

Site Compliance Report

Site No: REG604962
Site Owner: Waikato District Council
Site Name: Te Kowhai WWTP: Bedford Rd, Te Kowhai
Date: 1 July 2018 to 30 June 2019

1 INTRODUCTION

The following resource consent are held for the site:

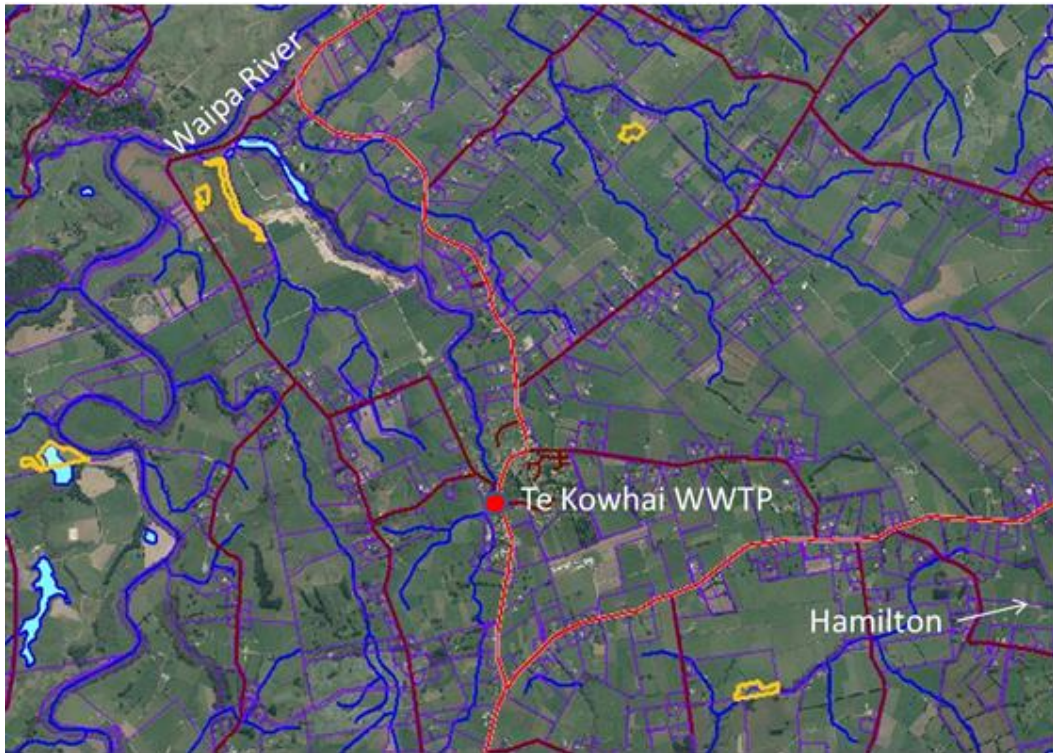
Resource Consent	Status	Description	Commenced	Expiry
AUTH116151.01.01	Expired	Discharge up to 12 cubic metres per day of treated domestic wastewater into the ground in association with municipal treatment facilities	8/09/2008	5/09/2018
AUTH139284.01.01	Current	Discharge to land from the Te Kowhai WWTP	18/10/2018	31/10/2033

This report examines the level of compliance of Waikato District Council with the selected conditions of the resource consent AUTH139284.01.01 as the existing consent AUTH116151.01.01 has expired.

2 BACKGROUND

Te Kowhai WWTP is a small community wastewater treatment plant serving approximately 21 properties (with 20 dwelling houses) in the Te Kowhai village. The Innoflow system consists of septic tanks with a sand recirculating filter and a ground discharge system for the treated wastewater.

The WWTP has been failing to achieve adequate de-nitrification to meet the nitrate consent limit of 40g/m³ of nitrate nitrogen. WDC contend that this limit is too stringent for this WWTP and that the final effluent is discharged to land which tends to ameliorate the potential adverse effects on the nearby stream. Subsequently in October 2018 a new consent was granted, with increased treated wastewater discharge and nitrate nitrogen limits.



Location map (above) and site aerial (below)



2.1 PREVIOUS COMPLIANCE HISTORY

Date Period	Compliance Status
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	Partial compliance
1 July 2013 to 30 June 2014	High level of compliance
1 July 2012 to 30 June 2013	High level of compliance

2.2 PREVIOUS COMPLIANCE ISSUES

In the 2017/2018 annual audit (doc #13658482) Waikato District Council attained a compliance status of partial compliance and the following issues were highlighted for action:

Resource consent	Condition Number	Action Required
AUTH116151.01.01	3	Please provide an updated Operations and Management Manual for the WWTP – an O&M plan is due under the new consent
AUTH116151.01.01	5	Please ensure required discharge limits are not exceeded under new consent conditions. – Compliant
AUTH116151.01.01	8	Please ensure Nitrate Nitrogen limits are not exceeded under new consent conditions – Compliant
AUTH116151.01.01	11	Please ensure all required analysis under the new consent are reported – Non compliant with new consent conditions
AUTH116151.01.01	12	Please provide monitoring data at required intervals as required by the new consent conditions – Non compliant with new consent conditions
AUTH116151.01.01	13	Please provide volume data as required – Non compliant with new consent conditions

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.

AUTH139284.01.01 - Land - sewage

Activity Authorised: Discharge to land from the Te Kowhai WWTP	
Condition No.	Description
2	The consent holder shall be responsible for all sub-contracted operations related to the exercise of this consent, and must ensure sub-contractors are made aware of the conditions of this consent.
Evidence	Te Kowhai Wastewater Treatment System Annual Report 2018 - 2019 (Doc #15248047).
Status Reasoning	The consent holder states in the annual report that: <i>All contractors employed at the treatment site are inducted in both health and safety procedures and relevant conditions of this consent.</i>

Action Required		Full compliance
4	The consent holder shall not increase the number of properties served by the wastewater treatment plant without obtaining in advance the written approval of Waikato Regional Council. Advice note: At consent commencement, 20 dwellings were serviced by the Te Kowhai wastewater treatment plant.	
Evidence	WRC has not received notification of an increase in properties, therefore it is assumed there has been no increase this period.	
Status Reasoning		
Action Required		Full compliance
5	The maximum volume of treated wastewater discharged shall not exceed 30 cubic metres per day (24-hour period).	
Evidence	Te Kowhai Wastewater Treatment System Annual Report 2018 - 2019 (Doc #15248047).	
Status Reasoning	The average daily flow was 2m ³ and the max daily flow was 22m ³ in December 2018.	
Action Required		Full compliance
6	The discharge shall not exceed the absorptive capacity of the soils.	
Evidence		
Status Reasoning		
Action Required		Not assessed
7	There shall be no ponding, pooling or overland flow of effluent from any part of the wastewater treatment and disposal system, at any time.	
Evidence		
Status Reasoning		
Action Required		Not assessed
8	The consent holder shall ensure that the treated wastewater leaving the Wastewater Treatment Plant does not exceed the following limits: (a) The median five-day carbonaceous biochemical oxygen demand concentration (cBOD5) shall not exceed 10 milligrams per litre and the 90th percentile shall not exceed 20 milligrams per litre; (b) The median suspended solids (TSS) concentration shall not exceed 10 milligrams per litre and the 90th percentile shall not exceed 20 milligrams per litre; (c) The median total ammoniacal-nitrogen (NH4-N) concentration shall not exceed 15 milligrams per litre and the 90th percentile shall not exceed 25 milligrams per litre; (d) The median nitrate-nitrogen (NO3-N) concentration shall not exceed 60 milligrams per litre and the 90th percentile shall not exceed 70 milligrams per litre; (e) The median <i>Escherichia coli</i> (<i>E.coli</i>) concentration shall not exceed 8,000 MPN per 100 millilitres and the 90th percentile shall not exceed 50,000 MPN per 100 millilitres. For the purposes of this condition, to determine compliance with the median concentration limits	

	no more than 12 samples in any 24 consecutive fortnightly samples shall exceed the specified limit. To determine compliance with the 90th percentile limits, no more than two samples in any twenty consecutive samples events shall exceed the specified limit.
Evidence	Te Kowhai Wastewater Treatment System Annual Report 2018 - 2019 (Doc #15248047).
Status Reasoning	<p>(a) The median five-day carbonaceous biochemical oxygen demand concentration (cBOD5) shall not exceed 10 milligrams per litre and the 90th percentile shall not exceed 20 milligrams per litre; Compliant - The median was 1.0mg/L and no samples exceeded the 90%ile limit.</p> <p>(b) The median suspended solids (TSS) concentration shall not exceed 10 milligrams per litre and the 90th percentile shall not exceed 20 milligrams per litre; Compliant - The median was 6.0mg/L and no samples exceeded the 90%ile limit.</p> <p>(c) The median total ammoniacal-nitrogen (NH4-N) concentration shall not exceed 15 milligrams per litre and the 90th percentile shall not exceed 25 milligrams per litre; Complaint - The median was 0.4mg/L and no samples exceeded the 90%ile limit.</p> <p>(d) The median nitrate-nitrogen (NO3-N) concentration shall not exceed 60 milligrams per litre and the 90th percentile shall not exceed 70 milligrams per litre; Complaint - The median was 39mg/L and no samples exceeded the 90%ile limit.</p> <p>(e) The median Escherichia coli (E.coli) concentration shall not exceed 8,000 MPN per 100 millilitres and the 90th percentile shall not exceed 50,000 MPN per 100 millilitres. Compliant - The median was 675.5MPN/100ml. No samples exceeded the 90%ile limit.</p>
Action Required	Full compliance
9	The treatment system shall be maintained in as watertight a condition as practicable to prevent the ingress of stormwater or groundwater into the systems.
Evidence	
Status Reasoning	
Action Required	Not assessed
10	The discharges shall not result in any objectionable effects from odour beyond the property boundary.
Evidence	There have been no odour complaints this period.
Status Reasoning	
Action Required	Full compliance
11	The consent holder shall monitor the flow rate of the treated wastewater leaving the Wastewater Treatment Plant and shall record the total daily (24-hour) discharge volume discharged.
Evidence	Monitoring is automated via WaterOutlook.
Status Reasoning	
Action Required	Full compliance

12	The consent holder shall take grab samples of the treated wastewater on a fortnightly basis from the discharge from the Wastewater Treatment Plant, for the purpose of determining compliance with condition 8. All grab samples shall also be analysed for Total Nitrogen (TN) concentrations for information purposes. All wastewater quality analyses shall be undertaken by an IANZ accredited or equivalent laboratory. All methods used shall be appropriate for the wastewater analyses undertaken.	
Evidence	Appendix Five - Te Kowhai Data Sampling results 18-19 (Doc #15248909) Te Kowhai - Regional Council Monthly Update - 2018-10 (Doc #13183097)	
Status Reasoning	Sampling has not been undertaken on a fortnightly basis and sampling does not include Total nitrogen.	
Action Required	Please ensure grab samples are taken on a fortnightly basis and include sampling for total nitrogen.	Low priority non-compliance
13	The consent holder shall forward the results of the monitoring undertaken via conditions 11 and 12 to the Waikato Regional Council, via electronic means, on a three-monthly basis.	
Evidence	Monthly updates are submitted.	
Status Reasoning		
Action Required	Please ensure the total daily (24-hour) discharge volume discharged is reported on a three monthly basis as per condition 11.	Full compliance
14	The consent holder shall notify the Waikato Regional Council within 24 hours (where practicable) of the consent holder becoming aware of the limits specified in Conditions 5 and 8 of this resource consent being exceeded, or any accidental discharge, plant breakdown or other circumstance which is likely to result in the limits of this consent being exceeded. The consent holder shall, within 10 working days of the incident occurring, provide a written report to the Waikato Regional Council, identifying the breach, possible causes and any remedial actions and steps to ensure future compliance.	
Evidence		
Status Reasoning		
Action Required		Not assessed
15	The consent holder shall provide to the Waikato Regional Council a written report (the Annual Report) by 30 September each year. The Annual Report shall include as a minimum: <ol style="list-style-type: none"> 1. A summary of the monitoring results required by the conditions of these resource consents for year ending 30 June; 2. A critical assessment of the monitoring data collected and comment on any emerging trends; 3. Commentary on compliance with the conditions of this resource consent; 4. Any reasons for non-compliance or difficulties in achieving compliance with the conditions of this resource consent and a description and a summary of the effectiveness of any remedial works undertaken; and 5. Any other issue considered relevant by the consent holder. 	
Evidence	Te Kowhai Wastewater Treatment System Annual Report 2018 - 2019 (Doc #15248047).	
Status Reasoning	The consent holder has submitted an annual report which reports on the conditions of AUTH116151.01.01, the conditions of AUTH139284.01.01 which commenced in October 2018	

	<p>during this compliance period have not been included in the annual report however, are assessed where able.</p> <p>The consent holder comments 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>	
Action Required	Please ensure the annual report includes a summary of the monitoring results required by the conditions of the resource consent AUTH139284.01.01 which commenced in October 2018 during this compliance period.	Full compliance
16	The consent holder shall be responsible for the structural integrity and maintenance of the banks adjacent to the discharge areas and for any erosion control works that become necessary to preserve the integrity and stability of the stream banks and/or to control erosion that occurs as a result of the exercise of this resource consent.	
Evidence	Te Kowhai Wastewater Treatment System Annual Report 2018 - 2019 (Doc #15248047). Appendix Two Complaints (Doc #15248048)	
Status Reasoning	WDC have not received any complaints from the public during this period. WRC have not been notified of any structural integrity and maintenance of the banks adjacent to the discharge areas.	
Action Required		Full compliance
17	The consent holder shall maintain a record of all maintenance undertaken on the wastewater treatment and disposal system. These records shall be available to the Waikato Regional Council at all reasonable times.	
Evidence		
Status Reasoning		
Action Required		Not assessed
18	The septic tanks shall be de-sludged as necessary, or when required in writing by the Waikato Regional Council.	
Evidence		
Status Reasoning		
Action Required		Not assessed
19	The consent holder shall prepare an Operations and Management Plan (OMP). The objective of the OMP is to provide a framework for the operation and management of the wastewater treatment plant to ensure compliance with the conditions of consent. This OMP shall be lodged with Waikato Regional Council within six months of commencement of this consent, and shall be reviewed and updated every three years and as required as a result of any changes to the	

	<p>wastewater treatment plant operation or management.</p> <ol style="list-style-type: none"> 1. A summary of the monitoring results required by the conditions of these resource consents for year ending 30 June; 2. A critical assessment of the monitoring data collected and comment on any emerging trends; 3. Commentary on compliance with the conditions of this resource consent; 4. Any reasons for non-compliance or difficulties in achieving compliance with the conditions of this resource consent and a description and a summary of the effectiveness of any remedial works undertaken; and 5. Any other issue considered relevant by the consent holder.
Evidence	An Operations and management plan has not been submitted this was due 18 April 2019.
Status Reasoning	
Action Required	<p>Please submit an Operations and Management Plan to provide a framework for the operation and management of the wastewater treatment plant to ensure compliance with the conditions of consent; Due by 1 July 2020.</p> <p style="text-align: right;">Minor technical non-compliance</p>
20	<p>The consent holder shall maintain a Complaints Register for any complaints made about the Wastewater Treatment Plant received by the consent holder. The Register shall record:</p> <ol style="list-style-type: none"> 1. The date, time and duration of the alleged event/incident that has resulted in the complaint; 2. The location of the complainant when the complaint was detected by the complainant; 3. The possible cause of the complaint including any relevant event/incident and its duration; 4. In relation to odour, the weather conditions and wind direction at the site when the odour was detected by the complainant; 5. Any remedial action undertaken by the consent holder in response to the complaint.
Evidence	<p>Te Kowhai Wastewater Treatment System Annual Report 2018 - 2019 (Doc #15248047).</p> <p>Appendix Two Complaints (Doc #15248048)</p>
Status Reasoning	A complaints register is maintained. No complaints have been received regarding the Te Kowhai WWTP this period.
Action Required	Full compliance
24	<p>The riparian planting required in accordance with condition 23 shall be:</p> <ol style="list-style-type: none"> 1. Undertaken within three years of the commencement of this consent; 2. Of a width no less than 10 metres; 3. At a density of no less than 2,500 stems per hectare; 4. A minimum of 80% of native plant species appropriate to the characteristics of the site and catchment (e.g. climate, size of stream, flood risk, erosion, local native flora, potential, and slope); 5. Maintained by the consent holder (including replacement of losses and control of pest species) accordingly during the term of the consent.
Evidence	Due to be undertaken by 18 October 2021.
Status Reasoning	
Action Required	Not assessed
25	Within 12 months of the commencement of this consent, the consent holder shall provide to the

	<p>Waikato Regional Council a Riparian Planting and Management Plan. The objective of the Riparian Planting Management Plan is to provide a framework that outlines how conditions 23 and 24 shall be achieved. The plan shall be reviewed and updated every five years and as required as a result of any changes to the wastewater treatment plant operation or management.</p> <p>Advice Note: The consent holder does not own the land where the riparian planting is proposed. Should the consent holder not be able to reach agreement with the land owner with regards to the planting as required through condition 23, the Riparian Planting and Management Plan shall propose an equivalent length of riparian planting at another site within the Waipa River catchment.</p>		
Evidence	A Riparian Planting Management Plan is to provide a framework that outlines how conditions 23 and 24 shall be achieved is due to be submitted by 18 October 2019.		
Status Reasoning	A Riparian Planting Management Plan has not yet been submitted.		
Action Required	<table border="1"> <tr> <td>Please submit the Riparian Planting Management Plan by 1 July 2020.</td> <td>Minor technical non-compliance</td> </tr> </table>	Please submit the Riparian Planting Management Plan by 1 July 2020.	Minor technical non-compliance
Please submit the Riparian Planting Management Plan by 1 July 2020.	Minor technical non-compliance		
31	<p>Within 10 years of the commencement of this consent, the consent holder shall provide to the Waikato Regional Council a Riparian Planting and Management Plan for the Stage 2 Riparian Planting. The objective of the Riparian Planting Management Plan is to provide a framework that outlines how conditions 29 shall be achieved. The plan shall be reviewed and updated every five years and as required as a result of any changes to the wastewater treatment plant operation or management.</p>		
Evidence	A Riparian Planting and Management Plan for the Stage 2 Riparian Planting is due October 2028.		
Status Reasoning			
Action Required	Not assessed		
32	<p>The consent holder shall undertake an Inflow and Infiltration (I&I) investigation of the Te Kowhai wastewater network. The purpose of the investigation is to determine the condition of the wastewater network connecting the residential properties to the Te Kowhai Wastewater Treatment Plant and shall cover the following matters as a minimum:</p> <ol style="list-style-type: none"> 1. An assessment of the general condition of the wastewater network, 2. An assessment of the extent and causes of I&I into the wastewater network, 3. An assessment of the identified rates of I&I when compared to other comparable networks, and 4. The identification of practicable and cost-effective interventions to reduce I&I within the wastewater network. <p>The I&I investigation shall be submitted to the Waikato Regional Council within 12 months of the commencement of this consent. The interventions identified under (d) shall be implemented within 36 months of the commencement of consent, with evidence of implementation submitted to the Waikato Regional Council.</p>		
Evidence	<p>No evidence of an Inflow and Infiltration (I&I) investigation of the Te Kowhai wastewater network has been provided.</p> <p>Appendix One Compliance Improvements (Doc #15248616)</p>		
Status Reasoning	An Inflow and Infiltration (I&I) investigation of the Te Kowhai wastewater network was due to be submitted to the Waikato Regional Council within 12 months of the commencement of this		

	consent - by October 2019.	
	The compliance improvement programme includes an investigation of I&I issues within the network.	
Action Required	Please submit the Inflow and Infiltration (I&I) investigation of the Te Kowhai wastewater network; due by 1 July 2020.	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
AUTH139284.01.01	Discharge to land from the Te Kowhai WWTP	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 Te Kowhai WWTP for the 2018/2019 compliance period. The non-compliances observed in this audit related to sampling and data provision under the new AUTH139284.01.01 which commenced in October 2018.

The consent holder is reminded that sampling is now required to be undertaken on a fortnightly basis and to include total nitrogen. Furthermore with the commencement of the new resource consents an operations and management plan, a Riparian Planting Management Plan, and the Inflow and Infiltration (I&I) investigation are all required to be submitted to WRC. It is requested that WDC submit these by 1 July 2020.

6 SUMMARY OF ACTIONS REQUIRED

The following actions are required to be undertaken:

Resource consent	Condition Number	Action Required
AUTH139284.01.01	12	Please ensure grab samples are taken on a fortnightly basis and include sampling for total nitrogen.
AUTH139284.01.01	13	Please ensure the total daily (24-hour) discharge volume discharged is reported on a three monthly basis as per condition 11.
AUTH139284.01.01	15	Please ensure the annual report includes a summary of the monitoring results required by the conditions of the resource consent AUTH139284.01.01 which commenced in October 2018 during this compliance period.
AUTH139284.01.01	19	Please submit an Operations and Management Plan to provide a framework for the operation and management of the wastewater treatment plant to ensure compliance with the conditions of consent; Due by 1 July 2020.
AUTH139284.01.01	25	Please submit the Riparian Planting Management Plan by 1 July 2020.
AUTH139284.01.01	32	Please submit the Inflow and Infiltration (I&I) investigation of the Te Kowhai wastewater network; due by 1 July 2020.

7 RECOMMENDATIONS FOR WAIKATO REGIONAL COUNCIL

The issues identified relate to administrative issues and sampling frequency under the new resource consent. I recommend that the site is audited again in the 2019/2020 compliance year, at which time WRC expectation is that the wastewater treatment plant will be fully compliant with the new discharge consent.



Fiona Forrest
**Resource Officer – Infrastructure
Resource Use**

Date: 27 March 2020

7.1 Decision

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



Hugh Keane
**Team Leader – Infrastructure
Resource Use**

Date: 27 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.