

SUMMARY: WATER SUPPLY ASSET MANAGEMENT PLAN

Contribution to Council outcomes

(AMP Chapter 2)

Council's Water Supply services are provided for the benefit of the community to ensure that the Vision of 'Healthy people thriving in a safe, vibrant and sustainable community', as expressed in the Long Term Plan, is achieved.

Following an extensive community consultation process, Council developed a number of outcomes and strategies that took a balanced approach to the four well beings (economic, social, environmental and cultural), which together are intended to support the Vision through delivering sustainable, long term growth and development.

The Water Supply Activity contributes towards all four of the well-being's and their related outcomes and strategies, as further described in the AMP.

Council owns and operates four reticulated water supplies in the urban communities of Arapuni, Tirau, Putaruru, and Tokoroa. It also operates two rural water schemes at Lichfield and Athol/Wawa areas adjacent to the Kinleith industrial estate.

Levels of service

(AMP Chapter 3)

Customers' expectations of the service have been identified and subsequently defined in terms of Levels of Service and Performance Indicators that can be monitored, measured and reported.

Abstraction of raw water is limited by resource consent conditions.

Council has adopted a series of measures which are intended to indicate how well the water supply infrastructure contributes to the community's well-being. Both Customer Service Levels and Technical Standards are used.

The key LOS relate to water quality and continuity of service.

The Community Consultation prior to development of the 2012-2022 Long Term plan indicated that the community was satisfied with the current levels of service.

Planning

(AMP Chapter 4)

The following key issues have been identified for the ten year planning period:

- Compliance with revised national drinking water standards.
- Renewal of ageing pipes.
- Water demand management.
- Compliance with resource consent conditions.

Council's current ownership stems from a legacy ownership role that, except in particular circumstances, is prohibited from passing to the private sector by the Local Government Act 2002, S.130(3)(b). The water supply assets are considered to be strategic assets in terms of section 90 (2) of the LGA and are identified as such in Council's Significance Policy.

The National Infrastructure Plan (NIP) details the Government's view of the challenges and priorities for infrastructure. The 2011 NIP describes the view to 2030. A Vision for New Zealand's Infrastructure in the NIP is:

New Zealand's infrastructure is resilient and coordinated and contributes to economic growth and increased quality of life.

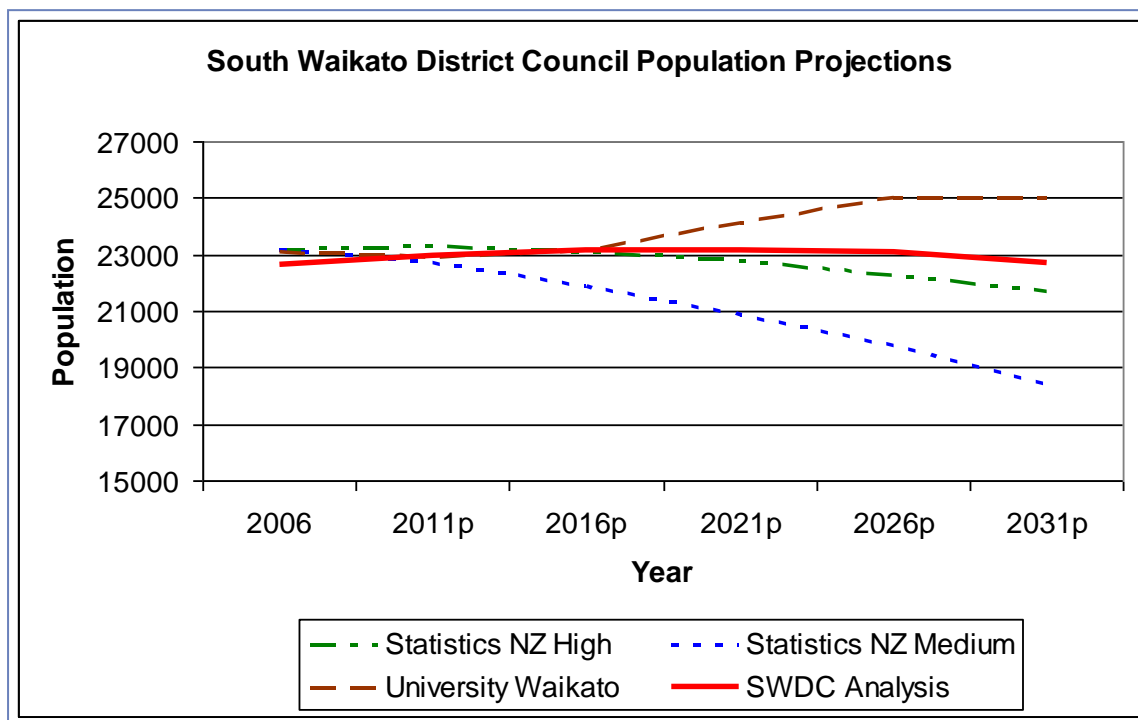
More specifically the vision for the Water Sector is:

Water infrastructure will contribute to healthy and safe communities, promote the social, economic and cultural well-being of those communities, and will provide a competitive advantage for New Zealand's primary producers and industry.

Resident population trends

South Waikato District Council has been carefully monitoring population and demographic trends as part of its planning processes for many years.

Due to the 2011 Census being deferred, Council has reviewed the 2008 report and has concluded that the projection remains valid.



Lifecycle management

(AMP Chapter 5)

Council manages six separate water supply schemes using its professional engineering staff.

The major water supply assets include:

- Water source bore wells and associated pumps and controls.
- Treatment systems (small pumps and storage tanks) which inject chlorine disinfectant into the water.
- Treated water storage reservoirs.
- Large diameter trunk mains (conveying water to reservoirs).
- Fire Mains – the backbone pipes of the reticulation network, of 100mm diameter or larger.
- Fire Hydrants – connected to the fire mains as supply points for the Fire Service.
- Valves – permit parts of the network to be turned off in case of pipe breaks or other service requirements.
- Rider mains – smaller pipes, usually 50mm or 80mm diameter, used to supply properties on the opposite side of the street to fire mains.
- Service Connections and Meters – which convey water from the mains to individual buildings.
- Backflow prevention devices at certain properties - ensure that contaminants do not enter the reticulation network.

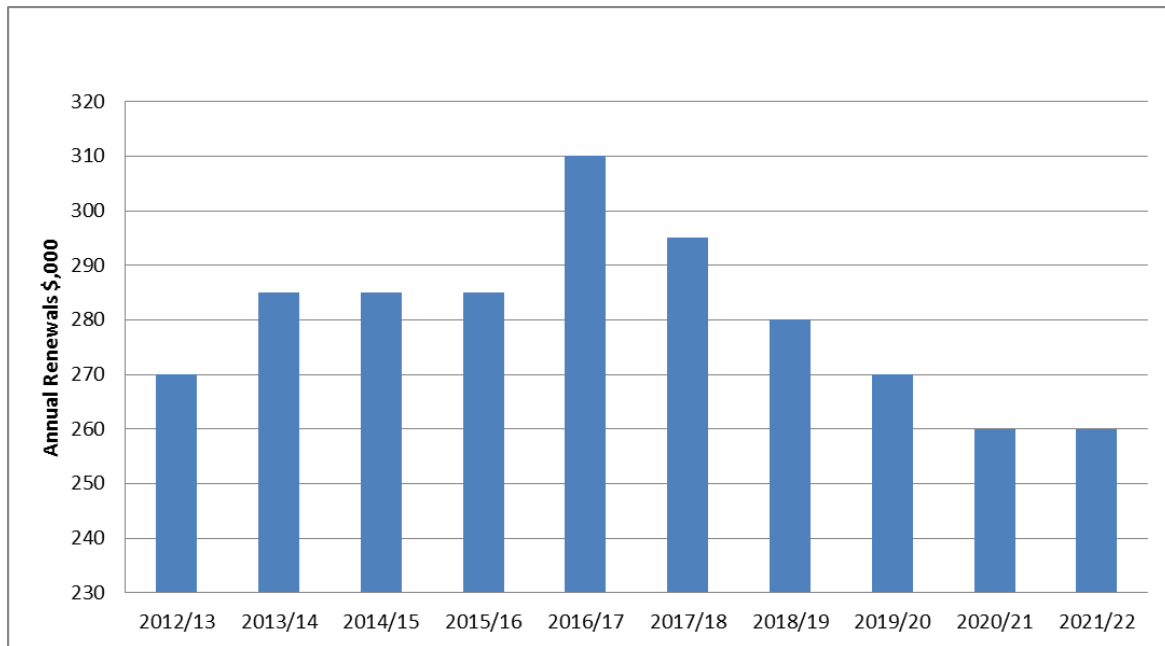
Details of these assets are recorded in a management software system (BizeAsset). This enables the individual components to be tracked including size, age, depreciated and replacement value, and reports can be produced to predict replacement requirements.

The operation and maintenance of the water supply systems is carried out using a combination of Council Asset Management staff, Council Business Unit staff and external contractors:

- Services Manager and staff for management, administration design and supervision.
- 'Watermark' for all operations and most maintenance work (Council Business Unit).
- External contractors for specialist activities such as laboratory testing, some equipment and major overhauls of mechanical equipment.

Replacement costs for the next ten years are projected to be \$4.5 million. Pumping and treatment plant assets have shorter lives than the pipe reticulation system and more frequent re-investment is required. The AC-E type pipe assets are now in their renewal phase and increased annual renewals funding is required over the next 20 years.

Projected Replacement Cost For Pipes (2012/22 \$), based on 2012:



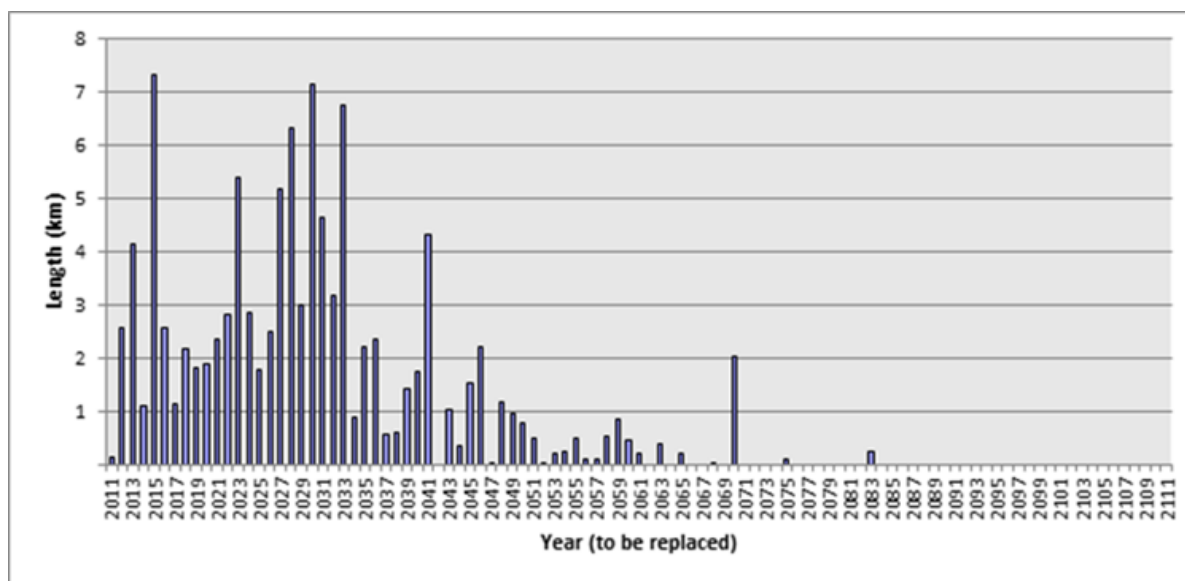
Additional new components are sometimes required to meet regulatory requirements or national standards; to service additional consumers, or to manage risk exposure by duplicating the existing network. New Works projects planned for the next ten years include:

- Water treatment improvements at Putaruru, Tirau, Arapuni and Lichfield to ensure compliance with the Health (Drinking Water) Amendment Act.
- Potential connection of Athol to Tokoroa water supply to ensure compliance with the Health (water) Amendment Act.
- Duplicate main to the Colson Hill Reservoir site to manage the potential for failure of the older existing main.

Network extensions to service additional outlying properties are funded by the users.

The renewal requirements for the water supply infrastructure over the next 100 years (in five year periods) is detailed below and indicates a reasonable consistent level of funding apart for a spike in 2056-2060 (replacement of AC-F pipes).

100 Year Pipe Renewal Requirements



Quantifying and managing risk

(AMP Chapter 6)

Sustainable and reliable delivery of the Water Supply service requires careful consideration of the various types of risk associated with the service.

The major risks addressed in this Asset Management Plan include:

Business

The Corporate Risk Management Policy addresses the four well beings, vision statement and strategic themes. Full details can be found in the South Waikato Risk Register and Risk Profile, which ranks the risks and includes control measures, where they exist.

Asset management

The 2007 Asset Criticality and Risk Assessment report addressed the consequences of infrastructure failure in terms of the four well beings (with assumed weightings) and identified the critical assets that required further investigation in order to ensure that they would continue to perform reliably delivering the agreed Levels of Service. The necessary action and remedial work has been undertaken.

A follow up report that identifies the probability of failure is currently being prepared.

Protection of Public Health

Compliance with the revised Drinking Water Standards is being addressed through implementing the recommendations of the Public Health Risk Management Plans for the various schemes. A programme of improvements is currently in progress.

Insurance

Council is a member of the LAPP fund, which is provided by local authorities to provide funds for reconstruction following major catastrophic events. This type of cover is not available through private insurance providers. Membership requires that all participants undergo a full risk management assessment.

Risk Pool

Council is a member of Risk Pool, which is provided by local authorities for long term legal and professional liability.

Civil Defence

Council participates in a region wide Civil Defence Emergency Management Group, as required by legislation. The scope includes co-ordinated planning, training, public awareness and response to major events that affect the safety of its residents.

Waikato Engineering Lifelines Group

Council participates in the co-ordinated assessment of risks and responses to events that are likely to affect a range of services, some of which are not Council's responsibility, such as communications and energy utilities.

Emergency Management

The Water Supply Emergency Back-up Plan provides a guide for response to situations where water cannot be supplied by conventional means.

Business Continuity

Council is developing Business Continuity Plans that address the continuation of service delivery, such as a large power outage, or failure of critical infrastructure.

Financial forecasts

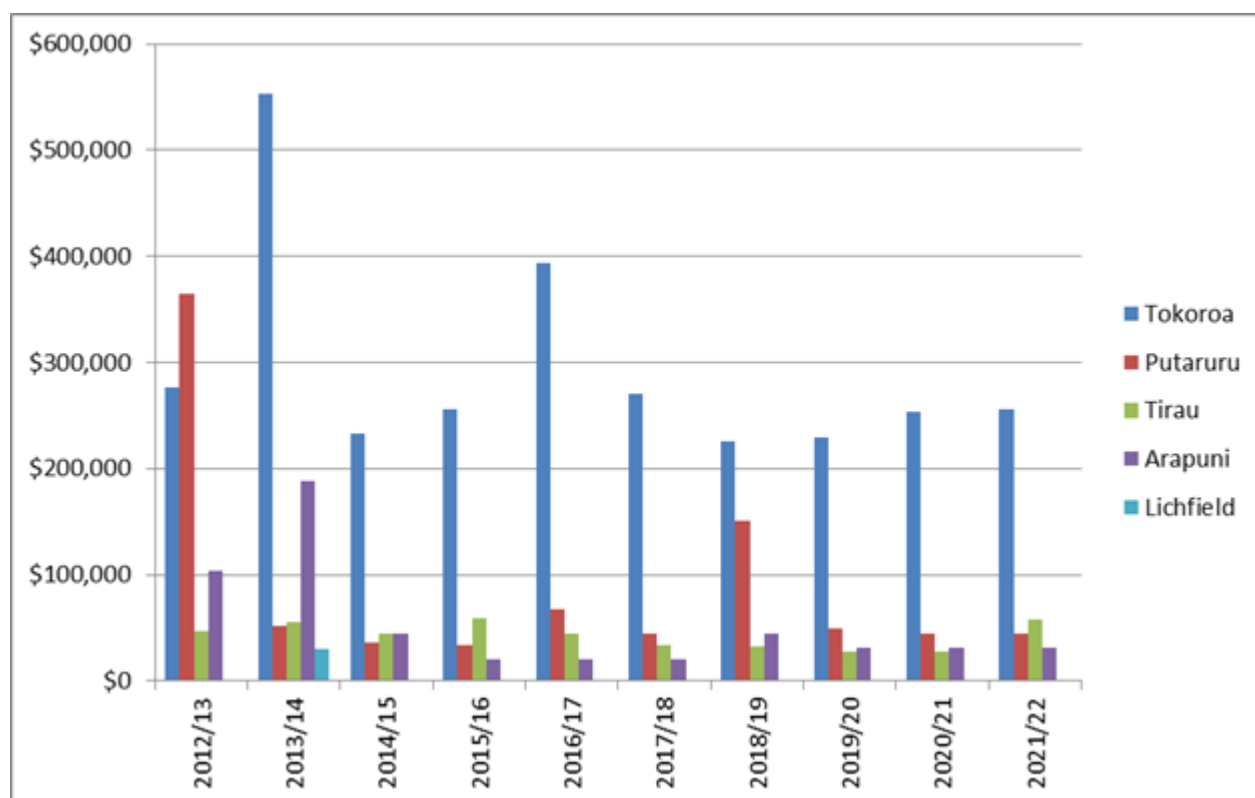
(AMP Chapter 7)

Maintenance and operating costs are expensed in the year they are accrued. The capitalisation threshold for water supply assets has been set at \$1,000. Repairs to pipe failures will however only be capitalised if the length of new replacement pipe installed exceeds 12 metres (typically two pipe lengths). This is because a shorter repair would be abandoned along with the old assets in a future pipeline replacement. It therefore does not extend the overall life expectancy of the original pipe.

Renewal is improvement work done, (including plant, labour, materials and professional services used), on an existing asset that increases its depreciated replacement value by more than \$5000 and extends its remaining life. The cost of renewal is a capital expenditure that must be recognised by an appropriate adjustment in the Asset Register. The renewed value in the Asset Register cannot exceed the optimised replacement value of the asset.

The following details the actual funding programme over the 2009/10 – 2018/19 planning period and compares this with the requirements shown in the asset register. A condition assessment will be carried out on the water supply AC pipes in conjunction with wastewater AC pipes during the term of this AMP to ensure SWDC have allowed correct estimations of remaining lives for funding purposes and replacement timing.

Renewals and Capital Costs:



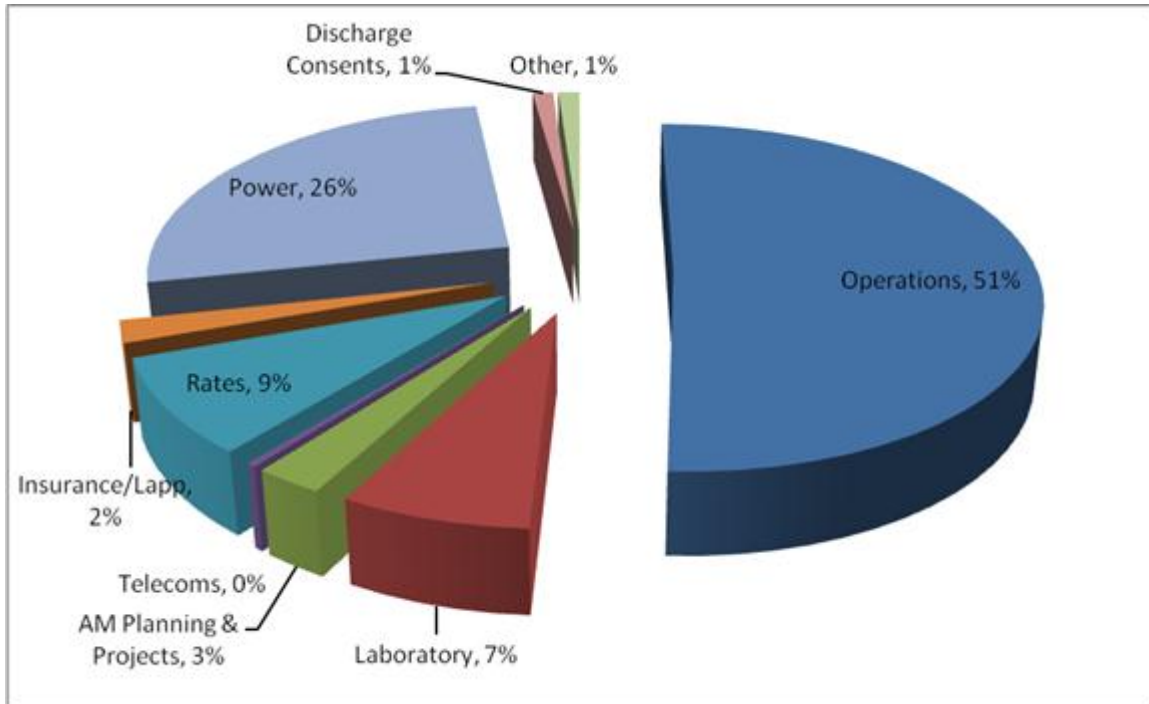
Council made assumptions surrounding the renewal of AC water pipes in the period 2009-19, and the same assumptions have been used in the 2012-22 period. This has led to the funding of less renewals than shown in this chart. Detailed discussion of these assumptions is included in Section 7.5.

Expenditure components are as follows:

- **New Works:** Capital investment is required to improve water quality in compliance with new NZ Drinking-Water Standards, and to improve security of supply to and from the Tokoroa reservoirs.
- **Renewals:** This capital cost is for replacing old pipes to maintain service to existing consumers at the agreed levels of service. It is funded by drawing from the depreciation reserve.
- **Depreciation:** both renewal of existing assets and investment in new ones drive a gradual increase in depreciation charge over the plan period. The contribution of the older pipe assets to depreciation charges decreases as their value diminishes toward the end of their lives. Depreciation is based on the useful lives of assets, tabulated in AMP Chapter 7. Useful lives vary depending on many factors:
 - Mechanical and electrical plant depreciate faster than reticulation pipes.
 - Different pipe materials have different life expectancies.
 - Different historical installation standards and service conditions also affect lives.
- **Interest and Principal:** New works are funded by borrowing. There is currently no loan balance for water supply works, but financing may be required for the planned new works over the next 3 years.

- **Support:** This item covers the share of corporate support costs apportioned to Water Supply.
- **Renewal and Capital Costs:** The typical composition of this major expense is illustrated in the figure above. It covers costs of operating and maintaining the water supply headworks and reticulation, including fault repairs.

Water operations and maintenance cost components: based on 2012 figures



Systems and processes

(AMP Chapter 8)

The Group Manager Assets is responsible for all the activities described in the Asset Management Plans, while the Group Manager Corporate is responsible for corporate risk management.

The Water Supply activity uses the BizeAsset software system for recording all relevant information regarding the individual infrastructure items and is updated regularly to include all additions and deletions. The information is used for regular reporting on depreciation and triennial revaluations. BizeAsset is currently being updated to provide increased capability via a web base and is being developed to assist with achieving the target 'core plus' level of asset management.

Accounting is processed via Council's NCS financial system.

Geographic data is managed electronically, using Council's GIS software, (MapInfo).

Various other information flows and processes are used to develop the Long Term Plans, establish service agreements, manage contracts, update standard operating procedures, monitor performance and report on resource consent compliance.

Improvement

(AMP Chapter 9)

Council's asset management target is to achieve the 'core plus' level, which is considered to be appropriate for an organisation of its size. Following guidance from the Office of the Auditor General and the NAMS manual, a number of Improvement Plans have been developed and implemented historically, while others are on-going. Further improvement proposals are based on a review of the current status of compliance with the requirements of 'core plus' and the recently updated IIMM, which refers to 'intermediate' rather than 'core plus'.

The 2015 AMPs are planned to be completely restructured to make them more useful and to streamline their structure and content.

Further reading

Where necessary, the reader is encouraged to refer to the full Asset Management Plan document for further discussion and information on the topics in this summary.