



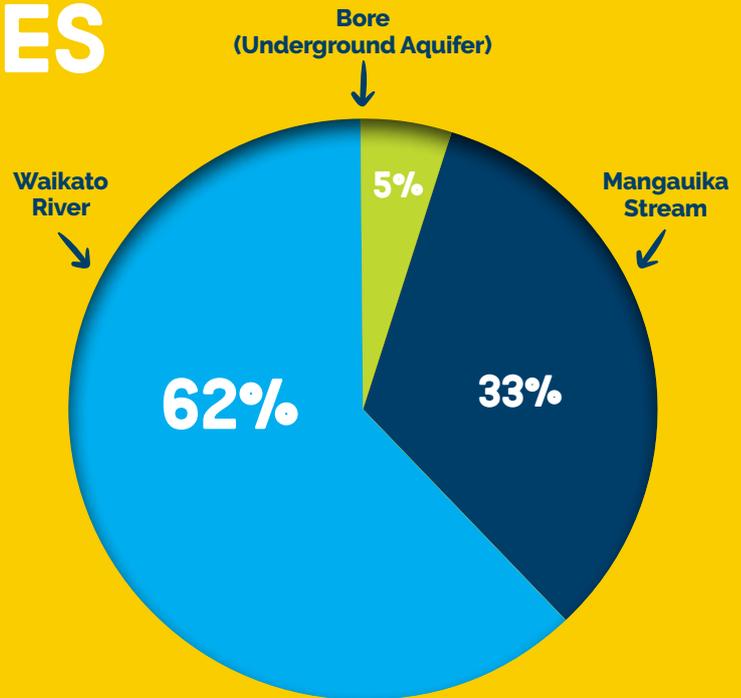
WATER AT
WAIPĀ

WAIPĀ WATER SUPPLY SCHEMES

Waipā District Council maintains four water supply schemes, Te Awamutu, Pukerimu, Cambridge and Kihikihi. This means that households across our district are supplied with water from different sources based on the scheme they fall in.

Of all the water we supply to our district, the majority is taken from the Waikato River. The smallest contributing source is local bores around the district. Those living in Waipā who don't have a connection to the Council reticulation network, likely get their water from private bores, rainwater collection or a nearby spring.

Figure 1: Sources of water supplied through Waipā District council.



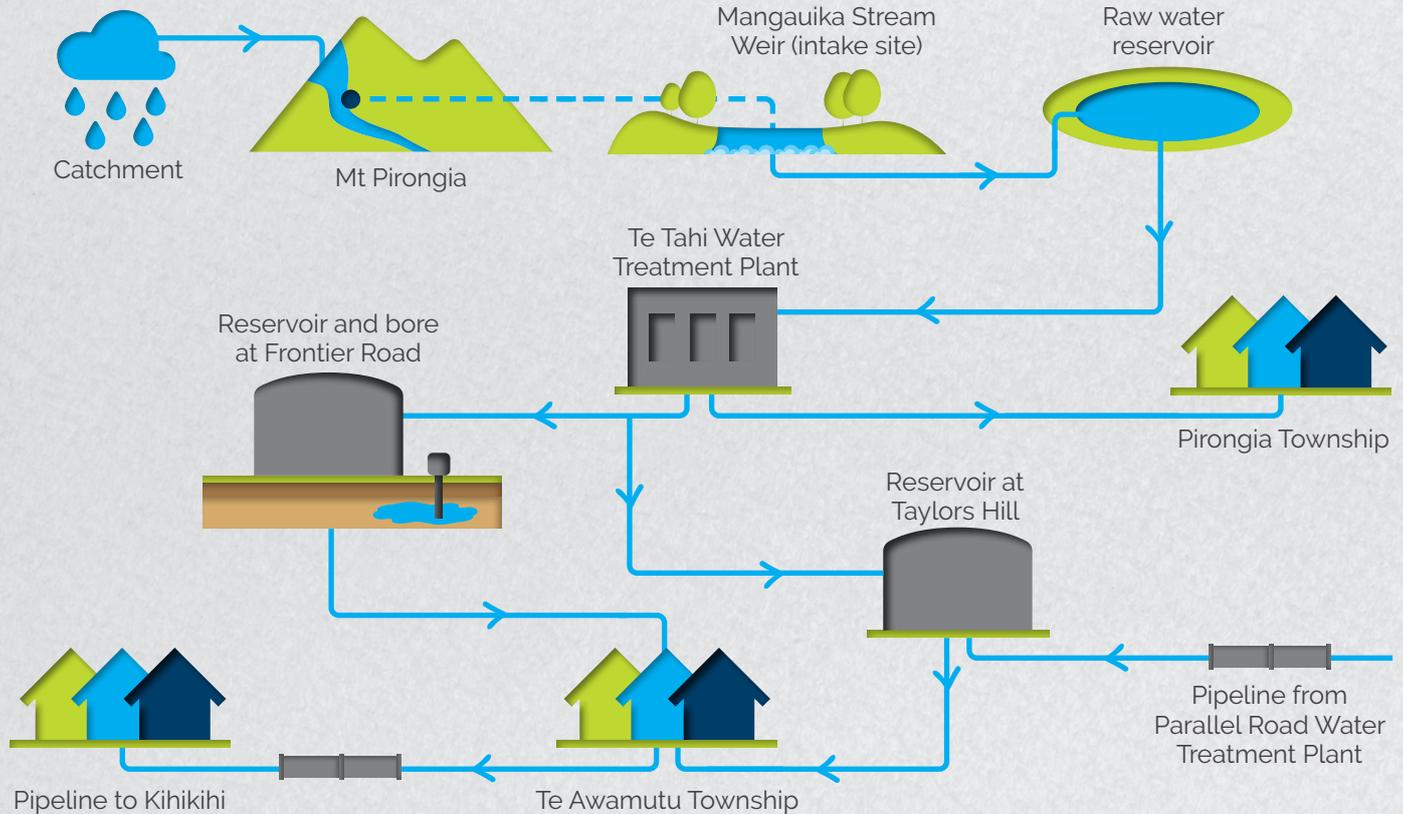
Te Awamutu and Pirongia

The supply is taken predominately from the Mangauika Stream on Mount Pirongia which is in a catchment covered in native bush (Pirongia State Forest Park). There is a weir (small dam) in the stream that raises the level of the water. A proportion of the water from the stream is diverted into an intake pipe below the weir. Waipā District Council has a resource consent for this intake. It covers the maximum abstraction flow (the maximum amount of water allowed to be taken) and a minimum flow rate for the stream (after abstraction) to protect fisheries and aquatic habitat values. From the weir, the water is piped to a large storage dam (with 7 day water holding capacity) then onto the Te Tahi Water Treatment Plant and distributed to Pirongia and Te Awamutu. Water is stored in three water supply reservoirs in Te Awamutu located on Frontier Road and Taylors Hill. A bore on Frontier road provides additional supply during times of high demand. From 2021 Te Awamutu will also receive water from the Waikato River via Parallel Road Water Treatment Plant and a new pipeline that connects to the reservoir at Taylors Hill.



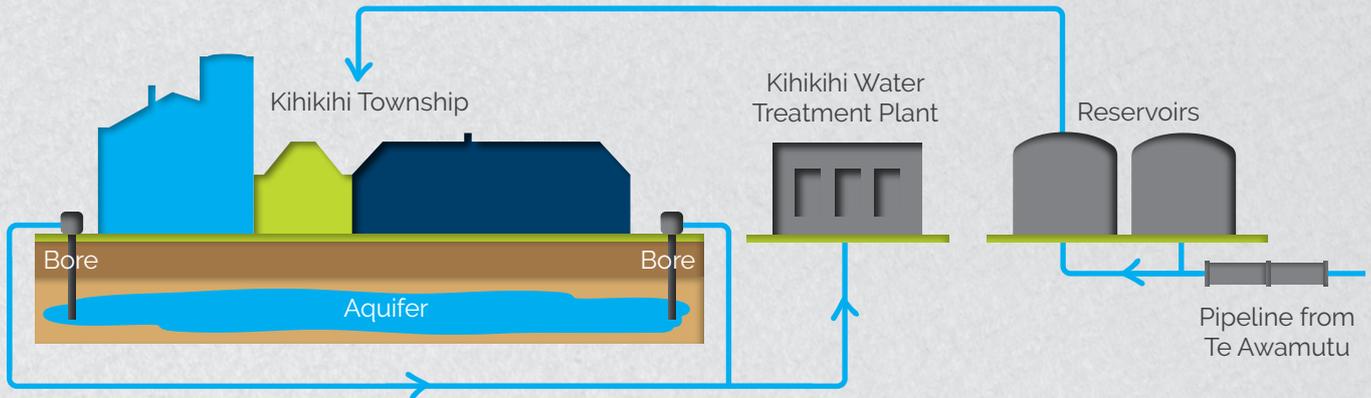
Figure 2: Mangauika stream upper Weir and intake site

Te Awamutu and Pirongia



Kihikihi

The supply is taken from a local aquifer sourced by two bores in the center of town (Hall Street and Church Street). From 2022 there will be a main pipeline connecting Kihikihi and Te Awamutu. This will enable the Kihikihi township to receive supply from the Waikato River in times of need. From the bores, the water is piped to the Rolleston Street Water Treatment Plant and distributed to Kihikihi township and surrounding properties. Water is stored at the Water Treatment Plant in two reservoirs.



Cambridge and Karāpiro

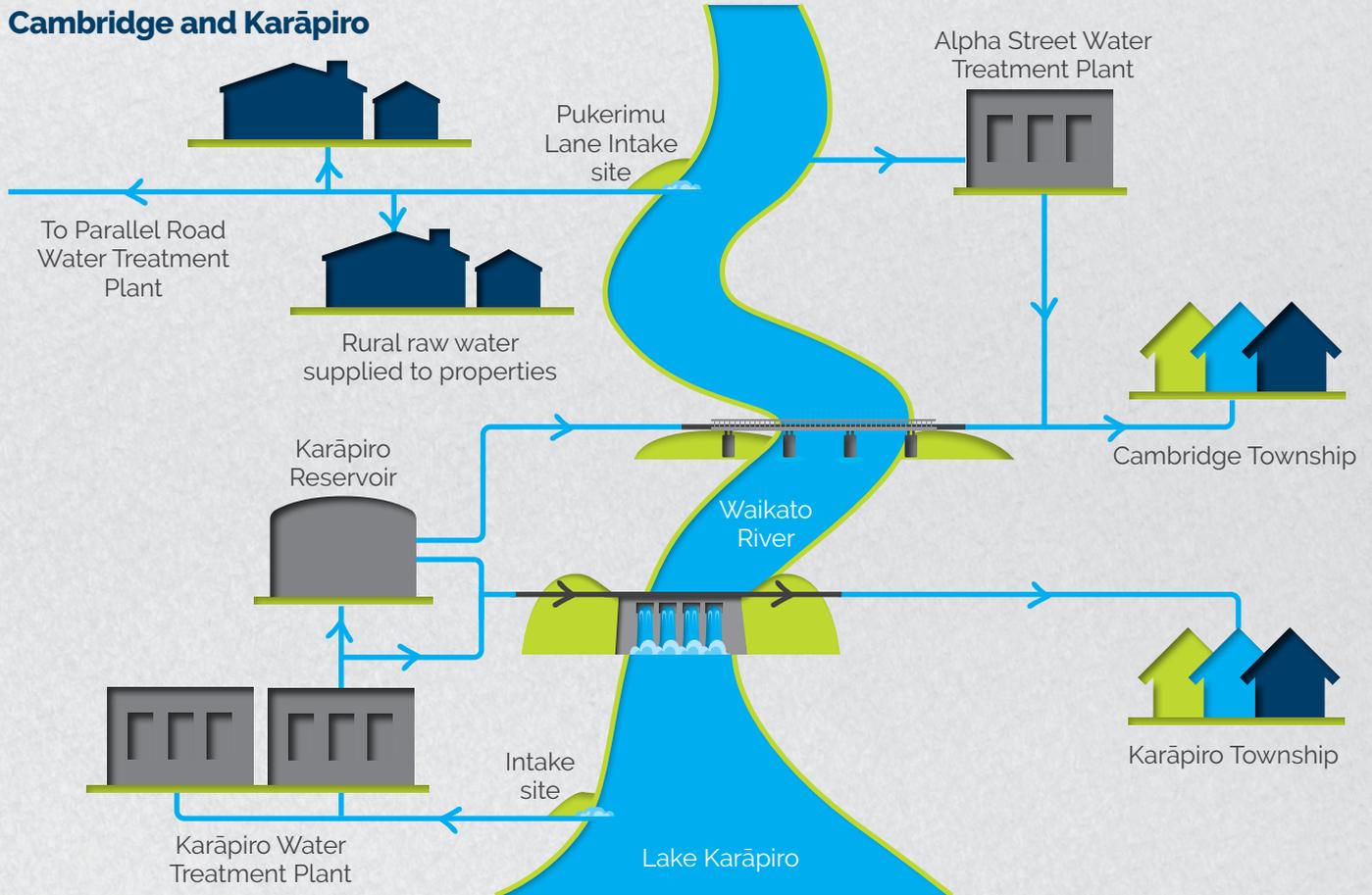
The intake site is located on the banks of Lake Karāpiro. The intake is at the southern bank/edge close to the dam and the Water Treatment Plant is right beside the lake (5.8 km south-east from Cambridge town center). From the intake, the water is piped to the Karāpiro Water Treatment Plant and then pumped to the Karāpiro and Cambridge townships and surrounding properties. Water is stored in the Karāpiro reservoirs above Maungatautari Road and in other reservoirs in Cambridge North and Hautapu. A second intake and water treatment plant at Alpha Street provides water to the Cambridge scheme. Water is pumped directly into the Cambridge reticulation (pipes in the town) from Alpha Street Water Treatment Plant during times of high demand.



In total there are 6 water treatment plants, 14 reservoirs and 645.28 km of water pipes in Waipā.

Figure 3: Karāpiro Water treatment plant aerial view

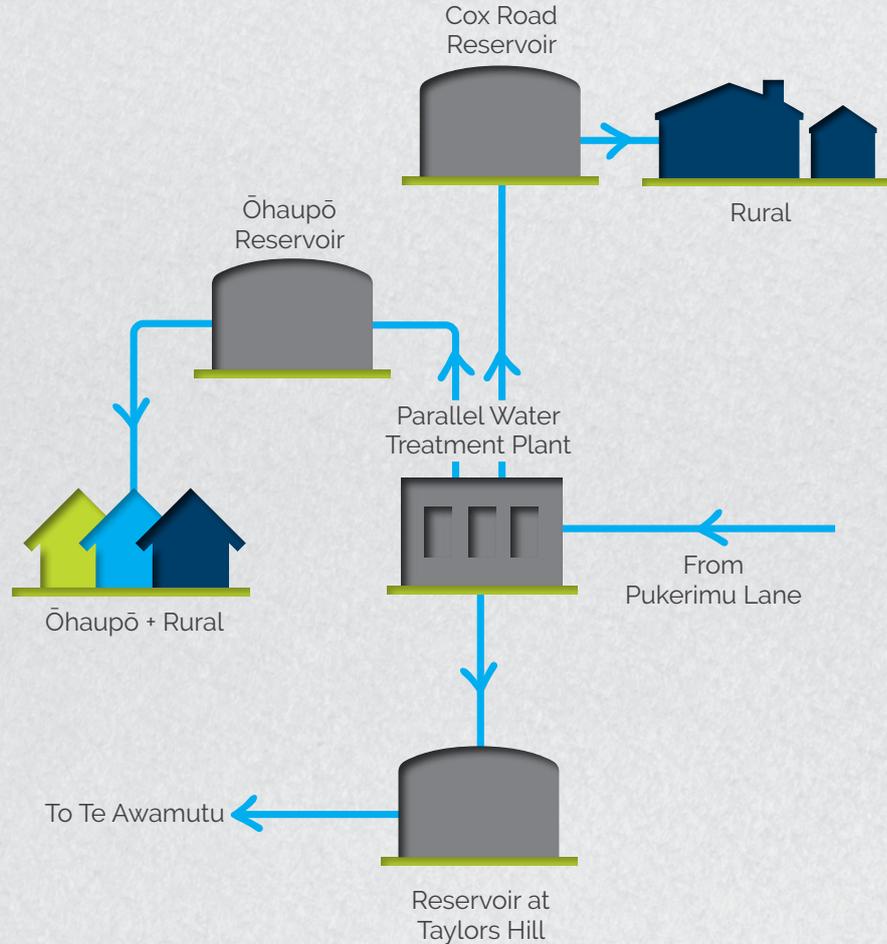
Cambridge and Karāpiro



Ōhaupō, Pukerimu Rural area and the Airport

The intake is located on the banks of the Waikato River, downstream of Cambridge. This is in the lower reaches of the Waikato River, with predominantly farming activity in the surrounding area. The water is pumped to the water treatment plant at Parallel Road, and along the way about 20 properties take raw (untreated) water from this pipeline before it gets to the plant for treatment.

The Parallel Road Water Treatment Plant provides water to Ōhaupō and the rural reticulation (piped network) area as well as Mystery Creek, the Airport and Titanium Retail Park each of which has their own reservoir. From 2021 a new water treatment plant will operate from Parallel Road treating water supplied from the Waikato River. This new Plant will provide treated water to Ōhaupō, Pukerimu, Te Awamutu and, in times of need, Kihikihi.



WAIPĀ WATER CONSUMPTION

Water meters

In Waipā all properties have been metered since at least 2018. Water metering means you only pay for the water you use and you can track the amount of water that enters your property easily by reading your water meter.



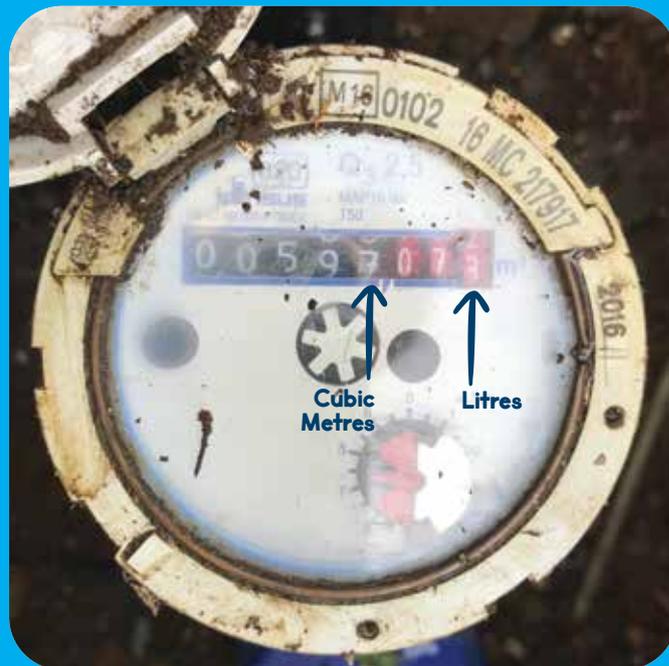
See the video on how to locate and read your water meter with Waipā District Council
How to locate and read your water meter

You can also use your water meter to check for leaks on your property. It's easy, all it takes is a basic understanding of how your meter works.



See the video on how to check for leaks with Waipā District Council.

Since the installation of water meters residential use per capita reduced by at least 25% per household. Some households achieved substantial reductions after fixing leaks on their properties.



Estimated household water use in New Zealand

(data adapted from BRANZ EC1356)

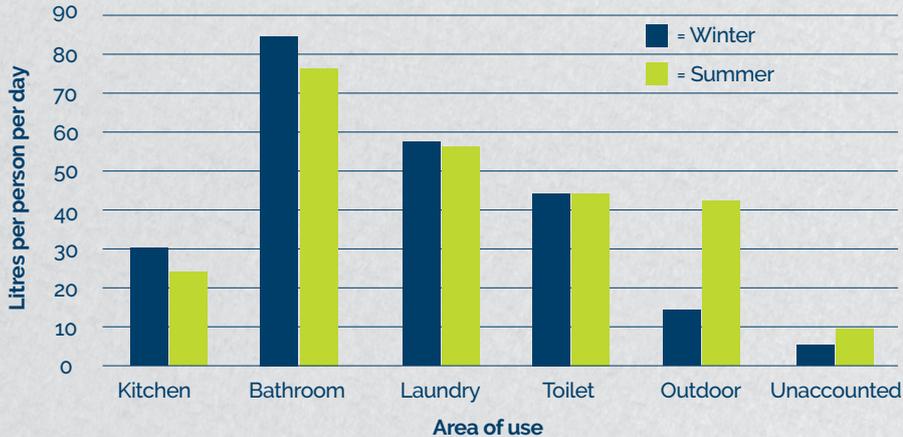


Figure 6: Estimated household water use divided into different areas of the household.

There are lots of ways to save water around the house by reducing unnecessary water use. Take a look online at smartwater.org.nz for top tips.



Litres per flush according to the age of your toilet.

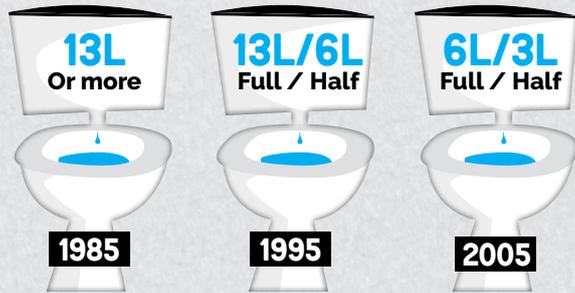


Figure 4: Litres per flush according to the age of your toilet.

Water consumption in the household can be broken down further into areas and how much is used per area. Flushing your toilet uses more water than you think! Using the half flush function can make a big difference to water savings, as can upgrading your toilet to a newer model.

Residential water use in Waipā District

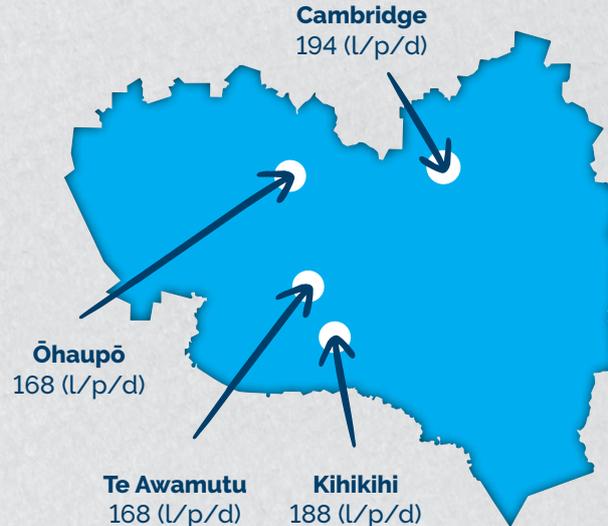


Figure 5: 2021 annual average consumption calculations for each area per day in litres per person per day (L/p/d)

Waipā residential water use compared to other districts in New Zealand

Average daily residential water use (Litres/person/day)

Bars are colour coded according to the proportion of the network that has residential water metering

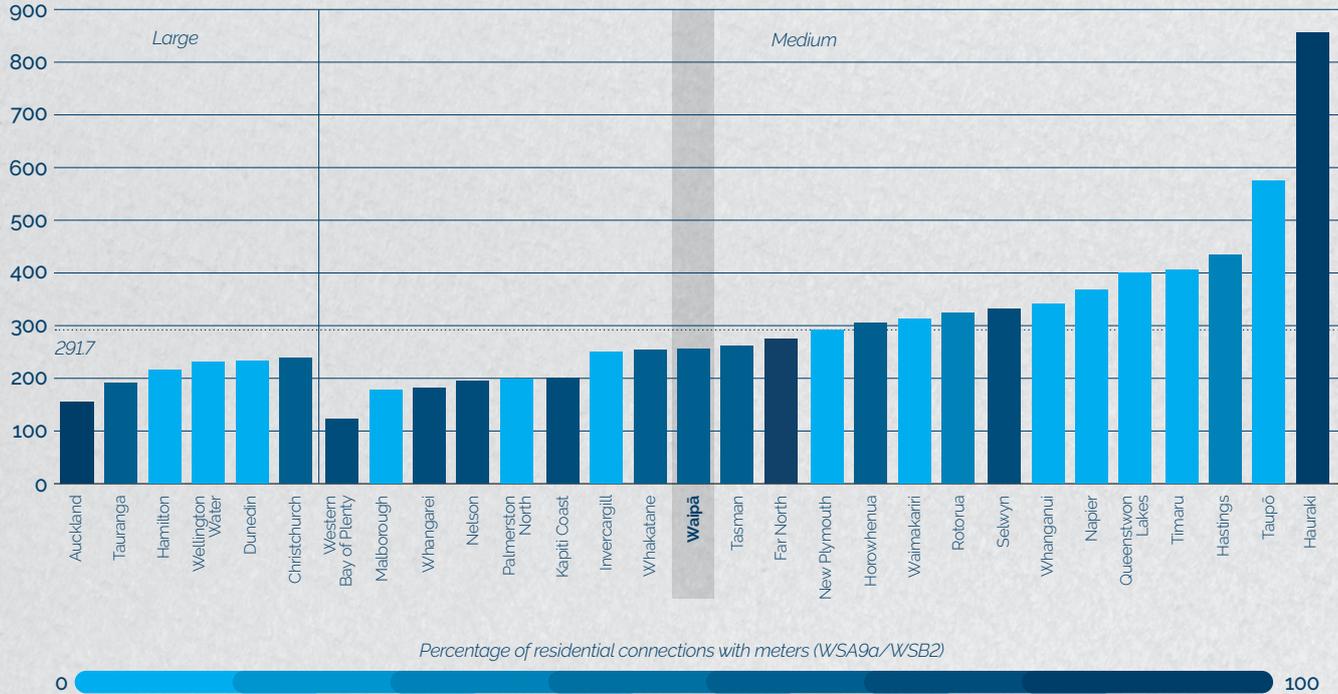


Figure 7: Residential water use efficiency benchmarking

(Water New Zealand, 2019, www.waternz.org.nz/residentialefficiency) National Performance Review

WATER INFRASTRUCTURE

Check out 'Maps Online' to explore waters infrastructure including the reticulation network and supply for the district.

You can access 'Maps Online' from the council website.

From the home page, navigate to the maps online module and through to the utilities section.

In left menu under modules choose **"Utilities"**.

Under Layers only have **"Road Names"** selected.

Select all under **"Water supply"** except **"water supply points"**.

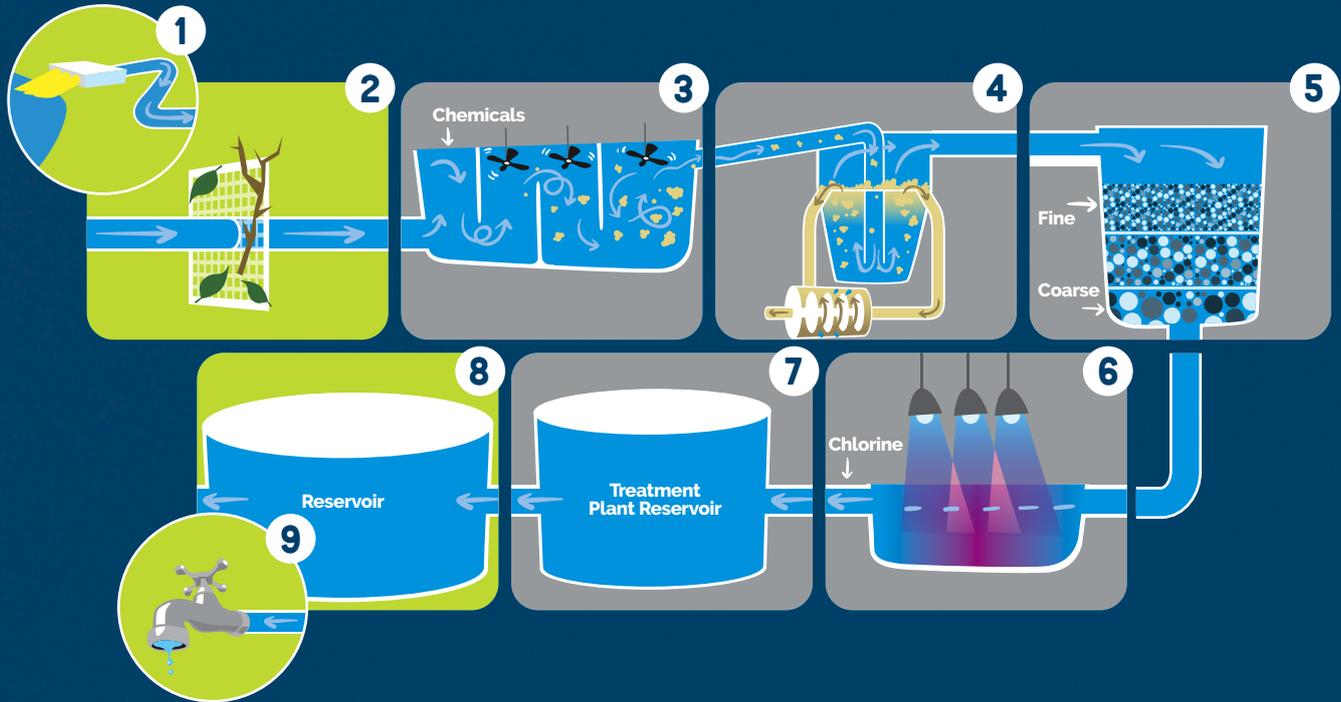
Zoom in to see the detail.

Also select **"aerials"**.



WATER TREATMENT PROCESS

As there are 8 separate water treatment plants in Waipā the process is slightly different for each site.



1 COLLECTING

Rain falls and collects in streams, rivers and aquifers in our district. Some of this water flows into the water supply intake towards the water treatment plant.

2 SCREENING

The water goes through a fine screen to stop leaves, branches and gravel from getting into the water treatment plant.

3 COAGULATION

We add chemicals to the water and stir it. This helps all the small dirt particles clump together to make 'floc'. Floc is easier to see and remove.

4 SEDIMENTATION

The floc is gathered together and separated out in the hopper tank. The clean water leaves at the top of the tank and the sludge is removed for disposal.

5 FILTERING

Water passes through a set of sand filters. These filters act like very fine screens, trapping and separating out any last unwanted, small dirt particles.

6 DISINFECTION (PT. 1)

UV light deactivates micro organisms and protozoa by permanently altering their DNA so they cant infect or reproduce.

7 DISINFECTION (PT. 2)

We add chlorine to the water to kill any bugs that might get into the pipes while the water is on its long journey to our taps.

8 STORING

This allows good pressure, fire fighting reserves and resilience in the system in case of burst main pipes.

9 USING

Water that we use at home and school for showering, drinking, washing dishes, cleaning, gardening and more!

To watch a video of the water treatment process see below:



Smart Water tour of a Local water treatment plant

The water treatment plant in this video is the Hamilton City Water Treatment Plant at Peacocks Road.

**To learn more about the story of
water visit, www.smartwater.org.nz**

 /WaipaDistrictCouncil

www.waipadc.govt.nz

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