

Annual Monitoring Report

# Wainui Wastewater Treatment Plant Annual Report

1 June 2023 to 31 July 2024



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# 1. Introduction

## Purpose

This report fulfils the requirements of Condition 25 of CRC091580.

## About the Treatment Plant

Wainui WWTP was privately built by the developer of the Seaview Lane subdivision and used to discharge treated wastewater to the harbour, before this was diverted to land irrigation in 2013.

# 2. Conditions monitored for this report

## Condition 25a. Daily Discharge Flow Records

- See Attached excel document for these records in full.

## Condition 24b. Wastewater sampling results

- See Attached excel document for these records in full.

## Condition 24c. Median and 90 percentile wastewater quality concentrations.

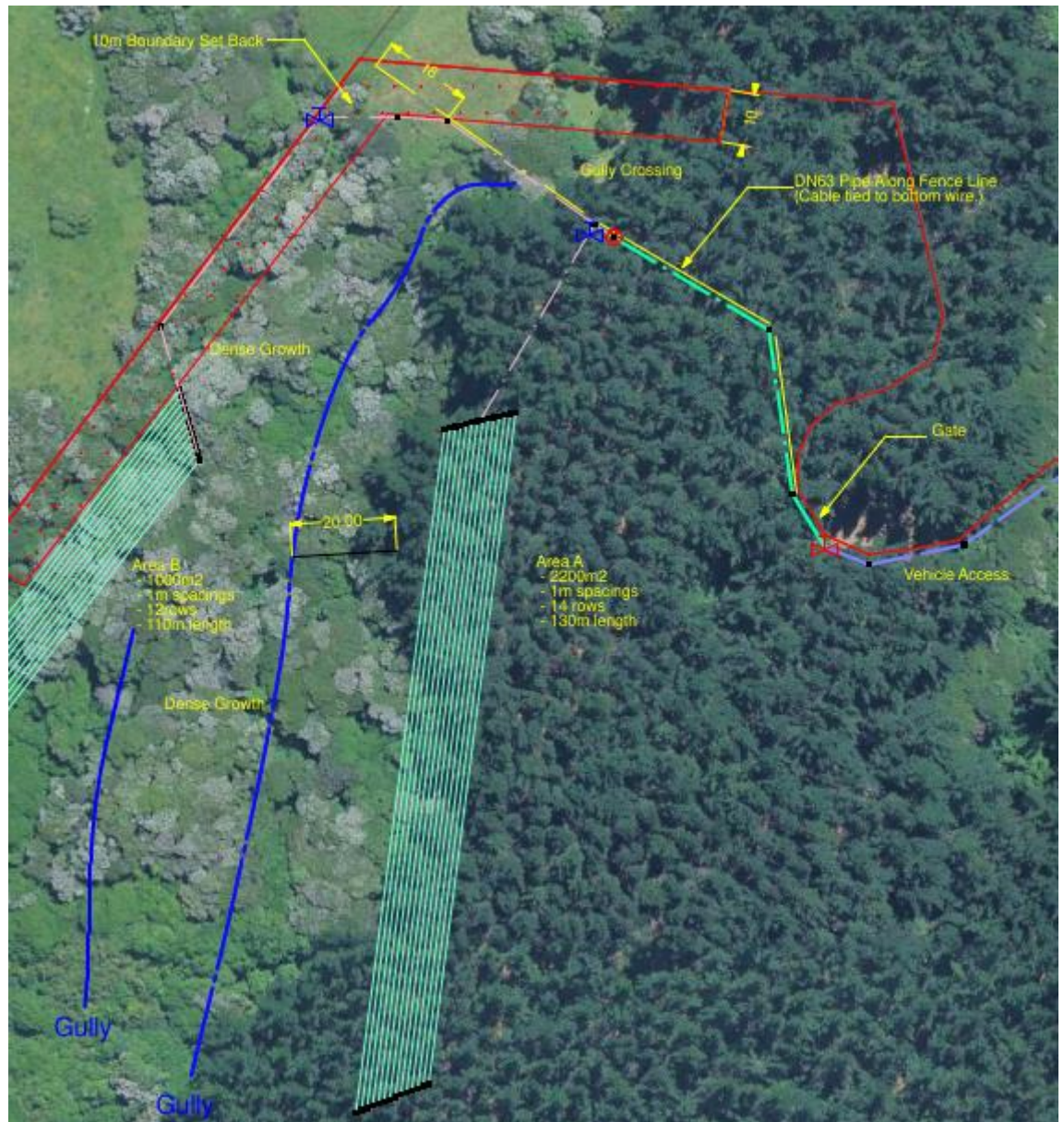
- These calculations have been completed and can be found in the attached excel document.

## Condition 24d. Records of the irrigation areas used

The original Land Treatment Area (as defined by CRC091580) ran through an area of pine plantation. This pine plantation has since matured to the point where the block needed to be felled, so as part of this process the treatment area has now moved to another part of 1R Warnerville Road, Wainui, which is within the consented IA2 area.

Irrigation Area (IA2)	
Area A	2200m <sup>2</sup>
Dripper lines	14 rows of 16mm diameter pipe at 130m length, 1820m total length





Map showing the treatment area in use (Area A), laid in April 2021

## Condition 24e. Daily wastewater application rates.

- There were 6 days out of 366 days this year where the discharge flow rate exceeded the consent limit.
- There were 3 days out of 366 days this year where the application rate exceeded the maximum consented limit for the irrigation area available.

See Attached excel document for these records of the Irrigation Field flow and Application Rate.

Average Weekly Application Rate 1.37mm

Average Annual application rate 1.40mm



## Condition 24f. Estimated annual Nitrogen load applied to the Irrigation area.

The estimated annual Total Nitrogen (TN) load was calculated as follows:

- 596.4 TN g/m<sup>3</sup> measured over 12 samples, annual average is 35 g/m<sup>3</sup>
- Total annual flow is 1111.0m<sup>3</sup>
- Total estimated annual nitrogen is 38.9 kg applied over the 2200m<sup>2</sup> irrigation area
- 17.7 kg per hectare

This nutrient load was well below the annual maximum of 200 kg TN per hectare.



*Photo showing the vegetation in the treatment area*

## Condition 24g. Summary details of inspections, maintenance and upgrades of the wastewater treatment and land application systems since the previous annual report.

- These details of the weekly site checks have been scanned and will be sent as separate files as these daily site checks are large files.

Upgrades made to Wainui WWTP in the previous year:

- WWTP Control building has been renovated.
- Replacement of the Sand Filter sequencer.
- Installation of UV Disinfection system with higher reliability.
- Upgrade site access road/track and turning bay.
- General grounds improvements.

See attachment for Fredy's report on the UV system upgrades made in 2024

## Management Plan for Irrigation Field

- The pipes laid in April 2021 have a 50-year service life.
- Annually the field will be walked over to check that the dripper lines can flow unobstructed
- There is currently sufficient vegetation growing in the treatment area to meet consent requirements.