



Resource Consent

Pursuant to the Resource Management Act 1991, the Northland Regional Council (hereinafter called "the Council") does hereby grant a Resource Consent to:

FAR NORTH DISTRICT COUNCIL, PRIVATE BAG 752, KAIKOHE 0440

To undertake the following activities associated with the operation of a wastewater treatment system located at Kawakawa on Lot 1 DP 61906 and Secs 1 and 3 Blk XII Kawakawa SD:

- (01) To discharge treated wastewater into the Kawakawa River, at or about location co-ordinates 1697904E 6085453N.
- (02) To discharge contaminants into land beneath the treatment system, at or about location co-ordinates 1697850E 6085550N.
- (03) To discharge contaminants into air associated with the treatment and disposal of wastewater, at or about location co-ordinates 1697850E 6085550N.

Note: All location co-ordinates refer to Geodetic Datum 2000, New Zealand Traverse Mercator Projection.

Subject to the following conditions:

(01) & (02) Discharge into Water and Land

- 1 All wastewater up to a maximum of 1,600 cubic metres per day that is reticulated to the treatment site shall receive treatment within a bioreactor-clarifier system, filtration system and ultra violet light (UV) disinfection system prior to discharge into the Kawakawa River. The bioreactor-clarifier system, filtration system and UV system shall include such works as will ensure that this entire flow can be treated.

Advice Note: *No dry weather daily discharge rate from the treatment plant has been specified because the actual rates can be elevated by the ongoing discharge of stored water from Pond 1 after a rain event has occurred.*

2 All wastewater up to a maximum of 1,600 cubic metres per day that is reticulated to the treatment site shall receive a minimum ultra violet light dose of 90 milli-Watt seconds per square centimetre prior to discharge to the Kawakawa River for at least 98 percent of the time. For compliance purposes, the "minimum ultra violet light dose" shall be the "10 minute average received ultra violet light dose" calculated in accordance with the Schedule 1 (**attached**).

3 The Consent Holder shall minimise, as far as practicable, any increase in the rate of wastewater discharged as a result of water inflow and infiltration into the sewage reticulation network and treatment system.

***Advice Note:** Schedule 1 (**attached**) requires the daily wastewater inflow volumes and rainfall to be recorded and an annual assessment of any significant increases in inflow to be undertaken.*

4 The Consent Holder shall maintain a meter on the:

- (a) Influent pipe work to Pond 1 to measure the volume of wastewater entering the pond; and
- (b) Outlet pipe work from the bioreactor-clarifier system to the UV disinfection system to measure the volume of disinfected wastewater being discharged.

These meters shall have a measurement error of $\pm 5\%$ or less and shall be used to determine compliance with Conditions 1 and 3 in accordance with Schedule 1 (**attached**).

5 The Consent Holder shall test the electronics of the meters required by Condition 4 at least annually to ensure that the specified accuracy is maintained. Written verification from a suitably qualified person that the meter has been tested during the previous 12 month period shall be forwarded to the Northland Regional Council's Monitoring Manager by 1 May each year.

6 The Consent Holder shall ensure safe and easy access to Northland Regional Council to each of the following four sampling points so that water samples can be collected:

- (a) NRC Sampling Site 107278 - after the UV disinfection system;
- (b) NRC Sampling Site 100002 - constructed wetland outlet;
- (c) NRC Sampling Site 100003 - 25 metres upstream of discharge;
- (d) NRC Sampling Site 100005 - 20 metres downstream of discharge.

- 7 The contaminant concentrations in the treated wastewater, as measured at NRC sampling site 107278 (after UV disinfection system), shall not exceed the following limits:

Determinand	Unit	Median Concentration	90 percentile Concentration
5-day biochemical oxygen demand	g/m ³	10	20
Total suspended solids	g/m ³	10	20
Escherichia coli	MPN/100ml	50	200

The median and 90 percentile concentrations are "rolling" values. Compliance with this condition shall, as a minimum, be calculated in accordance with the methodology specified in Schedule 1 (**attached**).

The Consent Holder shall advise in writing the Northland Regional Council's Monitoring Manager within seven days of any recorded exceedance of the 90th percentile concentration limits, the reasons for the exceedance and the steps to be undertaken by the Consent Holder to ensure on-going compliance with this Condition.

Advice Note: *If any single sample exceeds the 90 percentile concentration limit for any of the listed determinands, the Consent Holder is expected to take all steps necessary to ensure compliance with this Condition. Additional sampling may be required if this event does occur to allow confirmation of the treatment system performance and avoid any adverse effects on the Kawakawa River.*

- 8 Wastewater from Pond 1 shall only be discharged directly to the constructed wetland system via the broad crested weir and/or the overflow pipe, bypassing treatment within the bioreactor-clarifier system, filtration system and UV disinfection system, if:
- (a) The discharge is during periods of prolonged or intense wet weather; and
 - (b) Wastewater is being treated by the bioreactor-clarifier system at the maximum rate of 1600 cubic metres per day; and
 - (c) The storage capacity of Pond 1 is exceeded.
- 9 In the event that the broad crested weir and/or the overflow pipe is utilised to discharge effluent from Pond 1 to the wetland treatment system in the period between 1 May and 31 August inclusive in any year, the overflow shall not occur for more than five (5) consecutive days.
- 10 In the event that the broad crested weir and/or the overflow pipe is utilised to discharge effluent from Pond 1 to the wetland treatment system in the period between 1 September and 30 April (inclusive) in the following year, the overflow shall not occur for more than three (3) consecutive days.

- 11 Prior warning of every imminent overflow from Pond 1 shall be provided to the Northland Regional Council's Monitoring Manager, the Waikare Inlet and Orongo Bay Delivery Centre Limited, and Northland District Health Board's On-call Health Protection Officer.
- 12 The Consent Holder shall keep records of all overflow events and their duration and shall supply these records to the Northland Regional Council's Monitoring Manager by 1 May each year for the previous calendar year. In addition, a copy of these records shall be forwarded to the Northland Regional Council's Monitoring Manager immediately on written request by that manager.
- 13 There shall be no discharge of contaminants onto or into land from any part of the treatment system except via seepage from the base of the treatment system, or any discharge to water except via the constructed outlet from the treatment system.
- 14 Notwithstanding any other conditions, the exercise of these consents shall not result in any of the following effects in the water quality of the Kawakawa River, as measured at NRC Sampling Site 100005 (20m downstream of the discharge point):
 - (a) The production of conspicuous oil or grease films, scums or foams, floatable or suspended materials;
 - (b) Any conspicuous change in the colour or visual clarity;
 - (c) Any emissions of objectionable odour;
 - (d) Any significant adverse effects on aquatic life; and
 - (e) No adverse change in the Escherichia coli concentration.

For compliance purposes, the water quality at NRC Sampling Site 100005 shall be compared to the background water quality of the Kawakawa River as measured at NRC Sampling Site 100003 (20 metres downstream of discharge).

(03) Discharge to Air

- 15 The Consent Holder's operations shall not give rise to any discharge of contaminants at or beyond the legal boundaries of Lot 1 DP 61906 and Secs 1 and 2 Blk XII Kawakawa SD which is deemed by a suitably trained and experienced Enforcement Officer of the Northland Regional Council to be noxious, dangerous, offensive or objectionable.

General Conditions (01) – (03)

- 16 The Consent Holder shall maintain the Management Plan for the treatment system and review this at least once every three years. Any changes to the Plan resulting from any review shall be subject to the approval of the Northland Regional Council's Monitoring Manager.

- 17 The Consent Holder shall maintain the treatment system so that it operates effectively at all times, and a written record of all maintenance undertaken shall be kept. A copy of this record shall be forwarded to the Northland Regional Council's Monitoring Manager immediately on written request by that manager.
- 18 The Consent Holder shall monitor and report on these consents in accordance with Schedule 1 (**attached**). Changes may be made to Schedule 1 with the written approval of the Northland Regional Council's Monitoring Manager.
- 19 The Consent Holder shall hold a meeting with representatives of Ngati Hine and Ngati Manu not less than once every year to discuss the report(s) prepared in accordance with Condition 18 and any other relevant matters related to the exercise of these consents. The meeting shall only be held if a representative(s) of Ngati Hine and/or Ngati Manu request a meeting with the Consent Holder. If such a request is made, then the Consent Holder shall organise a meeting at a local venue for the representative(s) of Ngati Hine and Ngati Manu to attend. The meeting shall be held at a time agreed with the representative(s) of Ngati Hine and Ngati Manu.
- 20 The Consent Holder shall, for the purposes of adequately monitoring the consent as required under Section 35 of the Resource Management Act 1991, on becoming aware of any contaminant associated with the Consent Holder's operations escaping otherwise than in conformity with this consent:
 - (a) Immediately take such action, or execute such work as may be necessary, to stop and/or contain such escape;
 - (b) Immediately notify the Northland Regional Council and the Northland District Health Board's On-call Health Protection Officer by telephone of an escape of contaminant;
 - (c) Take all reasonable steps to remedy or mitigate any adverse effects on the environment resulting from the escape; and
 - (d) Report to the Northland Regional Council's Monitoring Manager in writing within one week on the cause of the escape of the contaminant and the steps taken or being taken to effectively control or prevent such escape.

With regard to telephone notification, during Northland Regional Council opening hours the assigned monitoring officer for these consents should be contacted. If that person cannot be spoken to directly, or it is outside of Northland Regional Council opening hours, then the Consent Holder shall contact the Northland Regional Council's 24 Hour Environmental Hotline.

21 The Council may, in accordance with Section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions annually during the month of February for any one or more of the following purposes:

- (a) To deal with any adverse effects on the environment that may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or
- (b) To require the adoption of the best practicable option to remove or reduce any adverse effect on the environment; or
- (c) To deal with the effects of inflow and infiltration into the sewage reticulation network and treatment system; or
- (d) To amend the monitoring programme.

The Consent Holder shall meet all reasonable costs of any such review.

Advice Note: *The Council may, in accordance with Section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions any time for the following purposes:*

- (a) *To provide for compliance with rules relating to minimum standards of water quality or air quality in any regional plan that has been made operative since the commencement of the consent; or*
- (b) *To provide for compliance with any relevant national environmental standards that have been made; or*
- (c) *Where there are inaccuracies in the information made available with the application that materially influenced the decision on the application and where the effects of the exercise of consent are such that it is necessary to apply more appropriate conditions.*

EXPIRY DATE: 30 APRIL 2036

This consent is granted this Ninth day of July 2012 under delegated authority from the Council by:



**S J Savill
Consents Programme Manager –
Water and Waste**

Please note that the date of commencement for this Resource Consent is 9 July 2012.

SCHEDULE 1

MONITORING PROGRAMME

The Consent Holder shall undertake the following monitoring:

1 WASTEWATER VOLUMES

The Consent Holder shall keep a written record of the daily, midnight to midnight, inflow volume to Pond 1 and treated wastewater discharge volumes to the Kawakawa River using the meters required by Condition 4.

The daily amount of rainfall at the site, or within its general location, shall be recorded at an automated collection site that has been approved by the Northland Regional Council's Hydrology Department.

For each rain event, the following records shall be kept:

- (a) Date(s), duration and intensity of the event;
- (b) The duration of any observable increase in the daily wastewater inflow and discharge volumes as a result of the rain event, and
- (c) The estimated increase in daily wastewater inflow and discharge volume as a result the rain event.

2 TREATED WASTEWATER QUALITY

The following sampling and analyses shall be undertaken on at least one occasion each calendar month. During the winter months, the sampling shall be undertaken during, or immediately after, a rain event on at least three occasions.

During each sampling occasion, a composite* wastewater sample shall be collected at each of the following sites:

- (a) NRC Sampling Site 107278: after UV disinfection system.
- (b) NRC Sampling Site 100002: constructed wetland outlet.

The composite wastewater samples shall be analysed for the following:

Determinand
Escherichia coli
5 day Biochemical Oxygen Demand
Total Suspended Solids
Total Ammoniacal Nitrogen (NH ₄ + NH ₃ - N)

**A sample made up of equal volumes from three samples taken at least one minute apart during the same sampling event.*

Temperature, pH and dissolved oxygen concentration shall be recorded in the wastewater samples using an appropriate meter, and in accordance with standard procedures.

Any significant odours at the site are also to be noted and recorded in the monitoring report.

3 COMPLIANCE WITH CONDITION 2

Definitions

For each ultra violet light (UV) channel, the received UV dose is defined as the product of the UV light intensity, as measured within the wastewater passing through the channel, and the retention time of the wastewater within the effective treatment area of the UV channel.

The following terms are defined for each UV channel:

Reactor Volume is the measured volume of wastewater in litres at any given time passing through the UV channel.

Adjusted Retention Time is the reactor volume divided by the measured rate of flow into the UV channel in litres per second.

UV Intensity is the measured UV light intensity (mW/cm²) across the reactor volume at any given time.

Calculations

The reactor volume, the flow rate of wastewater through the UV channel and the UV intensity shall be recorded at no greater than 1 (one) minute intervals for each operational UV channel. The received UV dose for each operational UV channel shall be calculated using the following formula:

$$\text{Received UV Dose} = \text{Measured UV Intensity} \times \text{Adjusted Retention Time}$$

The "10 minute Average Received Ultra Violet Light Dose" shall be calculated by summing all the "Received UV Dose" values recorded over the previous 10 minute period and dividing that sum by the number of recorded values.

Compliance with the 98 percent requirement shall be determined each day for the period midnight to midnight.

The Consent Holder shall keep a record of all the above data in a format agreed with by the Northland Regional Council's Monitoring Manager. A copy of these records shall be provided to the Northland Regional Council's Monitoring Manager immediately upon written request by that manager.

4 COMPLIANCE WITH CONDITION 7

4.1 Median Value

The median value for the determinands listed shall be a "rolling" median calculated monthly using, as a minimum, the results from the 12 most recent samples collected in accordance with Section 2 and any samples collected by the Regional Council. Until such time as 12 individual monthly samples have been collected, the results of sampling to date shall be utilised for compliance purposes.

4.2 90th Percentile Value

The 90th percentile value for the determinands listed shall be a "rolling" 90th percentile value calculated monthly using, as a minimum, the 12 most recent samples collected in accordance with Section 2 and any samples collected by the Regional Council. Until such time as 12 individual monthly samples have been collected, the results of sampling to date shall be utilised for compliance purposes.

If non-compliance occurs with a required 90th percentile value, then provided the sample results in subsequent months are below the required 90th percentile value the non-compliance will not be carried forward.

5 NON-COMPLIANCE

Any non-compliance with the conditions of this consent as determined by the monitoring undertaken in accordance with this schedule shall be immediately reported to the Regional Council's Monitoring Manager.

6 COLLECTION OF SAMPLES

All samples shall be collected using standard procedures and in appropriate laboratory supplied containers.

All samples collected as part of this monitoring programme shall be transported in accordance with standard procedures and under chain of custody to the laboratory.

All samples taken shall be analysed at a laboratory with registered quality assurance procedures[#], and all analyses are to be undertaken using standard methods, where applicable.

[#] Registered Quality Assurance Procedures are procedures which ensure that the laboratory meets recognised management practices as would include registrations such as ISO 9000, ISO Guide 25, Ministry of Health Accreditation.

7 REPORTING

The Consent Holder shall forward a report to the Northland Regional Council's Monitoring Manager and representatives of Ngati Hine and Ngati Manu by the 15th of each month for the preceding calendar month that provides the following:

- (a) The wastewater volumes required by Section 1 of this schedule;
- (b) Daily assessment of compliance with the 98 percent UV dose requirement of Condition 2;
- (c) Monitoring results of Section 2 of this schedule;
- (d) Assessment of compliance with Condition 7 in accordance with Section 4 of this schedule;
- (e) If there is a non-compliance with Condition 7, reasons for the non-compliances and any measures undertaken to prevent further non-compliance for that reason.

Each year by the 1 May, an assessment of inflow volumes as a result infiltration and inflow to the system shall be provided for the preceding year 1 April to 31 March. This assessment shall use the information required to be kept in accordance with Section 1 of this schedule and shall compare inflows with similar events in previous years. If there are identifiable significant increases in inflow and infiltration occurring for similar rain events, then details of what is proposed to be undertaken to rectify the increase shall be provided. A summary of the information required to be recorded by Section 1 shall be included in this assessment.

All required numerical monitoring results shall be provided in a Microsoft Excel spreadsheet, or otherwise an alternative format agreed to beforehand with the Northland Regional Council.