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URUTI COMPOSTING & VERMICULTURE FACILITY

Wetlands Treatment System Management Plan

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Wetland Treatment System
Management Plan

Version Control

Version	Date	Description	Prepared	Reviewed	Approved
V1.1	26-7-2018	Draft for review	C Kay		
V1.2	27-9-2018	Draft for review	C Kay		

To complete:

4.0 Incoming Material Pad 2

Develop a new diagram

Table of Content

Terms and Definitions

xxx	yyy

0.0 Purpose of the Plan

1.0 General

2.0 Resource Consent Conditions

On 27th May 2010 the TRC issued the following resource consent

5838-2 **To Discharge:**

a) Waste material to for composting; and
b) Treated stormwater and leachate from composting operations; onto and into land in circumstances where contaminates may enter water in the Haehunga Stream Catchment and directly into an unnamed tributary of the Haehunga Stream between approximate {NZTN} 1731704E-5685796N, 1733127E-56884809N, 1732277E-5685101N, 1732451E-5684624N and 1732056E-5684927N

Condition22 the consent holder shall prepare a Wetland Treatment System Management Plan that details management practices undertaken to maximise treatment capabilities of the system. The plan shall be submitted for approval to the TRC within one month of the commencement date of this consent.

The Management Plan shall address, but not necessarily be limited to, the following matters:

a) How the build-up of sediment and/or sludge will be managed within the entire system, how the level of build-up will be monitored including factors which will trigger management, and the frequency of undertakings the identified measures or procedures; and
b) How plant die-off within the system will be managed, and the frequency and/or timing of undertaking the identified measures or procedures.

Condition 23 Operations on site shall be undertaken in accordance with the Wetland Treatment System Management Plan, approved under condition 20 above.

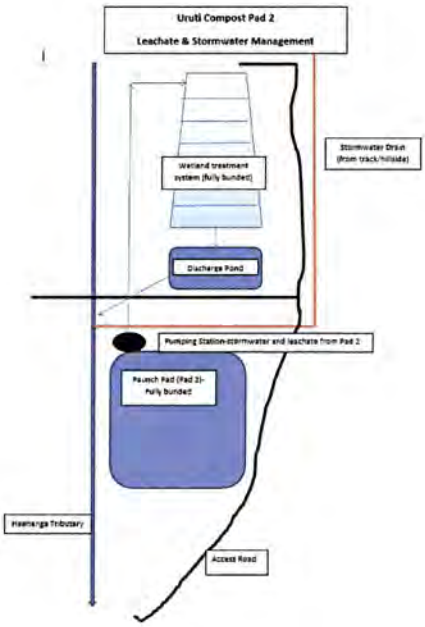
Condition 24 The discharge from the Wetland Treatment System shall meet the following standards [at monitoring site IND003008]

a) The suspended solids concentration shall not exceed 100 g/m^3; and
b) The pH shall be between 6.0 and 9.0.

Condition 25 Discharges from the Wetland Treatment System shall not give rise to any of the following effects in the unnamed tributary of the Haehanga Stream, after o mixing zone of 40 m, at established monitoring site HHG000130 [at or about grid reference 1731695E-56855050N]:

a) a rise in filtered carbonaceous biochemical oxygen demand of more than 2.00 g/m^3;
b)

3.0 Incoming Material Pad 2



4.0 Incoming Materials Pad 2

Paunch Grass is received (approximately 5-6,000 tonnes per annum) on a 4,000 m^2 pad, where it is composted for up to six months before being fed to worms at various sites in Taranaki.

5.0 Leachate Management

Leachate from Pad 2 is collected in the 400 m^3 capacity pond on Pad 2, from there it is pumped to the wetland on a as required basis, this allows solids from Pad 2 to settle out before pumping.

6.0 Wetland

6.1.1 Wetland Structure

The wetland system consists of seven separate terraces and a final pond, collectively they have a holding capacity of 5 million litres.
Section One contains a series of filter sox which are designed to remove solids before they enter the planted sections of the wetland
Section 2 to 7 are planted with species appropriate to nutrient loadings as leachate passes through the system. Each terrace has a filter sock before the exit weir.

6.1.2 Sediment Management

The collection pond on Pad 2 and section One of the wetland system are checked weekly to maintain treatment performance and avoid sludge carry over into the wetland.

Sludge from the collection pond on pad 2 is removed on a 20% full base.

Solids that have accumulated in section one (filter sox) and the exit weirs of the wetland system are monitored weekly and cleaned out on a 20% base. A long reach digger is used.

6.1.3 Plant Management

The Wetland is inspected on a weekly basis, this inspection includes:

- Plant health
- Weeds
- Pest problems

Remedial action will be taken as necessary:

- Dead plants will be replaced on an annual basis generally in October
- Weeds will be removed or replaced
- Pests eradicated or discouraged

Plant die-back (Raupo) can reduce the treatment capabilities and capacity of the wetland system, which in turn may lead to higher ammonia levels in the discharge or contribute to higher levels by the breakdown of plant protein. Monitoring results to date seem to indicate ammonia levels were more elevated in the initial establishment stage of the Raupo section. To reduce the potential for higher levels of ammonia in the discharge the top section (above water) of the plant will be cut and removed from the wetland section at the time of the die back.

TRC monitoring along with our own site dairy records indicate the removal of Raupo should occur as soon as any die – back is recorded, this is generally in late March early April. RNZ will carry out alternative month testing for NH_3 to assist in identifying the trigger point for Raupo die back and harvesting

6.1.4 Other Issues

6.1.4.1 Track maintenance

The track to the wetland is inspected weekly and any maintenance requirements.

6.1.4.2 Pond wall integrity check

The pond walls are checked weekly damage from stream erosion and feral animals.

6.1.4.3 Stormwater channels check

Stormwater channels are checked weekly for damage from slips and feral animals.

6.1.4.4 Wetland water levels

In summer water levels in the wetland are monitored to ensure they do not get too low and plants become stressed, up to 50 m^3 of water per day can be added if necessary.

Discharge volumes and durations are measured and recorded as per consent conditions.


Pad 3
Drilling Mud &
Compost
Pad 2
Paunch
Pad 1
Compost