

CONSENT MONITORING REPORT



Your Community Partner

Consent Name	Ngaruawahia Wastewater Treatment System
Consent	100972, 100973, 100974
Year	1 July 2010 – 30 June 2011
File No.	55 06 26M / USV03
Date	26 September 2011

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COMPLIANCE WITH NGARUAWAHIA RESOURCE CONSENTS 100972, 100973, 100974 1 July 2010 – 30 June 2011

The Waikato District Council holds the above resource consents associated with the treatment and discharge of wastewater from the Ngaruawahia sewage treatment plant located on the outskirts of the settlement. The resource consents issued by Environment Waikato include the following:

- 100972 To discharge up to 5000 cubic metres per day of treated wastewater from the plant after treatment subject to a number of conditions.
- 100973 To discharge contaminants to air from the wastewater treatment plant.
- 100974 To construct and maintain an outflow diffuser on the bed of the Waikato River for the discharge of treated domestic wastewater.

The Ngaruawahia wastewater treatment system generally showed some significantly improved performance, however difficulty continued in meeting the treatment discharge consent conditions, especially over the summer period.

Summary of Treatment Performance

Non-compliant Suspended Solids - Improved

The 90th Percentile target was 30.0 g/m³. The Target Maximum was 50 g/m³.

- Actual 90th Percentile was 48.2 g/m³ up from 46 g/m³ in 2009-2010.
- Maximum recorded value was 62 g/m³ in January 2011. High SS values in summer are indicative of the increased algae levels that are typical in a pond system.
- Median value for the 2010-2011 year was 33 g/m³, up from 29 g/m³ in 2009-10.

Partially-compliant Dissolved Reactive Phosphorous

The 90th Percentile target was 5.0 g/m³. The Target Maximum was 10.0 g/m³.

- The 90th Percentile value was 6.1 g/m³ up from 5.7 g/m³ in 2009-2010.
- Maximum recorded value at 6.60 g/m³ in December 2010 did not exceed the maximum limit
- Median value was 4.9 g/m³, the same as for the 2009-2010 year.

Partially-compliant Total Ammoniacal Nitrogen

The 90th Percentile target was 10.0 g/m³. The Target Maximum was 15.0 g/m³.

- The 90th Percentile value was 12 g/m³, down from 18 g/m³ in 2009-2010.
- Maximum recorded value was 14.9 g/m³, down from 26 g/m³ in 2009-2010.
- Median value for the 2010-2011 year was 8 g/m³, up from 5.4 g/m³ in 2009-10.

Non-compliant Faecal Coliforms – Some Improvement

The 90th Percentile target was 3000 MPN/100mL.

- The 90th Percentile value was 13,700, down from 22,600 MPN per 100mL on the previous period 2009-2010.
- The Median was 7450 MPN per 100mL, down from 10,000 MPN per 100mL for the previous period 2009-2010.
- Maximum recorded value was 35,000 MPN per 100mL, down from 37,000 MPN per 100mL on the previous period 2009-2010.

Compliant Biochemical Oxygen Demand – Partial Compliance, some improvement

The 90th Percentile target was 20.0 g/m³. The Target Maximum was 50.0 g/m³.

- The 90th Percentile achieved was 18.8 g/m³, down from 20.8 g/m³ in the previous 2009-10 period.
- Maximum recorded value was 22 g/m³ in Dec 2010, down from 27 g/m³ in the 2009-2010 period. A 23% reduction.
- Median value was 13 g/m³ same as 2009/2010.

Summary of Nutrient load discharged to Waikato River

Total Nitrogen – Table 8

- Median value for the 2010-2011 year was 14.55 g/m³.
- Median value for the 2010-2011 year was 22.89 kg/day.
- Median summer value Dec-May for the 2010-2011 year was 22.15 kg/day.
- The 90th Percentile value was 31.13 kg/day.
- Maximum recorded daily total was 38.33 kg/day in Aug 2010.
- Minimum recorded daily total was 15.72 kg/day in Nov 2010.

Total Phosphorous – Table 8

- Median value for the 2010-2011 year was 4.8 g/m³
- Median value for the 2010-2011 year was 8.30 kg/day.
- Median summer value Dec-May for the 2010-2011 year was 9.75 kg/day.
- Maximum recorded daily total was 11.70 kg/day in Jan 2011.
- Minimum recorded daily total was 4.52 kg/day in November 2010.

Summary of Effects of Treatment Plant Upgrade

Initial problems with ragging of the new aspirating aerators at the inlet end of the pond have settled down. It was expected that the turbulence caused by the aspirating action will eventually cease to lift older rags from the pond floor and these aerators will be able to be used appropriately, this has occurred.

The Wetland and Rock filter continues to contribute to the overall improvement of the discharge quality. The attached data tables demonstrate there is a significant quality improvement from the pond outlet and the wetland outlet sample values recorded for BOD, SS and to some extent Faecal Coliforms. The wetland also contributes to buffering of the final discharge pH thereby ensuring the toxic NH₃ form of the Total Ammonia in the discharge plume to the river remains lower.

Ongoing maintenance of the wetland plants and bund plus sludge removal remains problematic due to the physical limitations of the site. The proposed consent conditions see the removal of the wetland and replacement of the subsurface rock filter with a rock lined “stream” as requested by Tainui Hapu.

Work in progress

Council has engaged consultants (Cliff Boyt Consulting and MWH Consultants) to address the more stringent consent conditions that will apply from 1 December 2012.

By 30 September 2011, Waikato Regional Council will receive a report covering:

- Options that have been considered.
- How options have been compared.
- A short list of preferred options.
- A process of how to get to a final decision by February 2012.

Cliff Boyt has been liaising with Trisha Simonson.

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OPERATIONS MANAGER

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