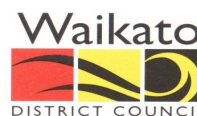


CONSENT MONITORING REPORT



Your Community Partner

Consent Name	Huntly Wastewater Treatment System
Consent No.	951126
Year	2009-10
Date	28 September 2010
File No.	55 06 29M / USV03

District Office
15 Galileo St, Private Bag 54
Ngaruawahia New Zealand
Ph 07 824 8633
Fax 07 824 8091
Call Free 0800 492 452
www.waikatodistrict.govt.nz

Area Offices
Huntly 07 828 7551
Raglan 07 825 8129

REPORT/COMMENTS

Huntly Wastewater Treatment Discharge 2009-2010

Resource consent 951126 authorises the Waikato District Council to discharge up to 6000 cubic metres per day of treated domestic wastewater from the Huntly oxidation pond and wetland system to the Waikato river. The application for the current consent was made in 1995 and expired on 30 September 2009.

The Huntly wastewater treatment system generally showed a continuing difficulty in meeting the discharge consent conditions over the summer period. In addition the results show that maximum daily discharge volumes were exceeded in the winter months due to very heavy local rainfall and infiltration to the wetland from backed up local drainage. During this period the North Island experienced significant and unusually heavy wet weather storm events that contributed to infiltration beyond the normal flow range of the treatment plant and also localised flooding into the WWTP wetlands from the surrounding area.

The maximum daily flow was 5879 cubic metres per day in September 2009. The median maximum was 4042 cubic metres per day over the total reporting period.

In general the overall performance picture has improved especially for nutrient removal and faecal coliforms.

Summary of Non-compliance in Treatment Performance

Non-compliant Suspended Solids

The 90th Percentile target was 30 g/m³. The Target Maximum was 50 g/m³.

- Actual 90th Percentile value was 57.6 g/m³ down from 65.3 g/m³ in 2008-2009.
- Maximum recorded value was 67 g/m³ in March 2010. High SS values in summer are indicative of the increased algae levels typical in a pond system.
- Median value was 45 g/m³, essentially unchanged from 43 g/m³ in the 2008-09 year.

Non-compliant Dissolved Reactive Phosphorous

The 90th Percentile target was 5 g/m³. The Target Maximum was 10 g/m³.

- Actual 90th Percentile value was 6.2 g/m³.
- Maximum recorded value was 6.3 g/m³ in March 2010 did not exceed the maximum limit and was up from 4.45 g/m³ in 2008/2009.
- Median value for the 2009-2010 year was 5.2 g/m³ up slightly from 4.85 g/m³ in 2008-09.

Non Compliant Total Ammoniacal Nitrogen

The 90th Percentile target was 10 g/m³. The Target Maximum was 15 g/m³.

- The 90th Percentile value was 13.8 g/m³, up from 8.78 g/m³ in 2008/2009.
- Maximum recorded value was 16 g/m³ in December 2009.
- Median value was 4.10 g/m³ slightly from 3.80 g/m³ in 2008-09

Non-compliant Faecal Coliforms

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

- The 90th Percentile value was 3660 MPN/100 mL.
- Maximum recorded FC value was 7000 MPN/100mL in August 2009.
- Median value for the 2009-2010 year was 2400 MPN/100mL up from 1600 in 2008-2009.

Compliant Biological Oxygen Demand

The 90th Percentile target was 20 g/m³. The Target Maximum was 50 g/m³.

- The 90th Percentile was 14.94 g/m³ down from 24.0 g/m³ in 2008-2009.
- Maximum was 17 g/m³, down from 26 g/m³ in 2008-2009.
- Median value for the 2009-2010 year was 12.3 g/m³ down from 14.5 g/m³ in 2008-2009.

Summary of Nutrient load discharged to Waikato River

Total Nitrogen

- Median value for the 2009-2010 year was 9.63 g/m³
- Median value for the 2009-2010 year was 19.51 kg/day.
- Median summer value Dec-May for the 2009-2010 year was 15.16 kg/day.
- The 90th Percentile value was 44.77 kg/day.
- Maximum recorded monthly total was 55.93 kg/day in October 2009.
- Minimum recorded monthly total was 11.69 kg/day in January 2009.

- Proposed future Median to December 2012 – 40 g/m³
- Proposed future Median after December 2012 – 25 g/m³
- Proposed future summer Median after December 2012 – 20 g/m³
- Summer December to May nominal maximum 28.5 kg/day (combined Huntly & Nga load to not exceed 57 kg/day)

Total Phosphorous

- Median value for the 2009-2010 year was 5.3 g/m³
- Median value for the 2009-2010 year was 10.73 kg/day.
- Median summer value Dec-May for the 2009-2010 year was 9.68 kg/day
- The 90th Percentile value was 15.47 kg/day.
- Maximum recorded monthly total was 17.97 kg/day in June 2009.
- Minimum recorded monthly total was 5.57 kg/day in November 2009.

- Proposed future Median to December 2012 – 8 g/m³
- Proposed future Median after December 2012 – 8 g/m³
- Proposed future summer Median after December 2012 – 8 g/m³
- Summer December to May nominal maximum 8.65 kg/day (combined Huntly & Nga load to not exceed 17.3 kg/day)

Summary of Progress of Treatment Plant Upgrade

A significant upgrade project for the Huntly wastewater treatment ponds has been largely completed. The treatment upgrade steps implemented include desludging of pond one, the addition of automatic primary screening, additional influent aeration, curtains in the primary pond to prevent short circuiting and a separate tanker truck septage receiving system to reduce influent load.

Ongoing difficulties with the automatic operation of the septage receiving machinery have been managed by releasing the septage directly into the new sludge pond rather than directly into pond 1 this has eliminated any negative effects of the old protocol of dumping direct into the treatment ponds.

Ongoing problems with ragging of the new aspirating aerators at the inlet end of pond one has reduced the effective utilisation of this process improvement. It was hoped that the turbulence caused by the aspirating action would eventually cease to lift older rags from the pond floor and these aerators would be able to be used appropriately but this has not occurred. It is possible the ragging is due to bypassing of the step screen during peak flows. The inflow rates are known to be higher than desirable. At present we are clearing these rag blockages on the rotating aspirators as required.

The wetland continues to contribute to the overall improvement of the discharge quality. The attached data tables demonstrate there is a general quality improvement between the pond 2 outlet and the wetland outlet sample values recorded. The wetland also contributes to significant buffering of the final discharge pH thereby ensuring the toxic NH₃ form of the ammonia in the discharge plume to the river remains low.

The proposed consent conditions see the removal of the subsurface rock filter with possible future removal of the wetland. An ultraviolet steriliser following treatment is planned for 2011-2012 as agreed with a submitter to the consent renewal to reduce the final discharge pathogen levels.

.....
H Cameron
PLANTS ENGINEER

.....
R Bax
GENERAL MANAGER
WATER & FACILITIES