

## Water Services

### Sub Activities:

**Kaikoura Urban Water Supply,  
 Ocean Ridge Water Supply,  
 East Coast Rural Water Supply,  
 Kincaid Rural Water Supply,  
 Fernleigh Rural Water Supply,  
 Oaro Rural Water Supply,  
 Peketa Rural Water Supply,  
 Kaikoura Suburban Water Supply**

### Goal

To provide water infrastructure that meets the needs of the community, ensures a healthy standard of living, and minimises effects on the environment.





### What we do

Of the public water supplies in the district, East Coast and Fernleigh are essentially supplies for stock and irrigation. Kincaid is becoming more and more a domestic supply, due to growth in that area. The remainder service domestic households and commercial activities. All of the public water supplies have an approved Public Health Risk Management Plan.

### Why we do it

Council has certain legal obligations regarding the supply of water, such as its duty under the Health (Drinking Water) Amendment Act 2007, to improve, promote and protect public health within the district. It also has a duty to ensure there is sufficient water in urban areas for fire fighting purposes.

### Effects on the Community

<b>Economic</b>		Quality, potable water on demand is essential for agriculture, horticulture and fisheries, and also for visitor accommodation and commercial activity.
<b>Environmental</b>		Water used for irrigation
<b>Social</b>		Clean, pure, potable water is fundamental to the health and safety of all residents and visitors.
<b>Cultural</b>		Swimming pools are part of the culture of our community

## Kaikoura Urban Water Supply

The Township is now supplied from a new secure ground water source, which consists of two wells each at a depth of 30m. This source was fully commissioned in 2006, and provides water that is fully compliant with the New Zealand Drinking Water Standards 2005, and is proving to be of exceptional quality and reliability. The source is capable of supplying up to 6,600m<sup>3</sup>/day. The water supply is secure and requires no treatment, however for residual purposes the water is disinfected using chlorine gas. The water supply is not fluoridated and there are presently no plans to fluoridate the water.

The previous water source, an intake gallery on the Waimangarara Stream, provides a backup system to the source, as well as supplying the Kincaid rural water supply. There is also an alternative bore located on Mt Fyffe Road, with sufficient capacity to supply approximately 20 litres per second into the town supply.

The current water source and treatment grading for Kaikoura Water Supply is 'B'. The target for the 2009 grading is an A. The only reason why an A grade was not achieved was the Kaikoura District Council failed the requirement to inform the public that some plumbing fittings have the potential to allow minute traces of metals to accumulate in water standing in the fittings for several hours. Although the health risk is small, the Ministry of Health recommends that a cup of water be flushed from drinking water taps each morning before use to remove any metal that may have dissolved from the plumbing fittings.

### Major Projects within the next three years:

Capital Projects	Cost	Funded by
Storage Reservoir	\$255,000	Loan
Renewals	\$298,223	User fees and charges, and water rates

The ten year capital projects are outlined in the forecast cost of service statements.

### Council Assets and How They Will Be Managed

The urban water supply is currently valued at around \$5m. Fulton Hogan is responsible for the day-to-day maintenance of the supply and reticulation, our in-house engineers oversee this work, and Aurecon Ltd provides professional consultancy services for extraordinary work. The Kaikoura Urban Water Supply has an approved Public Health Risk Management Plan, and comprehensive asset management plans.

### Significant Potential Negative Effects

Extracting water from underground has the potential to lower the natural water table which can have a negative impact on some farming activities within the zone of influence.

## Community Outcomes

Water Supplies contribute to:

- Sustainable Development
- Quality Water & Wastewater Services
- A Quality Standard of Housing
- Environmental Protection & Enhancement

For an understanding of how this activity contributes to these outcomes, please see pages 98 to 101.

## How is it Funded?

**Operating Expenses Funded by:**      **Capital Expenses Funded by:**

Water Meter Charges

Water Loan Annual Charges

Water Annual Charges

Loan

Water Loan Annual Charges

Development Contributions

User Fees & Charges

Reserves

The Council proposes to fund the cost of capital works first by utilising the proceeds received from development contributions<sup>1</sup>, then by raising loans. Council has provided for raising loans of \$255,000 in 2009/2010 for the town water supply, as contribution revenues have been fully utilised in securing and developing the new ground water source. Council has no expectations of receiving development contributions in 2009/10.

<sup>1</sup> A contribution is a charge against developers to help pay the cost of the new, upgraded or extended infrastructure.

## Levels of Service

	Base Line	2009/10 Target	2010/11 Target	2011/12 Target	10 Year Target
Water Quality <sup>2</sup>	B	A	A	A	A
Reticulation <sup>3</sup>	C	C	C	C	B
Fire hydrants provide sufficient water pressure for fire fighting purposes	100%	100%	100%	100%	100%
Reservoirs provide adequate storage capacity	11 hours	16 hours	16 hours	16 hours	24 hours

The increased levels of service will be achieved by

- meeting the advertising requirements for plumbo-solvency in order to achieve an A grade for water quality at the next review
- undertaking a renewal of pipe infrastructure, and backflow prevention, annually in order to achieve a B grading for reticulation within 10 years
- Constructing a new storage reservoir in 2009/10 to increase the storage capacity to provide 16 hours storage.

<sup>2</sup> Ministry of Health Grading

## Ocean Ridge Water Supply

The Ocean Ridge development site is situated approximately 3 km west of Kaikoura, and 1 km east of the Kowhai River. The area of the site is approximately 142 hectares. The developer of the Ocean Ridge residential subdivision has developed the Ocean Ridge water supply as part of the conditions of that particular subdivision consent. Responsibility for ownership, maintenance and operating the supply is being transferred to Council on 1 July 2009.

While the abstraction, treatment and distribution systems for the full water supply have been designed based on the ultimate population requirements, the construction of the full systems is occurring in a staged approach. The current stage was constructed in 2006 and this is considered to be appropriate for the needs of a population up to 500.

The Ocean Ridge Water Supply is treated using cartridge filtration and UV for disinfection. The current water source and treatment grading for Ocean Ridge Water Scheme is ungraded with the degree of treatment being provided in compliance with the recommended target level of service since July 2008 when the upgrade works were completed. The supply is yet to be assessed by the Ministry of Health for a water grading, but it is expected to achieve a B grading.

### Major Projects in the next three years:

As the Ocean Ridge is a brand new water supply, its infrastructure can be considered to be in excellent condition. Renewal expenditure is not likely to be required for some years, and certainly not within ten years.

### Council Assets and How They Will Be Managed

The Ocean Ridge water supply is currently valued at around \$1.5m. Fulton Hogan is responsible for the day-to-day maintenance of the supply and reticulation, our in-house engineers oversee this work, and Aurecon Ltd provides professional consultancy services as and when required. The Ocean Ridge Water Supply has an approved Public Health Risk Management Plan, and comprehensive asset management plans.

### Significant Potential Negative Effects

Extracting water from the ground reduces the volume of water that would otherwise naturally flow downstream.

### Community Outcomes

Water supplies contribute to:

- Sustainable Development
- Quality Water & Wastewater Services
- A Quality Standard of Housing
- Environmental Protection & Enhancement

For an understanding of how this activity contributes to these outcomes, please see pages 98 to 101.

## How is it Funded?

<b>Operating Expenses Funded by:</b>	<b>Capital Expenses Funded by:</b>
Water Annual Charges	Loan
	Development Contributions
	Reserves

As the Ocean Ridge supply is a new supply, it will only be vested in Council ownership effective from 1 July 2009. Therefore the water annual charges will also only come into effect from that date. Council has implemented a system similar to that for the Kaikoura urban water supply, in that every property connected to the supply will pay a full water annual charge, and every property within 100 metres of, but not connected to the supply (i.e. bare land), will pay a half charge.

## Levels of Service

	Base Line	2009/10 Target	2010/11 Target	2011/12 Target	10 Year Target
Water Quality <sup>3</sup>	Ungraded	B	B	B	B
Reticulation <sup>4</sup>	Ungraded	B	B	B	B
Fire hydrants provide sufficient water pressure for fire fighting purposes	100%	100%	100%	100%	100%
Reservoirs provide adequate storage capacity	24 hours	24 hours	24 hours	24 hours	24 hours

With the exception of obtaining a Ministry of Health water grading, there are no proposed changes to the intended levels of service.

<sup>3</sup> Ministry of Health Grading

## East Coast Rural Water Supply

Presently the East Coast supply is from a 37m deep underground aquifer located on the bank of the Clarence River. The system consists of 3 reinforced concrete tanks of varying storage capacities and 1 HDPE tank of approximately 25m<sup>3</sup>. The tanks are located at different elevations to serve different areas of the community. There is no treatment system for this water supply.

The East Coast Rural Water Supply system consists of a trunk main fed from the intake bore, storage reservoirs, booster pump stations and a distribution system. Population is estimated to be approximately 71, and the total number of connected properties in the area is 31.

The reliability in terms of quantity of this source is not known. Over the years the source has had minimal e.coli transgression, and in 2008 Council contracted GNS to investigate the age of the water; from the results obtained it has demonstrated that the water is of an age where the source can be deemed as a secure source. Council has now made an application with the Ministry of Health to grant security status to the source serving this supply.

### Major Projects in the next three years:

Capital Projects	Cost	Funded by
Replace storage tanks	\$39,000	To be confirmed

Both of the two storage tanks are aging and have developed leaks. The scheme would benefit from replacement of these tanks, however to date the consumers of the scheme have opted not to fund depreciation, so have no funds available for this work to progress. The work could be funded by either lump sum contributions from the consumers, or loan.

### Council Assets and How They Will Be Managed

The East Coast water supply is currently valued at around \$800k. The consumers on the scheme have a management committee which generally is responsible for the day-to-day maintenance of the supply and reticulation; our in-house engineers provide any additional assistance as necessary. The East Coast water supply has an approved Public Health Risk Management Plan, and comprehensive asset management plans.

### Significant Potential Negative Effects

Extracting water from the ground reduces the volume of water that would otherwise naturally flow downstream.

## Community Outcomes

Water supplies contribute to:

- Sustainable Development
- Quality Water & Wastewater Services
- A Quality Standard of Housing
- Environmental Protection & Enhancement

For an understanding of how this activity contributes to these outcomes, please see pages 98 to 101.

## How is it Funded?

### Operating Expenses Funded by:

Water Unit Charges

### Capital Expenses Funded by:

Water Unit Charges

Reserves

Loan

The East Coast consumers to date have opted not to fund depreciation, any capital work is assumed to be funded by reserves (if any), or loan, or by increasing water unit charges to incorporate a lump sum contribution.

## Levels of Service

	Base Line	2009/10 Target	2010/11 Target	2011/12 Target	10 Year Target
Water Quality <sup>4</sup>	Ungraded	C	C	C	C
Reticulation <sup>5</sup>	Ungraded	Ungraded	Ungraded	Ungraded	C

With the exception of obtaining a Ministry of Health water grading, there are no changes to the intended levels of service; these levels of service are the same as is currently being achieved.

<sup>4</sup> Ministry of Health Grading

## Kincaid Rural Water Supply

The Kincaid Water Supply is located approximately 10km north of Kaikoura Township. The present scheme is fed from a shallow intake gallery located 2.5 to 4 metres under the gravels of the Waimangarara Stream at the foot of Mount Fyffe, an unprotected native forest catchment and is therefore subject to contamination. The stream is prone to high turbidity during periods of heavy rainfall and subsequently the intake capacity can vary. As the water from the infiltration gallery is effectively unfiltered, high silt loadings in the raw water can occur. Part of the gallery is covered in filter fabric in an attempt to reduce the amount of fine silt entering the gallery at times of high turbidity. The gallery feeds both Kaikoura Township and the Kincaid scheme.

The water supply is disinfected using liquid chlorine and the water supply is not fluoridated. There are no plans to fluoridate this water.

The current water source and treatment grading for Kincaid Water Scheme is 'Uu' (ungraded), consequently the degree of treatment being provided is not in accordance with the recommended target level of service. The quality of the water is poor due to presence of protozoa which is presently not being treated.

In 2008, a reservoir system consisting of 20 new 30m<sup>3</sup> plastic storage tanks were installed bringing the total storage volume for Kincaid to 666m<sup>3</sup>, thereby providing 48 hours of storage for the 144 connections to the supply.

### Major Projects in the next three years:

Capital Projects	Cost	Funded by
Chlorination Treatment	\$56,160	Reserves
Renewals	\$50,938	Reserves

The ten year capital projects are outlined in the forecast cost of service statements.

### Council Assets and How They Will Be Managed

The Kincaid water supply is currently valued at around \$800k. Fulton Hogan is responsible for the day-to-day maintenance of the supply and reticulation, our in-house engineers oversee this work, and Aurecon Ltd provides professional consultancy services as and when required. The supply has an approved Public Health Risk Management Plan, and comprehensive asset management plans.

### Significant Potential Negative Effects

Extracting water from the stream reduces the volume of water that would otherwise naturally flow downstream. This can potentially reduce fishery stocks and impact on the environment.

## Community Outcomes

Water supplies contribute to:

- Sustainable Development
- Quality Water & Wastewater Services
- A Quality Standard of Housing
- Environmental Protection & Enhancement

For an understanding of how this activity contributes to these outcomes, please see pages 98 to 101.

## How is it Funded?

<b>Operating Expenses Funded by:</b>	<b>Capital Expenses Funded by:</b>
Water Unit Charges	Water Unit Charges
	Loan
	Development Contributions
	Reserves

Kincaid currently has sufficient funds in its reserves to undertake the planned chlorination treatment upgrade without the need to raise loans.

## Levels of Service

	Base Line	2009/10 Target	2010/11 Target	2011/12 Target	10 Year Target
Water Quality <sup>5</sup>	Ungraded	Ungraded	Ungraded	Ungraded	B
Reticulation <sup>6</sup>	Ungraded	Ungraded	Ungraded	Ungraded	B
Minimum water pressure at the property boundary should be > 20 metres <sup>6</sup>	95% of reticulation	95% of reticulation	95% of reticulation	95% of reticulation	100% of reticulation
Reservoirs provide adequate storage capacity	48 hours	48 hours	48 hours	48 hours	48 hours

The Ministry of Health will be grading the Kincaid supply at its next review. Ongoing renewal of infrastructure should improve the water pressure at property boundaries. The Kincaid supply is well served in terms of storage capacity, with the new system of reservoirs that were installed in 2008/09.

<sup>5</sup> Ministry of Health Grading

<sup>6</sup> System pressure greater than 20 metres means that if there was a burst pipe at the boundary, the resulting height of the water column would be higher than 20 metres. This pressure would be sufficient to enjoy a comfortable shower, water the garden, and use a washing machine.

## Fernleigh Rural Water Supply

The Fernleigh water supply was constructed around 1984 and is sourced from a catchment which replenishes Cribb Creek and provides water for both stock and domestic purposes. In 2002 as a result of constant problems with the quality of the water, major upgrading works were conducted which included the supply and installation of storage reservoirs, pump control systems and telemetry system.

Up until year 2007 the Fernleigh water supply was fed through a bore intake located at Linton Downs Farm off State Highway 1 and consisted of a 100mm diameter PVC pipe feeding from Cribb Creek. In 2007 the water source dried up and an emergency bore had to be drilled 40m within close proximity of the older bore. This bore has since been operating without any quality issues.

Up until 2000 the Fernleigh water supply system had no form of treatment and suffered from numerous transgressions. Presently the treatment for faecal coliform is administered using chlorine gas automatically injected to mix with the flow of the water extracted from the new well.

The system is not integrated into the telemetry system hence there is no remote monitoring of the chlorine residuals entering the distribution system. Since the installation of this system transgressions have been minimised.

The current water source and treatment for Fernleigh Water Scheme is not graded however the degree of treatment being provided is assumed not to be in accordance with the recommended target level of service.

### **Major Projects in the next three years:**

No further capital works are programmed within the next three years, or within the ten year period covered by this plan.

### **Council Assets and How They Will Be Managed**

The Fernleigh water supply is currently valued at around \$500k. The consumers on the supply have opted to largely manage the supply themselves by way of a management committee. The supply does, however, remain in Council ownership. The Fernleigh water supply has an approved Public Health Risk Management Plan, and comprehensive asset management plans.

### **Significant Potential Negative Effects**

Extracting water from the ground reduces the volume of water that would otherwise naturally flow downstream.

### **Community Outcomes**

Water supplies contribute to:

- Sustainable Development
- Quality Water & Wastewater Services
- A Quality Standard of Housing
- Environmental Protection & Enhancement

For an understanding of how this activity contributes to these outcomes, please see pages 98 to 101.

## How is it Funded?

**Operating Expenses Funded by:** Consumers invoiced by committee

**Capital Expenses Funded by:** Development Contributions  
Reserves

As the scheme is managed by the consumers themselves, the management committee invoices each of the consumers for actual costs incurred in maintaining the scheme on an annual basis.

Council receives development contributions and revenues from the sale of new water units on behalf of the scheme, and holds these in a special fund ready for any capital work that the management committee authorises.

## Levels of Service

	Base Line	2009/10 Target	2010/11 Target	2011/12 Target	10 Year Target
Water Quality <sup>7</sup>	Ungraded	Ungraded	Ungraded	Ungraded	C
Reticulation <sup>8</sup>	Ungraded	Ungraded	Ungraded	Ungraded	Ungraded

With the exception of obtaining a Ministry of Health water grading, there are no changes to the intended levels of service; these levels of service are the same as is currently being achieved.

<sup>7</sup> Ministry of Health Grading

## Oaro Rural Water Supply

The Oaro water supply was constructed in 1995 and supplies 67 properties at Oaro M and Oaro N. The supply draws its water from a shallow borehole approximately 100m from the Oaro River; from the borehole the water is pumped direct into the system through a UV treatment plant. The system consists of the borehole, a pumping system, a treatment system, 4 storage tanks and a distribution system.

The original bore had been in close proximity to the Oaro River, and therefore minimal filtering from the substrata was achieved and the water supply became highly discoloured following heavy rainfall, rendering UV disinfections ineffective. That bore was therefore replaced with a new bore in 2002 located approximately 100m away from the river. This has substantially improved the clarity of the water and the efficiency of the UV treatment.

The UV system is in a good working condition and performance has been excellent in terms of treatment. The system is maintained to a very high standard with no water leaks in either the pumping system or the reticulation.

### **Major Projects in the next three years:**

No further capital works are programmed within the next three years, or within the ten year period covered by this plan.

### **Council Assets and How They Will Be Managed**

The Oaro water supply is currently valued at around \$150k. Fulton Hogan is responsible for the day-to-day maintenance of the supply and reticulation, our in-house engineers oversee this work, and Aurecon Ltd provides professional consultancy services for extraordinary work. The supply has an approved Public Health Risk Management Plan, and comprehensive asset management plans.

### **Significant Potential Negative Effects**

Extracting water from the ground reduces the volume of water that would otherwise naturally flow downstream.

## Community Outcomes

Water supplies contribute to:

- Sustainable Development
- Quality Water & Wastewater Services
- A Quality Standard of Housing
- Environmental Protection & Enhancement

For an understanding of how this activity contributes to these outcomes, please see pages 98 to 101.

## How is it Funded?

### Operating Expenses Funded by:

Water Unit Charges  
Water Loan Charges

### Capital Expenses Funded by:

Water Unit Charges  
Water Loan Charges  
Loan  
Reserves

A number of consumers on the Oaro water supply – those who had opted not to pay a lump sum contribution when the supply was constructed – pay a water loan charge. All consumers on the supply pay the annual water charge.

## Levels of Service

	Base Line	2009/10 Target	2010/11 Target	2011/12 Target	10 Year Target
Water Quality <sup>8</sup>	Ungraded	Ungraded	Ungraded	Ungraded	C
Reticulation <sup>9</sup>	Ungraded	Ungraded	Ungraded	Ungraded	Ungraded

With the exception of obtaining a Ministry of Health water grading, there are no changes to the intended levels of service; these levels of service are the same as is currently being achieved.

<sup>8</sup> Ministry of Health Grading

## Peketa Rural Water Supply

The smallest of Council's public water supplies, the Peketa water supply is situated within the Peketa village, and supplies 18 households. The scheme is fed from a reinforced shallow well approximately 5m deep which recharges from a stream off the Kahutara River. The system has no storage tanks; instead water is pumped directly from the bore into the distribution system. There is a small provision of underground storage for fire fighting purposes.

The supply is treated by cartridge filtration, turbidity meter and UV. Peketa Water Supply system consists of a shallow well, a pumping system, a treatment system, a surge tank and a distribution system

This source has been very reliable in terms of volume but the main problem areas are high levels of turbidity and contamination during heavy rainfalls, although this is not frequent.

In 2008, the treatment system was upgraded so as to increase the treatment capacity and also to bring the system in line with the New Zealand Drinking Water Standard 2005. The supply remains "Uu" (ungraded). Since the upgrading of the treatment system no transgressions have occurred.

### **Major Projects in the next three years:**

No further capital works are programmed within the next three years, or within the ten year period covered by this plan.

### **Council Assets and How They Will Be Managed**

The Peketa water supply is currently valued at around \$40k. The supply has an approved Public Health Risk Management Plan, and comprehensive asset management plans.

Until recently a resident within the village had been undertaking the day-to-day maintenance of the supply at no cost, a significant cost saving for the consumers on the supply. He is, however, no longer able to continue providing this service, and the maintenance function will need to be contracted out for the foreseeable future. This has a significant impact on the cost of the supply for those 18 consumers.

Council will absorb the increased costs associated with this water supply into the costs of the Kaikoura Urban water supply to avoid the impact on the consumer water charges.

### **Significant Potential Negative Effects**

Extracting water from the ground reduces the volume of water that would otherwise naturally flow downstream.

## Community Outcomes

Water supplies contribute to:

- Sustainable Development
- Quality Water & Wastewater Services
- A Quality Standard of Housing
- Environmental Protection & Enhancement

For an understanding of how this activity contributes to these outcomes, please see pages 98 to 101.

## How is it Funded?

### Operating Expenses Funded by:

Water Unit Charges

### Capital Expenses Funded by:

Water Unit Charges

Loan

Reserves

The consumers on the Peketa water supply would have been facing significant increases in their water unit charges from 2009/10 onwards, as the day-to-day work that had been done by a resident within the village at no cost will now need to be contracted out. These increased costs will be absorbed by the Kaikoura Urban water supply, in order to retain the water charges at similar to current levels.

## Levels of Service

	Base Line	2009/10 Target	2010/11 Target	2011/12 Target	10 Year Target
Water Quality <sup>9</sup>	Ungraded	Ungraded	Ungraded	Ungraded	C
Reticulation <sup>10</sup>	Ungraded	Ungraded	Ungraded	Ungraded	Ungraded

With the exception of obtaining a Ministry of Health water grading, there are no changes to the intended levels of service; these levels of service are the same as what is currently being achieved.

<sup>9</sup> Ministry of Health Grading

## Suburban Water Supply

The suburban water supply was created and registered with the Ministry of Health as a separate water supply zone when the new urban ground water source was being commissioned. The supply boundary between the Kaikoura Urban Supply and this supply is at the alternate bore located on Mt Fyffe Road and serves the areas of Postmans, Schoolhouse, and Red Swamp Roads.

There is no storage provision for this system, most of the properties on this scheme have restricted supply and have their own storage facilities. The scheme is fed from a shallow intake gallery located 2.5 to 4 metres under the gravels of the Waimangarara Stream the foot of Mount Fyffe. The gallery consist of a rock weir which provides ponding of water over the intake, and a 600mm diameter perforated uPVC pipe placed along its length. Part of the gallery is covered in filter fabric in an attempt to reduce the amount of fine silt entering the gallery at times of high turbidity.

The supply has one water treatment facility located on Brunels Road and uses chlorine gas which is injected into the delivery main.

### **Major Projects in the next three years:**

No further capital works are programmed within the next three years, or within the ten year period covered by this plan.

### **Council Assets and How They Will Be Managed**

The Suburban water supply, for asset valuation purposes, currently forms part of the Kaikoura urban water supply as much of the infrastructure is shared, and therefore is not separately valued. Fulton Hogan is responsible for the day-to-day maintenance of the supply and reticulation, our in-house engineers oversee this work, and Aurecon Ltd provides professional consultancy services as and when required. The supply has an approved Public Health Risk Management Plan, and comprehensive asset management plans.

### **Significant Potential Negative Effects**

Extracting water from the stream reduces the volume of water that would otherwise naturally flow downstream. This can potentially reduce fishery stocks and impact on the environment.

### Community Outcomes

Water supplies contribute to:

- Sustainable Development
- Quality Water & Wastewater Services
- A Quality Standard of Housing
- Environmental Protection & Enhancement

For an understanding of how this activity contributes to these outcomes, please see pages 98 to 101.

### How is it Funded?

**Operating Expenses Funded by:**

- Water Unit Charges
- Water Loan Charges

**Capital Expenses Funded by:**

- Water Unit Charges
- Development Contributions
- Loan
- Reserves

### Levels of Service

	Base Line	2009/10 Target	2010/11 Target	2011/12 Target	10 Year Target
Water Quality <sup>10</sup>	Ungraded	Ungraded	Ungraded	Ungraded	C
Reticulation <sup>11</sup>	Ungraded	Ungraded	Ungraded	Ungraded	C

With the exception of obtaining a Ministry of Health water grading, there are no changes to the intended levels of service; these levels of service are the same as what is currently being achieved.

<sup>10</sup> Ministry of Health Grading

**Performance Measures to assess progress towards achievement of Community Outcomes**

Community Outcome	How the Water Services Activity Contributes	Performance Measure	Target																								
<p><b>Sustainable Development</b></p>	<p>Provide and plan for good quality, cost efficient infrastructure, facilities, amenities and services that meet the needs of the community now and into the future.</p>	<p>Percentage of residents satisfied with their water supply as determined by annual resident survey</p>	<p><b>Percentage of Residents Satisfied with Water Services</b></p> <table border="1"> <caption>Percentage of Residents Satisfied with Water Services</caption> <thead> <tr> <th>Year</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Baseline</td> <td>75%</td> </tr> <tr> <td>2009/10</td> <td>73%</td> </tr> <tr> <td>2010/11</td> <td>74%</td> </tr> <tr> <td>2011/12</td> <td>75%</td> </tr> <tr> <td>2012/13</td> <td>76%</td> </tr> <tr> <td>2013/14</td> <td>77%</td> </tr> <tr> <td>2014/15</td> <td>78%</td> </tr> <tr> <td>2015/16</td> <td>78%</td> </tr> <tr> <td>2016/17</td> <td>78%</td> </tr> <tr> <td>2017/18</td> <td>78%</td> </tr> <tr> <td>2018/19</td> <td>79%</td> </tr> </tbody> </table>	Year	Percentage	Baseline	75%	2009/10	73%	2010/11	74%	2011/12	75%	2012/13	76%	2013/14	77%	2014/15	78%	2015/16	78%	2016/17	78%	2017/18	78%	2018/19	79%
Year	Percentage																										
Baseline	75%																										
2009/10	73%																										
2010/11	74%																										
2011/12	75%																										
2012/13	76%																										
2013/14	77%																										
2014/15	78%																										
2015/16	78%																										
2016/17	78%																										
2017/18	78%																										
2018/19	79%																										
<p><b>Quality Water &amp; Wastewater Services</b></p>	<p>Provide an uninterrupted water supply that is potable, reliable, accessible, affordable, and aesthetically pleasing, with adequate flow and pressure as per the requirements of each community</p>	<p>Each water supply is operating per its levels of service as appropriate</p> <p><b>Kaikoura Urban:</b> Percentage of Fire Hydrants with sufficient pressure for fire fighting purposes</p>	<p><b>Fire Hydrants with Sufficient Pressure for Fire Fighting</b></p> <table border="1"> <caption>Fire Hydrants with Sufficient Pressure for Fire Fighting</caption> <thead> <tr> <th>Year</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Baseline</td> <td>100%</td> </tr> <tr> <td>2009/10</td> <td>100%</td> </tr> <tr> <td>2010/11</td> <td>100%</td> </tr> <tr> <td>2011/12</td> <td>100%</td> </tr> <tr> <td>2012/13</td> <td>100%</td> </tr> <tr> <td>2013/14</td> <td>100%</td> </tr> <tr> <td>2014/15</td> <td>100%</td> </tr> <tr> <td>2015/16</td> <td>100%</td> </tr> <tr> <td>2016/17</td> <td>100%</td> </tr> <tr> <td>2017/18</td> <td>100%</td> </tr> <tr> <td>2018/19</td> <td>100%</td> </tr> </tbody> </table>	Year	Percentage	Baseline	100%	2009/10	100%	2010/11	100%	2011/12	100%	2012/13	100%	2013/14	100%	2014/15	100%	2015/16	100%	2016/17	100%	2017/18	100%	2018/19	100%
Year	Percentage																										
Baseline	100%																										
2009/10	100%																										
2010/11	100%																										
2011/12	100%																										
2012/13	100%																										
2013/14	100%																										
2014/15	100%																										
2015/16	100%																										
2016/17	100%																										
2017/18	100%																										
2018/19	100%																										

Community Outcome	How the Water Services Activity Contributes	Performance Measure	Target																								
<p><b>Quality Water &amp; Wastewater Services</b></p>	<p>Provide an uninterrupted water supply that is potable, reliable, accessible, affordable, and aesthetically pleasing, with adequate flow and pressure as per the requirements of each community</p>	<p>Each water supply is operating per its levels of service as appropriate</p> <p><b>Kaikoura Urban:</b> Storage capacity of water reservoirs (hours of storage)</p>	<table border="1"> <caption>Storage Capacity of Water Reservoirs (hours of storage)</caption> <thead> <tr> <th>Year</th> <th>Hours of Storage</th> </tr> </thead> <tbody> <tr><td>Baseline</td><td>11</td></tr> <tr><td>2009/10</td><td>16</td></tr> <tr><td>2010/11</td><td>16</td></tr> <tr><td>2011/12</td><td>16</td></tr> <tr><td>2012/13</td><td>16</td></tr> <tr><td>2013/14</td><td>16</td></tr> <tr><td>2014/15</td><td>16</td></tr> <tr><td>2015/16</td><td>16</td></tr> <tr><td>2016/17</td><td>24</td></tr> <tr><td>2017/18</td><td>24</td></tr> <tr><td>2018/19</td><td>24</td></tr> </tbody> </table>	Year	Hours of Storage	Baseline	11	2009/10	16	2010/11	16	2011/12	16	2012/13	16	2013/14	16	2014/15	16	2015/16	16	2016/17	24	2017/18	24	2018/19	24
		Year	Hours of Storage																								
Baseline	11																										
2009/10	16																										
2010/11	16																										
2011/12	16																										
2012/13	16																										
2013/14	16																										
2014/15	16																										
2015/16	16																										
2016/17	24																										
2017/18	24																										
2018/19	24																										
<p>Each water supply is operating per its levels of service as appropriate</p> <p><b>Kincaid Rural:</b> Minimum water pressure is greater than 20 metres</p>	<table border="1"> <caption>Minimum Water Pressure is &gt; 20 metres</caption> <thead> <tr> <th>Year</th> <th>Percentage</th> </tr> </thead> <tbody> <tr><td>Baseline</td><td>100%</td></tr> <tr><td>2009/10</td><td>100%</td></tr> <tr><td>2010/11</td><td>100%</td></tr> <tr><td>2011/12</td><td>100%</td></tr> <tr><td>2012/13</td><td>100%</td></tr> <tr><td>2013/14</td><td>100%</td></tr> <tr><td>2014/15</td><td>100%</td></tr> <tr><td>2015/16</td><td>100%</td></tr> <tr><td>2016/17</td><td>100%</td></tr> <tr><td>2017/18</td><td>100%</td></tr> <tr><td>2018/19</td><td>100%</td></tr> </tbody> </table>	Year	Percentage	Baseline	100%	2009/10	100%	2010/11	100%	2011/12	100%	2012/13	100%	2013/14	100%	2014/15	100%	2015/16	100%	2016/17	100%	2017/18	100%	2018/19	100%		
Year	Percentage																										
Baseline	100%																										
2009/10	100%																										
2010/11	100%																										
2011/12	100%																										
2012/13	100%																										
2013/14	100%																										
2014/15	100%																										
2015/16	100%																										
2016/17	100%																										
2017/18	100%																										
2018/19	100%																										

Community Outcome	How the Water Services Activity Contributes	Performance Measure	Target																								
<p><b>Quality Water &amp; Wastewater Services</b></p>	<p>Provide an uninterrupted water supply that is potable, reliable, accessible, affordable, and aesthetically pleasing, with adequate flow and pressure as per the requirements of each community</p>	<p>Each water supply is operating per its levels of service as appropriate</p> <p><b>Kincaid Rural:</b> Storage capacity of water reservoirs (hours of storage)</p>	<p><b>Storage Capacity of Water Reservoirs (hours of storage)</b></p> <table border="1"> <caption>Storage Capacity of Water Reservoirs (hours of storage)</caption> <thead> <tr> <th>Year</th> <th>Hours of Storage</th> </tr> </thead> <tbody> <tr> <td>Baseline</td> <td>48</td> </tr> <tr> <td>2009/10</td> <td>47</td> </tr> <tr> <td>2010/11</td> <td>47</td> </tr> <tr> <td>2011/12</td> <td>47</td> </tr> <tr> <td>2012/13</td> <td>47</td> </tr> <tr> <td>2013/14</td> <td>47</td> </tr> <tr> <td>2014/15</td> <td>47</td> </tr> <tr> <td>2015/16</td> <td>47</td> </tr> <tr> <td>2016/17</td> <td>47</td> </tr> <tr> <td>2017/18</td> <td>47</td> </tr> <tr> <td>2018/19</td> <td>47</td> </tr> </tbody> </table>	Year	Hours of Storage	Baseline	48	2009/10	47	2010/11	47	2011/12	47	2012/13	47	2013/14	47	2014/15	47	2015/16	47	2016/17	47	2017/18	47	2018/19	47
Year	Hours of Storage																										
Baseline	48																										
2009/10	47																										
2010/11	47																										
2011/12	47																										
2012/13	47																										
2013/14	47																										
2014/15	47																										
2015/16	47																										
2016/17	47																										
2017/18	47																										
2018/19	47																										
<p><b>Quality Standard of Housing</b></p>	<p>Ensure that all dwellings have access to a potable water supply, which is provided at an affordable cost.</p>	<p>Total operating cost of service per connection (<b>Kaikoura Urban</b>).</p>	<p><b>Total Operating Cost of Service per Water Connection</b></p> <table border="1"> <caption>Total Operating Cost of Service per Water Connection</caption> <thead> <tr> <th>Year</th> <th>Cost (\$)</th> </tr> </thead> <tbody> <tr> <td>Baseline</td> <td>360</td> </tr> <tr> <td>2009/10</td> <td>380</td> </tr> <tr> <td>2010/11</td> <td>380</td> </tr> <tr> <td>2011/12</td> <td>380</td> </tr> <tr> <td>2012/13</td> <td>380</td> </tr> <tr> <td>2013/14</td> <td>380</td> </tr> <tr> <td>2014/15</td> <td>380</td> </tr> <tr> <td>2015/16</td> <td>380</td> </tr> <tr> <td>2016/17</td> <td>380</td> </tr> <tr> <td>2017/18</td> <td>380</td> </tr> <tr> <td>2018/19</td> <td>380</td> </tr> </tbody> </table>	Year	Cost (\$)	Baseline	360	2009/10	380	2010/11	380	2011/12	380	2012/13	380	2013/14	380	2014/15	380	2015/16	380	2016/17	380	2017/18	380	2018/19	380
Year	Cost (\$)																										
Baseline	360																										
2009/10	380																										
2010/11	380																										
2011/12	380																										
2012/13	380																										
2013/14	380																										
2014/15	380																										
2015/16	380																										
2016/17	380																										
2017/18	380																										
2018/19	380																										

Community Outcome	How the Water and Wastewater Activity Contributes	Performance Measure	Target																								
<p><b>Environmental Protection and Enhancement</b></p>	<p>Lead the community through sound resource management practices, and encourage sustainable management of resources, by implementing the Communities for Climate Protection plan, and by continually promoting a reduction in water and energy use</p>	<p><b>URBAN AREA:</b> Reduction of water consumption per person per annum (cubic metres used by each resident and visitor)</p>	<p><b>Water Consumption per Person Urban</b> (Includes residents and visitors) (litres m<sup>3</sup>)</p> <table border="1"> <caption>Urban Water Consumption per Person (litres m<sup>3</sup>)</caption> <thead> <tr> <th>Year</th> <th>Consumption (litres m<sup>3</sup>)</th> </tr> </thead> <tbody> <tr><td>Baseline</td><td>340</td></tr> <tr><td>2009/10</td><td>330</td></tr> <tr><td>2010/11</td><td>320</td></tr> <tr><td>2011/12</td><td>310</td></tr> <tr><td>2012/13</td><td>300</td></tr> <tr><td>2013/14</td><td>290</td></tr> <tr><td>2014/15</td><td>280</td></tr> <tr><td>2015/16</td><td>270</td></tr> <tr><td>2016/17</td><td>260</td></tr> <tr><td>2017/18</td><td>255</td></tr> <tr><td>2018/19</td><td>250</td></tr> </tbody> </table>	Year	Consumption (litres m <sup>3</sup> )	Baseline	340	2009/10	330	2010/11	320	2011/12	310	2012/13	300	2013/14	290	2014/15	280	2015/16	270	2016/17	260	2017/18	255	2018/19	250
		Year	Consumption (litres m <sup>3</sup> )																								
Baseline	340																										
2009/10	330																										
2010/11	320																										
2011/12	310																										
2012/13	300																										
2013/14	290																										
2014/15	280																										
2015/16	270																										
2016/17	260																										
2017/18	255																										
2018/19	250																										
<p><b>RURAL AREA:</b> Reduction of water consumption per person per annum (cubic metres used by each resident and visitor)</p>	<p><b>Water Consumption per Person Rural</b> (Includes residents and visitors) (litres m<sup>3</sup>)</p> <table border="1"> <caption>Rural Water Consumption per Person (litres m<sup>3</sup>)</caption> <thead> <tr> <th>Year</th> <th>Consumption (litres m<sup>3</sup>)</th> </tr> </thead> <tbody> <tr><td>Baseline</td><td>5800</td></tr> <tr><td>2009/10</td><td>5500</td></tr> <tr><td>2010/11</td><td>5300</td></tr> <tr><td>2011/12</td><td>5100</td></tr> <tr><td>2012/13</td><td>4900</td></tr> <tr><td>2013/14</td><td>4800</td></tr> <tr><td>2014/15</td><td>4700</td></tr> <tr><td>2015/16</td><td>4600</td></tr> <tr><td>2016/17</td><td>4500</td></tr> <tr><td>2017/18</td><td>4400</td></tr> <tr><td>2018/19</td><td>4200</td></tr> </tbody> </table>	Year	Consumption (litres m <sup>3</sup> )	Baseline	5800	2009/10	5500	2010/11	5300	2011/12	5100	2012/13	4900	2013/14	4800	2014/15	4700	2015/16	4600	2016/17	4500	2017/18	4400	2018/19	4200		
Year	Consumption (litres m <sup>3</sup> )																										
Baseline	5800																										
2009/10	5500																										
2010/11	5300																										
2011/12	5100																										
2012/13	4900																										
2013/14	4800																										
2014/15	4700																										
2015/16	4600																										
2016/17	4500																										
2017/18	4400																										
2018/19	4200																										

In addition to the above performance measures towards the achievement of community outcomes, Council will also measure its levels of service for each of its activities.

## Forecast Cost of Service Statement - Operating

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
<b>Operating Expenses</b>										
Kaikoura Urban	349,376	383,349	393,204	404,586	416,559	428,515	442,032	455,510	469,781	485,488
Ocean Ridge	21,113	21,735	22,365	23,051	23,772	24,511	25,328	26,162	27,051	28,008
East Coast	37,275	37,462	37,673	37,902	38,143	38,387	38,660	38,931	39,221	39,537
Kincaid	38,450	39,626	40,768	42,017	43,327	44,678	46,164	47,692	49,318	51,063
Fernleigh	0	0	0	0	0	0	0	0	0	0
Oaro	16,566	16,875	17,306	17,735	18,192	18,682	19,212	19,740	20,302	20,906
Peketa	7,823	7,984	8,205	8,430	8,670	8,921	9,197	9,470	9,762	10,077
Loan Interest	77,902	74,480	62,085	59,579	58,127	105,478	117,745	189,451	173,771	165,078
Depreciation	317,391	308,435	338,703	370,169	376,371	412,025	452,061	485,268	502,268	507,317
<b>Total Operating Expenses</b>	<b>865,896</b>	889,947	920,310	963,470	983,162	1,081,196	1,150,398	1,272,226	1,291,473	1,307,473
<b>Funded by:</b>										
Targeted Rates & Charges	596,554	651,531	622,266	652,865	659,885	744,048	796,894	893,385	901,852	908,585
Water Meter Charges	136,500	143,325	150,491	158,016	165,917	174,212	182,923	192,069	201,673	211,756
User Fees & Charges	0	0	6,800	6,800	6,800	6,800	6,800	6,800	6,800	6,800
Subsidies	0	0	0	0	0	0	0	0	0	0
	<b>733,054</b>	794,856	779,557	817,681	832,602	925,061	986,617	1,092,254	1,110,325	1,127,142
<b>Operating Surplus/(Deficit)</b>	<b>-132,841</b>	<b>-95,091</b>	<b>-140,752</b>	<b>-145,790</b>	<b>-150,560</b>	<b>-156,136</b>	<b>-163,781</b>	<b>-179,972</b>	<b>-181,148</b>	<b>-180,332</b>

## Forecast Cost of Service Statement - Capital

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
<u>Kaikoura Urban Water Supply</u>										
New/Upgrade Assets	255,000	0	0	118,450	118,565	741,430	118,910	975,055	0	0
Renewals	94,964	85,457	117,802	143,166	146,070	149,579	180,435	163,098	181,064	183,244
	<b>349,964</b>	85,457	117,802	261,616	264,635	891,009	299,345	1,138,153	181,064	183,244
<u>Rural Water</u>										
New/Upgrade Assets	0	95,160	0	48,361	0	0	186,900	0	0	0
Renewals	16,977	16,784	17,177	17,429	16,748	16,850	11,509	11,682	11,753	11,019
	<b>16,977</b>	111,944	17,177	65,790	16,748	16,850	198,409	11,682	11,753	11,019
<u>Capital Debt Servicing</u>										
Loan Principal	73,609	65,103	54,972	55,785	54,993	81,460	88,336	122,517	120,303	124,722
<b>Total Capital Expenditure</b>	<b>440,550</b>	<b>262,504</b>	<b>189,950</b>	<b>383,190</b>	<b>336,376</b>	<b>989,319</b>	<b>586,090</b>	<b>1,272,352</b>	<b>313,120</b>	<b>318,985</b>
<b>Funded by:</b>										
Transfer from/(to) Reserves	-8,000	40,160	-111,724	52,245	975	-120,910	-5,533	-127,988	-131,762	-135,779
Loans	255,000	0	0	0	0	741,430	186,900	975,055	0	0
Development Contributions	9,000	9,000	103,724	106,566	109,590	112,910	116,443	119,988	123,762	127,779
Depreciation	317,391	308,435	338,703	370,169	376,371	412,025	452,061	485,268	502,268	507,317
Operating Surplus/(Deficit)	-132,841	-95,091	-140,752	-145,790	-150,560	-156,136	-163,781	-179,972	-181,148	-180,332
	<b>440,550</b>	<b>262,504</b>	<b>189,950</b>	<b>383,190</b>	<b>336,376</b>	<b>989,319</b>	<b>586,090</b>	<b>1,272,352</b>	<b>313,120</b>	<b>318,985</b>

