

# Site Compliance Report

**Site No:** REG612219  
**Site Owner:** Waikato District Council  
**Site Name:** Te Kauwhata WWTP: Waikato District Council  
**Date:** 7 October 2020

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## 1 INTRODUCTION

The following resource consents are held for the site:

Resource Consent	Status	Description	Commenced	Expiry
AUTH117991.01.01	Current	Discharge treated municipal wastewater from the Te Kauwhata Wastewater Treatment Plant into Lake Waikare	4/07/2013	4/07/2028
AUTH117992.01.01	Current	Discharge contaminants, namely odour, into the air from the Te Kauwhata WWTP	4/07/2013	4/07/2028

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

## 2 BACKGROUND

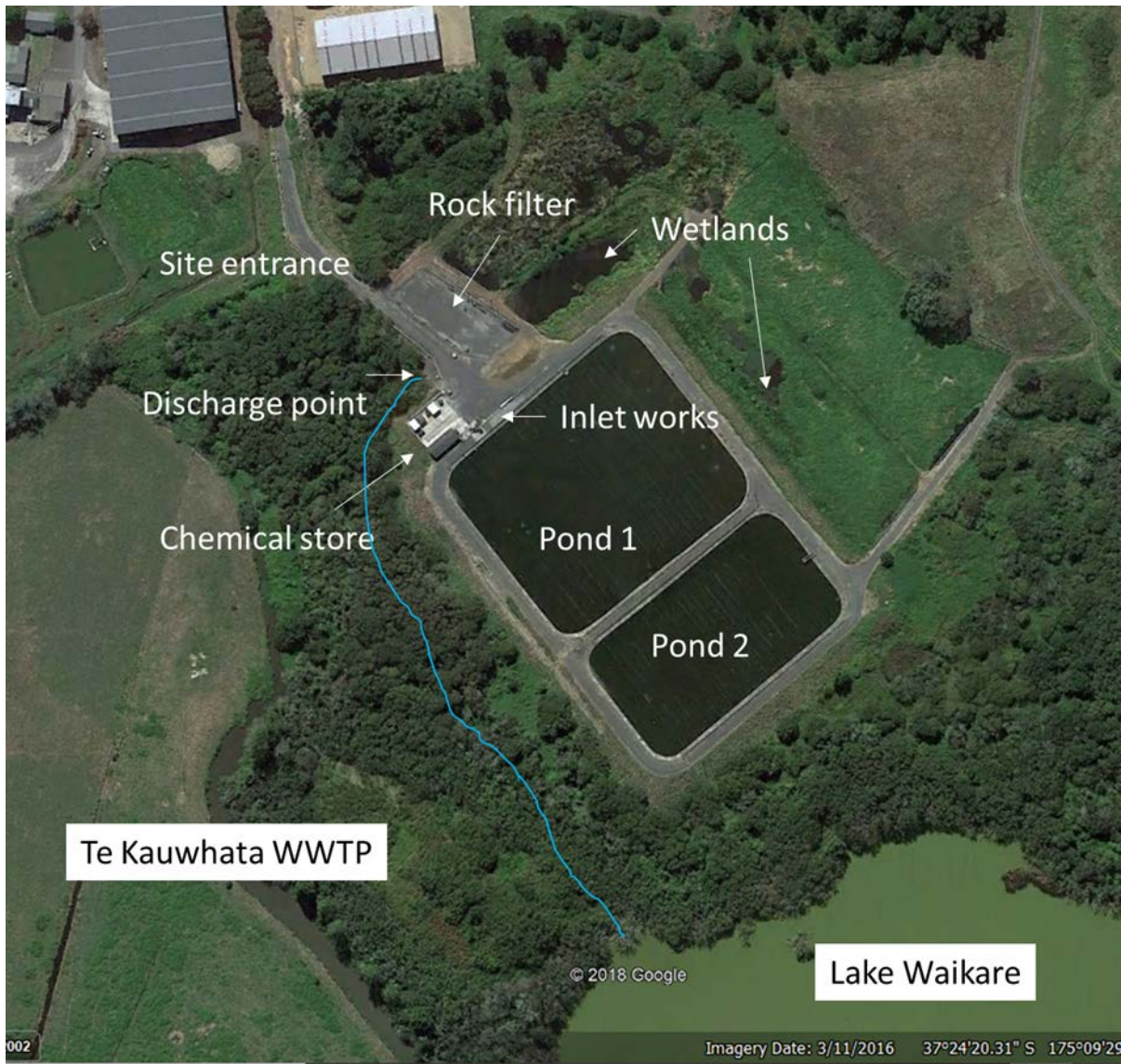
The Te Kauwhata wastewater treatment plant (WWTP) is operated by Watercare Services Limited (WSL) in conjunction with the consent holder Waikato District Council (WDC), on behalf of the Te Kauwhata community. The site currently consists of inlet screens, two aerated ponds with aquamats, wetlands and a rock filter prior to discharge to Lake Waikare.

Te Kauwhata has grown in population since the consents were granted in 2013 and this, along with infiltration and ingress to the wastewater network, has contributed to a reduction in plant performance. A lack of important maintenance of the ponds and wetlands has also contributed to a decline in plant performance and this has resulted in the previous year's significant non-compliance.

### 2.1 Previous Compliance History

Date Period	Compliance status
1 July 2019 to 30 June 2020	Significant non-compliance
1 July 2018 to 30 June 2019	Significant non-compliance
1 July 2017 to 30 June 2018	Partial compliance
1 July 2016 to 30 June 2017	Partial compliance
1 July 2015 to 30 June 2016	Partial Compliance
1 July 2014 to 30 June 2015	Full compliance
1 July 2013 to 30 June 2014	Full compliance
1 July 2012 to 30 June 2013	High level of compliance
1 July 2011 to 30 June 2012	Full Compliance
1 July 2010 to 30 June 2011	High Level of compliance

As a result of the significant non-compliance WRC served the consent holder with a formal warning and an abatement notice to cease the discharge of non-compliant wastewater. This has prompted WSL, and WDC to re-engage with the stakeholder's group and WRC to propose a upgrade of the WWTP with MBR technology to bring the site back into compliance. This involves the building of a new membrane bioreactor unit along with the required maintenance to the existing plant. The proposed commissioning of the upgraded WWTP is by summer of 2023.



### 3 COMPLIANCE ASSESSMENT

Unless otherwise specified in this document this assessment covers the period from **1 July 2019 to 30 June 2020**.

This compliance assessment has been undertaken based on the submitted annual report by the consent holder, monitoring data supplied throughout the compliance period and any site inspections undertaken. Some administration, duplicate or irrelevant conditions have been omitted for brevity.

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

#### AUTH117991.01.01 - Discharge to water

**Activity Authorised: Discharge treated municipal wastewater from the Te Kauwhata Wastewater Treatment Plant into Lake Waikare**

Condition No.	Description
1	The wastewater treatment and disposal system shall be designed, operated and maintained in general accordance with: (i) "Te Kauwhata Wastewater Treatment Plant Discharge Application – Assessment of Environmental Effects" Pattle Delamore Partners Ltd., January 2008 (Doc Ref 1278369), (ii) "Te Kauwhata Wastewater Treatment Plant Discharge Applications 117991 and

	117992" Pattle Delamore Partners Ltd., September 2010 (Doc Ref 1770596), and (iii) "Te Kauwhata Wastewater Treatment Plant Discharge Applications 117991 and 117992: Update to Assessment of Environmental Effects" Pattle Delamore Partners Ltd., January 2011 (Doc Ref 1902521) subject to the resource consent conditions below, which shall prevail should any inconsistency occur between the conditions and the application documents.
<b>Evidence</b>	The plant has not been operated in a manner that can cope with the increased loads arriving at the WWTP. An increase in inflows due to development in the area has caused an increase in inflows however the consent holder has since 2015 failed to maintain and upgrade the plant in line with the need to adequately treat the increased volumes.
<b>Status Reasoning</b>	The consent holder and Watercare Services Limited are aware of the performance of the plant and have presented a plan for action to upgrade and improve compliance at this site. An expected timeline for the upgrade has been provided to WRC.
<b>Action Required</b>	<b>Please continue to provide details of WWTP upgrade milestones.</b> <span style="float: right;"><b>Low priority non-compliance</b></span>
3	The maximum volume of treated wastewater discharged to Lake Waikare shall not exceed 3,600 cubic metres per day.
<b>Evidence</b>	The maximum volume discharged was 2119m <sup>3</sup> per day
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Full compliance</b>
4	The annual average volume of treated wastewater discharged to Lake Waikare shall not exceed 1,100 cubic metres per day.
<b>Evidence</b>	The average daily outflow volume was 880m <sup>3</sup>
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Full compliance</b>
5	The consent holder shall investigate alternative disposal locations for the disposal of treated wastewater from the Te Kauwhata Wastewater Scheme and, within two years of the commencement of this consent, shall provide a report to the Waikato Regional Council with a preliminary assessment of the alternative options. As a minimum, the report shall: (a) Provide details of the alternative options that have been identified; (b) Identify those options which are not considered practicable and the rationale for this; (c) Identify those options which are considered potentially feasible and the rationale for this. For the purposes of this condition, and as a minimum, the options of: irrigation to pasture/crops, rapid infiltration to land and further wetland treatment, are to be included, inclusive of any associated wastewater treatment plant upgrade works. (d) Identify the further investigations needed to better understand the practicability of each of the options identified in clause (c) above, and the timeframe for their assessment, including any staging of investigations; (e) Provide technical work scopes for those investigations identified in clause (d) that are to be undertaken over the next two years for inclusion in the report required by Condition 6; and (f) Describe the consultation undertaken during the preparation of the report, in particular the consultation undertaken pursuant to condition 18 of this consent, (g) Assess progress against the timetable contained in Appendix 2. Note: The Consent Holder has entered into an agreement with various third parties in respect of the evaluation of alternatives and records its commitment to following the process outlined in that agreement.
<b>Evidence</b>	The report and options report (doc ref 3417418) were submitted to WRC prior to this compliance period
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Full compliance</b>
6	Within two years of completion of the report required by condition 5 and every two years

	<p>thereafter, the consent holder shall provide a further report on alternative options to the Waikato Regional Council and as a minimum the report shall provide: (a) Details of the further investigations undertaken in relation to the alternative options identified in the report required by clauses (d) and (e) of condition 5 of this consent; (b) An updated assessment of the practicability of implementing each of the options identified in clause (c) of condition 5 of this consent; (c) Any proposed amendments to the assessments being undertaken pursuant to clause (d) of condition 5 of this consent and the rationale for this; and (d) Describe the consultation undertaken during the preparation of the report, in particular the consultation undertaken pursuant to condition 18 of this consent. (e) Assess progress against the timetable contained in Appendix 2.</p>
<b>Evidence</b>	<p>see appendix 8 as submitted with the annual report.</p> <p>The key issues for Te Kauwhata's wastewater system are:</p> <ul style="list-style-type: none"> <li>• Network issues, including high inflow &amp; infiltration. These issues are outside the scope of this project but should be addressed in future in complement to any proposed upgrades to the WWTP;</li> <li>• The discharge to Lake Waikare (a site of significance to local iwi) is culturally unacceptable.</li> <li>• Waikato District Council have signed a consent agreement with interested parties (Waikato Tainui, Ngaa Muka Development Trust, Auckland-Waikato Fish and Game, the Department of Conservation and Waikato Regional Council River and Catchment Services Group), committing to ceasing the discharge to Lake Waikare in as short a timeframe as possible, but no later than 2023;</li> <li>• <i>The WWTP is only partially compliant with effluent quality consent conditions.</i></li> <li>• <i>Wetland and rock filters are vulnerable to flooding;</i></li> <li>• <i>There is poor access to the WWTP for maintenance.</i></li> <li>• <i>The discharge consent expires in 2028 and any new consent conditions may be more stringent.</i></li> </ul>
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Full compliance</b>
7	<p>Notwithstanding the stated limits in conditions of this consent, the consent holder shall operate the treatment system with the objective of achieving the highest final effluent quality that can reasonably and practicably be achieved having regard to the capabilities of the treatment system, financial implications, the current state of technical knowledge and best wastewater management practice. For the avoidance of doubt, nothing in this condition requires the consent holder to achieve lower limits than those specified in condition 8 of this consent.</p>
<b>Evidence</b>	<p>The quality of treated effluent has not met the compliance limits for several determinants over several years.</p> <p>The following actions have been undertaken since Watercare Services Ltd took over control of the wastewater site.</p>
<b>Status Reasoning</b>	<p>Some actions could have been undertaken to improve compliance however not much has been undertaken between 2016 and 2020 when the quality of treated effluent was below full compliance.</p>
<b>Action Required</b>	<p><b>WSL and WDC have now confirmed an upgrade for the WWTP to improve compliance and this timeframe must be adhered to.</b> <b>Low priority non-compliance</b></p>
8	<p>The consent holder shall ensure that the quality of the discharge to Lake Waikare shall comply with the following limits: i) The median five day carbonaceous biochemical oxygen demand (cBOD5) concentration shall not exceed 10 grams per cubic metre and the 90th percentile shall not exceed 20 grams per cubic metre; ii) The median suspended solids (SS) concentration shall not exceed 15 grams per cubic metre and the 90th percentile shall not exceed 25 grams per cubic metre; iii) The median Total Kjeldahl Nitrogen (TKN) concentration shall not exceed 6 grams per cubic metre and the 90th percentile shall not exceed 12 grams per cubic metre; iv) The median total nitrogen (TN) concentration shall not exceed 8 grams per cubic metre; v) The median total nitrogen load (TNload) shall not exceed 8.8 kilograms per day; vi) The median total phosphorus</p>



	(TP) concentration shall not exceed 5.6 grams per cubic metre; vii) The median total phosphorus load (TPload) shall not exceed 3.1 kilograms per day; viii) The median Escherichia coli (E-coli) concentration in any 12 month period shall not exceed 1500 MPN per100 millilitres. For the purposes of this condition, to determine compliance with the median limits (excluding E.coli), no more than six samples in any 12 consecutive monthly samples over the period 1 July to 30 June each year shall exceed the specified limit. To determine compliance with the median E.coli limit, no more than 13 samples in any 26 consecutive weekly samples shall exceed the specified limit. To determine compliance with the 90th percentile limits, no more than one sample in any ten consecutive monthly sampling events shall exceed the specified limit. Note: For the avoidance of doubt, E. coli sampling is included on a fortnightly basis due to the contact recreation status of Lake Waikare. Note: Compliance with Condition 8 shall be determined at a sampling location immediately prior to the rock seep outfall.
<b>Evidence</b>	<p>i) The median five-day carbonaceous biochemical oxygen demand (cBOD5) concentration shall not exceed 10 grams per cubic metre and the 90th percentile shall not exceed 20 grams per cubic metre; -- non-compliant median result was 11.5g/m<sup>3</sup></p> <p>ii) The median suspended solids (SS) concentration shall not exceed 15 grams per cubic metre and the 90th percentile shall not exceed 25 grams per cubic metre; - Non-compliant as result was 28g/m<sup>3</sup></p> <p>iii) The median Total Kjeldahl Nitrogen (TKN) concentration shall not exceed 6 grams per cubic metre and the 90th percentile shall not exceed 12 grams per cubic metre; - Non-compliant result was 8.5g/m<sup>3</sup></p> <p>iv) The median total nitrogen (TN) concentration shall not exceed 8 grams per cubic metre; - Non-compliant result was 13.4g/m<sup>3</sup></p> <p>v) The median total nitrogen load (TNload) shall not exceed 8.8 kilograms per day; - non-compliant result was 14.3kg/day</p> <p>vi) The median total phosphorus (TP) concentration shall not exceed 5.6 grams per cubic metre; - Non-compliant result was 5.7g/m<sup>3</sup></p> <p>vii) The median total phosphorus load (TPload) shall not exceed 3.1 kilograms per day; - Non-compliant result was 4.5kg/day</p> <p>viii) The median Escherichia coli (E-coli) concentration in any 12 month period shall not exceed 1500 MPN per100 millilitres. - Non-compliant result was 5200cfu/100ml</p>
<b>Status Reasoning</b>	Numerous determinants have not met the compliance limits for most of the compliance period. This was also the case for the previous compliance period 18-19 year
<b>Action Required</b>	<b>Upgrade WWTP to a standard that can produce treated wastewater to within set limits of this consent.</b> <b>High priority non-compliance</b>
9	The consent holder shall continuously monitor the flow rate of wastewater entering and leaving the treatment plant and shall record the total daily influent and discharge volumes.
<b>Evidence</b>	
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Full compliance</b>
10	The consent holder shall define a sampling location or locations and the sampling method or methods to be used for monitoring the parameters in condition 8. The location(s) and method(s) used for the sampling shall be to the satisfaction of a Programme Manager of the Resource Use Group acting in a technical certification capacity.
<b>Evidence</b>	
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Not assessed</b>
12	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.
<b>Evidence</b>	
<b>Status Reasoning</b>	

<b>Action Required</b>		<b>Full compliance</b>
13	The consent holder shall prepare an Operations and Management Plan. This Plan shall be prepared by a suitably qualified and experienced person and shall detail how the treatment and disposal system is to be operated and maintained to ensure compliance with the conditions of this consent and consent 117992. As a minimum the Plan shall include the following matters: i) A description of the wastewater treatment plant including as-built plans for the wastewater treatment facilities; ii) A description of the sequence, timing and methods of construction of upgrades to the treatment plant; iii) A description and schedule of the routine inspection, monitoring and maintenance procedures to be undertaken to ensure effective plant operation; iv) A schedule of monitoring to be carried out to ensure effective plant operation and compliance with consent conditions; v) A sampling location plan; vi) A schedule of the treatment plant critical aspects and the detailed response and contingency plans to address anticipated variations from normal plant operation; vii) A Botulism Management Plan to be developed following consultation with Auckland – Waikato Fish and Game; viii) Procedures for recording routine maintenance and all repairs that are undertaken; ix) Chain of command, responsibility and notification protocols; x) Procedures for improving and/or reviewing the plant management plan. This Plan shall be lodged with Waikato Regional Council for approval by a Programme Manager of the Resource Use Group acting in a technical certification capacity within six months of commencement of this consent, and shall be reviewed and updated annually and as required as a result of any changes in plant operation or management. An electronic copy of the management plan shall be provided to Waikato Regional Council within 10 working days of a request to do so.	
<b>Evidence</b>	A copy of the updated Operations and Maintenance Manual (final Volume 1) was sent to WRC on 10 December 2014.  3529440 O&M Plan  3529438 Addendum to O&M plan  Odour plan doc ref 3604693	
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
14	The treatment system and discharge to Lake Waikare shall be operated, maintained and managed by appropriately experienced personnel in accordance with the Operations and Management Plan pursuant to condition 13 of this consent.	
<b>Evidence</b>		
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
15	The consent holder shall ensure contractors are made aware of the conditions of this resource consent and shall take all reasonable steps to ensure contractors are able to comply with those conditions. Note: An example of a reasonable step to ensure contractors are able to comply with the conditions is to require them to be fully conversant with the Operations and Management Plan required by Condition 13.	
<b>Evidence</b>		
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
16	The consent holder shall maintain and keep a Complaints Register for all complaints made about the treatment and discharge operations received by the consent holder. The Register shall record: i) The date, time and duration of the alleged event/incident that has resulted in the complaint; ii) The location of the complainant when the alleged event/incident was detected; iii) The possible cause of the alleged event/incident; iv) The weather conditions and wind direction at the site when the event/incident allegedly occurred, if significant to the complaint; v) Any corrective action undertaken by the consent holder in response to the complaint. This may be the same Register required under consent 117992. The Register shall be made available to the Waikato Regional Council at all reasonable times. Complaints which may indicate non-compliance with the conditions of this resource consent shall be forwarded to the Waikato Regional Council within 5 working days of the complaint being received.	

<b>Evidence</b>	<p>The consent holder operates and maintains a CRM database of complaints. There were 10 complaints logged to the councils database during the compliance period for this site. Details of the complaints have been submitted and checked.</p> <p>i) The date, time and duration of the alleged event/incident that has resulted in the complaint; - compliant - date and time is recorded however the duration is not specifically recorded and must be calculated based on the closing date/time of the incident</p> <p>ii) The location of the complainant when the alleged event/incident was detected; - compliant</p> <p>iii) The possible cause of the alleged event/incident; - compliant</p> <p>iv) The weather conditions and wind direction at the site when the event/incident allegedly occurred, if significant to the complaint; - non-compliant, no weather or wind directions in Raglan WWTP odour compliant for example (WTR0597/20)</p> <p>v) Any corrective action undertaken by the consent holder in response to the complaint. - compliant</p>	
<b>Status Reasoning</b>		
<b>Action Required</b>	<b>Please ensure full details relating to WWTP complaints are recorded as required to assist investigation of any future incidents around WWTP sites.</b>	<b>Minor technical non-compliance</b>
17	<p>The consent holder shall erect a total of four signs around the shoreline of Lake Waikare advising the public of the presence and associated potential public health risks of the treated wastewater discharge authorised by this consent. The signs shall be located such that they are clearly visible to the public. The location of, and wording on, the signs shall be to the satisfaction of the Waikato Regional Council, following consultation with the consent holder, Auckland Waikato Fish and Game, the Department of Conservation and the Ngaa Muka Development Trust.</p>	
<b>Evidence</b>		
<b>Status Reasoning</b>		
<b>Action Required</b>	<b>Full compliance</b>	
18	<p>Within three months of the commencement of this consent, the consent holder shall invite parties with an interest in Lake Waikare, including, but not limited to representatives of: Waikato-Tainui, Ngaa Muka Development Trust, Taniwha Marae, Waikare Marae, Horahora Marae, Maurea Marae, Okaerea Marae, Waahi Whaanui Trust, Auckland-Waikato Fish and Game, Department of Conservation, River and Catchment Services – Waikato Regional Council and the Lake Waikare Care Group to participate in the “Te Kauwhata Wastewater Treatment Consultation Group” (“TKWTCG”). a) The purpose of the TKWTCG, shall be as follows: i. Facilitate consultation between the TKWTCG and the consent holder. ii. Share information about the physical, cultural and ecological health of Lake Waikare. iii. Engender co-operation between the parties in order to identify and implement an option that will negate the need to discharge wastewater from the Te Kauwhata Wastewater Treatment Plant to Lake Waikare, iv. Engender co-operation between the parties in order to identify land that may be suitable and/or available for land based wastewater disposal. v. Discuss matters relating to the preparation of the reports required by conditions 5 and 6. vi. Discuss ongoing initiatives in relation to the enhancement and /or restoration of Lake Waikare. . b) The consent holder shall, in complying with the reporting requirements of this consent to the consent authority, or when monitoring or research activities are being planned, or when results are to be submitted in accordance with this resource consent, invite the TKWTCG to a meeting to discuss any matter and share this information prior to submitting the information to the consent authority. The information shall be provided to the TKWTCG sufficiently in advance of the meeting so that the TKWTCG has time to review and consider it. c) Notwithstanding clause b) of this condition the consent holder shall, at least once every six months, invite representatives of the consent authority and the TKWTCG to a meeting to discuss any matter relating to the exercise and monitoring of this consent. At this time the consent holder shall provide information on matters relating to the exercise and monitoring of this consent and the proposed work programme for the following 12 months. d) The consent holder shall keep minutes of the meetings held in accordance with clause b) and c) of this condition and shall forward them to all attendees and the consent authority. e) The meetings required by clauses b) and c) of this condition need not occur if the TKWTCG notifies the consent holder (in respect of clause b) and c)) and the consent authority (in respect of clause c)) that the meeting is not required. f) The consent holder shall provide final copies of the reports prepared in accordance with the conditions of this</p>	





<b>Evidence</b>	No odour complaints have been received or reported to WDC/WRC	
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
2	The consent holder shall ensure contractors are made aware of the conditions of this resource consent and shall take all reasonable steps to ensure contractors are able to comply with those conditions. Note: An example of a reasonable step to ensure contractors are able to comply with the conditions is to require them to be fully conversant with the Odour Management Plan required by Condition 6.	
<b>Evidence</b>		
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
4	The operation, management and maintenance of the Te Kauwhata Wastewater Treatment Plant shall not result in any objectionable odours which have an adverse effect at or beyond the boundary of the properties on which the treatment plant is located.	
<b>Evidence</b>	No odour complaints have been received or reported to WRC during this compliance period.	
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
5	There shall be no discharge of airborne contaminants as a result of the activities authorised by this resource consent to the extent that it causes an adverse effect at or beyond the boundary of the subject property on which the treatment plant is located. Note: For the purpose of this consent, the Waikato Regional Council will use the guidelines for assessment in chapter 6.4 of the Waikato Regional Plan to determine whether adverse effects are occurring from the discharge of odour or particulate matter.	
<b>Evidence</b>		
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
6	The consent holder shall prepare an Odour Management Plan. This Plan shall be prepared by a suitably qualified and experienced person and shall detail the methods and operational procedures adopted by the consent holder to ensure compliance with the conditions of this consent. The Plan may form part of the Operations and Management Plan specified in consent 117991. As a minimum the Odour Management Plan shall address the following matters: i) A description of the entire wastewater treatment facility; ii) A description of routine inspection, monitoring and maintenance procedures to be undertaken to ensure effective plant operation and compliance with consent conditions; iii) Details of operational and maintenance procedures to minimise odour release from the inlet screen; iv) Details of operational and maintenance procedures to minimise odour release from the aerated ponds; v) Details of operational and maintenance procedures to minimise odour release during pond desludging and pond sludge drying and handling; vi) Details of contingency plans and procedures to address power or equipment failure at the treatment plant; vii) Details of the odour complaints procedure, record keeping and response procedure. This Plan shall be lodged with the Waikato Regional Council for approval by a Programme Manager of the Resource Use Group acting in a technical certification capacity, within six months of commencement of this consent, and shall be reviewed and updated annually and as required as a result of any changes in plant operation or management. An electronic copy of the management plan shall be provided to Waikato Regional Council within 10 working days of a request to do so.	
<b>Evidence</b>	see doc ref 3604693	
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
7	The consent holder shall maintain and keep a Complaints Register for all complaints made about the treatment and discharge operations received by the consent holder. The Register shall record:	

	<p>i) The date, time and duration of the alleged event/incident that has resulted in the complaint; ii) The location of the complainant when the alleged event/incident was detected; iii) The possible cause of the alleged event/incident; iv) The weather conditions and wind direction at the site when the event/incident allegedly occurred; v) Any corrective action undertaken by the consent holder in response to the complaint. This may be the same Register required under consent 117991. The Register shall be made available to the Waikato Regional Council at all reasonable times. Complaints which may indicate non-compliance with the conditions of this resource consent shall be forwarded to the Waikato Regional Council within 5 working days of the complaint being received.</p>
<b>Evidence</b>	None of the recorded complaints relating to the Te Kauwhata area involved odours from the WWTP.
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Full compliance</b>
8	<p>The consent holder shall notify the Waikato Regional Council of any incident, including power, mechanical or process failure, leading to a significant emission of odour from the plant, within 24 hours of the incident being brought to the attention of the consent holder, or the next working day if the end of the 24 hour period occurs on a weekend or outside of normal office hours (9am to 5pm Monday to Friday). A written report shall be forwarded to the Waikato Regional Council within seven working days of the event occurring describing the incident, the reasons for it occurring, its consequences (including the nature of any complaints), the measures taken to remedy or mitigate its effects, and any measures taken to prevent a recurrence of the event, including any changes proposed to the Odour Management Plan.</p>
<b>Evidence</b>	
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Full compliance</b>
9	<p>The Waikato Regional Council may, in the six month period following 30 June 2016 and every five years thereafter, serve notice on the consent holder under section 128 of the Resource Management Act 1991, of its intention to review the conditions of this resource consent for the following purposes: i) To review the effectiveness of the conditions of this resource consent in avoiding or mitigating any adverse effects on the environment from the exercise of this resource consent and if necessary to avoid, remedy or mitigate such effects by way of further or amended conditions; or ii) To review the adequacy of and the necessity for monitoring undertaken by the consent holder and specifically to review the frequency of record keeping and the method of record collection for the purposes of determining the most appropriate method and frequency; or iii) If necessary and appropriate, to require the consent holder to adopt the best practicable option to remove or reduce adverse effects on the surrounding environment; or iv) To review the conditions of this resource consent to ensure the exercise of this resource consent is not inconsistent with the Vision and Strategy for the Waikato River which is part of the Waikato Regional Policy Statement pursuant to the Waikato-Tainui Raupatu Claims Waikato River Settlement Act 2010 and, if necessary, to address any such inconsistencies by way of further or amended conditions. Note: Costs associated with any review of the conditions of this resource consent will be recovered from the consent holder in accordance with the provisions of section 36 of the Resource Management Act 1991.</p>
<b>Evidence</b>	next review period is available from June 2021
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Not assessed</b>
<b>Authorisation Compliance: Full compliance</b>	

#### 4 SUMMARY OF COMPLIANCE

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

Authorisation	Authorisation Description	Compliance Status
AUTH117991.01.01	Discharge treated municipal wastewater from the Te Kauwhata Wastewater Treatment Plant into Lake Waikare	Significant non-compliance
AUTH117992.01.01	Discharge contaminants, namely odour, into the air from the Te Kauwhata WWTP	Full compliance

**Overall Site Compliance: Significant non-compliance**

#### 5 DISCUSSION AND CONCLUSIONS

This site has continued to be non-compliant during the 2019-20 compliance period. In September 2020 WDC and WSL advised WRC that a significant rebuild of the plant with MBR technology is required to achieve compliance. The consent holder has submitted a programme of works for this to occur. The site is already subject to an abatement notice that required the unauthorised discharges to cease by January 2020. The consent holder has not achieved this and is a non-compliance with this abatement notice.

The proposal by WDC and WSL to upgrade to MBR technology was considered at the WRC Enforcement Decision Group in September 2020. It was determined the abatement notice would remain in place to ensure that the proposed timeline for WWTP rebuild is adhered to. It was further determined that WRC reserves the right undertake further enforcement action if the upgrade programme does not deliver on key dates. It is Waikato Regional Council's expectation that the new WWTP will be commissioned by the end of the summer in 2023.

The consent holder was also issued a formal warning in respect of the previous compliance period of 2018-19 and I recommend that a further formal warning is issued for the current compliance period of 2019-20. This will formally record the non-compliant performance of this WWTP for the fifth year in a row.

WRC Principal Scientist, Mr Bill Vant has assessed the performance and its effects on Lake Waikare since 2011 and his assessment of the current performance of the WWTP states the following:

*"I have your request about this (see below). I've quickly reviewed the documents you mention. And have also looked at those associated with previous assessments I've made of the effects of this discharge: see my memos of 6 March 2008 (doc #1290187) and 4 August 2011 (doc #2025686, and the PDP document mentioned therein) and my analysis of consent monitoring data for 2008-12 (doc #3005158).*

*My August 2011 memo details some estimates I made of the effects of the discharge then (data from March to June 2011) on the water quality of the lake (which was also studied intensively then). There are two key points from this, as follows:*

- 1. The median contaminant concentrations in the wastewater in 2011 were relatively-low: for example, TP = 2.9 g/m<sup>3</sup>, TN = 4.0 g/m<sup>3</sup> and Ecoli = 150 cfu/100 mL. I recall visiting the treatment plant then and being shown the various improvements that had been made to the treatment processes.*
- 2. I concluded the discharge was having only minor effects on the water quality of the lake – "my interim conclusion from this data is that the discharge of Te Kauwhata wastewater is having only minor and localised effects on the water quality of Lake Waikare. It's undoubtedly having some effect at Location 1 [in the bay where the wastewater enters the lake], but the water quality there would probably be reasonably poor anyway, even if the discharge were not present. But it's difficult to see that the*

wastewater is having anything other than a small or very small effect at sites in the open water away from the north-western arm of the lake.”

However, I see that the median contaminant concentrations in the sewage wastewater now (July 2019 to June 2020) are rather higher than they were in 2011, with TP = 5.7 g/m<sup>3</sup> and TN = 13.4 g/m<sup>3</sup>; median Ecoli concentrations are much higher, namely 5200 cfu/100 mL. This is rather disappointing, as I understood that the improvements that were made in 2011 were expected to continue to be effective. Even so, I suspect the wastewater is still only having a modest effect on the general water quality of the open water of the lake (i.e. beyond the north-west bay where the wastewater enters the lake). But the effect on Ecoli concentrations in the lake is likely to be substantially larger than it was during 2011”.

(Note that median Ecoli in the wastewater was particularly low during March-to-June 2011. I see that during 2008-13 the overall median value was 310 cfu/100 mL.)

## 5.1 WWTP UPGRADE PLAN

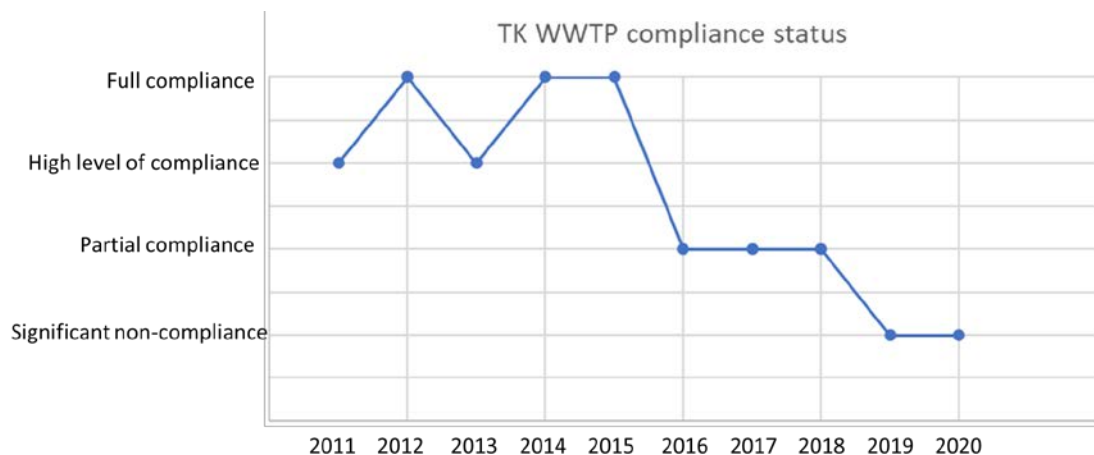
WSL/WDC have submitted a timeframe for the rebuild of the WWTP (doc ref 17396026)

Task	Duration	Start	Finish
<b>TK WWTP MBR Upgrade</b>	<b>134 weeks</b>	<b>Fri 7/08/20</b>	<b>Thu 2/03/23</b>
Enabling Works Design	12 weeks	Fri 7/08/20	Thu 29/10/20
Tender P1	8 weeks	Fri 30/10/20	Thu 24/12/20
Earthworks	52 weeks	Fri 25/12/20	Thu 23/12/21
Process Design	8 weeks	Fri 30/10/20	Thu 24/12/20
Tender Design	4 weeks	Fri 30/10/20	Thu 26/11/20
Detailed Design	40 weeks	Fri 25/12/20	Thu 30/09/21
Tender P2	8 weeks	Fri 1/10/21	Thu 25/11/21
Construction	60 weeks	Fri 26/11/21	Thu 19/01/23
Commissioning	4 weeks	Fri 20/01/23	Thu 16/02/23

WDC/WSL advise there are risks to this schedule including:

- Delays due to COVID-19 constraints.
- Enabling works, earthworks (ground stabilisation/ improvement and reclamation of one of the ponds). This has currently been allocated a year’s duration but there may be time to shorten this once the design is complete.
- Detailed Design – may be able to work with consultant partners to shorten this time.
- Construction – experience has shown similar plants have taken 18 months to construct however will look to work with construction partners in reducing the construction timeline where possible.
- Programme delays for procurement have not been factored in however generally all procurement times, for NZ and overseas components have increased with COVID-19 by 4-6 weeks.

Any issues that arise that may impact on these timeframes must be notified to Waikato Regional Council immediately and regular updates on progress must also be submitted so that compliance staff can monitor that progress and ensure timeframe targets are being met.



## 5.1 Compliance summary

Data Summary		Jul-19	-	Jun-20	RC177991 - Te Kauwhata				
<b>Inflow Summary Reporting</b>		<i>m<sup>3</sup></i>							
Average Daily Inflow		838							
Average Daily Inflow (Dec-May)		752							
Max Daily Inflow		2,488							
Average Monthly Total		25,563							
Max Monthly Total		32,836							
Annual Inflow Total		306,754							
PWWF/ADWF Ratio		3.0							
<b>Outflow Summary Reporting</b>		<i>Daily Limit - 3600m<sup>3</sup></i>							
Average Daily Flow		880							
Max Daily Flow		2,119							
90 <sup>th</sup> Percentile Daily Flow		1,719							
Average Monthly Total		26,869							
Max Monthly Total		38,065							
Annual Outflow Total		322,426							
<b>Discharge Monthly Tests</b>		<i>Consent Limit</i>				<i>Measured</i>		<i>Compliance</i>	
<i>Parameter</i>	<i>Unit</i>	<i>Median</i>	<i>90 Percentile</i>	<i>Median</i>	<i>90</i>	<i>Median</i>	<i>90 Percentile</i>	<i>Median</i>	<i>90 Percentile</i>
cBOD5	ppm	10.0	20.0			11.5	12.9	7 / 12	0 / 12
Total Kjeldahl Nitrogen	ppm	6.0	12.0			8.5	29.8	8 / 12	5 / 12
Total Nitrogen	ppm	8.0				13.4	30.0	9 / 12	
Total Nitrogen Load	kg/day	8.8				14.3	30.8	8 / 12	
Total Phosphorus	ppm	5.6				5.7	7.0	7 / 12	
Total Phosphorus Load	kg/day	3.1				4.5	5.9	11 / 12	
<b>Discharge Monthly Tests</b>		<i>Consent value</i>						<i>Compliance</i>	
Total Suspended Solids	ppm	15.0	25.0			28.0	44.9	11 / 12	8 / 12
<b>Discharge Monthly Tests</b>		<i>Consent value</i>						<i>Compliance</i>	
E-coli	cfu/100ml	1500.0				5200.0		33 / 40	

## 6 SUMMARY OF ACTIONS REQUIRED

The following actions are required to be undertaken:

Resource consent	Condition	Action Required
AUTH117991.01.01	1	Please continue to provide details of upgrade milestones.
AUTH117991.01.01	7	WSL and WDC have now identified the WWTP requires an upgrade to improve compliance and this timeframe must be adhered to.
AUTH117991.01.01	8	Upgrade WWTP to a standard that can produce treated wastewater to within set limits of this consent.
AUTH117991.01.01	16	Please ensure full complaint details relating to WWTP issues are recorded as required to assist investigation of any future incidents around WWTP sites.

## 7 RECOMMENDATIONS FOR WAIKATO REGIONAL COUNCIL

This site has been in partial or significant non-compliance since 2015, and during this time the consent holder has failed to take adequate steps to improve the performance of the WWTP. In 2018 an abatement notice was served on the consent holder requiring the WWTP to be compliant. In September 2020 the consent holder provided WRC with a programme of works to install MBR technology at the site to achieve consent compliance.

This site has been reported to WRC EDG. It has been determined the abatement notice will remain in place and a formal warning will be issued for the non-compliance for the 2019/2020 audit year.

It has also been conveyed to the consent holder (and WSL) that WRC expectation is that the new MBR technology at the WWTP will be commissioned by summer 2023. Should significant delays occur WRC reserves the right to undertake further enforcement action.



Edward Prince  
**Senior Resource Officer - Infrastructure  
Resource Use**

**Date: 16 December 2020**

### 7.1 Decision

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



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

**Date: 16 December 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.