

**FINAL**



# Water Supply Activity Management Plan

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Southland District Council  
2009

# Water Supply Activity Management Plan

Prepared for

**Southland District Council**

Prepared by

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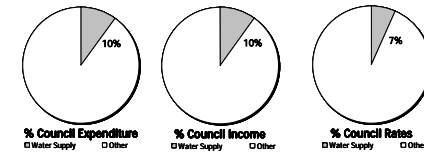
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			Name/Position	Signature
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# Water Activity Plan Summary

*Aim: Provide a reliable and adequate supply of water, which in urban areas is also safe to drink.*

## What we do

The Council operates 13 drinking water supplies. It also controls nine untreated rural water schemes which are provided for stock-water where the use of water for domestic purposes is prohibited.

## Why we do it

The water supply activity contributes to healthy people through the provision of safe drinking water as well as water to clean with. It also contributes to a diverse economy, where water supply infrastructure in urban areas provides reliable water in sufficient capacity to meet domestic, commercial and industrial needs and in rural areas, provide untreated water for stock. Public water supplies also assist in creating safe places by providing water for fire fighting which helps protect communities and visitors. It also contributes to making Southland a great place, with a choice of quality places to go and things to do, where reticulated water is used for recreational activities (swimming pools etc). In the activity, the Council must comply with the legal requirements of Local Government Act 2002 and the Health Act 1956. The activity must also give effect to the Drinking Water Standards National Policy Statement in Freshwater Management and Regional Water Plan.

## Key Issues

The Council has a requirement to comply with the drinking water standards<sup>1</sup> (DWS) for a number of its water supplies. In order to comply with the standards, which were revised in 2008, the Council has included a number of capital projects in this plan, mostly related to improving intakes and treatment processes. Complying with the new requirements will incur some significant costs for communities, however smaller supplies may avoid costly monitoring requirements by having an approved Public Health Risk Management Plan (PHRMP). Council must comply with these standards for its drinking water supplies at differing dates over the next four years. More details on these specific scheme projects can be found below under the heading 'Will additional assets/services be needed? In addition, it is expected that standards will be released for rural water supplies. While at this time it is not known what exactly will be required, several projects have also been included in the plan to upgrade intake and treatment processes. However these projects are dependent on what the standards will require when released.

In addition, in the draft plan, because of the significant cost involved for communities to upgrade and maintain their water supply assets, Council had looked at reviewing the way that it funded water (and wastewater) by moving from the existing system where each community pays for the cost of their own schemes (through local targeted rates) to combining these costs so that everyone who is connected to a or able to be connected to water (or wastewater) scheme pay the same rate. After considering the submissions, Council decided to delay the introduction of this combined funding for at least twelve months given the current uncertainty surrounding requirements for sewerage and water in particular (with changes likely in government policy surrounding water access/use/management, metering, regulation and subsidies). The Council felt that more time is needed to better understand the wider picture surrounding water and sewerage before changing the way these schemes are funded. In addition the Council also indicated that it wanted to take into account the impact of the new maintenance contract due to be re-tendered shortly as well as looking further at maintenance costs and possible efficiencies in running these schemes. More information about this is included in the 'Overview of Submissions and Changes to the Draft Plan' section in the LTCCP.

<sup>1</sup> Drinking Water Standards for New Zealand 2005 (Revised 2008)

Lastly, in the future Southland communities may not be guaranteed an endless supply of good quality water for drinking. This is because in some parts of Southland, water resources are nearly fully allocated and communities are beginning to face competition for water with agriculture and industry. The quality of water is also an issue in some areas with this plan including a number of projects to improve water treatment processes. This is a long term issue around sustainable use of natural resources and Council will continue to work with Environment Southland and other organisations in an effort to protect community drinking water resources and freshwater habitats for indigenous species.

### What level of service will Council provide?

Primary outcome: We are healthy people (4)								
Intermediate Outcome: We are able to live healthy lifestyles (4.1)								
What Council will provide	How Council will measure the service provided							
Level of Service	Key Performance Indicator	Actual		Targets				Source
		06/07	07/08	09/10	10/11	11/12	12-19	
Quality Provide urban water supplies that are safe and promote public health.	Percentage of urban water supply tests that meet the requirements of the NZ Drinking Water Standards 2005.	99%	94%	100%	100%	100%	100%	WINZ <sup>1</sup>
	Percentage of urban water supplies that are capable of meeting the NZ Drinking Water Standards 2005.	0%	0%	10%	65%	80%	>80%	WINZ <sup>2</sup>
Quality Drinking water quality is acceptable to users.	Percentage of customers satisfied with the quality of urban water supplies.	76%	72%	90%	90%	90%	90%	Survey - Resident
	Number of complaints about drinking water quality across all schemes.	3	15	Less than 65	Less than 65	Less than 65	Less than 65	Quarterly Report <sup>3</sup>
Quantity Provide an adequate quantity of water for daily use.	Number of complaints about supply quantity and pressure per scheme.	117	519	Less than 130	Less than 130	Less than 130	Less than 130	Hansen IMS <sup>3</sup>
Quantity Provide a water supply adequate for fire fighting in urban areas.	Percentage of urban fire hydrant tests that meet SNZ PAS 4509:2003.	New Measure	New Measure	70%	80%	90%	100%	Hansen IMS <sup>4</sup>
Reliability Provide a reliable water supply.	Percentage of resident satisfaction with the reliability of water supply.	93%	91%	90%	90%	90%	90%	Survey - Resident
	Total number of non-notified shutdowns across all urban schemes.	17	26	20	20	20	20	Hansen IMS <sup>3</sup>
Responsiveness Prompt response to complaints.	Percentage of complaints responded to within required timeframes.	80%	83%	80%	85%	90%	90%	Hansen IMS <sup>5</sup>

What Council will provide	How Council will measure the service provided							
Level of Service	Key Performance Indicator	Actual		Targets				Source
		06/07	07/08	09/10	10/11	11/12	12-19	
1.	Water Information New Zealand (WINZ) is a national database of all community drinking water supplies used to determine the public health grading. WINZ is managed by ESR on behalf of the MOH.							
2.	Capability to meet the standards is assessed through carrying out public health risk assessments which identify any capital work needed or operational processes which need to be put in place to minimise any risks to the public health. Council is yet to assess its water supplies against the NZ Drinking Water Standards 2005 using the process outlined. The targets aim at reaching 100% compliance by 1 July 2013.							
3.	Council has 13 water supplies that are treated for drinking (11 urban schemes and 2 rural schemes). The figure is a total across all schemes and uses a target of no more than 5 complaints per scheme for quality.							
4.	Minimum flow from a hydrant must be 12.5 litres per second. Hydrant testing is carried out by NZ Fire Service and at this time there no fixed testing regime in place.							
5.	Resolution times are set out in contract conditions and vary according to the type of problem.							

### What significant negative effects could the activity have?

While there are potential negative effects of this activity shown in the table below, none of these are considered to be significant.

Potential Negative Effect (on community wellbeing)	
Social	Health and safety risks associated with the construction, maintenance or operation of the water supply infrastructure - these potential effects are mitigated by having health and safety procedures in place to manage risks associated with the water supply infrastructure and associated maintenance and construction activities.
Economic	Property damage resulting from mains failures - this potential effect is minimised by has renewal programmes for water supply mains intended to minimise the incidence of pipeline failures. All pipelines are installed in accordance with industry standards. Despite these measures water supply pipeline failures cannot be eliminated entirely. There are procedures in place to ensure that water supply pipeline failures are responded to promptly and effectively and in accordance with defined standards.
Environmental	The effects of the extraction of water from bores and streams - this is managed by conditions of resource consents issued by Environment Southland which ensure that potential adverse effects are managed to acceptable levels.

### What assets are used?

#### What assets have we got and how are they managed?

The Council owns and operates water extraction, treatment, and reticulation assets for schemes throughout the District. Eleven townships<sup>2</sup> within the District are reticulated to an urban standard, two areas have treated rural water supplies<sup>3</sup> and nine untreated rural water schemes<sup>4</sup>. Rural water supplies have a different level of service and require customers to provide a storage tank (two days capacity) on their property into which they receive a trickle-feed supply. Untreated rural supplies are provided for stock-water only and the use of water for domestic purposes is prohibited. Collectively the schemes have a total of 631 km of piped reticulation, 1,455 valves and 1,085 hydrants. The key asset components include water sources (bores and river intake), treatment facilities, storage reservoirs, pumping stations, trunk mains and distribution pipes (gravity mains and rising mains), service connections into properties, valves and fire-hydrants, some water meters and toby valves.

Generally local Community Boards, Community Development Area Subcommittees and Water Supply Committees are responsible for decision-making surrounding these assets, however with significant decisions, Council may retain overall decision-making rights. The operations and maintenance for water supply assets is contracted out under a six year contract. This is due to be re-tendered in 2010. One-off capital works are also tendered to external contractors.

<sup>2</sup> Edendale, Lumsden, Manapouri, Mossburn, Ohai-Nightcaps-Wairio, Oravia, Otatau, Riverton, Te Anau, Tuatapere, Winton

<sup>3</sup> Eastern Bush-Otahu Flat RWS (Treated), Lumsden- Balfour RWS (Treated)

<sup>4</sup> Duncraig RWS, Five Rivers RWS, Homestead RWS, Kakapo RWS, Matuku RWS, Mount York RWS, Princhester RWS, Ramparts RWS, Takitimu RWS

**Urban Supplies**

	Edendale	Lumsden	Manapouri	Mossburn	Ohai-Nightcaps-Wairoa	Orawia	Otautau	Riverton	Te Anau	Tuatapere	Winton
<b>Usually Resident Population 2006<sup>1</sup></b>	495	474	306	237	654	-	753	1,527	1,878	582	2,310
<b>Usually Resident Population 2016<sup>1</sup></b>	535	430	330	235	460	-	770	1,540	2,150	595	2,490
<b>Peak Population 2006<sup>2</sup></b>	-	-	940	-	-	-	-	3,664	7,584	-	-
<b>Peak Population 2016<sup>2</sup></b>	-	-	1,162	-	-	-	-	4,232	9,638	-	-
<b>Connections (2007)<sup>3</sup>:</b>											
<b>Full</b>	28	240	228	104	395	8	420	1,048	1,341	303	1,154
<b>Half</b>	-	27	51	18	61	-	9	163	508	20	52
<b>Metered</b>	-	-	3	14	36	-	25	28	78	9	15
<b>Restricted</b>	-	-	-	-	-	-	-	-	-	-	-
<b>Peak Demand<sup>4</sup></b>											
<b>m<sup>3</sup>/day</b>	198	190	122	95	262	8	301	611	751	233	924
<b>L/person/day</b>	400	400	400	400	400	400	400	400	400	400	400
<b>Average Demand<sup>5</sup></b>											
<b>m<sup>3</sup>/day</b>	124	119	77	59	164	5	188	382	470	146	578
<b>L/person/day</b>	250	250	250	250	250	250	250	250	250	250	250
<b>Total Storage</b>											
<b>m<sup>3</sup></b>	120	203	55	264	589	46	430	1,020	1,020	318	3,885
<b>hours</b>	23	41	17	107	86	212	55	64	52	52	161
<b>Consent Limit</b>											
<b>m<sup>3</sup>/day</b>	30	2,480 <sup>8</sup>	865	600	800	46	1,056	2,400	6,500 <sup>9</sup>	960	3,000
<b>Expires</b>	2,024	2,011	2,023	2,026	2,022	2,018	2,024	2,042	2,024	2,019	2,008
<b>MOH Grade<sup>6</sup></b>	u	u	u	u	u	u	u	u	u	u	u

**Rural Supplies**

	Duncairgen RWS	Eastern Bush-Otahu Flat RWS (Treated)	Five Rivers RWS	Homestead RWS	Kakapo RWS	Lumsden- Balfour RWS (Treated)	Matuku RWS	Mount York RWS	Princhester RWS	Ramparts RWS	Takitimu RWS
<b>Connections (2007)<sup>3</sup>:</b>											
<b>Restricted</b>	1	75	5	21	52	193	8	15	3	56	26
<b>Units sold (1,818L/day)</b>	31	248	66	122	163	-	156	176	20	167	135
<b>Units sold (2,000L/day)</b>	-	-	-	-	-	766	-	-	-	-	-
<b>Derived Population<sup>7</sup></b>	3	195	13	55	135	502	21	39	8	146	68
<b>Total Communal Storage</b>											
<b>m<sup>3</sup></b>	90	270	23	136	253	428	45	295	114	386	175
<b>hours</b>	39	14	5	15	21	27	4	22	76	31	17
<b>Consent Limit</b>											
<b>m<sup>3</sup>/day</b>	120	2,635	120	600	500	2,480 <sup>8</sup>	220	1,056	50	720	1,056
<b>Expires</b>	2,028	2,019	2,018	2,020	2,020	2,011	2,018	2,026	2,019	2,020	2,026
<b>MOH Grade</b>	-	u	-	-	-	u	-	-	-	-	-

Notes for table:

1. 2006 Census information;
2. Infometrics Report;
3. SDC Rates department;
4. Derived based on 400L per person per day (excludes extraordinary water use);
5. Derived based on 250L per person per day (excludes extraordinary water use);
6. Supplies are currently ungraded;
7. Derived based on 2.6 persons per connection;
8. Consent for Lumsden and Lumsden-Balfour supplies;
9. Excludes Back-up consent

### **Will additional assets/services be needed?**

An activity management plan has been prepared for water supply and this identifies the condition of the assets, their performance, capacity and whether any capital (or non-capital) expenditure is required to meet the proposed levels of service or future demand. There is a lot of ageing infrastructure in the District with many water supplies having projects programmed to carry out further investigations prior to the end of asset life to allow renewal strategies to be developed. The activity plan also includes information about the key issues in each water scheme. The projects detailed below have been programmed over the period of the plan to address these issues such as the quality of drinking water, compliance with drinking water standards and expected rural water standards, the levels of customer satisfaction, the need to protect public health in un-serviced areas, maintaining fire flows and improving capacity to meet anticipated future demand.

In 2005 the Ministry of Health introduced a Drinking Water Assistance Programme (DWAP) to provide technical support and subsidy funding for water suppliers that need help to improve their drinking water treatment systems. The drinking water subsidy fund will help Councils' pay for upgrading water supplies to meet the drinking water standards. The Council proposes to build five new water supplies (pending public consultation) with the assistance of Drinking Water Assistance Programme. These supplies were identified<sup>5</sup> for townships having a medium to high risk to public health in the absence of a reticulated water supply and include Browns, Edendale/Wyndham (joint supply), Riversdale, and Tokanui. It has been assumed that if these schemes are eligible for Ministry of Health subsidy, then it will be funded by the amount of Ministry of Health funding applicable (which will vary depending on the community and scheme criteria), up to 16.67% of Council funding (paid for by all ratepayers through the Waste Management Rate) and the balance by local (user) funding. Local funds will be either lump sum payments in the case of new capital works, or as a loan repaid by targeted rates across all users in the case of upgrade work. In addition, growth in the district will result in additional connections which will increase demand on existing services. During the planning period the Council has a number of projects planned to address this growing demand, many of which will be funded by financial or development contributions.

The following information outlines the major issues in the various townships, including information on the new water schemes mentioned above. All significant expenditure is listed in the tables below by township and is broken down into renewals, acquisitions (new works) to meet future demand or to improve levels of service. Further information is available on request from the Water Supply Activity Management Plan.

**Browns (proposed)** – The Browns community does not have a publicly owned water supply. Property owners rely on individual water supplies and a private community scheme as a secondary supply. This scheme is spring fed from a source on the hill to the south of the Browns-Hedgehope Highway and is used as a toilet and hose supply to a limited number of residents. The spring source is unsecured and the water quality is not high. In addition, these private pipelines are very old and their conditions are unknown. Whilst the spring would be adequate to meet future demand, the age of the scheme suggests that it may require work in the near future. The Browns community was identified in the Assessment of Water and Sanitary Services as having a medium to high risk of contamination to individual on-site water collection and treatment systems. It is proposed to construct a restricted water supply sourcing treated water from the Winton water supply approximately 6km away. This project is programmed in order to reduce the potential risk to public health. The proposed scheme is subject to successfully obtaining Ministry of Health subsidy and consultation with the community.

**Drummond (proposed)** – Based on new funding guidelines set by the Ministry of Health, Drummond is not eligible for subsidies to cover the construction of a water scheme. The cost per property would likely to be unaffordable and therefore the project has not been included in the Plan.

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<sup>5</sup> SDC Assessment of Water and Sanitary Services 2005

Eastern Bush / Otahu Flat Rural Water Supply (Treated) – This scheme is governed by the Eastern Bush Water Supply Committee and the Otahu Flat Water Supply Committee. A number of improvements to the intake and treatment plant are needed to comply with the drinking water standards. In addition, there are a number of renewals programmed for the period including mains, pumps, disinfection equipment, reservoir tanks, and telemetry. Funding for projects relating to assets shared between the two supplies are split with 50% of the costs to be contributed by each sub-scheme.

Edendale – A water supply extension and upgrade will be completed in 2008/2009 in conjunction with the new sewerage scheme. The scheme will be shared with the Wyndham township with the Wyndham part to be completed in 2009/2010. There are no renewals or other new works programmed in the ten year period for Edendale.

Five Rivers Rural Water Supply – This scheme is managed by the Five Rivers Water Supply Committee and is maintained by the consumers. It is untreated and not for potable use. Anecdotal evidence had suggested the scheme was being used by consumers for drinking against the advice from Council and projects had been planned to meet the level of service for drinking water. However following discussions with the Water Supply Subcommittee and clarification that the scheme is not used for drinking, these projects were removed.

Lumsden and Lumsden-Balfour Rural Water Supply – This supply serves the wider Lumsden area as far as Balfour to the east and Castlerock to the west. The scheme is governed by the Lumsden Community Board and the Lumsden-Balfour Water Supply Committee. The public health risk management plan (approved by the Drinking Water Assessor in 2007) identified a number of improvements to the intake and treatment plant needed to comply with the drinking water standards. In 2007/2008 the Lumsden Community Board and Lumsden/Balfour Rural Water Supply Committee decided to look for a new deep water source for the scheme instead of continuing with the existing source and a new bore has now been installed to the south of Lumsden township. Further work is planned (including potential additional treatment processes) to connect the new bore to the treatment plant. An application has been made for subsidy to fund this new work. Other projects planned include replacement of the main reservoir, the Balfour reservoir, the Longridge switchboard and telemetry, and renewal of parts of the reticulation. Work has also been programmed to upgrade undersized mains in Lumsden to improve pressure. Although the population of the townships is projected to decrease over the planning period, the projected number of connections does not follow the same trend with increased demand for water from farms already connected to the scheme and farms wanting to connect. Capacity upgrades are programmed for the rural scheme to accommodate this demand. Funding for projects relating to assets shared between the two supplies are split with 25% of the costs to be contributed by the Lumsden township and 75% of costs contributed by Lumsden-Balfour Rural Water Supply.

Manapouri – This scheme is governed by the Manapouri Community Development Area Subcommittee. To meet the level of service for drinking water, the supply will require a public health risk management plan and may require additional treatment processes to be installed. Improvements are also programmed to the intake to protect the water supply from contamination as well as the development of a hydraulic model. An application will be made for subsidy to fund any improvement work. Fire fighting capacity is poor in Manapouri and few of the hydrants in Manapouri satisfy the minimum flow requirements. As a result, the Council plans to upgrade parts of the reticulation to improve capacity for fire fighting flows. This work will be subject to further investigations into fire fighting and demand requirements. In addition, renewals are programmed to address assets at the end of their economic lives including the old secondary pump, the contact tanks, the switchboard and telemetry, and the AC rising main.

Matuku Rural Water Supply – This scheme is governed by the Matuku Rural Water Supply Committee. It is untreated and not for potable use. Anecdotal evidence suggests the scheme is being used by consumers for drinking against the advice from Council. Therefore to meet the level of service for drinking water, the supply will require a public health risk management plan and may require treatment processes to be installed. An

application would be made for subsidy to fund any improvement work. This work is subject to community consultation and further investigations into the quality of the raw water. In addition, renewals to various equipment is also planned in the period.

Mossburn – This scheme is governed by the Mossburn Community Development Area Subcommittee. To meet the level of service for drinking water, the supply will require a public health risk management plan and may require additional treatment processes to be installed. An application will be made for subsidy to fund any improvement work. In addition, renewals are required to the existing intake wells to improve performance however the Council is considering whether it may be more economical to install a new well as opposed to redeveloping the existing wells (subject to further investigations). Renewals are programmed for parts of the reticulation in poor condition.

Ohai-Nightcaps-Wairio – This scheme is governed by the Wallace Community Board and the Ohai-Nightcaps-Wairio Water Supply Committee. To meet the level of service for drinking water, the supply requires additional treatment processes to be installed. The public health risk management plan (approved by the Drinking Water Assessor in 2008) identified a number of improvements to the intake and treatment plant needed to comply with the drinking water standards. An application has been made for subsidy to fund this new work. In addition the age of the mains in both Ohai and Nightcaps is becoming an issue and water mains are expected to begin to meet the end of their economic lives in 2012. Council expects to see an increase in the frequency of bursts as condition deteriorates towards the end of the period. A mains renewal project is programmed for each township at the end of the period and these will be prioritised once condition assessments have been carried out and a strategy developed. In addition, the switchboard and telemetry at the treatment plant is due for renewal. The New Zealand Fire Service has also advised Council that High Street, Dryfe Street and the Company Road area do not meet minimum requirements for fire fighting. These capacity issues will be addressed in conjunction with the reticulation renewal work described above.

Orawia – This scheme is governed by the Wallace Community Board and the Orawia Water Supply Committee. This supply cannot maintain adequate levels of chlorine in the reticulation and is on a permanent “Boil Water Notice”. To meet the level of service for drinking water, the supply will require a public health risk management plan and may require additional treatment processes to be installed. An application will be made for subsidy to fund any improvement work. This work is subject to community consultation and further investigations into the quality of the raw water.

Otautau – This scheme is governed by the Wallace Community Board. To meet the level of service for drinking water, the supply will require a public health risk management plan and may require additional treatment processes to be installed. An application will be made for subsidy to fund any improvement work. A sample of the rising main shows that it is in poor condition and due for replacement. The remaining AC mains are also deteriorating at a faster rate than expected due to the corrosive nature of the groundwater. Regular mains renewals are programmed to address parts of the reticulation in poor condition. In addition, the aerator, the contact tanks, the telemetry at the treatment plant, and a primary pump are due for replacement in the period.

Riversdale (proposed) – The Assessment of Water and Sanitary Services identified that Riversdale had a medium to high risk of contamination to individual on-site water collection and treatment systems. At present residents obtain water from roof-water collection or bores. There are also several shallow bores in the township, the quality of which is unknown. The supply for fire fighting is available by pumping from one of the 12 fire hydrants located around the town which are fed by aquifers below the ground and these are generally accepted as being adequate. It is proposed to construct a reticulated water supply (subject to community consultation) to reduce the potential risk to public health. An application will be made for subsidy to fund this new supply.

Riverton – This scheme is governed by the Riverton Community Board. To meet the level of service for drinking water, the supply requires additional treatment processes to be installed. The public health risk management plan (approved by the Drinking Water Assessor in 2008) identified a number of improvements to the intake and treatment plant needed to comply with the drinking water standards. An application has been made for subsidy to fund Phase 1 of this new work (Intake improvements). An application will be made for Phase 2 (Treatment improvements) with the capital work programmed to follow. In addition, the New Zealand Fire Service has advised Council that areas in the western part of the township have significant shortfalls in capacity to meet fire fighting standards. As a result, capacity upgrades have been programmed. Expected growth in Riverton has also meant that Council has planned a programme of major upgrade works at the end of the planning period. These works will only be undertaken if the growth occurs as expected.

Te Anau – This scheme is governed by the Te Anau Community Board. To meet the level of service for drinking water, the supply will require a public health risk management plan and may require additional treatment processes to be installed. An application will be made for subsidy to fund any improvement work. In addition, renewals are programmed for one of the primary pumps and a section of the ageing AC mains. In order to meet anticipated future demand several projects are programmed including additional pumps and storage at the Sandy Brown Road Booster Station, upgrades to the mains, and additional intake capacity. This work will be only undertaken if growth occurs as expected.

Te Anau Rural Water Supplies – These schemes are untreated and not for potable use. They include the Duncraigen Rural Water Supply, Homestead, Kakapo, Mount York, Princhester, Ramparts and Takitimu. Anecdotal evidence had suggested the schemes were being used by consumers for drinking against the advice from Council and projects had been planned to meet the level of service for drinking water. However following discussions with the Te Anau Rural Water Supply Committee and clarification that the scheme is not used for drinking, these projects were removed. Other renewals will also be undertaken in these schemes and details of these can be found in the project table below.

Tuatapere – This scheme is governed by the Tuatapere Community Board. To meet the level of service for drinking water, the supply requires additional treatment processes to be installed. The public health risk management plan (approved by the Drinking Water Assessor in 2008) identified a number of improvements to the intake and treatment plant needed to comply with the drinking water standards. An application has been made for subsidy to fund this new work. In addition, the AC rising main and the reservoir are believed to be in poor condition and are scheduled for replacement. There are also regular reticulation renewals programmed to address the premature failure of Talbot valves.

Waikaia (proposed) – The Assessment of Water and Sanitary Services identified that Waikaia had a medium to high risk of contamination to individual on-site water collection and treatment systems. Currently residents obtain water from roof-water collection or bores. However, during extended dry periods residents with limited water storage or high use may require an alternative supply. The Waikaia Community Development Area Subcommittee has asked Council to explore the possibility of a reticulated water supply scheme. While there may not be widespread demand for such a scheme at this stage, the Subcommittee expects this could change over the next five to ten years. Waikaia is a popular holiday destination with the peak population projected to increase from an estimated 1,378 in 2006, projected to 1,715 in 2016, placing more pressure on water resources. It is proposed to construct a reticulated water supply (subject to community consultation) to reduce the potential risk to public health. An application will be made for subsidy to fund this new supply.

Winton – The scheme is governed by the Winton Community Board. To meet the level of service for drinking water, the supply will require a public health risk management plan and may require additional treatment processes to be installed. Intake and treatment upgrades have been programmed accordingly (pending the public health risk management plan). An application will be made for subsidy to fund any improvement work. The main issue in Winton is the ongoing replacement of the AC gravity mains which is expected to meet the end of its design life in 2015. A strategy is programmed to

determine the renewals programme going forward. The corrosive nature of the raw water may have also caused premature failure of the rising main and the replacement is programmed. In addition, renewals are programmed for the aerator, pumps, switchboards and telemetry. An assessment is also programmed to determine the status of the Water Tower as its structural integrity is uncertain.

Wyndham – A new water supply will be constructed in 2009/2010 in conjunction with the new sewerage scheme. The scheme will be shared with the Edendale township with the Edendale part to be completed in 2008/2009. There are no renewals or other new works programmed in the ten year period for Wyndham.

## Projects

### Maintenance, Renewal and Replacement Projects

Project Description	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	Funding
Eastern Bush - Equipment Upgrade - pl144.B				\$20,009							Loan
Eastern Bush - Public Health Risk Management Plan - pl45.B				\$2,719							Rates
Eastern Bush - Pump Replacement - pl145.B							\$11,791				Rates
Eastern Bush - Resource Consent Project - pl107.B, pl213.B								\$4,934		\$5,260	Rates
Eastern Bush - Reticulation Renewal - pl37.B					\$232,930						Loan
Eastern Bush - Reticulation Renewal - pl137.A			\$307,614								Rates and Loan
Eastern Bush - Storage Improvements - pl43.B								\$105,989			Loan
Lumsden - Reticulation Renewal - pl75.A						\$55,829					Rates
Lumsden - Storage Improvements - pl72.A		\$41,368									Rates
Lumsden/Balfour Rural Water - Electrical Upgrade - pl77.A	\$34,500										Rates
Lumsden/Balfour Rural Water - Reticulation Renewal - pl82.A, pl84.A, pl87.A					\$22,466	\$23,118		\$24,669			Rates
Lumsden/Balfour Rural Water - Storage Improvements - pl73.A		\$45,603									Rates
Lumsden/Balfour Rural Water - Storage Improvements - pl72.B		\$124,103									Rates and Reserves
Manapouri - Condition Assessment - pl216.A			\$4,871								Loan
Manapouri - Electrical Upgrade - pl105.A		\$55,620									Reserves
Manapouri - Paint Tower Reservoir - pl112.A							\$52,639				Rates
Manapouri - Pump Replacement - pl215.A	\$50,000										Reserves
Manapouri - Reticulation Renewal - pl109.A										\$92,865	Rates
Manapouri - Storage Improvements - pl104.B			\$58,236								Loan
Matuku - Electrical Upgrade - pl16.A					\$16,850						Rates
Matuku - Electrical Upgrade - pl114.A		\$15,450									Rates and Reserves
Matuku - Resource Consent Project - pl207.A									\$12,729		Rates
Mossburn - Intake Upgrade - pl125.A			\$73,060								Rates and Reserves
Mossburn - Reticulation Renewal - pl118.A								\$11,197			Rates
Mossburn - Reticulation Renewal - pl122.A			\$17,656								Reserves
Ohai/Nightcaps/Wairio Water - Condition Assessment - pl132.A, pl138.A, pl139.A				\$5,002	\$6,459		\$5,503				Reserves
Ohai/Nightcaps/Wairio Water - Electrical Upgrade - pl142.A	\$40,250										Rates
Ohai/Nightcaps/Wairio Water - Reticulation Renewal - pl136.B								\$2,445,028			Loan
Ohai/Nightcaps/Wairio Water - Reticulation Renewal - pl136.D									\$19,094		Rates
Ohai/Nightcaps/Wairio Water - Reticulation Renewal - pl136.C										\$2,157,134	Rates and Loan
Ohai/Nightcaps/Wairio Water - Reticulation Renewal - pl131.A			\$52,942								Reserves

Project Description	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	Funding
Ohai/Nightcaps/Wairio Water - Reticulation Renewal Programme - pl136.A			\$5,294								Reserves
Ohai/Nightcaps/Wairio Water - Storage Improvements - pl237.A				\$12,505							Reserves
Otahu - Equipment Upgrade - pl144.A				\$20,009							Loan
Otahu - Public Health Risk Management Plan - pl45.A				\$2,719							Loan
Otahu - Pump Replacement - pl145.A							\$11,791				Rates
Otahu - Resource Consent Project - pl107.A								\$4,934			Loan
Otahu - Resource Consent Project - pl213.A										\$5,260	Rates
Otahu - Reticulation Renewal - pl37.A					\$310,574						Loan
Otahu - Reticulation Renewal - pl140.A						\$224,705					Rates
Otahu - Storage Improvements - pl43.A								\$105,989			Loan
Riverton - Reticulation Renewal - pl171.A					\$6,459						Reserves
Te Anau - Pump Replacement - pl190.A			\$12,177								Rates
Te Anau - Reticulation Renewal - pl189.A										\$131,254	Rates
Te Anau Rural Water Supply - Condition Assessment - pl67.A	\$2,300										Rates
Te Anau Rural Water Supply - Electrical Upgrade - pl15.A, pl155.A, pl159.A, pl17.A, pl19.A, pl33.A, pl35.A, pl62.C, pl68.A, pl68.B	\$40,250	\$219,390	\$5,464						\$19,094		Rates
Te Anau Rural Water Supply - Intake Access Track Improvements - pl18.A	\$28,750										Rates
Te Anau Rural Water Supply - Pump Replacement - pl218.A, pl227.A, pl36.B				\$6,253	\$24,544						Rates
Te Anau Rural Water Supply - Resource Consent Project - pl226.A										\$13,149	Rates
Te Anau Rural Water Supply - Reticulation Renewal - pl228.A, pl36.A, pl63.A, pl69.A, pl71.A, pl71.B					\$361,383			\$36,312			Rates
Te Anau Rural Water Supply - Storage Improvements - pl220.A, pl62.B, pl70.A			\$48,707	\$60,026	\$77,509						Rates
Tuatapere - Electrical Upgrade - pl205.A		\$12,360									Mix2
Tuatapere - Reticulation Renewal - pl240.A, pl240.B						\$199,738			\$219,958		Loan
Tuatapere - Reticulation Renewal - pl203.A			\$217,658								Mix1
Tuatapere - Reticulation Renewal - pl231.A	\$172,800										Rates
Tuatapere - Storage Improvements - pl205.B		\$155,736									Mix2
Wallace (Otautau) - Condition Assessment - pl146.A			\$5,559								Rates
Wallace (Otautau) - Condition Assessment - pl149.A	\$5,175										Reserves
Wallace (Otautau) - Pump Replacement - pl148.A							\$17,945				Rates
Wallace (Otautau) - Reticulation Renewal - pl150.A, pl152.A, pl153.A, pl224.A			\$132,117		\$140,161		\$149,274			\$164,068	Loan
Wallace (Otautau) - Reticulation Renewal - pl05.A	\$44,000										Rates and Reserves
Wallace (Otautau) - Treatment Upgrade - pl27.A, pl27.B, pl27.C		\$117,008									Mix2
Winton - Demolish or Renovate Water Tower - pl158.A									\$534,619		Loan
Winton - Electrical Upgrade - pl233.A		\$177,675									Loan
Winton - Pump Replacement - pl232.A					\$148,558						Loan
Winton - Reticulation Renewal - pl101.A, pl151.A, pl221.A, pl222.A			\$1,567,502		\$793,955		\$845,574		\$899,684		Loan
Winton - Reticulation Renewal - pl211.A	\$897,383										Loan and Reserves
Winton - Tower Assessment - pl209.A						\$36,098					Rates
Winton - Treatment Upgrade - pl210.A		\$166,860									Mix4

Project Description	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	Funding
<b>Asset Acquisition Projects - Caused by changes in demand</b>											
Project Description	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	Funding
Eastern Bush - Capacity Project - pl12.B	\$1,000										Dev Cont
Lumsden/Balfour Rural Water - Capacity Project - pl08.A, pl09.A, pl10.A			\$105,884		\$112,331		\$119,635				Dev Cont
Manapouri - Capacity Project - pl103.A					\$162,970						Dev Cont
Otahu - Capacity Project - pl12.A	\$1,000										Dev Cont
Riverton - Rising Main Project - pl123.A, pl127.A							\$963,059			\$1,058,501	Dev Cont
Te Anau - Capacity Project - pl23.A					\$103,345						Dev Cont
Te Anau - Intake Upgrade - pl186.A									\$1,866,139		Dev Cont
Te Anau - Rising Main Project - pl185.A, pl185.B									\$315,043	\$325,440	Dev Cont
Te Anau - Storage Improvements - pl212.A			\$24,353								Dev Cont

**Asset Acquisition Projects - Caused by changes to levels of service**

Project Description	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	Funding
Browns - New Scheme - pl02.A	\$502,000										Mix3
Eastern Bush - Intake Upgrade - pl39.B				\$149,034							Loan
Eastern Bush - Intake Upgrade - pl38.A	\$1,575										Rates
Eastern Bush - Treatment Upgrade - pl32.B				\$103,170							Loan
Edendale/ Wyndham Schemes - New Scheme - pl07.A	\$738,500										Mix3
Edendale/ Wyndham Schemes - Public Health Risk Management Plan - pl102.A, pl13.A		\$3,090		\$5,437							Rates
Five Rivers Water - Resource Consent Project - pl64.A									\$12,729		General Recoveries
Lumsden - Public Health Risk Management Plan - pl22.A			\$1,059								Rates
Lumsden - Reticulation Renewal - pl76.A	\$280,000										Mix4
Lumsden - Treatment Upgrade - pl74.A	\$448,270										Mix4
Lumsden/Balfour Rural Water - Public Health Risk Management Plan - pl22.B			\$3,177								Rates
Lumsden/Balfour Rural Water - Treatment Upgrade - pl74.B	\$1,065,980										Mix4
Manapouri - Capacity Project - pl103.B					\$162,970						Loan
Manapouri - Construct Hydraulic Model - pl14.A			\$10,588								Loan
Manapouri - Equipment Upgrade - pl225.A	\$11,500										Reserves
Manapouri - Intake Upgrade - pl104.A			\$127,061								Loan
Manapouri - Public Health Risk Management Plan - pl106.A		\$10,300									Reserves
Manapouri - Treatment Upgrade - pl104.C			\$121,767								Loan
Matuku - Public Health Risk Management Plan - pl113.B				\$10,874							Rates
Matuku - Treatment Upgrade - pl113.A				\$26,098							Rates
Mossburn - Intake Upgrade - pl115.A		\$127,926									Mix2
Mossburn - Public Health Risk Management Plan - pl116.A	\$10,000										Reserves
Mossburn - Treatment Upgrade - pl117.A			\$213,092								Mix2
Ohai/Nightcaps/Wairio Water - Intake Upgrade - pl143.A		\$210,120									Mix1
Ohai/Nightcaps/Wairio Water - Public Health Risk Management Plan - pl135.A			\$5,294								Reserves
Ohai/Nightcaps/Wairio Water - Resource Consent Project - pl129.A		\$10,300									Mix2
Ohai/Nightcaps/Wairio Water - Storage Improvements - pl130.A	\$785,000										Mix1
Ohai/Nightcaps/Wairio Water - Treatment Upgrade - pl128.A, pl128.B	\$800,000	\$183,340									Mix1
Orawia - Intake Upgrade - pl134.A				\$4,350							Reserves

Project Description	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	Funding
Orawia - Treatment Upgrade - pl03.A				\$33,982							Rates and Reserves
Otahu - Intake Upgrade - pl39.A				\$149,034							Loan
Otahu - Intake Upgrade - pl38.B	\$1,575										Rates
Otahu - Treatment Upgrade - pl32.A				\$143,812							Loan
Riversdale - New Scheme - pl04.A			\$133,943								Mix4
Riversdale - New Scheme - pl04.B			\$1,132,112								Mix3
Riverton - Capacity Project - pl165.A										\$106,153	Rates
Riverton - Capacity Project - pl163.A						\$83,026					Rates and Reserves
Riverton - Public Health Risk Management Plan - pl241.A			\$5,294								Reserves
Riverton - Treatment Upgrade - pl164.A		\$1,133,000									Mix2
Riverton - Treatment Upgrade - pl108.A	\$13,000										Reserves
Te Anau - Equipment Upgrade - pl141.A, pl29.A	\$17,250										Rates
Te Anau - Public Health Risk Management Plan - pl24.A	\$10,000										Rates
Te Anau - Reticulation Renewal - pl133.A	\$46,000										Rates
Te Anau - Te Anau Water Strategy - pl24.B	\$10,000										Rates
Te Anau - Treatment Upgrade - pl29.B		\$260,590									Rates
Te Anau Rural Water Supply - Equipment Upgrade - pl219.A				\$6,253							Rates
Te Anau Rural Water Supply - Intake Upgrade - pl181.A				\$93,791							Rates
Tokanui - Improve Fire Fighting Capacity - 199.A1	\$15,000										Reserves
Tuatapere - Public Health Risk Management Plan - pl214.A			\$5,294								Rates
Tuatapere - Rising Main Project - PL238.a	\$200,000										Mix2
Tuatapere - River Protection Works - pl239.a		\$123,600									Mix2
Tuatapere - Storage Improvements - pl01.A	\$5,750										Rates
Tuatapere - Treatment Upgrade - pl196.A		\$355,350									Mix3
Waikaia - New Scheme - pl111.A, pl111.B	\$15,000		\$1,107,182								Mix3
Wallace (Otautau) - Public Health Risk Management Plan - pl147.A	\$10,000										Reserves
Wallace (Otautau) - Treatment Upgrade - pl27.D		\$88,838									Mix2
Winton - Electrical Upgrade - pl234.A		\$112,528									Loan
Winton - Intake Upgrade - pl208.A		\$236,900									Mix4
Winton - Public Health Risk Management Plan - pl217.A	\$15,000										Rates
Winton - Treatment Upgrade - pl210.B		\$222,480									Mix4
Winton - Winton Water Strategy - pl217.B	\$10,000										Rates

Mix1 – MOH subsidy, Council 1/6 contribution and Rates

Mix2 - MOH subsidy, Council 1/6 contribution and Reserves

Mix 3 - MOH subsidy, Council 1/6 contribution and Scheme Capital Recoveries

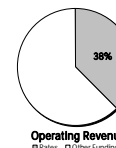
Mix 4 – MOH subsidy, Council 1/6 contribution and Loan

1 – This project is actually part of the District Support activity and is funded through the local Tokanui township rate

### Who benefits from the activity and how is it funded?

Benefits are distributed to the community as a whole. Residents have access to a safe water supply that they do not have to maintain themselves. The local economy benefits through tourism (safe water supply encourages tourists), industry and agriculture (water supply certainty). These schemes are funded through local targeted rates where communities pay different rates depending on the work that needs to be done on their particular scheme. Operating funding is 100% local rate funded, via a targeted rate based on household equivalent use and/or metering. Capital works for urban schemes are funded through Ministry of Health subsidy (where available), up to 16.67% district contribution (funded from the Waste Management rate, which is a uniform annual charge per rateable unit), development or financial contributions (where applicable) and local contributions from those connecting or able to be connected (Water Schemes Funding Policy refers). Smaller projects not eligible for subsidy may be funded through loans. Rural water supply capital works are funded solely through local contributions and loans.

## What does it cost?



WATER SUPPLY	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019
<b>REVENUE AND EXPENSE</b>										
<b>Operating Revenue</b>										
Rates	2,156,663	2,418,892	2,602,181	2,910,205	3,132,708	3,396,602	3,692,205	4,023,182	4,395,791	4,816,772
Activity Revenue	571,117	233,268	1,159,065	246,273	254,399	261,774	270,936	279,334	301,001	297,784
Development & Financial Contributions	2,000	-	128,154	-	357,374	-	1,066,343	-	2,181,182	1,383,941
Grants & Donations	2,924,956	2,015,019	1,369,758	-	-	-	-	-	-	-
<b>Total Operating Revenue</b>	<b>5,654,736</b>	<b>4,667,179</b>	<b>5,259,158</b>	<b>3,156,478</b>	<b>3,744,481</b>	<b>3,658,376</b>	<b>5,029,484</b>	<b>4,302,516</b>	<b>6,877,974</b>	<b>6,498,497</b>
Depreciation	905,015	1,031,240	1,151,155	1,242,502	1,316,530	1,386,040	1,460,677	1,552,104	1,664,047	1,793,839
Finance Costs	199,546	277,190	290,638	487,276	518,693	640,947	636,991	692,484	873,521	971,924
Other Operating Costs	1,831,541	1,974,363	2,036,027	2,183,818	2,247,739	2,312,321	2,386,011	2,457,515	2,533,628	2,614,698
<b>Less Total Operating Expenditure</b>	<b>2,936,102</b>	<b>3,282,793</b>	<b>3,477,820</b>	<b>3,913,596</b>	<b>4,082,962</b>	<b>4,339,308</b>	<b>4,483,679</b>	<b>4,702,103</b>	<b>5,071,196</b>	<b>5,380,461</b>
<b>Operating Surplus/(Deficit)</b>	<b>2,718,634</b>	<b>1,384,386</b>	<b>1,781,338</b>	<b>(757,118)</b>	<b>(338,481)</b>	<b>(680,932)</b>	<b>545,805</b>	<b>(399,587)</b>	<b>1,806,778</b>	<b>1,118,036</b>
Operating Surplus/Deficit transferred to/(from) Reserves	2,718,634	1,384,386	1,781,338	(757,118)	(338,481)	(680,932)	545,805	(399,587)	1,806,778	1,118,036
<b>CAPITAL AND RESERVES</b>										
Acquisition-Demand	2,000	-	130,237	-	378,646	-	1,082,694	-	2,181,182	1,383,941
Acquisition-Level of Service	4,996,400	3,078,362	2,865,863	725,837	162,970	83,026	-	-	12,729	106,153
Vested Assets	173,119	-	-	-	-	-	-	-	-	-
Renewals	1,402,241	1,220,616	2,600,796	223,666	2,239,385	639,860	1,198,401	2,846,153	1,815,707	2,683,171
<b>Total Capital Expenditure</b>	<b>6,573,760</b>	<b>4,298,978</b>	<b>5,596,896</b>	<b>949,503</b>	<b>2,781,001</b>	<b>722,886</b>	<b>2,281,095</b>	<b>2,846,153</b>	<b>4,009,618</b>	<b>4,173,265</b>
Loans Repaid	86,312	114,759	119,924	175,805	193,590	242,613	264,710	302,939	365,415	417,264
Transfers to Reserves	138,029	130,530	591,413	195,175	272,905	434,846	589,857	728,450	770,712	792,118
<b>Total Capital Movements</b>	<b>224,341</b>	<b>245,289</b>	<b>711,337</b>	<b>370,980</b>	<b>466,495</b>	<b>677,459</b>	<b>854,567</b>	<b>1,031,389</b>	<b>1,136,127</b>	<b>1,209,382</b>
Operating Deficit	-	-	-	757,118	338,481	680,932	-	399,587	-	-
<b>Total Funding Required</b>	<b>6,798,101</b>	<b>4,544,267</b>	<b>6,308,233</b>	<b>2,077,601</b>	<b>3,585,977</b>	<b>2,081,277</b>	<b>3,135,662</b>	<b>4,277,129</b>	<b>5,145,745</b>	<b>5,382,647</b>
Loans Raised	2,515,252	1,114,121	3,155,700	587,787	1,789,148	199,738	994,848	2,661,940	1,654,261	1,089,068
Non Cash Expenditure	905,015	1,031,240	1,151,155	1,242,502	1,316,530	1,386,040	1,460,677	1,552,104	1,664,047	1,793,839
Transfers from Reserves	659,200	1,014,520	220,040	247,312	480,299	495,499	134,332	63,085	20,659	1,381,704
Operating Surplus	2,718,634	1,384,386	1,781,338	-	-	-	545,805	-	1,806,778	1,118,036
<b>Total Funding Applied</b>	<b>6,798,101</b>	<b>4,544,267</b>	<b>6,308,233</b>	<b>2,077,601</b>	<b>3,585,977</b>	<b>2,081,277</b>	<b>3,135,662</b>	<b>4,277,129</b>	<b>5,145,745</b>	<b>5,382,647</b>

# Nomenclature

The following names have been used as abbreviations throughout this document:

AMP or AM Plan	Activity Management Plan
AWSS	Assessment of Water and Sanitary Services
CAPs	Capital Assistance Programme
CCP-NZ	Communities for Climate Protection - New Zealand (CCP-NZ)
CDA	Community Development Area
CWT	Clear-water tank
DAV	Depreciated Asset Value
DWA	Drinking Water Assessor
ES	Environment Southland (Southland Regional Council)
FH	Fulton Hogan
Hansen IMS	Asset Management System for piped utilities (and fleet)
HTH	Calcium hypochlorite
IRM	Integrated Risk Management
LGA	Local Government Act 2002
LoS	Levels of Service
LTCCP	Long-term Council Community Plan
MOH	Ministry of Health
NZDWS	New Zealand Drinking Water Standard 2005
NZFS	New Zealand Fire Service
OAG	Office of the Auditor General
ODM	Optimised Decision Making
O&M	Operation and Maintenance
PHRMP	Public Health Risk Management Plan
RMA	Resource Management Act 1991
RTU	Remote telemetry unit
RWS	Rural Water Scheme (typically restricted non-potable for stock water only)
SCADA	Supervisory Control and Data Acquisition
SDC or the Council	Southland District Council
SR	Service Request
SWSS	Sanitary Works Subsidy Scheme
TAPs	Technical Assistance Programme
Toby	Water shut off valve located on the property boundary
TRIM	Document archive system
WINZ	Water Information New Zealand database
WO	Work Order
WTP	Water Treatment Plant
WWS	Water & Waste Services

# 1.0 Introduction

## 1.1 Background

### 1.1.1 Purpose of the AM Plan

The purpose of this plan is to document the Southland District Council's (SDC or the Council) asset management practices and achieve an optimised life-cycle strategy for water supply infrastructure for the next 20 years.

This is a long-term planning document. It represents the aspirations of SDC and will be reviewed every three years. The budgets and timeframes provided in this plan will be recommended to the Council for adoption through the long-term council community plan (LTCCP) and annual plan process.

The format and structure reflects best national practice with guidance from the NAMS manual<sup>6</sup> and meets the requirements of Schedule 10 of the Local Government Act (LGA).

### 1.1.2 Objective of the AM Plan

The particular objectives of this AM Plan are to:

- Demonstrate to key stakeholders that the water supply assets are being managed responsibly and in accordance with New Zealand “best practice”.
- Demonstrate legislation compliance.
- Outline the rationale for and any significant negative effects of providing the water supply service.
- Display the physical parameters, capacity, performance and condition of water supply assets owned and operated by SDC.
- Identify how SDC will assess and manage the implications of changes to Levels of Service and Future Demand.
- Identify performance targets that provide meaningful assessment of the water supply service.
- Identify capital costs involved in meeting changes to service standards now and in the future.
- Identify maintenance (and operation) costs involved in the provision of the water supply service now and in the future.
- Identify renewal costs involved in the provision of the water supply service now and in the future.
- Reflect projected expenditure and revenue through to the LTCCP.
- Provide information which is consistent with other SDC plans and policies

### 1.1.3 A Description of the Activity

#### 1.1.3.1 Urban and rural areas serviced by public water supplies

Eleven townships within the District are reticulated to an urban standard with SDC owned and maintained infrastructure, see Table 1 for a summary and Figure 1 for localities. There are two treated rural water supplies and nine untreated rural water schemes. Rural water supplies have a different level of service and require customers storage tank (2 days capacity) on their property into which they receive a trickle-feed supply. Untreated rural supplies are provided for stock-water only and the use of water for domestic purposes is prohibited.

The key service function of the urban supplies is the protection of public health by providing reliable and safe potable water in sufficient capacity to meet the domestic, commercial and industrial needs of the District.

The types of infrastructure assets used to deliver this service include:

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<sup>6</sup> NAMS International Infrastructure Management Manual Version 3.0, 2006

- water sources (bores and river intake)
- water treatment facilities
- water storage reservoirs
- booster pumping stations
- trunk mains and distribution pipes (gravity mains and rising mains)
- service connections
- valves and fire-hydrants
- water meters
- water toby

For urban supplies the water supply point of service is the toby or water shutoff valve on the boundary of each property. The SDC owns and maintains all water supply pipelines and other parts of the water supply system up to and including the toby. All pipes, plumbing and fittings beyond the toby are owned by and are entirely the responsibility of the property owner. For rural supplies the point of service is the ball cock on the consumer's tank.

**Table 1 – Summary Table**

<b>Township</b>	<b>Source Type</b>	<b>Reticulation (m)<sup>7</sup></b>	<b>Depreciated Asset Value (\$) <sup>8</sup></b>	<b>Replacement Cost (\$) <sup>8</sup></b>
Dun Craigen RWS	River	2,229	74,662.02	155,108.09
Eastern Bush-Otahu Flat RWS (Treated)	River	66,590	934,116.66	1,697,259.41
Edendale	Shallow well	1,183	66,879.83	244,653.20
Five Rivers RWS	River	6,600	70,696.92	119,893.89
Homestead RWS	Shallow well	25,206	313,386.75	633,234.68
Kakapo RWS	Shallow well	45,731	595,307.14	1,117,599.44
Lumsden	Shallow well	9,595	516,790.67	1,001,771.95
Lumsden- Balfour RWS (Treated)	Shallow well	146,335	3,359,213.29	5,135,656.11
Manapouri	Lake	8,843	607,445.06	1,192,779.16
Matuku RWS	River	7,935	108,836.65	221,774.84
Mossburn	Shallow well	9,075	611,023.36	1,217,686.62
Mount York RWS	Shallow well	28,421	413,329.66	747,102.87
Ohai-Nightcaps-Wairo	River	27,111	1,310,410.43	3,795,079.19
Orawia	Spring	2,086	71,522.42	114,068.65
Otautau	Shallow well	18,175	631,916.69	2,335,880.32
Princhester RWS	Shallow well	3,678	81,201.66	190,828.43
Ramparts RWS	Shallow well	57,927	888,536.15	1,461,276.17
Riversdale	Hydrants <sup>9</sup>	nil	8,324.67	20,300.00
Riverton	River	34,753	2,549,537.22	5,582,106.05

<sup>7</sup> Hansen Report (28 July 2008)

<sup>8</sup> Valuation Cube 0708.xls (M. Collins 21 Oct 2008)

<sup>9</sup> This scheme consists of fire-hydrants only supplied by either a well or water storage tank.

<b>Township</b>	<b>Source Type</b>	<b>Reticulation (m)<sup>7</sup></b>	<b>Depreciated Asset Value (\$)<sup>8</sup></b>	<b>Replacement Cost (\$)<sup>8</sup></b>
Takitimu RWS	Shallow well	32,658	342,487.51	646,015.13
Te Anau	Shallow well	55,718	5,578,840.95	7,866,152.10
Tuatapere	Shallow well	12,652	998,850.47	2,276,357.37
Winton	Shallow well	28,789	2,566,140.66	5,477,728.68
Wyndham	Hydrants <sup>9</sup>	nil	nil	34,800.00
<b>Water Supply Total</b>		<b>627,612</b>	<b>22,699,456.83</b>	<b>43,285,112.34</b>

### 1.1.3.2 Rural areas and isolated towns

A number of isolated rural townships have individual private supplies, and other small communities have private community water supplies (schools, townships, halls, marae, accommodation, etc.).

This water supply Plan does not cover private water supply systems.

### 1.1.3.3 Proposed new schemes

The Council proposes to build four new water supplies (pending public consultation) with the assistance of Drinking Water Assistance Programme provided by the Ministry of Health. The townships to be serviced were identified<sup>10</sup> as having a medium to high risk to public health in the absence of a reticulated water supply, and are:

- Browns
- Edendale/Wyndham (joint supply)
- Riversdale
- Waikaia

Edendale and Wyndham both have confirmed government subsidy funding with water supply reticulation being installed in conjunction with the new sewerage schemes.

Browns, and Waikaia are in a good position to receive subsidy. Shallow bore water in Riversdale has been identified as a risk to public health in the SWSS. All proposed new supplies are to be discussed with the community through the LTCCP2009-19 process.

Drummond was identified in the previous AMP but it has become apparent with the release of the funding criteria that it is unlikely they will be eligible for funding.

## 1.1.4 Key Stakeholders

Key stakeholders in the water supply activity are people or groups with a special interest in the water supply service provided by the assets. SDC has a number of key stakeholders including the Ministry of Health, the Southland Regional Council (Environment Southland), and local iwi (represented by Te Ao Marama Inc.). These key stakeholders and their specific areas of interest (needs and wants) are identified in Section 2.5.

## 1.1.5 Asset Management Responsibilities

All water supply assets described in this plan are the responsibility of the Council's Water & Waste Service Department (WWS) which forms part of the Assets and Services Group. The organisational structure is discussed further in Section 7.5.

<sup>10</sup> SDC Assessment of Water and Sanitary Services 2005

Strategic direction is provided to WWS by senior management, the Corporate Planning Department, Councillors, Community Boards, and Community Development Areas (CDA).

Operation and maintenance (O&M) of water supply assets is supplied by Fulton Hogan under Contract 04-01 Operation and Maintenance Water Supply and Wastewater Services.

Capital works design and procurement is provided by WWS and engineering consultants.

## **1.2 Goals and Objectives of Asset Ownership**

### **1.2.1 Objective of the Water Supply Activity**

The water supply activity in Southland District (SDC) is focussed on the achievement of the following objective:

- *To provide urban water supplies that are safe to drink and that have adequate pressure and flow.*
- *To provide reliable urban and rural water supplies which have continuous supply and sufficient capacity.*

The standard to which this objective will be delivered is outlined by the Levels of Service detailed in Section 2.8.2.

### **1.2.2 Rationale for the Water Supply Activity**

The activity protects public health by providing reliable and safe potable water in sufficient capacity to meet the domestic, commercial and industrial needs of the District. An adequate supply of water suitable for drinking is a fundamental requirement for the health and general wellbeing of the community. In urban areas this is best achieved through a reticulated (piped) community water supply.

Public water supplies also help protect community safety by providing sufficient water to fight fires. The existing water supply system has been developed and built up over many years as a public system to serve the needs of the community. The Council has a statutory obligation to continue to provide existing water supplies under the Local Government Act 2002 as well as obligations under the Health Act 1956, which requires The Council to provide 'sanitary works', including waterworks.

### **1.2.3 Key Service Drivers**

Key service drivers identified by SDC include:

- Protection of public and environmental health
- The extent and nature of growth in the District
- Changes in community expectations
- Changes in environmental standards and legislative requirements
- Changes in climatic patterns
- Technological changes

These factors influence Levels of Service and Future Demand and are discussed further in Sections 2.0 and 3.0 respectfully.

#### **1.2.4 Key Issues for the Water Supply Activity**

Schedule 10 of the LGA requires local authorities to outline significant negative effects that any activity may have on the social, economic, environmental, or cultural well-being of the local community.

Significant negative effects that the water supply activities have on these four well-beings include:

- Health and safety risks associated with the construction, maintenance or operation of the water supply infrastructure.
- Property damage resulting from burst water mains.
- The effects of the extraction of water from bores and streams.
- The disposal of water supply treatment by-products (such as treatment sludge, backwash water).

These issues are discussed further in Section 4.9.

#### **1.2.5 Strategic and Planning Framework**

SDC's Vision, Mission Statement and Guiding Principle provide the framework within which Water and Waste Services operate. SDC's strategic framework and linkages between Community Outcomes and this AM Plan are detailed in Section 2.6. It shows that this AM Plan is a key input to the LTCCP planning cycle.

### **1.3 Core and Advanced AM**

#### **1.3.1 Status of the AM Plan**

A Status Review out of all AM Plans for services provided by the Water and Waste Services Department was carried in 2007<sup>11</sup>. The review found that the plans were meeting the core status with some areas moving towards advanced.

In updating this AM Plan the results of the 2007 review were taken into account. It is anticipated that over the course of implementing the projects and programmes in this AM Plan, significant progress will be made towards the advanced status in some of the larger townships in the district. Measures to lift the status are discussed further in Section 8.1.

#### **1.3.2 Limitations of the AM Plan**

This AM Plan attempts to address all water supply asset management issues in the District. It is a living document which will undergo a formal review every three years to make amendments to reflect changes in levels of service, demand projections, risk profile, lifecycle information, or financial information. Confidence levels are discussed further in Section 0.

This AM Plan has been developed with the following key limitations:

- Projects have been identified and scheduled based on the best information available at the time.
- Budgets for these projects have been assessed based on the best information available at the time.
- Projects towards the end of the 10-year period are flags that work is likely to be needed but it is very much at the concept phase. Options and detailed estimates will be carried out closer to the time.
- The completion of projects is limited to resourcing of both SDC staff and external engineering support.

### **1.4 Plan Framework**

This Activity Plan covers a period of 20 years commencing 1 July 2009. The main focus of the analysis is the first three years and for this period most specific projects have been identified. Beyond

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<sup>11</sup> SDC Utilities Asset Management Update – Review of current practices and resources 2007 – Waugh Consultants

this period work programmes are generally based on trends or predictions and should be taken as indicative only. All expenditure is based on unit costs as at 1 July 2009.

The structure of this AM Plan is:

- 2.0 [What We Aim to Deliver](#) – defines the performance targets that customers expect from Council management of the water supply asset. It includes customer research and how the results have been translated into levels of service. The requirements of legislation, community outcomes and the Council's goals are explained in relation to the activity. Current and proposed future levels of service are also identified.
- 3.0 [Planning for the Future](#) – identifies key current and future treatment, storage, and reticulation issues, technology changes, and finally the capital investment strategy likely to be needed to meet future growth.
- 4.0 [Risk Management](#) – describes the integrated risk management project and activity level risk assessment process. Discusses the District wide risk issues and the significant negative effects.
- 5.0 [The Resources We Use](#) – outlines existing assets, capacity, performance, condition, value and available historical data. The section also describes how the assets are operated and maintained, the renewals and new assets plan. This section also describes decision-making and optimisation processes, standards, deferred work, needs, estimated costs and timing.
- 6.0 [What the Water supply Activity Costs and How We Pay for it](#) – provides a financial summary of historical costs and projections for the next 10-year period. Recent asset valuations are summarised. Key assumptions that have been made in order to estimate budget costs and timings are identified. Confidence levels are assessed based on the assessed accuracy and reliability of the inputs to the forecasts (eg data quality). The forecasts (yet to be completed) include expenditure by type, projected asset valuations, and account for future depreciation and loss of service potential.
- 7.0 [How We Manage The Activity](#) – describes the Asset Management processes, information systems, and organisational tactics employed by SDC. This section also describes the methods for decision-making and project prioritisation.
- 8.0 [Continuous Improvement](#) – summarises the status of the Asset Management Plan against the Office of the Auditor-General's criteria. Identifies any improvement areas which should be considered in the future. Identifies tasks to improve the level of Asset Management in the future with suggested resources and timeframes. Performance measures, monitoring, and review procedures are outlined.

The Plan has been prepared by SDC in association with Maunsell Ltd and will be reviewed no later than July 2012.

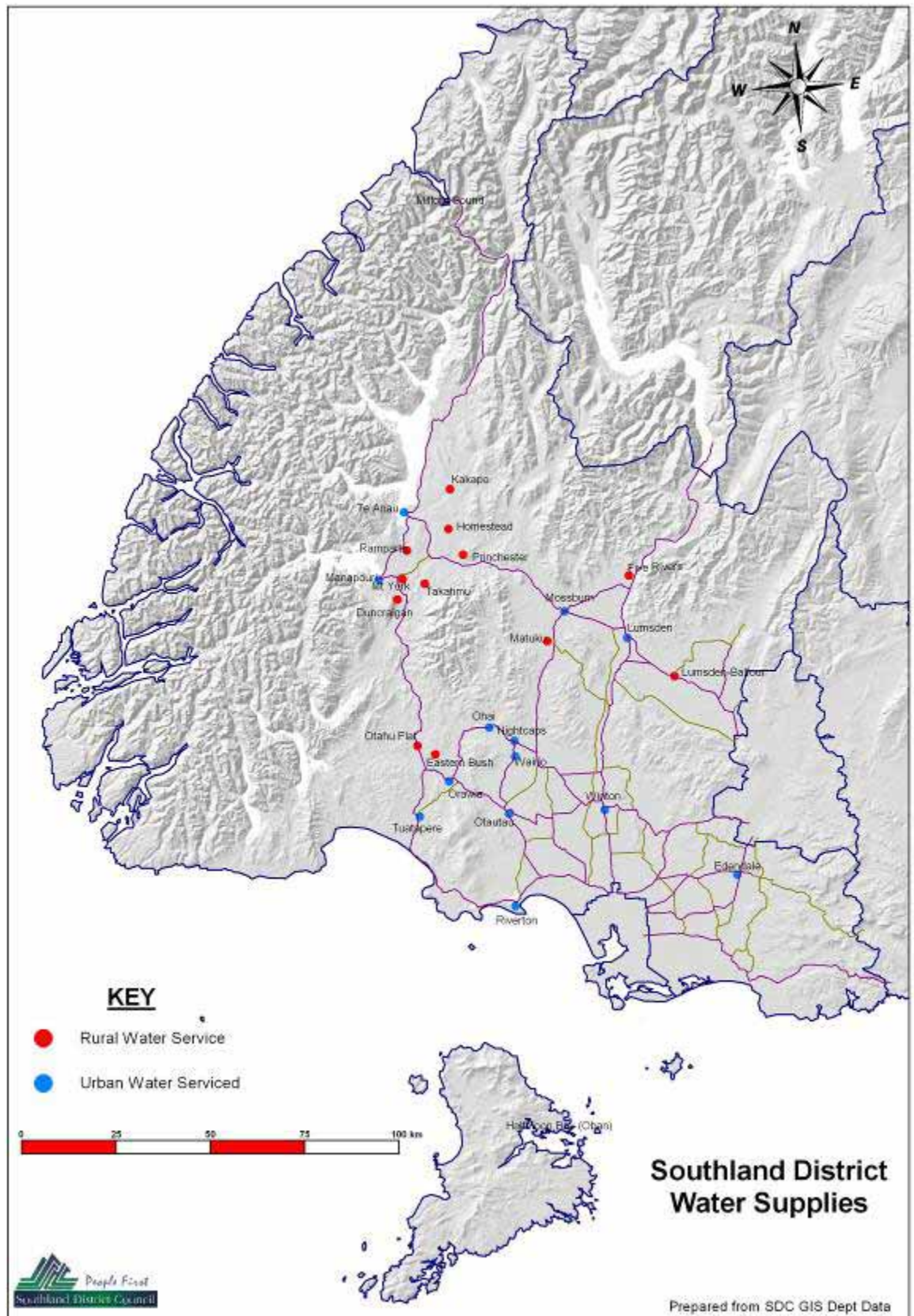


Figure 1 - Water Supplies in Southland