wastewater treatment plant planning	_		128	131	270	_	_	_	_	_	
Te Kauwhata wastewater reticulation upgrades	-	-	120	131	270	-	-	-	-	-	-
	-	13	81	-	-	-	-	-	-	-	-



Te Kowhai wastewater treatment plant planning											
and management	-	-	-	53	-	-	-	-	-	-	-
Total for renewal	1,360	2,415	2,288	2,345	2,355	2,146	2,270	5,344	2,360	2,441	2,530



2 Asset Management Assumptions

The following wastewater activity management assumptions have been made in preparing the financial forecasts:

- **Growth** Demand forecasts are made on population forecast predictions made by the Waikato University.
- Financial Waikato District Council has forecasted internal average borrowing rate of 5.44%.
- **New developments** The majority of the infrastructure required to service new developments will be funded by developers.
- **Renewal** timing is based on the assumption that assets will be replaced at the end of useful life.
- **Per capita wastewater discharge** is assumed to be 175 litres per day. This comes from the assumption that 490l is the household demand from the development contributions policy at occupancy of 2.8. No analysis has been undertaken to determine actual discharge rates.
- Level of Service There will be no significant changes in levels of service.
- **Useful life of assets** is based on a mixture of manufacturers' recommendations and staff experience and judgements.
- **Natural Disasters** No provision has been made for the cost of repairing damage or other additional costs consequent upon a natural disaster such as major flooding or substantial earthquake apart from the costs of participation in the LAPP (Local Authority Protection Programme) Disaster Fund.
- **Climate change** the XXXX document was updated in XXXX, which forecasts a 2.1 °C change (approximately 16% increase in rainfall event size), pending appeals. However, where model results are used to inform design and planning decisions, these are based on the climate change assumptions that prevailed at the time of modelling.

AMP Improvement 6 - 1: Add in reference to Ministry for the Environment climate change report.

- **Ownership** –assets will remain in Council ownership throughout the planning period.
- **Expenditure** All expenditure is stated in dollar values as at July 2015 with allowance made for inflation based on the BERL adjustment factors over the 10-year planning period.

AMP Improvement 6 - 2: Finance to confirm model beyond 10 year period.

- **Operational costs** are based on historical expenditure.
- **Regulations** It is assumed that regulations relating to this activity will remain essentially the same over the planning period (i.e. 30 years to June 2026 or 2046).
- **Subsidy** Council receives no subsidy for this activity.
- Maintenance and operations allocations are largely based on maintaining current service levels.
- **Delivery** The present management system will remain the same.



- Asset Values The determination of, asset replacement value, depreciated value, and renewal projections are based on the valuation data as at 30 June 2014.
- **Depreciation** The depreciation has been calculated on a simple straight-line basis.

2.1 Risk to Significant Forecasting Assumptions

The table below outlines the risks to significant forecasting assumptions. Should these assumptions prove to be incorrect there could be a significant effect on the level of rates to be collected from the community. If this were to occur, Council would re-evaluate the works programmes to determine if the expenditure is appropriate or whether the scope of the proposed works could be scaled down. Rates may then be altered accordingly.

Assumption	Risk	Likely Financial	Consequence/
		Effect	Mitigation Strategy
Level of Service – Changes in customer expectations regarding levels of service will not alter significantly	There is significant change in customer expectations	Impact on operating and capital budgets	Review levels of service and budgets at the next round of LTP
Growth Strategy – Council has based its budgets a sustainable growth strategy	Another growth scenario or a combination of growth scenarios is selected, which may impact on settlement patterns and intensification of development	Impact on demand projections of asset management plans and consequent impact on work programmes	Review demand management sections of AMP and also work programmes and budgets.
Depreciation method – It is not anticipated that the method of depreciation will change from the current method – i.e. Straight line	Adoption of a different depreciation method	Operating expenses could be overstated or understated.	Review budgets during the annual plan process
Depreciation expense – Council is assuming that present estimates of depreciation are adequate	Depreciation expense calculations prove to be inaccurate after revaluation	Impact on long-term financial forecasts	Review budgets during the annual plan process
Interest Rates – Cost of borrowing has been budgeted using the Reserve Bank OCR rates plus 1.5% for new debt.	Interest rate changes from those used in calculation of forecasts	Movement of interest rates could affect Council's financial position	Review budgets during the annual plan process
Inflation – Council uses indices provided by SOLGM and BERL as basis of adjusting future costs	Inflationary movements does not reflect what actually happens	Council's costs and income required to fund cost increases may change	Review annual budges during annual plan process

Table 6-4: Risks to Significant Forecasting Assumptions



Planning Information – Asset renewal is based on assumed useful economic life	Asset data results in overestimation or under estimation of the need for renewal or replacement	Depreciation costs and renewal programs may be over or underestimated	Undertake performance and conditions monitoring programme for estimation of useful life of assets.
Population Growth – Over the next ten years the projected population growth for the District is estimated to be 1.5% per annum.	Should the population growth be higher than projected, then there would be extra pressure on Council to provide and maintain additional infrastructure. Should the population growth be lower than projected there would be extra pressure to maintain new infrastructure	Extra costs to attend to customer complaints and maintain levels of service. Operations and maintenance costs higher than required	Review population forecasts regularly and adjust work programmes accordingly

3 Financial Planning

The current replacement profile for the wastewater assets are based on useful life of assets. This results in expenditure spikes in specific years. E.g. The majority of the Meremere network was installed in 1965 using concrete which is reaching it's useful life in 2045, so the renewals budgets have been smoothed out over the 30 years rather than allocating to the specific year.

4 Forecast Reliability

The programme of works developed for the LTP 2015-25 aligns with meeting the requirements of the Council goals and objectives, but also link in to address the key activity risks.



B. Funding Strategy

I Policies for Funding the Wastewater Activity

Activity Improvement 6 - 1: Review policies with Rates team to determine if any change is required.

Funding sources available for the wastewater activity includes:

- Targeted Rates;
- Trade waste charges; and
- Development Contributions from new developments

Targeted rates, trade waste charges and development contributions are set by Council triennially through the Long Term Plan, and any changes are put forward through the Annual Plan, which is developed annually.

1.1 Funding of Operating Expenditure

Operating expenditure is funded mostly from targeted rates.

I.2 Targeted Rates

The Council sets targeted rates for wastewater collection and disposal based on the provision (connected to the supply) or availability (property situated within 30 metres of network) of a wastewater collection and disposal to land. This rate is set as a fixed charge per connection or 50% of this fixed charge for availability in the main urban areas.

There are 5 charging zones for wastewater:

Zone A – Huntly, Ngaruawahia, Horotiu and Te Ohaaki

Zone B – Raglan, Te Kauwhata, Rangiriri, and Whaanga Coast

Zone C – Maramarua, Matangi, Meremere, Te Kowhai, Taupiri, Tauwhare Pa

Zone D – Tuakau

Zone E – Pokeno

There are 2 wastewater reserves - Tuakau and District Wide (remainder of district).

There are inconsistencies in the way the rates are applied, a review of who pays and how much need to be reviewed.

Activity Improvement 6 - 2: Review charging mechanism with a view of working towards a district wide rate.



I.3 Trade Waste Charges

The trade waste administration charges are aligned with the partner councils – Hamilton City and Waipa District, as this part of the activity is managed by Shared Services. The parameter charges have been set to reflect the cost required to treat the waste. These charges have not been reviewed for a number of years and do need to be reviewed. This will be done in Year 2 of the LTP 2015-25.

Activity Improvement 6 - 3: Review trade waste charges in 2016/17.

I.4 Funding for Renewal Expenditure

Renewal works are funded from replacement fund reserves. The replacement fund reserve is funded from revenue at a rate equal to depreciation. Assets are depreciated on a straight-line basis over their remaining life with depreciation recognised as an operating expense.

1.5 Funding for Level of Service Expenditure

Capital works that will improve levels of service are funded from targeted rates and loans. Capital works that are required to service growth is funded from development funds and loans. Developers themselves fund most of infrastructure works within developments.

I.6 Development Contributions

Development contributions provide a source of funding for future capacity upgrading work. These works offset the cumulative depletion of any spare capacity within each network caused by new users. Development contribution charges are calculated as per Council's Development Contribution Policy and reflected in Council Fees and Charges documents.

1.7 Proposed Changes to LTP 2015/2025

No changes to the funding policy are being considered, a rates review is planned in year 2 of the LTP.

2 Expenditure

Expenditure on the wastewater activity represents a significant Council investment. The table below explains how council is funded.

Council Funding	Explanation
Council Reserves	These reserves have been established by council for specific purposes and have specific conditions of use on these funds.
General Rate	The general rate is based on the capital value of rateable properties. It is levied on all properties and funds things that all rate payers benefit from. Examples include roads, libraries, and transfer stations.

Table 6- 5: Council Funding Explanations



Replacement Reserves	The total yearly depreciation expense (less non funded depreciation) is put into replacement fund reserves. Only capital works and loan repayments can be funded from this source.
Targeted Rate – Capital	Contributions under the LGA are levied in circumstances where the effects of growth require council to incur capital expenditure to provide new or additional infrastructure. Reserves exist for Structure Plans, Development Contributions, Financial Contributions and Capital Targeted rates.
Targeted Rate – Operational	Legislation states that if we rate for a specific reason, the income received can only be used for that specific purpose. The reserves monitor operational costs in relation to special rates and user pays.
Loans Raised	Loans are raised for level of service improvements. The expectation is that future rate payers will benefit from the improvements and hence should share in paying for the improvement.
Income applied to Capital	User charges like water connection charges are used to fund user pays infrastructure. Subsidies like the NZTA subsidy are also used to fund infrastructure.



The table below details the reserves list for the wastewater activity.

Table 6- 6: Closing Reserve Balances as at 30 June each year

Wastewater	2014/15 Annual	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
DW Wastewater Replacement Fund	(98)	(71)	(86)	(82)	379	1.174	1.996	(133)	817	1.812	2.825
Tuakau Wastewater targeted Rate	856	186	-	-	-	-	-	-	-	-	_,
DW Wastewater Targeted Rate	(3,297)	(3,232)	(3,899)	(4,068)	(3,792)	(3,265)	(2,437)	(1,536)	(1,255)	(530)	618



3 Assessment between AMP and Adopted LTP 2015/2025

This section is to be completed once the LTP 2015/2025 has been adopted. Need to discuss any changes in funding between the AMP and the adopted LTP and the effect on the activity, in terms of level of service or capacity to grow.

AMP Improvement 6 - 3: Update Assessment between AMP and Adopted LTP 2015/2025 when LTP final.



C. Valuation Forecasts

I Asset Valuation

I.I Introduction

Statutory financial reporting requires Council to revalue its fixed assets at least every three years. Asset valuations are used for calculating long-term asset renewal projections, identifying loss of service potential (depreciation) and for financial reporting purposes.

I.2 Accounting Standards

New Zealand International Financial Reporting Standard (NZIAS16) applies to all wastewater infrastructure assets considered in the scope of this valuation for the general purpose of financial reports.

I.3 Industry Guidelines

All infrastructure assets valued have been done so in accordance with the methodology prescribed in the New Zealand Infrastructure Asset Valuation & Depreciation Guidelines Manual Edition 1.2 February 2004.

The assets have been valued on the basis of Depreciated Replacement Cost (DRC)/Optimised Depreciation Replacement Cost (ODRC) approach for the depreciable assets in accordance with NZIAS16 Requirements.

I.4 Depreciation and Valuation Policies

The depreciation and valuation policies are described in the Waikato District Council Long Term Plan 2012 – 2022 Volume 2 (WDC LTP).

Activity Improvement 6 - 4: Update financial policies in draft LTP 2015/2025 with latest asset information as required.

Depreciation

Depreciation is provided on a straight-line basis on all property, plant and equipment other than land, at rates that will write off the cost (or valuation) of the assets to their estimated residual values over their useful lives. The residual value, depreciation method and useful life of an asset are reviewed, and adjusted if applicable, at each balance date.

Revaluation

Land and buildings (operational and restricted), and infrastructural assets (except land under roads) are revalued on a regular basis to ensure that their carrying amount does not differ materially from fair value, and at least every three years.

All other asset classes are stated at depreciated historical cost.



The carrying values of the revalued assets are assessed at each balance date to ensure that they do not differ materially from the assets' fair value. If there is a material difference, the offcycle asset classes are revalued.

Revaluations of property, plant and equipment are accounted for on a class-of-asset basis.

The net revaluation results are credited or debited to other comprehensive income and are accumulated to an asset revaluation reserve for that class of asset. Where this results in a debit balance in the asset revaluation reserve, this balance is expensed in the surplus or deficit. Any subsequent increase on revaluation that reverses a previous decrease in value recognised in the surplus or deficit will be recognised first in the surplus or deficit up to the amount previously expensed, and recognised in other comprehensive income.

Opening asset value at 1 July 2014 was calculated using 20 June 2014 actual assets re-valued at 30 June 2014, using appropriate BERL factors. In addition, new assets were added at cost.

The latest revaluation for the wastewater infrastructural assets has been valued at fair value determined on an optimised depreciated replacement cost basis by an independent valuer. The most recent valuation was performed by Beca Ltd. The valuation is effective as at 30 June 2014.

The remainder of the policy discusses intangible assets, impairment of property, plant and equipment and intangible assets, biological assets and investment property.

2 Valuation Process & Methodology

In June 2014, Beca Ltd was commissioned to complete a valuation of the 3 waters assets and solid waste. Asset Finda is used as the asset register and can be used to complete valuations, but as there were data sets outside Asset Finda which were yet to be entered (mainly treatment plant assets), the decision was made to export the data and value them outside the asset management system.

A comparison against the previous valuation (done by GHD in 2011), was carried out to ensure consistency.

	General Meaning
Replacement cost (RC)	The cost of constructing a new infrastructure asset using the present day technology, and maintaining the original service potential
Optimised Replacement cost (ORC)	The cost of the modern equivalent asset that would be used to replicated the existing asset. The asset cost is 'optimised' down to allow for surplus capacity or technical obsolescence
Optimised Depreciation Replacement Cost (ODRC)	The optimised replacement cost after deducting the wear of an asset to reflect the remaining useful life of the asset. Calculated on the gross replacement cost of modern equivalent assets (MEA).

Table 6-7: Asset Data – Valuation Terminology



The assessment of replacement cost and optimised replacement cost (ORC) was established in accordance with Financial Reporting Standard (NZIAS16). Once the replacement cost has been established following data capture, the asset is then optimised to factor out over design, over capacity and redundant assets. The Accumulated Depreciation (calculated on a straight line basis) is then deducted.

2.1 Asset Register

Council uses the AssetFinda asset management system to record asset attribute, maintenance and financial information about its wastewater assets.

The last valuation was undertaken by Beca Consultants in 2014, Councils are required to revalue their assets every three years. Recommendations from the valuation report are to be considered and implemented before the next valuation.

The replacement costs were based upon the previous valuation and compared with recent contract information, where available. Waikato determined that an escalation factor be applied to the previous rates to allow for increases in construction and material costs over the previous year.

This information was considered accurate enough for the purposes of the valuation, however following on from this a number of data improvement projects have been identified in the improvement plan.

2.2 Valuation Assumptions

The assumptions that have been used in the valuation of Council's wastewater assets are as follows:

- Depreciation is by the straight-line method.
- Asset Base Life or Total Useful Life have been used.
- Actual construction dates were used to determine asset age where available. However where these were not available default values have been used.
- Minimum remaining useful life (RUL) has been assumed as I years.
- Asset information is as complete as possible at 1 July 2014.
- Only utility assets have been valued.

2.3 Replacement Cost

The asset replacement costs have been calculated as:

Replacement Cost (RC) = Unit Rate I.I (overhead) X Quantity) number of units related to the UOM applicable for the asset

Optimised Replacement Cost (ORC) = $RC \times \%$ of Optimisation

Assets have been depreciated on a straight-line basis (note residual values are not depreciated) to determine the ODRC.

Where ODRC (Optimised Depreciated Replacement Cost) is calculated as:

ODRC = (ORC-RV) * RUL/(RUL + AGE) + RV



Where RV = Residual Value and RUL = Remaining Useful Life

RUL = (Base Life – Age) * (condition and performance % factor)

The calculation for annual financial depreciation used is:

Annual Financial Depreciation = (ORC - RV)/(RUL + Age)

2.4 Recommendations from Asset Valuation

The valuer provided the following recommendations from the 2014 Asset Valuation Report:

- Creation of a generic Asset Class field in Asset Finda for asset classification for financial reporting purposes.
- Refine data validation processes to:
 - \circ ensure assets unit of measurement (UOM) are used consistently; and
 - include the asset UOM field in the valuation lookup tables to check that the unit cost rate is appropriate.

Activity Improvement 6 - 5: Implement asset revaluation report recommendations.



Activity Management Plan Improvements

Table 6-8: AMP Improvement - Progress since 2012 AMP Peer Review

Assessment Element	Question Area	New AMP Part Reference	Status
Validate Depreciation or decline in Service Potential	a. The extent of annual depreciation shown for a minimum of 10 years and actual funding (renewals) requirements	6A	Underway
AM Plan key tool to support LTP	a. AMP information supports LTP through legislative requirements as indicated in the LGA: Schedule 10 and the financial strategy requirements (Section 101A (3)(a) and (b))	6B	Completed
AM reflected in 10 year Financial plan – Maintenance, Renewals, New Capital (LOS and demand)	a. 10 year plan at a level that indicates the individual cost centres to enable a good understanding of the financial, operational, renewal and capital costs associated with all asset groups	6B	Underway
AM reflected in 10 year Financial plan – Maintenance, Renewals, New Capital (LOS and demand)	b. Financial forecasts based on sound asset information and analysis (fully scoped and estimated), assumptions (that are specific and well-reasoned) of the future. Are adequate to ensure long term sustainability and include reference to the source of funding and user charges and development contributions	6B	Underway
AM reflected in 10 year Financial plan – Maintenance, Renewals, New Capital (LOS and demand)	d. First three years of 10 year plan is detailed	6B	Underway
AM reflected in 10 year Financial plan – Maintenance, Renewals, New Capital (LOS and demand)	e. Clear split between operations, capital renewals, New capital (improved LoS) and New capital (increased demand).	6B	Underway
AM reflected in 10 year Financial plan – Maintenance, Renewals, New Capital (LOS and	f. Financial forecasts determined in the AM planning process are reflected in the LTP and Annual Plan	6A	Underway



Assessment Element	Question Area	New AMP Part Reference	Status
demand)			
AM reflected in 10 year Financial plan – Maintenance, Renewals, New Capital (LOS and demand)	g. Expenditure captured at a level useful to AM analysis	6B	Completed
Validate Depreciation or decline in Service Potential	b. Clear understanding of the depreciation policy (for funding and expenditure)	6C	Completed
Sensitivity of forecast	a. Assumptions clearly recorded and fully understood	6A	Completed
Consistent financial forecasts	b. Long term financial costs linked to funding (rating) needs to enable high level of acceptance by the community	6B	Underway
Consistent financial forecasts	c. Major capital projects for next 10-20 years are fully scoped and estimated	6A	Underway
Consistent financial forecasts	d. Forecasts (10 year +) based on current comprehensive AMP with detailed supporting assumptions/reliability factors and high confidence in accuracy	6A	Underway
Consistent financial forecasts	e. Formal option analysis and business case development completed for major projects in 3 - 5 year period	6A	Underway
Validate Depreciation or decline in Service Potential	c. A processes for determining asset useful lives, renewal costs and rates enables a valid depreciation calculation	6C	Completed
Translate operational, planned maintenance, renewal & new work into financial terms over period of strategic plan/asset lifecycle	a. There is a clear link between the asset strategies and expenditure forecasts	6A	Completed

Table 6-9: 2015 Summary of AMP Improvements



AMP Improvement 6 - I: Add Funding Impact Statement when available from Finance Error!
Bookmark not defined.
AMP Improvement 6 - 2: Add internal borrowing rate when available from Finance Error!
Bookmark not defined.
AMP Improvement 6 - 3: Add in reference to Ministry for the Environment climate change report9
AMP Improvement 6 - 4: Finance to confirm model beyond 10 year period9
AMP Improvement 6 - 5: Update reserves table from Finance when available Error! Bookmark
not defined.
AMP Improvement 6 - 6: Update Assessment between AMP and Adopted LTP 2015/2025 when LTP
final
final

Table 6- 10: 2015 Summary of Activity Improvements

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information as requiredI Activity Improvement 6 - 5: Implement asset revaluation report recommendations	17 20

Part 7: Continuous Improvement



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Part 7: Continuous Improvement

A. Improvement Programme

I Asset Management Improvement Process

I.I Overview

Waikato District Council has adopted a strategic management approach to improvement planning, continually developing activity management plans, and implementing improvement processes and practices. This Improvement Programme is integral to that approach, quantifying current business practice and measuring progress toward an identified future position.

The purpose of the Improvement Programme is to identify and develop implementation of activity management planning processes. This includes:

- **AMP Cycle** The cycle of activity management plan monitoring, review, revision and audit to improve the effectiveness of activity management plan outputs and compliance with audit criteria, legislative requirements and best appropriate practice.
- Levels of Service The definition of service standards reflecting community outcomes through public consultation. The activity management plan is used to identify service level options and costs, and the delivery of services is a key objective of activity management planning.
- **Prioritisation** Identify and prioritise ways to cost-effectively improve the quality of the AMP, and therefore decision making and service delivery.
- **Scheduling** Identify indicative time-scales, priorities, human and financial resources required to achieve activity management planning objectives.

The development of this AMP is based on existing levels of service, the best available current information and the knowledge of Waikato District Council staff. It is intended that the development of this plan is part of an ongoing process and that the document will be reviewed and updated regularly.

This review process involves using improved knowledge of customer expectations (community consultation) and information from asset management systems and databases. This will enable Waikato District Council to optimise decision-making, review outputs, develop strategies, improve risk management and extend the planning horizon.

This section describes:

- Progress against previous improvement plans
- Activity management assessment and desired level of AMP practice
- The specific improvements proposed over the next three years.
- The tasks/projects proposed to be implemented within the organisation for monitoring and review.



1.2 Progress against Previous Improvement Plans

The Service Delivery group structure was reviewed in 2013.

Due to changes in staff structures and lack of adequate skilled resources, progress against previous improvement programmes has not been as advanced as initially anticipated. Table 7- I below describes progress made against the 2012 AMP Improvement Plan.

Project Item	Description	Target	Progress
Project 4	Asset Information Management System	Currently Council uses AssetFinda system. Review overall hierarchy of asset data structure in the system	Review of the overall hierarchy began in 2013, and progress has been slow, due to staffing changes and resourcing. The recent (2014) valuation has highlighted the importance of developing hierarchy and implementing this before the next valuation.
Project 5	Asset Data	Develop a process for data capture of key asset information and missing data	Capturing of missing data has continued in ad hoc basis, this will be reviewed and a programme developed???.
Project 6	Asset condition monitoring	Develop a condition monitoring strategy and implement.	Due to staff changes progress has been delayed, in 2013 Opus Consultants where engaged to develop a strategy for all pipe assets, implementation is planned for the LTP 2015-25.
Project 7	Network modelling	Develop wastewater network models for major townships	Wastewater models have been developed for Tuakau and Huntly, Ngaruawahia is planned for 14/15 year. The update of the Te Kauwhata and Raglan models will be programmed into the LTP 2015-25.
Project 8	Asset Management Plan review	Review Improvement Plan annually	This work did not commence due to staff changes, it is now it is planned to review regularly and to review AMP annually.
Project 9	Performance Measurement	Implement a system to monitor actual performance against service targets	SOP's were developed to manage actual performance against service levels, but no analysis was undertaken. The new corporate system, Interplan has the functionality to record and report on performance measures, associated processes for collecting the metadata will be captured in Promapp (Council's corporate process management



Project Item	Description	Target	Progress
			software)
Project 10	Project identification and management	Document how projects are identified and managed.	Project brief database had been developed to scope and issue projects briefs to project and designs team for implementation using Microsoft Access. This has now been superseded by the corporate project management software, IPM (Integrated Project Management)

AMP Improvement 7 - 1: Confirm table with asset data team.

2 Activity Management Assessment

The Office of the Auditor General (OAG) may review AMPs as part of the Long Term Plan audit. The OAG has chosen to use the National Asset Management Strategy (NAMS) revised 2011 International Infrastructure Management Manual (IIMM) as the benchmark to measure the standard of AMP. These documents have been complied with significant New Zealand industry input, and are recognised internationally as best practice.

Within the IIMM, there is an opportunity for the authority to state the standard to which it will undertake asset and activity management - Section 2.1.3. The standards of the AMP can be considered on a scale of core, intermediate or advanced. These are defined in Table 7- 2. For many asset owning authorities, their desired practice levels based on their infrastructure drivers will be above core practice but may well be below advanced asset management practice.

A M Level	Definition
Core	'Core' asset management practice is basic technical asset management planning undertaken at a level designed to meet minimum legislative and organisational requirements for financial planning and reporting. 'Core' practice provides technical management outputs for current levels of service, demand management, asset lifecycles, asset forward replacement programmes, new capital expenditure and associated cash flow projections.
Intermediate	'Intermediate' asset management practice is undertaken at a level between 'Core' and 'Advanced' practice. The focus is to build on the basic technical asset management planning of 'Core' practice by introducing improved maintenance management and more advanced asset management techniques (as appropriate). Further use is made of risk management, asset lifecycle

Table 7-2: Activity Management Level Definitions



A M Level	Definition
	management, and service standard optimisation techniques.
Advanced	'Advanced' asset management practice is system optimisation planning undertaken to optimise activities and programmes to meet agreed current and future service standards. This is achieved through the development of management tactics based on the collection and analysis of key information on asset condition, performance, demand for service, lifecycle costs, risk costs and asset lifecycle treatment options.

The recommended methodology for assessing AMPs is to have a detailed analysis of the following asset management practice areas:

- Description of Assets
- Levels of Service
- Managing Growth, including sustainability strategies
- Risk Management
- Lifecycle Decision-making
- Financial Forecasts
- Planning Assumptions, Linkages, and Confidence Levels
- Improvement Programmes
- Planning Qualifications
- Commitment by Asset Owner

Assessing and adopting an appropriate AMP level will allow Council to identify what is Appropriate Best Practice for Waikato District, and therefore focus resources accordingly to enhance prudent management of the community infrastructure.

2.1 Activity Management Policy (from IIMM Section 2.1, page 2.2).

Section 2.1 of the International Infrastructure Management Manual 2011 (IIMM) contains a section regarding the development of asset management framework and asset management policy. The Asset Management Framework typically includes an Asset Management Policy, Asset Management Strategy and Asset Management Plan. These documents drive the implementation of asset management in alignment with the organisation's strategic objectives.

The Waikato District Council Activity Management Policy was approved in 2013 and applies to all asset activity management planning carried out by Waikato District Council. The objectives of this Policy are:

• To outline the level of asset management appropriate for each activity for Council to achieve best asset management practice and meet statutory obligations. To provide for a consistent



approach to asset activity management planning within Council and to ensure plans reflect the strategic direction of Council.

- To demonstrate to the community that Council recognises the critical importance of managing the District's assets and activities in an efficient and cost effective manner in order to deliver levels of service appropriate to current and future generations.
- To confirm a coordinated process for each activity that links its contribution to Community Outcomes with goals, specific levels of service, strategies and actions.



Figure 7- I shows how the AM Policy fits within the activity management process.

Figure 7-1: The Total Asset Management Level Determination

Source: IIMM (2006 edition)

2.2 AMP Level Assessment Methodology

Waikato District Council staff with the assistance of Waugh Infrastructure Management Ltd established the base level at which they consider the AMPs should be delivered to the community. The 'Selecting the Appropriate AM Level' report by Waugh Infrastructure Management Ltd, 2013 details the assessment that was carried out to obtain the appropriate AM levels.



The assessment methodology, developed by Waugh Infrastructure Management Limited, in conjunction with a number of local authority partners, is as follows:

- Adopt a risk based approach using district population and largest town size as a proxy for risk and an initial screen;
- Determine an initial position based on the population risk screening;
- Modify initial position based on the District wide risk factors;
- Examine each asset group and conduct a further analysis based on the Section 2.1.3 factors:
 - Costs and Benefits
 - Legislative Requirements
 - Size, condition, complexity of assets
 - Risks associated with failures
 - Organisational skills and resources
 - Customer expectations
- Sustainability (additional to IIMM list); and
- Adopt a final appropriate asset management level position for each asset group based on the detailed factor analysis

2.3 Asset Management Level Determination for the Activity

Having considered the factors above, Waikato District Council should be managing its wastewater activity at an intermediate level. It has also been noted that there is emphasis on risk management practice to manage identified issues and consent conditions will be a driver of practice changes. A summary of the detailed analysis for wastewater is shown in Table 7-3.

Criteria	Wastewater
Population	Intermediate
District Wide Risks	"Intermediate" with some extension of practice around the demand and risk management issues identified
Costs and Benefits (Source 2012 LTP – 10 year estimates)	CAPEX - 144M
, ,	OPEX - 174M
	Expenditure (% of District) - 27%
Legislative Requirements	Compliance. Health Amendment Act driving changes RMA changes will impact Demand management drivers
Size, Condition, Complexity of	Size and complexity of assets is normal for a mixed urban / rural
Assets	authority. On-going risk analysis is allowing management of risks and targeting of expenditure

Table 7-3: Detailed Analysis of the Wastewater Activity



Criteria	Wastewater
Risks Associated with Failures	Growth in township permanent populations and subsequent growth in demand need to be monitored and managed. AC pipe renewal will require management.
Organisational Skills and Resources	Waikato District Council is a larger local authority ranked 13/66 in population size. Internal and external resources have been maintained. Council staff in the asset management, operational and design teams has a good spectrum of age and experience. This has made staff succession planning less of an issue. Council values well trained staff and has worked to ensure relevant training, qualifications for staff. Council is has a good range of core skills in-house, and supplements this with regional shared services arrangements, and specialist external consulting resources as required
Customer Expectations	Customer expectations are for current service levels to be maintained
Sustainability	Sustainability initiatives coordinated at a regional level. Potential impacts of climate change and sea level rise require a long term risk management approach. Sustainability requirements of consent conditions applied to practice
	Legislative changes, Regional and National standards impact.
	Conservation / demand management required
Appropriate AM Level	Intermediate

2.4 Review of 2012 AMPs

In 2013 Council engaged Waugh Infrastructure Management Ltd to assess its AMPs against the appropriate asset management level for that activity. Waugh Infrastructure Management developed a report 'AMP Compliance – July 2013' that detailed this assessment.

Overall, the assessment of the 2012 AMPs indicated they were below a Core Asset Management Level. Waugh Infrastructure Management states in the Compliance Report that 'while the assessment indicates a low level of AMP compliance we do not suggest that the Asset Management practices in place are inadequate.

The plans are well structured and easy to read. A common structure across the plans ensures a similar approach is taken to the seven key areas of asset management practice.

From the narrative in each AMP it appears that Council has a good knowledge of the assets and issues associated with these assets across the range of services. However this is often not well supported with details of the assets involved.'



The AMP assessment implied there was sufficient information available, and with attention in appropriate places, the AMPs can be fairly easy improved. Where the plans are silent on a key issue, the addition of a reference or comment will address this omission.

A number of assessment items that are regarded as a severe or major consequence for the AMP have been tabulated in the Compliance Report by Waugh Infrastructure Management. These form the basis of the Improvement Plan.

2012 Compliance Status for the Wastewater Activity

The assessment carried out by Waugh showed that the Wastewater AMP was generally easy to read and had good basic structure. First impressions were generally good, but supporting information and demonstrations were lacking. The AMP demonstrated an understanding of the issues facing the service and indicated/implied that there were some good practices in place or the improvements proposed to optimise the operation and management of the service. In saying this, the AMP did lack substance in a number of areas and therefore gave a low level of confidence that the practices and processes are robust and were used on an on-going basis in these areas. The reviewer's general impression from inferences in the document was that actual asset management practice is significantly better than that demonstrated in the AMPs.

An overview of the 2012 compliance status of the Wastewater AMP is shown in the figure and table below.





Figure 7-2: AMP Compliance Status Graph

Table 7-4: AMP Compliance Status

Wastewater	Existing Status (%)	Appropriate Level (%)	With Improvement Items (%)
Description of Assets	35	89	49
Levels of Service	28	85	28
Managing Demand	41	82	44
Risk Management	35	88	50
Lifecycle Decision Making	75	73	21
Financial Forecasts	16	86	16
Planning Assumptions and Confidence Levels	34	80	38
Outline Improvement Programmes	41	80	38



Wastewater	Existing Status (%)	Appropriate Level (%)	With Improvement Items (%)
Councils Commitment	47	78	52
Sustainability	14	57	17
Planning by Qualified Persons	43	98	43
AMP Format	67	98	67

2.5 Review of the 2015 AMPs

In 2014 Waikato District Council implemented a corporate project to:

- Convert existing Asset Management Plans to Activity Management Plans;
- Align the format of all AMPs across Council;
- Create AMPs for the Solid Waste and Library activities;
- Improve AMP content to obtain the appropriate level stated in the Activity Management Policy; and
- Provide capital and operational programmes for input to the Long Term Plan 2015/25.

2015 Compliance Status of the Wastewater AMP

AMPs were reviewed in 2014 and peer reviewed by XXXX. Add in here summary of review.

AMP Improvement 7 - 2: Update section after peer review in 2014.



B. Activity Management Plan Review

This AMP was updated in 2014. It should be reviewed on a quarterly basis to ensure that progress is made against AMP improvement tasks.

The following table outlines the proposed timetable for the 2015 AMPs and the 2015/2025 Long Term Plan.

Table 7- 5: AMP and 2015/202	5 Long Term Plan Timetable
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Action	Deadline
AMPs prepared and reviewed by Council staff	5 September 2014
External peer review of AMPs	26 September 2014
All LTP projects are to be entered into IPM or other method as agreed with Finance	26 September 2014
AMPs updated post peer review	31 October 2014
Liaison with respective staff around draft budgets	31 October 2014
Draft budgets prepared	21 November 2014
Executive Team approval of draft budgets	December 2014
Circulate draft LTP and CD to Councillors (including key policies but excluding financial statements)	Week commencing 15 December 2014
Audit NZ – reviewing draft LTP/CD (preliminary testing such as AMPs)	November/December 2014
Council (CB and committee) LTP finance workshops	9-11 February 2015
Final Audit NZ review & sign-off of SOP	2-18 February 2015
Council agenda close for approving LTP/CD for notification	19 February 2015
Adoption of the draft LTP	2 March 2015
Consultation support (including public meetings)	March/April 2015
Council hearings	18-22 May 2015
Extraordinary council meeting to adopt fees and charges	Final day of hearings
Finalisation of budget modelling, related financial statements, rates resolution and LTP documents	25 May-10 June 2015



Audit NZ review of final document	1-10 June 2015
S&F committee agenda close	11 June 2015
S&F committee meeting – to approve LTP following consultation/	23 June 2015
Extraordinary Council meeting to adopt LTP	23 June 2015
AMPs updated to reflect differences between AMP recommendations and adopted LTP budgets and decisions, and effects on levels of service, growth.	31 July 2015


C. Activity Management Plan Improvements

I Asset Data Reliability

Data confidence and reliability for asset data used in this AMP has been discussed in 'Part 5 – Managing Our Assets'.

The following table outlines the data specific improvements required to enable better management of the solid waste and waters activity.

Activity	Description	Justification	Target	_		_
Impacted				Resource/ Effort	Budget	Funded in LTP
Waters and Solid Waste	For every Asset Finda upgrade, undertake UAT and document all issues identified	Ongoing issues with implementation of upgrades creating errors/faults with data	Ongoing	Internal	N/A	Ν
Waters and Solid Waste	Develop and adopt an asset hierarchy for all assets (taking into account requirements for operations/finance/planning and constraints of asset system)	To ensure more accurate valuations, enable better asset analysis and reporting	December 2014	Internal		
Waters and Solid Waste	Develop and maintain "Standard Costs Database"	Recommendation out of 2011 valuation and to enable better budget development	2015/16	Internal	\$5,000	Y
Waters and Solid Waste	Develop and document process for as built and asset data sheet acceptance and recording.	Currently there are different processes depending on the source of the information (e.g. developers, internal staff, etc)	December 2014	Internal		

Table 7-6: Data improvement projects



	Description	lustification	Target			
Impacted	Description	Justification	Target	Resource/ Effort	Budget	Funded in LTP
Waters and Solid Waste	Identify and develop programme to address data gaps	There are a number of information gaps for all assets (e.g. manhole depths missing in Huntly wastewater)	2015/16	Internal		
Waters and Solid Waste	Develop and implement work order system to capture maintenance and fault data	Maintenance sheets are being completed by the operations team, but this work is not been linked to customer complaints and is not capturing relevant data to ensure asset performance and condition can be assessed.	Underway	Internal		
Wastewater	Develop a process to capture trade waste connections (separate to standard connections to the network)	Historically, trade waste customers are not captured in the AM system	2015/16	Internal		
Water Supply, Wastewater and Stormwater	Develop a process to ensure all new connections are being captured and develop a programme to capture existing connections	Connections are not adequately captured in Asset Finda, in wastewater and stormwater are the biggest gaps	2015/16	Internal		
Waters and Solid Waste	Develop data management system and business processes to manage CCTV inspections and condition assessment data	As part of the condition assessment strategy, large amounts of data will be generated	30 June 2015	External	\$10,00 0	Y



Activity Impacted	Description	Justification	Target	Resource/ Effort	Budget	Funded in LTP
		and there currently is no solution in place for managing this data.				
Water Supply and Wastewater	Generation of standard reports out the SCADA to enable compliance reporting and for asset management analysis	Due to an out of date SCADA system and inability to easily extract data, reports have not be able to be generated	December 2015	External – part of SCADA upgrade project		
Wastewater	Develop data management system and business processes to manage trade waste information	Currently the applications are raised as CRM and some documentation is recorded in ECM, but majority of information is stored at HCC	TBC (needs agreement from Shared Services			

AMP Improvement 7 - 3: Update data improvement projects once confirmed.

2 Activity Management Plan Improvement Programme

Table 7-7: AMP Improvement - Progress since 2012 AMP Peer Review

Assessment Element	Question Area	New AMP Part Reference	Status
AM Plan regularly updated and should reflect progress on improvement plan	a. Plans update prior to LTP	7A	Ongoing
List all assumptions and possible effects	a. Significant assumptions (including the useful life of significant assets) and level of uncertainty including (for the financial	7B	Completed



Assessment Element	Question Area	New AMP Part Reference	Status
	forecasts) are stated, impacts and mitigation as required		
List all assumptions and possible effects	b. Where any significant assumptions involve a high level of uncertainty - include an estimate of the potential effect on the financial estimates	7B	Completed
Confidence level demand/growth forecasts	a. Confidence level known and documented with process for updating (reliability of demand forecasts known to reduce risk of under or overinvestment in infrastructure)	7B	Completed
Confidence level on financial forecasts	a. Confidence level known and documented with process for updating	7B	Completed
List all assumptions including organisations strategic plan that support AM - linkages with other planning doc	a. Minimum of Assumptions, and these clearly recorded and fully understood and mitigation shown where necessary	7B	Completed
Identify resources required (human & financial)	a. AM improvement program approved by Council/management	7A	To be done as part of LTP
AM Plan adopted by Council including improvement programme	c. Council has on-going training to grow AM culture and overall understanding	7A	Completed
AM Plan adopted by Council including improvement programme	e. AM improvements programme adopted and appropriately funded (Note this is in AM area not general improvements)	7A	To be done as part of LTP
AM Plan regularly updated and should reflect progress on improvement plan	b. Demonstrated commitment for AM at management level	7A	Completed
Accuracy of asset inventory	b. Confidence level for all assets data known (minimum of C grade) and documented with target level shown	7B	Completed
Confidence level on asset condition	a. Confidence level known and documented with process for updating	7В	Completed



Assessment Element	Question Area	New AMP Part Reference	Status
	and target level shown		
Confidence level on asset performance	a. Confidence level known and documented with process for updating and target level shown	7B	Completed
Accuracy of asset inventory	a. Documented process exists for updating maintenance data and used on an on-going basis	7A	Completed
High level of confidence in critical asset data	a. High level of confidence in critical asset data with a overall B grade data confidence (for valuations)	7B	Completed

Table 7-8: 2015 Summary of AMP Improvements

AMP Improvement 7 - 1: Confirm table with asset data team	3
AMP Improvement 7 - 2: Update section after peer review in 2014)
AMP Improvement 7 - 3: Update data improvement projects once confirmed	5

3 Activity Management Plan Improvement Priority Projects

The following table describes the priority projects to improve the management of the wastewater activity. These projects will be input to the Waters Unit business plan and as relevant the Long Term Plan 2015/2025. Reporting on the progress of these projects should be carried out at least quarterly.

Table 7- 9:	Activity	Management	Priority	Projects
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IPM Project Code	Description	Target	Resource /Effort	Budget	Staff Assigned	Funded in LTP 2015/2025?
	Review the existing Trade Waste Bylaws and create a new one for the whole district	2015/16	External	\$10,000	Asset Planner	Y
	Prepare replacement long term maintenance contract for electrical and telemetry services in 2016	2015/16	External	\$20,000	Design & Delivery	Y
	Create CRM reports to	2015/16	Internal	-	Corporate	Ν



IPM Project Code	Description	Target	Resource /Effort	Budget	Staff Assigned	Funded in LTP 2015/2025?
	measure Fault Response Times (Non-financial mandatory performance measures)				project	
	Record which schemes receive complaints about the services	2015/16	One week	-	Asset Engineer	Ν
	Work with Waikato Regional Council to address consent compliance issues	2015/16	Ongoing	-	Consents Officer	Ν
	Analyse wastewater demand by type of customer and add to AMP	2016/17	Internal	-	Asset Engineer	N
	Develop capital works and consent options and costs for wastewater to meet predicted demands for 2015/45	2014/15	Underway	-	Asset Engineer	Ν
PP check this ok?	Investigate demand substitution options	<mark>2016/17</mark>	<mark>External</mark>	<mark>\$10,000</mark>	<mark>Asset Engineer</mark>	Y
	Develop operational contracts and agreements to provide for other routine maintenance activities such as instrument calibration and maintenance and mechanical repairs and maintenance	2015/16	External	\$20,000	Operations Team	Y
	Develop a calendar detailing communication requirements with community groups about this activity	2015/16	One week	-	Consents Officer	Ν
	Work with partner councils to scope work required to implement subregional strategy actions, determine timing and allocate resources	2015/16	Four weeks	-	Asset Planner	Ν



IPM Project Code	Description	Target	Resource /Effort	Budget	Staff Assigned	Funded in LTP 2015/2025?
	Carry out criticality assessment of treatment plant, communication and pump station assets	2015/16 2016/17 2017/18	External	\$25,000 \$25,000 \$10,000	Asset Engineer	Y
From Part 5	Reconcile the number of wastewater connections between the Council rating system and AssetFinda	2016/17	Internal	•	Asset Information Officers	Ν
	Improve asset information for wastewater treatment plants, point assets, telemetry and SCADA in AssetFinda.	Internal	-	Asset Information Officers	Ν	Internal
	Prepare programme to replace AC rising mains prioritised on condition and criticality	2015/16	Two weeks	-	Asset Engineer	Ν
	Add SCADA software to the intangibles or other asset register.	2015/16	One week	-	Asset Engineer	N
	Develop and maintain resource consent management system in CS-Vue or Promapp	2015/16	Internal	-	Consents Officer	N
	Add all wastewater consents to the intangibles register	2015/16	One week	-	Asset Engineer	N
	Programme consent renewal applications in the LTP 2015/2025	2014/15	One week	-	Asset Engineer	N
	Create/update O&M management plans for all wastewater treatment plants	2015/16 2016/17 2017/18	External	\$30,000 \$30,000 \$30,000	Operations/ Assets Team	Y
	Discuss with HCC regarding servicing of border properties	2015/16	Two weeks	-	Asset Management Team Leader	N
	Develop work order system to capture maintenance activities against wastewater assets	2015/16	Internal	-	Assets Team	N



IPM Project Code	Description	Target	Resource /Effort	Budget	Staff Assigned	Funded in LTP 2015/2025?
	Review all schemes with sand filters and programme renewals/upgrades as required in LTP 2015/2025.	2014/15	One week	-	Asset Engineer	N
	Review all schemes and programme sludge removal and disposal as required in LTP 2015/2025	2014/15	One week	-	Asset Engineer	Ν
	Obtain new wastewater discharge consent for the Maramarua scheme	2014/15	External	2014/15	Asset Engineer	N
	Investigate SCADA requirements and upgrade Matangi scheme	2016/17	External	\$5,000	Operations Team	Y
	Install meter at Matangi pump station to monitor flows.	2016/17	External	\$5,000	Operations Team	Y
	Investigate ongoing odour issues at Good St pump station	2014/15	Internal	-	Operations Team	Ν
	Investigate capacity of Tuakau network servicing the Brinks Chicken processing facility and programme upgrades	2014/15	Internal	•	Planning & Strategy/ Asset Engineer	N
	Review the timing of the development of the Pokeno wastewater network to meet growth demand	2014/15	Internal	-	Asset Management Team Leader	N
	Improve asset information for wastewater treatment plants, point assets, telemetry and SCADA in AssetFinda	2015/16- 2017/18	Internal	-	Asset Information Officers	Ν
	Develop and document existing and future maintenance programmes for assets (Pump Stations,	2015/16	External	\$10,000	Operations/ Assets Team	Y



IPM Project Code	Description	Target	Resource /Effort	Budget	Staff Assigned	Funded in LTP 2015/2025?
	etc.)					
	Develop CCTV record	2015/16	External	\$15,000	Asset Engineer	Y
	management system					
	Develop jetting maintenance programme for wastewater pipelines which have dips causing performance issues	2015/16	One week	-	Operations Team	N
	Identify earthenware pipes in carriageways, assess condition and programme for replacement	2016/17	Two weeks	-	Asset Engineer	Ν
	Determine standby power generation requirements and implement	2015/16- 2019/21	External	\$20,000 per year	Operations Team	Y
	Identify critical wastewater pump stations	2015/16	Two weeks	-	Asset Engineer	N
	Undertake a performance assessment programme of all pump stations to understand issues and constraints (part of modelling programme)	2018/19- 2020/21	External	\$15,000 per year	Asset Engineer	Y
	Develop wetlands renewal programme.	2018/19	External	\$30,000	Asset Engineer	Y
	Identify critical assets within wastewater treatment plants (align with O&M plans)	2015/16- 2017/18	Internal	-	Asset Engineer	N
	Investigate and determine the need for a wastewater bylaw to protect the wastewater network.	2016/17	Two weeks	-	Asset Planner	N
	Develop process/policy around connections to low pressure areas (Te Ohaaki, Tauwhare Pa and Whaanga Coast)	2015/16	Four weeks	-	Asset Planner	N
	Understand and	2018/19	External	\$50,000	Asset Engineer/	Y



IPM Project Code	Description	Target	Resource /Effort	Budget	Staff Assigned	Funded in LTP 2015/2025?
	document hydraulic, bacteriological and nutrient removal capacities of the treatment plants				Treatment Plants Team Leader	
From Part 6	Review policies with Rates team to determine if any change is required.	2014/15	One week	-	Asset Management Team Leader	N
<mark>PP</mark> check	Review charging mechanism with a view of working towards a district wide rate	2015/16	Internal	-	Asset Management Team Leader/Finance	Ν
<mark>PP</mark> check	Review trade waste charges in 2016/17	2016/17	Internal	-	Asset Engineer/Shared Services	N
	Update financial policies in draft LTP 2015/2025 with latest asset information as required	2014/15	One week	-	Asset Management Team Leader	N
	Implement asset revaluation report recommendations	2014/15	ТВА	-	Asset Management Team Leader	Ν