

Discoloured Water - Past, Present & Future

Council's Progress to Minimising Discoloured Water in the City

Discoloured Water - What causes it?

Palmerston North's water supply from the Turitea Dams is rich in Iron & Manganese, which when treated can deposit as sediment into the pipes throughout the City. Some of these deposits stick to the old cast iron & unlined steel pipes. When disturbed, the sediment discolours the water. However, because the water is treated it is safe to drink.

Specific treatment to remove the Iron & Manganese from the Turitea Dam was commissioned in 1999 at the Turitea Water Treatment Plant.



above: Cast iron pipes that have been replaced so far.

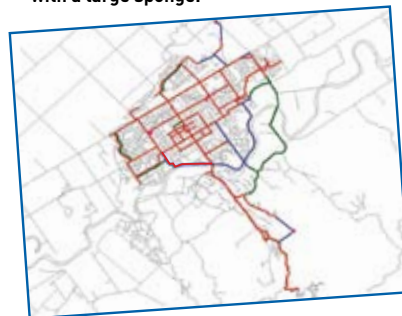
What is Council doing to reduce incidents of discoloured water?

- 1 Targeting the water replacement programme to the of the cast iron and unlined steel pipes installed before 1960, which allow sediment to build up.
- 2 Reducing the amount of sediment moving around the pipes by adding further trunk mains, to the east and west of Fitzherbert Avenue, thus reducing the speed at which the water flows through the pipes.



left: The swabbing chamber at Fitzherbert Bridge.

- 3 Removal of the sediment from the trunk mains that feed the City from the Turitea Dam by swabbing the inside of these pipes with a large sponge.



above: Future trunk main network - red [existing], blue and green [indicative of future trunk mains].

- 4 Removal of the sediment from the pipes by "flushing" the pipes at known points of accumulation. "Flushing" is where fire hydrants are opened to scour out/wash out the sediment from the pipe.

What has Council achieved so far?

- 1 30km of Cast Iron pipes have been replaced since 2005, with a further 50km scheduled to be replaced by 2013/2014 at an estimated cost of over \$10 million.
- 2 A new trunk main from Fitzherbert Avenue to Botanical Rd/Ferguson St intersection was completed in 2008. Design is underway on a trunk main from Fitzherbert Avenue to Albert St, due for completion in 2010/2011.



left: A fire hydrant is opened to flush out the pipes.

- 3 A chamber was installed at Fitzherbert Bridge to retrieve the swab in late 2007.

A resource consent to discharge discoloured water, under specific conditions, was granted in late 2007.

In 2008 the Council swabbed on three occasions

- The 2002 main from the Ngahere Park Reservoirs to the Fitzherbert Bridge
- The 1957 main from the Ngahere Park Reservoirs to the Fitzherbert Bridge, and
- The 1930 main from The Square to Fitzherbert Bridge.

In June 2009 four valves were replaced in the 1957 main to allow this main to be swabbed from the Water Treatment Plant to Fitzherbert Bridge.

- 4 An ongoing flushing programme is in place, with targeted flushing at known points of accumulation of sediment. In some places specific flushing points have been installed.

What Council is planning over the next few years?

- 1 Continuation of the replacement programme of the cast iron and unlined steel pipes.

- 2 Continue with proposed future trunk main network.

Scheduled additional trunk mains for 2009-2011 are:

- Tremaine Ave/Armstrong St to McLeavey Dr
- Fitzherbert Ave to Albert St/Te Awe Awe St (Fitzherbert to Albert along River)
- Albert St/Te Awe Awe to Albert St/ Featherston St
- College St/Botanical Rd to College St/ Maxwells Line

Further works planned after 2011

- 3 In the Winter of 2009 (July - October 2009) the Council will swab on three occasions.

- The 1957 main from the Turitea Water Treatment Plant to the Fitzherbert Bridge
- The 2002 main from the Ngahere Park Reservoirs to the Fitzherbert Bridge, and
- Repeat the swab of 1957 main again.

The season for swabbing has now begun [Square Circular 19th July]. It is difficult to predict the exact date as, so Council will put aside "a week" when swabbing is likely to occur (look for this in the public notices section of the Manawatu Standard), with daily updates during the "swabbing week" on Council's website and releases to media.

Swabbing these mains is planned every winter for the foreseeable future.

- 4 Continuation of the flushing programme throughout the City's pipes.

