

Site Compliance Report

Site No: REG606029
Site Owner: Waikato District Council
Site Name: Matangi WWTP : Tauwhare Rd, Matangi
Date: 1 July 2018 to 30 June 2019

1 INTRODUCTION

The following resource consent is held for the site:

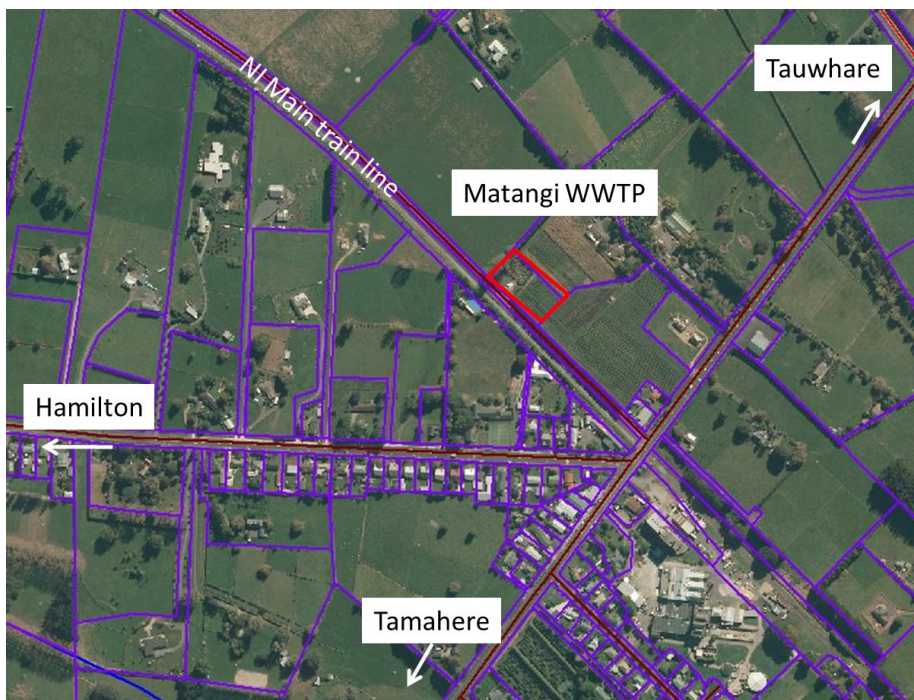
| Resource Consent | Status | Description | Commenced | Expiry |
|------------------|---------|---|------------|------------|
| AUTH105551.01.02 | Current | Discharge up to 52 cubic metres per day of treated sewage effluent from Matangi township, into the ground | 25/10/2001 | 30/09/2021 |

This report examines the level of compliance of Waikato District Council with the selected conditions of the resource consent.

2 BACKGROUND

The Matangi wastewater treatment plant (WWTP) was installed by Innoflow and consists of 110m³ septic tank and a 55m³ recirculation tank with sand filters and a dripper line system disposal to land within the site boundary. The WWTP serves the local community of Matangi and is operated on behalf of that community by Waikato District Council.

The Matangi area is flat land and has a shallow groundwater table which can cause issues with land disposal options during the wetter winter months. Climate change is likely to exacerbate this issue in years to come.

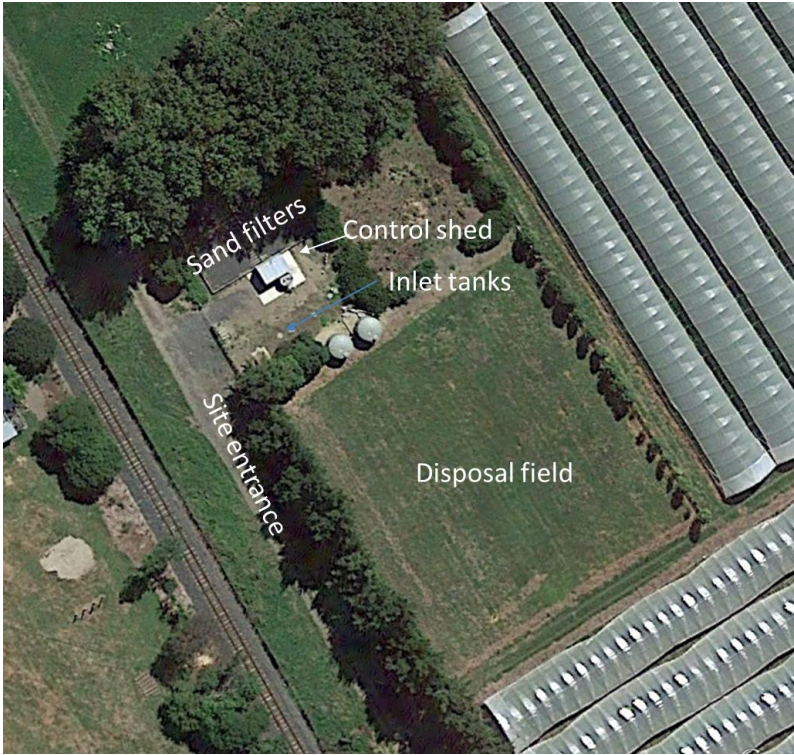


The consent holder states in their annual report submitted to Waikato Regional Council that:
The Matangi plant has exceeded the maximum daily discharge volume for this compliance year.

Council has investigated the reasons for the high plant inflow and have determined that there is infiltration and ingress occurring within the boundaries of private properties that discharge to the WDC sewerage system.

The residents who discharge to the WDC system have inground septic tanks that then discharge to the WDC reticulation system. Several septic tanks were uncovered to assess the condition of the septic tanks and all the tanks were cracked. The Matangi area has a high water table especially during winter and therefore ground water enters the system.

Waikato District Council (WDC) have entered into a commercial agreement where Watercare Services Ltd (WSL) this will see WSL providing all Councils waters management services to WDC under the guidance of a Waters Governance Board (WGB). This contract will be effective from 1 October 2019. WSL will begin the process to review and get an understanding of the wastewater plants but will continue planned or reactive works as identified in the current Council Long Term Plan 2018-2028 any new initiatives or changes will be limited to budgets and works already identified for the next 21 months.



2.1 PREVIOUS COMPLIANCE HISTORY

| Compliance Period | Site Compliance |
|-----------------------------|--------------------------|
| 1 July 2018 to 30 June 2019 | Partial Compliance |
| 1 July 2017 to 30 June 2018 | Partial Compliance |
| 1 July 2016 to 30 June 2017 | Not assessed |
| 1 July 2015 to 30 June 2016 | Partial compliance |
| 1 July 2014 to 30 June 2015 | High level of compliance |
| 1 July 2013 to 30 June 2014 | High level of compliance |
| 1 July 2012 to 30 June 2013 | Partial compliance |

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|-----------------------------|--------------------------|
| 1 July 2011 to 30 June 2012 | High level of compliance |
| 1 July 2010 to 30 June 2011 | Partial compliance |

2.2 PREVIOUS ISSUES

In the last audit (doc #13690970) for the compliance period of **1 July 2017 to 30 June 2018** the following issues were highlighted for action:

| Resource consent | Condition | Action Required |
|------------------|-----------|---|
| AUTH105551.01.02 | 1 | Take actions and improve the operation and capacity of the WWTP to return the discharge volumes to compliant levels |
| AUTH105551.01.02 | 5 | Continue to investigate, improve and rectify the causes of hydraulic overloading at Matangi that lead to surcharges and ponding |

A letter of direction was issued to Waikato District Council on the 25 February 2019 (doc #13858170). Waikato Regional Council provided a site improvement program for all sites in May 2019 (doc #14288037). The improvement programme included the following for Matangi WWTP:

- *investigate operation of disposal fields & refurb? ensure maintenance of dripper fields being undertaken;*
- *investigate network I&I and ensure programme for resolution*
- *follow up on Matangi School commitments to flow reduction. Investigate discharge for pool filtrate.*

3 COMPLIANCE ASSESSMENT

Unless otherwise specified in this document this assessment covers the period from 1 July 2018 to 30 June 2019.

Please note that a description of the classification system used to describe compliance status is given in Appendix 1 of this report.

AUTH105551.01.02 - Land - sewage

| Activity Authorised: Discharge up to 52 cubic metres per day of treated sewage effluent from Matangi township, into the ground | |
|---|---|
| Condition No. | Description |
| 1 | The volume of effluent discharged from the wastewater treatment and disposal system shall not exceed 52 cubic metres per day. |
| Evidence | <p>Matangi Wastewater Treatment System Annual Report 2018 - 2019 (Doc # 15247056).</p> <p>Regional Council monthly Update 2019 - 06 (Doc #16028952)</p> <p>Site Improvement Programme - all sites, sent 16/05/2019 (Doc #14288037)</p> |
| Status Reasoning | <p>The Matangi plant has exceeded the maximum daily discharge volume for this compliance year. The maximum daily flow recorded was 97m³. The average daily flow was 46m³.</p> <p>Data has not been provided to show on how many days during the 2018/2019 period the consent limit was exceeded, however the limits were exceeded during the months of July 2018 to</p> |

| | | |
|-------------------------|---|------------------------------------|
| | <p>December 2018.</p> <p>The consent holder has stated in the annual report that:</p> <p><i>Waikato District Council (WDC) have entered into a commercial agreement where Watercare Services Ltd (WSL) this will see WSL providing all Councils waters management services to WDC under the guidance of a Waters Governance Board (WGB). This contract will be effective from 1 October 2019.</i></p> <p><i>WSL will begin the process to review and get an understanding of the wastewater plants but will continue planned or reactive works as identified in the current Council Long Term Plan 2018-2028 any new initiatives or changes will be limited to budgets and works already identified for the next 21 months.</i></p> <p>WDC provided an improvement programme to WRC in May 2019 outlining actions to be taken. This included "<i>investigate network I&I and ensure programme for resolution</i>" in relation to Matangi.</p> | |
| Action Required | Please provide an update on the Site Improvement Programme, including confirmed steps, including relevant timeframes, being taken to bring the WWTP into compliance with the discharge volume parameter. | Low priority non-compliance |
| 2 | The consent holder shall retain appropriately experienced personnel to operate the treatment and disposal system. | |
| Evidence | | |
| Status Reasoning | | |
| Action Required | | Not assessed |
| 3 | The wastewater treatment plant and disposal system shall be operated and maintained in a manner that is consistent with the document titled "Matangi Township, Wastewater Treatment System – Management Manual (Revised July 2008)." | |
| Evidence | Matangi Wastewater Treatment System Annual Report 2018 - 2019 (Doc # 15247056). | |
| Status Reasoning | <p>The consent holder stated in their annual report that:</p> <p><i>Reflection Treatment Systems provided an amended manual for the 2008 upgrade.</i></p> | |
| Action Required | | Full compliance |
| 4 | The wastewater treatment tanks shall be de-sludged as necessary and in particular following receipt of notice in writing from the Waikato Regional Council to do so. The sludge waste shall be disposed of in an approved wastewater sludge disposal area. | |
| Evidence | Matangi Wastewater Treatment System Annual Report 2018 - 2019 (Doc # 15247056). | |
| Status Reasoning | <p>The consent holder states in the annual report that:</p> <p><i>The primary filters were due for replacement and the tanks were to be desludged then as part of normal processes.</i></p> | |
| Action Required | | Full compliance |
| 5 | There shall be no overland flow of effluent from any part of the wastewater treatment or effluent disposal system. | |
| Evidence | Matangi Wastewater Treatment System Annual Report 2018 - 2019 (Doc # 15247056). | |

| | | |
|-------------------------|--|------------------------|
| Status Reasoning | <p>The consent holder states in the annual report that:</p> <p><i>There was no overland flow onto neighbouring properties.</i></p> | |
| Action Required | | Full compliance |
| 6 | <p>The consent holder shall continue to a) determine the quality, quantity and variability of the treated wastewater prior to discharge, and b) determine the effects of the discharge on groundwater. To this end the consent holder shall undertake the following sampling to the satisfaction of Waikato Regional Council: (i) At an appropriate point immediately prior to discharge into the ground, to determine the total-nitrogen, nitrate-nitrogen, ammoniacal-nitrogen, dissolved reactive phosphorus, five-day biochemical oxygen demand (BOD5) concentrations and faecal coliform bacteria numbers at three monthly intervals (i.e. four times) throughout the year (see advice note 1). (ii) From at least two groundwater monitoring bores to determine total-nitrogen, nitrate-nitrogen, ammoniacal-nitrogen, dissolved reactive phosphorus, five-day biochemical oxygen demand (BOD5) concentrations and faecal coliform bacteria numbers at three monthly intervals (i.e. four times) throughout the year (see advice note 1)</p> | |
| Evidence | <p>Matangi Wastewater Treatment System Annual Report 2018 - 2019 (Doc # 15247056).</p> | |
| Status Reasoning | <p>Monthly results have been submitted testing the discharge for total-nitrogen, nitrate-nitrogen, ammoniacal-nitrogen, dissolved reactive phosphorus, five-day biochemical oxygen demand (BOD5) concentrations.</p> <p>Sampling result for faecal coliforms in the discharge show a peak in April 2019.</p> <p>All discharge results appear to be trending upwards.</p> <p>Sampling results for three groundwater bores testing for total-nitrogen, nitrate-nitrogen, ammoniacal-nitrogen, dissolved reactive phosphorus, five-day biochemical oxygen demand (BOD5) concentrations at three monthly interval have been submitted.</p> <p>Faecal coliform bacteria is consent in all three bores.</p> <p>Biochemical Oxygen Demand (BOD5) results are consistent in all three bores.</p> <p>Bore 2 showed an upward trend for ammoniacal nitrogen.</p> <p>Total nitrogen and nitrate is down in bores 2 and 3 but up In bore 1.</p> <p>Dissolved Reactive Phosphorus is elevated in all three bores in May 2019.</p> <p>WDC provided an improvement programme to WRC in May 2019 outlining actions to be taken. This included " <i>review current sampling vs – recommended - needed for capacity/perf checks</i>" in relation to Matangi.</p> | |
| Action Required | | Full compliance |
| 7 | <p>The consent holder shall retain an appropriately experienced person to compile an annual monitoring report that shall include the following:</p> <ul style="list-style-type: none"> (i) Analyses of all samples that have been taken at three monthly intervals throughout the year. (ii) Sample analyses, which shall be provided to the Waikato Regional Council in an agreed data form. (i) The total mass of nitrogen, stated as kilograms per hectare per year, that has been discharged into ground during the year. (ii) The total volume of wastewater discharged per week. The report shall be provided to the satisfaction of the Waikato Regional Council within two months of the fourth quarterly sample being taken. | |
| Evidence | <p>Matangi Wastewater Treatment System Annual Report 2018 - 2019 (Doc # 15247056).</p> | |

| | | |
|---|--|---------------------------------------|
| Status Reasoning | <p>(i) Analyses of all samples that have been taken at three monthly intervals throughout the year.</p> <p>Results provided.</p> <p>(ii) Sample analyses, which shall be provided to the Waikato Regional Council in an agreed data form.</p> <p>Provided</p> <p>(i) The total mass of nitrogen, stated as kilograms per hectare per year, that has been discharged into ground during the year.</p> <p>The total mass of nitrogen discharged into the ground has not been provided.</p> <p>(ii) The total volume of wastewater discharged per week. The report shall be provided to the satisfaction of the Waikato Regional Council within two months of the fourth quarterly sample being taken</p> <p>Records have been provided (Doc #16035757)</p> | |
| Action Required | Please ensure the annual monitoring report includes the total mass of nitrogen discharged into the ground during the year. | Minor technical non-compliance |
| Authorisation Compliance: High Level of compliance | | |

4 SUMMARY OF COMPLIANCE

Based on the conditions selected for monitoring, compliance has been assessed as:

| Authorisation | Authorisation Description | Compliance Status |
|------------------|---|--------------------------|
| AUTH105551.01.02 | Discharge up to 52 cubic metres per day of treated sewage effluent from Matangi township, into the ground | High level of compliance |

Overall Site Compliance: High Level of Compliance

5 DISCUSSION AND CONCLUSIONS

Waikato District Council have attained a compliance status of **High Level of Compliance** for the Matangi WWTP for the 2018/2019 compliance period. An ongoing issue of non-compliance relates to ingress and infiltration issues resulting in exceedance of the discharge limit.

Minor issues identified are administrative and relate to reporting of data.

6 SUMMARY OF ACTIONS REQUIRED

The following actions are required to be undertaken:

| Resource consent | Condition Number | Action Required |
|------------------|------------------|--|
| AUTH105551.01.02 | 1 | Please provide an update on the Site Improvement Programme, including confirmed steps, including relevant timeframes, being taken to bring the WWTP into compliance with the discharge volume parameter. |
| AUTH105551.01.02 | 7 | Please ensure the annual monitoring report includes the total mass of |

| | | |
|--|--|--|
| | | nitrogen discharged into the ground during the year. |
|--|--|--|

7 RECOMMENDATIONS FOR WAIKATO REGIONAL COUNCIL

I recommend that this site is audited again in the 2019/2020 compliance year.



Fiona Forrest
Resource Officer – Infrastructure
Resource Use

Date: 26 March 2020

7.1 Decision

I have reviewed this audit report and agree with the recommendations.



Hugh Keane
Team Leader – Infrastructure
Resource Use

Date: 26 March 2020

APPENDIX 1

Compliance Status for Individual Conditions

| Compliance Status | Description |
|--|---|
| Not assessed | Monitoring of this condition was not undertaken during this monitoring event |
| High priority non-compliance | The non-compliance has the potential for, or has resulted in, significant adverse effects on the environment. |
| Medium priority non-compliance | There is non-compliance with limits or other direct controls on adverse effects; and The non-compliance has the potential for, or has resulted in, a greater than minor increase in the level of effects authorised. |
| Low priority non-compliance | There is non-compliance with limits or other direct controls on adverse effects; and The non-compliance has the potential for, or has resulted in, a less than minor increase in the level of effects authorised; and/or There has been a significant technical non-compliance such as a failure to collect or supply self monitoring data. |
| Minor technical non-compliance | There is non-compliance with a condition, or part of a condition, that does not directly control adverse effects; and The non-compliance was not significant in the management of effects. For example a short delay in supplying data or meeting a deadline for a report |
| Full Compliance | The condition has been complied with |
| Compliance status for individual consents and the entire site | |
| Compliance Status | Description |
| Not assessed | Monitoring has not been undertaken at this site during the current financial year |
| Significant non-compliance | There has been a high priority non-compliance; and/or There have been several medium priority non-compliances. |
| Partial compliance | There has been a medium priority non-compliance; and/or There have been several low priority non-compliances. |
| High level of compliance | There has been a low priority non-compliance; and/or There have been several minor technical non-compliances. |
| Full compliance | All conditions that include limits or other direct controls on adverse effects have been complied with. A small number of minor technical non-compliances may have occurred. |