

Site Compliance Report

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|---------------------|------------------------------------|-----------|
| Site No: | REG602505 | Non Dairy |
| Site Owner: | Thames Coromandel District Council | |
| Site Name: | Hahei Sewage: Hahei | |
| Date of Assessment: | 1 April 2022 to 31 March 2023 | |

1 INTRODUCTION

The following resource consent is held for the site:

| Resource Consent | Status | Description | Commenced | Expiry |
|------------------|---------|--|-----------|------------|
| AUTH135636.01.01 | Current | Discharge of treated municipal wastewater to the Wigmore Stream and associated seepage to groundwater from treatment ponds | 7/12/2017 | 15/12/2030 |

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

2 BACKGROUND

The township of Hahei is located within Mercury Bay on the eastern coast of the Coromandel Peninsula. The population on a day-to-day basis is approximately 450 persons (TCDC Population Growth Study, 2010), however like many holiday destinations in the district, this swells significantly over the summer and public holidays. Approximately a third of the Hahei catchment is serviced by the Hahei WWTP.

The Hahei WWTP uses an 'oxidation pond' system to provide aerobic breakdown of organic matter in wastewater. This consists of an inlet screen, aeration pond and retention pond. The aeration pond consists of 3 aerators, and recent power upgrades have improved aeration ability recently. The retention pond has baffle curtains to increase retention time. The total designed retention time in both ponds is 55 days, however during summer peak, it is expected that this drops to 16-23 days.

A membrane filtration unit (MFU) was retrofitted to the existing system in 2007 to treat wastewater to a higher quality prior to discharge. It is anticipated that at full operation, the MFU can process a maximum of 600 cubic metres of wastewater per day. Finally, wastewater is discharged to the Wigmore Stream via a perforated pipe diffuser.

A new consent was issued in December 2017 which saw more stringent criteria for the quality of discharge from the site.

| Date Period | Site Compliance |
|-------------------------------|----------------------------|
| 1 April 2022 to 31 March 2023 | Low Risk Non-Compliance |
| 1 April 2021 to 31 March 2022 | Low Risk Non-Compliance |
| 1 April 2020 to 31 March 2021 | Partial compliance |
| 1 April 2020 to 31 March 2021 | Significant non-compliance |
| 1 April 2019 to 31 March 2020 | Partial compliance |

3 COMPLIANCE ASSESSMENT

Unless otherwise specified in this document this assessment covers the period from 1 April 2022 to 31 March 2023 state relevant assessment period or inspection date.

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.

AUTH135636.01.01 - Water - sewage

Activity Authorised: Discharge of treated municipal wastewater to the Wigmore Stream and associated seepage to groundwater from treatment ponds

| Condition No. | Description |
|-------------------------|---|
| 3 | The treatment plant and discharge to the Wigmore Stream shall be managed and operated by an appropriately trained operator. |
| Evidence | The site operators have a level 4 qualification in wastewater treatment. |
| Status Reasoning | |
| Action Required | Full Compliance |
| 5 | The maximum volume of treated wastewater discharged to the Wigmore Stream shall not exceed 700 cubic metres in any 24 hour period. |
| Evidence | The maximum daily effluent discharge was 476 m3 recorded on 27 December 2022. |
| Status Reasoning | |
| Action Required | Full Compliance |
| 6 | The maximum discharge rate of treated wastewater to the Wigmore Stream shall not exceed 8.1 litres per second. |
| Evidence | The physical limit of the discharge rate is set to approximately 6L/s. |
| Status Reasoning | |
| Action Required | Full Compliance |
| 7 | The consent holder shall ensure that all waste entering, and treated in, the Hahei Wastewater Treatment Plant, goes through all stages of treatment available at the plant prior to discharge. This includes the Micro Filtration Unit. |
| Evidence | There were no overflows in the plant during the 2022/23 monitoring period. All waste that entered the plant went through the aeration pond, retention pond and the MFU. |
| Status Reasoning | |
| Action Required | Full Compliance |
| 8 | The following limits shall apply to the discharge to the Wigmore Stream from the commencement of this resource consent: |

| | <table><tr><th>Parameter</th><th>90 percentile, not more than one sample in each preceding 10 samples shall exceed:</th><th>Running average, over any consecutive 10 samples shall not exceed:</th></tr><tr><td>a) Suspended solids, (g/m³)</td><td>20</td><td>10</td></tr><tr><td>b) Carbonaceous biochemical oxygen demand (CBOD₅), (g/m³)</td><td>20</td><td>10</td></tr><tr><td>c) Escherichia coli, cfu/100ml</td><td>20</td><td>10</td></tr><tr><td>d) Total ammoniacal nitrogen, (g/m³)</td><td>15</td><td>10</td></tr><tr><td>e) Total Kjeldahl Nitrogen, (g/m³)</td><td>20</td><td>15</td></tr><tr><td>f) Total Phosphorus, (g/m³)</td><td>20</td><td>14</td></tr></table> | Parameter | 90 percentile, not more than one sample in each preceding 10 samples shall exceed: | Running average, over any consecutive 10 samples shall not exceed: | a) Suspended solids, (g/m ³) | 20 | 10 | b) Carbonaceous biochemical oxygen demand (CBOD ₅), (g/m ³) | 20 | 10 | c) Escherichia coli, cfu/100ml | 20 | 10 | d) Total ammoniacal nitrogen, (g/m ³) | 15 | 10 | e) Total Kjeldahl Nitrogen, (g/m ³) | 20 | 15 | f) Total Phosphorus, (g/m ³) | 20 | 14 | | | | | | | | | | | | | | | | | | | |
|---|---|--|--|--|--|----|----|---|--------|-------|--------------------------------|-------------------------|----|---|----|-----|---|----|-----|--|----|----------------------------|----|----|----|----|----------------------------------|----|----|----|---|--------------------------------|----|------|----|-----|-------------------------|----|------|----|---|
| Parameter | 90 percentile, not more than one sample in each preceding 10 samples shall exceed: | Running average, over any consecutive 10 samples shall not exceed: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a) Suspended solids, (g/m ³) | 20 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| b) Carbonaceous biochemical oxygen demand (CBOD ₅), (g/m ³) | 20 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| c) Escherichia coli, cfu/100ml | 20 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| d) Total ammoniacal nitrogen, (g/m ³) | 15 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| e) Total Kjeldahl Nitrogen, (g/m ³) | 20 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| f) Total Phosphorus, (g/m ³) | 20 | 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Evidence | <table><tr><th></th><th colspan="2">90 percentile, not more than one sample in each preceding 10 samples shall exceed:</th><th colspan="2">Running Average, over any consecutive 10 samples shall not exceed:</th></tr><tr><th></th><th>Limit</th><th>Result</th><th>Limit</th><th>Result</th></tr><tr><td>Suspended solids (g/m3)</td><td>20</td><td>6.5</td><td>10</td><td>3.3</td></tr><tr><td>Carbonaceous biochemical oxygen demand (CBOD5) (g/m3)</td><td>20</td><td>6.6</td><td>10</td><td>4</td></tr><tr><td>Escherichia coli cfu/100ml</td><td>20</td><td>21</td><td>10</td><td>12</td></tr><tr><td>Total ammoniacal nitrogen (gm/3)</td><td>15</td><td>18</td><td>10</td><td>6</td></tr><tr><td>Total kjeldahl nitrogen (g/m3)</td><td>20</td><td>20.5</td><td>15</td><td>7.7</td></tr><tr><td>Total phosphorus (g/m3)</td><td>20</td><td>10.8</td><td>14</td><td>9</td></tr></table> | | 90 percentile, not more than one sample in each preceding 10 samples shall exceed: | | Running Average, over any consecutive 10 samples shall not exceed: | | | Limit | Result | Limit | Result | Suspended solids (g/m3) | 20 | 6.5 | 10 | 3.3 | Carbonaceous biochemical oxygen demand (CBOD5) (g/m3) | 20 | 6.6 | 10 | 4 | Escherichia coli cfu/100ml | 20 | 21 | 10 | 12 | Total ammoniacal nitrogen (gm/3) | 15 | 18 | 10 | 6 | Total kjeldahl nitrogen (g/m3) | 20 | 20.5 | 15 | 7.7 | Total phosphorus (g/m3) | 20 | 10.8 | 14 | 9 |
| | 90 percentile, not more than one sample in each preceding 10 samples shall exceed: | | Running Average, over any consecutive 10 samples shall not exceed: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Limit | Result | Limit | Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Suspended solids (g/m3) | 20 | 6.5 | 10 | 3.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Carbonaceous biochemical oxygen demand (CBOD5) (g/m3) | 20 | 6.6 | 10 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Escherichia coli cfu/100ml | 20 | 21 | 10 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total ammoniacal nitrogen (gm/3) | 15 | 18 | 10 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total kjeldahl nitrogen (g/m3) | 20 | 20.5 | 15 | 7.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total phosphorus (g/m3) | 20 | 10.8 | 14 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Status Reasoning | <p>The maximum Total Ammoniacal Nitrogen and Total Kjeldahl Nitrogen values recorded at the start of the reporting period, specifically April 2022. This was due to the high sampling results in the previous reporting period, where there was a daphnia flea bloom during the winter to spring season.</p> <p>The 90th Percentile and Running Average Escherichia coli values started to increase in January 2023, after 72 cfu/100mL and 9.8 cfu/100mL sampling results were recorded on 13th October 2022 and 7th January 2023 respectively.</p> <p>These values peaked in early February 2023 and have since started to decline. The cause for this spike is currently unknown and the operations team is still investigating this issue. In the meantime, TCDC are revisiting the sampling procedure as stated in Appendix D – Hahei WWTP Monitoring Implementation Plan 2022.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Action Required | Ensure consent limits are adhered to. | | | Low Risk Non-Compliance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Notwithstanding the stated limits in condition 8, the consent holder shall make all reasonable and practical efforts to ensure that the final effluent quality is maximised within the capabilities of the treatment system in operation. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Evidence | The plant is managed in accordance with the Hahei WWTP Management Plan. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Status Reasoning | Hahei WWTP Management Plant May 2023 (WRC Doc 26407432). | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Action Required | | | | Full Compliance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| 10 | The point at which compliance with condition 8 of this consent shall be determined is from a grab sample taken at the point of discharge from the treatment plant and prior to discharge to the Wigmore Stream. |
| Evidence | Hahei WWTP Management Plant May 2023 (WRC Doc 26407432). |
| Status Reasoning | |
| Action Required | Full Compliance |
| 11 | A flow meter shall be installed to record, on a continuous basis, the quantity of effluent discharged on a daily basis. The device shall have a reliable calibration to water flow and shall be maintained to an accuracy of +/- 5%. Access to the meter shall be made available to the staff and agents of the Waikato Regional Council at all reasonable times. |
| Evidence | A flow meter is installed on the discharge to the Wigmore Stream. Calibration of the flowmeter was performed in September 2022. Calibration Certificates received 15 September 2022 (WRC Doc 24601651). |
| Status Reasoning | |
| Action Required | Full Compliance |
| 12 | Calibration of the flow meter shall be undertaken by the consent holder, at the request of the Waikato Regional Council, if during the term of this consent the accuracy of the meter is considered less than that required by condition 11. The calibration shall be undertaken by an independent qualified person and evidence documenting the calibration shall be forwarded to the Waikato Regional Council within one month of the calibration being completed. |
| Evidence | Calibration Certificates received 15 September 2022 (WRC Doc 24601651). |
| Status Reasoning | |
| Action Required | Full Compliance |
| 13 | An alarm system shall be installed to operate in the event of any mechanical failure. The details of the alarm system shall be included within the Management Plan as required by condition 25 of this consent. |
| Evidence | Hahei WWTP is connected to TCDC's SCADA system for both remote access and monitoring. Data from the plant is connected to the Online Data Monitoring System for both reporting and monitoring purposes. |
| Status Reasoning | |
| Action Required | Full Compliance |
| 14 | Within 3 months of the commencement of this consent the consent holder shall install and monitor a flow recorder which shall, as a minimum, record flow in the Wigmore Stream in litres per second every 15 minutes at a suitable location upstream of the discharge authorised by this consent. The purpose of the flow monitoring is to establish a reliable correlation to flows in the Opitonui River. The datalogger shall be linked by telemetry to the Waikato Regional Council. It shall be cross referenced to the Waikato Regional Council flow recorder on the Opitonui River downstream of Awaroa Stream Confluence (Waikato Regional Council Site Number 660.1, Map Reference NZTM 1832431E 5926826N). The necessity for flow recording may be modified at any time following approval in writing from the Waikato Regional Council following a request in writing from the consent holder to do so. The approval process will consider a written report by the consent holder with data and explanation to show that sufficient flow monitoring of the Wigmore Stream has been obtained to have a scientifically reliable correlation to flows in the |

| | Opitonui River, or which demonstrates the inability to obtain a scientifically reliable correlation following the collection of sufficient flow data. The minimum period of flow monitoring shall include a summer/autumn period with a prolonged low flow recession. | | | | | | | | | | | | | | | | | | | |
|--|---|--|-----------|-----------------------------|-----------|---------------------|--|--|----------|-----------------|--|----------|-----------|---|--|---|---|----------------------------------|---|--|
| Evidence | Email dated 30 April 2020 (WRC document 16860970). Email regarding flow recording WRC scientist (WRC document 16859280). | | | | | | | | | | | | | | | | | | | |
| Status Reasoning | No further monitoring is required under this condition. | | | | | | | | | | | | | | | | | | | |
| Action Required | | Not assessed | | | | | | | | | | | | | | | | | | |
| 15 | In addition to the flow monitoring required by condition 14 of this consent, the consent holder shall undertake manual low-flow gauging in the Wigmore Stream at least once during each calendar year when flows are at a seasonal summer low and the flow recorder site is operational. Where there is a prolonged period of summer low flows, the consent holder will repeat the low-flow gauging to ensure data at lower stream flows are measured. The low-flow gauging shall be undertaken at a suitable location upstream of the discharge authorised by this consent at or near the flow recorder site. The purpose of the low-flow gauging is to verify the flow records measured by the flow recorder. The low-flow gauging shall be undertaken by an appropriately qualified and experienced person. A copy of the results of the gauging(s) shall be forwarded to Waikato Regional Council with the written report required in condition 14 and 21 of this consent. The requirement for manual stream flow monitoring under this condition can cease when approval in writing from the Waikato Regional Council under condition 14 has been provided. | | | | | | | | | | | | | | | | | | | |
| Evidence | No further monitoring is required under this condition. | | | | | | | | | | | | | | | | | | | |
| Status Reasoning | | | | | | | | | | | | | | | | | | | | |
| Action Required | | Not assessed | | | | | | | | | | | | | | | | | | |
| 16 | The consent holder shall measure and characterise the quality, quantity and variability of treated effluent being discharged to the Wigmore Stream and the effects of the discharge on the quality and variability of surface water. To this end, the consent holder shall undertake sampling and analysis of the discharge and surface water as follows: | | | | | | | | | | | | | | | | | | | |
| | <table><tr><th>Frequency</th><th>Sample type and/or location</th><th>Parameter</th></tr><tr><td>a) Every 15 minutes</td><td>Wigmore Stream Refer to condition 14.</td><td><ul style="list-style-type: none">Water levelInstantaneous flow</td></tr><tr><td>b) Daily</td><td>Treatment Plant</td><td><ul style="list-style-type: none">Rainfall</td></tr><tr><td>c) Daily</td><td>Discharge</td><td><ul style="list-style-type: none">VolumeInstantaneous peak flowAverage flow</td></tr><tr><td>d) Weekly - during the period from the start of the third week of December to the start of the third week of February - monthly otherwise.</td><td><ul style="list-style-type: none">Inlet of MFUDischarge, following all treatment stages and prior to entering the Wigmore StreamWigmore Stream 50 metres upstream of dischargeWigmore Stream downstream at Pa Road bridge<p>Downstream samples to be collected within the period 1 hour either side of local low tide during daylight hours and while discharge is operating.</p></td><td><ul style="list-style-type: none">Total Ammoniacal Nitrogen<i>Escherichia coli</i>EnterococciConductivitypHSample date and timeTime of low tide occurrence closest to sample time</td></tr><tr><td>e) Monthly – to coincide with d)</td><td><ul style="list-style-type: none">Inlet of MFUDischarge, following all treatment stages and prior to entering the Wigmore StreamWigmore Stream 50 metres upstream of the dischargeWigmore Stream downstream at Pa Road bridge<p>Downstream samples to be collected within the period 1 hour either side</p></td><td><ul style="list-style-type: none">cBOD₅Nitrate NitrogenSuspended solidsTotal Kjeldahl NitrogenSoluble Reactive PhosphorusTotal Phosphorus by Persulphate DigestionTurbiditySample date and timeTime of low tide occurrence closest to sample time</td></tr></table> | | Frequency | Sample type and/or location | Parameter | a) Every 15 minutes | Wigmore Stream Refer to condition 14. | <ul style="list-style-type: none">Water levelInstantaneous flow | b) Daily | Treatment Plant | <ul style="list-style-type: none">Rainfall | c) Daily | Discharge | <ul style="list-style-type: none">VolumeInstantaneous peak flowAverage flow | d) Weekly - during the period from the start of the third week of December to the start of the third week of February - monthly otherwise. | <ul style="list-style-type: none">Inlet of MFUDischarge, following all treatment stages and prior to entering the Wigmore StreamWigmore Stream 50 metres upstream of dischargeWigmore Stream downstream at Pa Road bridge <p>Downstream samples to be collected within the period 1 hour either side of local low tide during daylight hours and while discharge is operating.</p> | <ul style="list-style-type: none">Total Ammoniacal Nitrogen<i>Escherichia coli</i>EnterococciConductivitypHSample date and timeTime of low tide occurrence closest to sample time | e) Monthly – to coincide with d) | <ul style="list-style-type: none">Inlet of MFUDischarge, following all treatment stages and prior to entering the Wigmore StreamWigmore Stream 50 metres upstream of the dischargeWigmore Stream downstream at Pa Road bridge <p>Downstream samples to be collected within the period 1 hour either side</p> | <ul style="list-style-type: none">cBOD₅Nitrate NitrogenSuspended solidsTotal Kjeldahl NitrogenSoluble Reactive PhosphorusTotal Phosphorus by Persulphate DigestionTurbiditySample date and timeTime of low tide occurrence closest to sample time |
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| b) Daily | Treatment Plant | <ul style="list-style-type: none">Rainfall | | | | | | | | | | | | | | | | | | |
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|--|---|---|---|--|---|---|---|---|--|--|--|--|--|
| | <table><tr><td></td><td>of local low tide during daylight hours and while discharge is operating.</td><td></td></tr><tr><td>f) Once per year in January or February</td><td><ul style="list-style-type: none">Wigmore Stream 50 metres upstream of the dischargeWigmore Stream downstream at Pa Road bridgeRefer to condition 19 for sampling and assessment methodology.</td><td><ul style="list-style-type: none">Aquatic Macroinvertebrate assessmentHabitat and aquatic plant assessmentSample date and timeTime of low tide occurrence closest to assessment time</td></tr><tr><td>g) At least once per year – to coincide with summer low flows</td><td>Wigmore Stream Additional gauging each summer may be required if low flow conditions are prolonged, to capture a series of low flow records. Refer to condition 15.</td><td><ul style="list-style-type: none">Flow (via flow gauging)Sample date and time</td></tr><tr><td>h) Once every five years in January or February, commencing 2019</td><td><ul style="list-style-type: none">Wigmore Stream 50 metres upstream of the dischargeWigmore Stream downstream at Pa Road bridge</td><td><ul style="list-style-type: none">Fish populations</td></tr></table> | | of local low tide during daylight hours and while discharge is operating. | | f) Once per year in January or February | <ul style="list-style-type: none">Wigmore Stream 50 metres upstream of the dischargeWigmore Stream downstream at Pa Road bridge Refer to condition 19 for sampling and assessment methodology. | <ul style="list-style-type: none">Aquatic Macroinvertebrate assessmentHabitat and aquatic plant assessmentSample date and timeTime of low tide occurrence closest to assessment time | g) At least once per year – to coincide with summer low flows | Wigmore Stream Additional gauging each summer may be required if low flow conditions are prolonged, to capture a series of low flow records. Refer to condition 15. | <ul style="list-style-type: none">Flow (via flow gauging)Sample date and time | h) Once every five years in January or February, commencing 2019 | <ul style="list-style-type: none">Wigmore Stream 50 metres upstream of the dischargeWigmore Stream downstream at Pa Road bridge | <ul style="list-style-type: none">Fish populations |
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| Evidence | <p>At present, there is no flow gauging exists on the Wigmore Stream. This means the low flow gauging was also not conducted.</p> <p>Monthly and peak period sampling from 22 December 2022 to 20 February 2023 occurred as can be seen on Appendix A.</p> <p>The annual ecological monitoring as required by Condition 16 f) has been conducted in February 2022 (WRC Document 24074718).</p> <p>The fish population survey was not due during the compliance period. This was last conducted in 2019 and the next one will be in 2024.</p> | | | | | | | | | | | | |
| Status Reasoning | | | | | | | | | | | | | |
| Action Required | <div>Full Compliance</div> | | | | | | | | | | | | |
| 17 | <p>All samples taken in relation to monitoring under this consent shall be collected by a suitably qualified and experienced person(s) with relevant training in the sampling and transporting of water quality samples and in accordance with the Monitoring Implementation Plan titled “Wastewater Sampling at Hahei WWTP and Wigmore Stream” by United Water, dated 1-04-2009 (Waikato Regional Council document number 1472702), or any subsequent update. This plan shall detail methods and map locations for how, when and where sampling will take place. An updated Monitoring Implementation Plan shall be provided to the Waikato Regional Council within three months of commencement of this consent, and at two yearly intervals thereafter, or more often if any method or location changes. The Waikato Regional Council shall be provided with an updated copy of the Monitoring Implementation Plan within one month of any update to the Plan.</p> | | | | | | | | | | | | |
| Evidence | <p>Hahei WWTP Monitoring Implementation Plan 2022 (WRC document 25324619).</p> | | | | | | | | | | | | |
| Status Reasoning | <p>An updated monitoring plan for Hahei WWTP was submitted to WRC on 7 December 2022.</p> | | | | | | | | | | | | |
| Action Required | <div>Full Compliance</div> | | | | | | | | | | | | |
| 18 | <p>All sample analyses shall be undertaken in accordance with the methods detailed in the “Standard Methods for the Examination of Water and Waste Water, 2017” 23rd edition A.P.H.A and A.W.W.A. and W.E.F., or any other method approved by the Waikato Regional Council.</p> | | | | | | | | | | | | |
| Evidence | | | | | | | | | | | | | |
| Status Reasoning | | | | | | | | | | | | | |
| Action Required | <div>Full Compliance</div> | | | | | | | | | | | | |

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| 19 | All ecological surveys carried out in relation to monitoring under this consent shall be undertaken by a suitably qualified and experienced person(s) with relevant training in ecological monitoring and assessment. The sampling and analysis methodology shall be consistent with previous surveys undertaken at this site, as summarised in the report titled "Hahei Wastewater Treatment Plant Assessment of Ecological Effects" by Kessels Ecology, dated 24 May 2017 (Waikato Regional Council document number 11016880). The sampling and analysis methodology may be modified following approval in writing from the Waikato Regional Council. |
| Evidence | Hahei Wastewater Ecology Report Consent 2022-2023 (WRC document 26439786). |
| Status Reasoning | |
| Action Required | Full Compliance |
| 20 | The consent holder shall provide to the Waikato Regional Council a data report by 1 December each year that this consent is current. This report shall include all data collected under condition 16 of this consent for the period 1 April to 30 September of the current year and shall identify any non-compliance within that period. |
| Evidence | Data is provided through regular monthly reporting. |
| Status Reasoning | |
| Action Required | Full Compliance |
| 21 | <p>The consent holder shall provide to the Waikato Regional Council a written monitoring report by 1 June each year that this consent is current for the 12 month period from 1 April of the preceding year to 31 March of the current year. As a minimum this report shall include the following:</p> <ol style="list-style-type: none"> 1. a summary of the monitoring results required by condition 16 of this consent for the 12 month period from 1 April of the preceding year to 31 March of the current year and a critical analysis of the information in terms of compliance and environmental effects; 2. a comparison of data with previously collected data identifying any emerging trends; 3. comment on compliance, and any reasons for non-compliance or difficulties in achieving compliance, with condition 8 of this consent; 4. comment on any works that have been undertaken, or that are proposed to be undertaken in the upcoming year, to improve the environmental performance of the treatment and/or disposal system; 5. report on and discuss any complaints received regarding the treatment and/or discharge of treated effluent; and 6. any other issues considered important by the consent holder. |
| Evidence | Hahei WWTP Annual report 2022-2023 received 29 May 2023 (WRC document 26407430). |
| Status Reasoning | |
| Action Required | Full Compliance |
| 22 | <p>The consent holder shall provide to the Waikato Regional Council an ecological assessment report by 1 June every two years for the duration of this consent. This report shall be prepared by a suitably qualified person or persons with relevant training in ecological monitoring and assessment. As a minimum this report shall include the following:</p> <ol style="list-style-type: none"> 1. a summary of the ecological monitoring and water quality results required by condition 16 for the preceding two years; 2. a comparison of data with previously collected data identifying any emerging trends; 3. a critical analysis of the current ecological health of the Wigmore Stream, the potential causes of any degradation of the stream, the effects of the discharge authorised by this consent on the Wigmore Stream and downstream coastal waters; 4. any other issues considered important by the ecologist. |

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| Evidence | Hahei Wastewater Ecology Report Consent 2022-2023 (WRC document 26439786). | |
| Status Reasoning | <p>The report indicates that the upstream and downstream parameters show that the discharge from the Hahei WWTP has adequate mixing. Phosphorous and Nitrogen levels however were still elevated downstream in comparison to the upstream results, indicating that the plant may be contributing to nitrogen loading.</p> <p>Coliform bacteria levels are high upstream and downstream indicating that this is from other sources, and habitat degradation is a catchment issue.</p> <p>The report recommends that TCDC are aware of the high coliform bacteria concentrations in the Wigmore stream, so signage can be checked and reviewed for warnings regarding swimming and shellfish collection in the estuary.</p> | |
| Action Required | | Full Compliance |
| 23 | <p>In the event of any bypasses, other extraordinary events or failure of any critical part of the treatment plant, the consent holder shall manage the treatment plant and discharge to the Wigmore Stream in accordance with the Contingency Plan titled "Hahei Wastewater Treatment Plant Contingency Plan 2015" by Veolia (Waikato Regional Council document number 3584298 and 3584310), or any subsequent update. An updated plan shall be provided to the Waikato Regional Council by 1 June 2018, and at three yearly intervals thereafter. The consent holder shall engage appropriately experienced persons to compile any update to the Contingency Plan, and it shall identify measures and notification protocols to be undertaken by the consent holder that will take into account any potential adverse effects on the Wigmore Stream and users, including but not limited to ecological effects, downstream recreational use, and the Medical Officer of Health.</p> | |
| Evidence | An updated Contingency plan has been submitted as Appendix B of the Annual report in May 2023. | |
| Status Reasoning | Hahei Contingency Plan Review 2023 (WRC document 26405468). | |
| Action Required | | Full Compliance |
| 24 | <p>The consent holder shall provide the Waikato Regional Council with a Management Plan which details the procedures that will be implemented to operate in accordance with the conditions of this resource consent and the procedures that will be put into place to maximise wastewater treatment and minimise odour production. This plan shall be lodged with the Waikato Regional Council within 3 months of the commencement of this consent, and shall be reviewed and updated as a minimum annually. The plan shall address, but may not be limited to, the following:</p> <ol style="list-style-type: none"> 1. a description of the entire treatment and disposal system facility and how it is operated; 2. a description of routine maintenance procedures to be undertaken; 3. an outline of the methods to be utilised to monitor the treatment plant in an operational sense including: monitoring of influent waste water and monitoring of treatment performance; 4. a description of the methods to be used to ensure that sampling of the discharge as required by condition 16 of this consent is representative of overall discharge quality; 5. specific management procedures for the efficient functioning of the treatment system including Micro Filtration Unit, including measures to ensure compliance with condition 8 of this consent relating to discharge quality parameters; 6. procedures for recording routine maintenance and all repairs that are undertaken; 7. contingency measures in place to deal with unusual events; 8. chain of command and responsibility, including contact details; 9. other actions necessary to comply with the requirements of this resource consent; 10. procedures for improving and/or reviewing the management plan. | |
| Evidence | Hahei WWTP Management Plan 2023 (WRC document 26427015). | |

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| Status Reasoning | | |
| Action Required | | Full Compliance |
| 25 | The consent holder shall manage the wastewater treatment and discharge in accordance with the Management Plan referred to in condition 24 of this consent. Any changes to the Management Plan shall be advised to the Waikato Regional Council in writing after consultation between the consent holder and the Waikato Regional Council. | |
| Evidence | | |
| Status Reasoning | | |
| Action Required | | Full Compliance |
| 26 | The consent holder shall notify the Waikato Regional Council as soon as practicable, and as a minimum requirement within 24 hours, of any discharge to Wigmore Stream from a source that has bypassed any part of the treatment system, or any discharge to the redundant disposal beds and/or redundant storage pond. The consent holder shall, within 7 days of the discharge occurring, provide a written report to the Waikato Regional Council, identifying the extent of the discharge, possible causes, steps undertaken to remedy the effects of the discharge and measures that will be undertaken to ensure future compliance with this consent. | |
| Evidence | No discharged occurred during the 2022/23 period. | |
| Status Reasoning | | |
| Action Required | | Full Compliance |
| 27 | <p>The consent holder shall maintain and keep a complaints register for all complaints, including discharge, water quality and odour complaints regarding operations at the site received by the consent holder. The register shall record:</p> <ol style="list-style-type: none"> 1. the date, time and duration of the event that has resulted in a complaint, 2. any corrective action undertaken by the consent holder in response to the complaint, including actions taken to prevent similar events in the future. 3. the location of the complainant when the event was detected, 4. the possible cause of the event, and 5. the weather conditions and wind direction at the site when the event allegedly occurred. | |
| Evidence | | |
| Status Reasoning | | |
| Action Required | | Full Compliance |
| 28 | The register outlined in condition 27 shall be available to the Waikato Regional Council at all reasonable times. Waikato Regional Council shall be informed of complaints received by the consent holder which may infer non-compliance with the conditions of this resource consent to the Waikato Regional Council within 24 hours of the complaint being received. In addition, the consent holder shall provide written information on the incident including all of the details required by (a) to (e) of condition 27 of this consent, which shall be forwarded to the Waikato Regional Council within 5 days of the complaint being received. | |
| Evidence | | |
| Status Reasoning | | |
| Action Required | | Not assessed |
| 29 | The consent holder shall be responsible for ensuring that the Wigmore Stream, from the treated wastewater discharge point to its mouth, is kept clear of debris and that the stream mouth is not blocked by sand, to the extent that the flow of the Wigmore Stream is unimpeded into the coastal | |

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| | marine area. The consent holder's obligations in respect of this condition are limited to the works that can be undertaken without the need for resource consent under the relevant rule(s) of the Waikato Regional Coastal Plan. |
| Evidence | Wigmore Stream is cleared whenever there is an RFS (Request for Service) or whenever an operator notices a blockage. The Wigmore Stream mouth has been cleared multiple times during the consent period. |
| Status Reasoning | |
| Action Required | Full Compliance |
| 30 | The consent holder shall implement the treatment plant upgrade works detailed in the Technical Memo titled "Hahei WWTP Consent Ammoniacal Nitrogen Reduction" by Harrison Grierson, dated 14 June 2017 (Waikato Regional Council document number 10628287), or equivalent upgrades, to ensure the wastewater discharge limits in condition 8 are met. The works shall include, as a minimum, installation of additional aeration in the Aeration Pond. These works shall be fully implemented within one year of the commencement of this consent. |
| Evidence | Additional aeration was installed at the Hahei WWTP in both ponds in 2017. |
| Status Reasoning | |
| Action Required | Full Compliance |
| 31 | <p>The consent holder shall provide a written report on or before the fifth and tenth anniversaries of the commencement of this consent that shall outline:</p> <ol style="list-style-type: none"> 1. what investigations have been undertaken to date to identify the long-term strategy for wastewater treatment and disposal options at Hahei upon the expiry of this consent, 2. what investigations have been undertaken or identified in relation to potential effects of disposal options being considered for wastewater at Hahei upon the expiry of this consent, 3. what consultation has been undertaken in relation to potential treatment and disposal options for wastewater at Hahei upon the expiry of this consent. |
| Evidence | |
| Status Reasoning | |
| Action Required | Not assessed |
| 32 | The Waikato Regional Council may, within the six month period following receipt of the monitoring information required by condition 22 of this consent, serve notice on the consent holder under section 128(1) of the Resource Management Act 1991 and commence a review of the conditions of this resource consent for the purpose of reviewing the compliance limit(s) of any contaminant and/or, if necessary and appropriate, to require the holder of this resource consent to adopt the best practicable option to remove or reduce adverse effects on surface water quality or ecology due to the discharge. |
| Evidence | |
| Status Reasoning | |
| Action Required | Not assessed |
| 33 | <p>The Waikato Regional Council may, within the year of the second, fifth and tenth anniversary of the commencement of this consent, serve notice on the consent holder under section 128 (1) of the Resource Management Act 1991, of its intention to review the conditions of this resource consent for the following purposes:</p> <ol style="list-style-type: none"> 1. to review the effectiveness of the conditions of this resource consent in avoiding or mitigating any adverse effects on ground or surface water quality from the exercise of |

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| | <p>this resource consent and if necessary to avoid, remedy or mitigate such effects by way of further or amended conditions; or</p> <ol style="list-style-type: none"> 2. if necessary and appropriate, to require the holder of this resource consent to adopt the best practicable option to remove or reduce adverse effects on surface water quality due to the discharge; or 3. to review the adequacy of and the necessity for monitoring undertaken by the consent holder. <p>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> | |
| Evidence | | |
| Status Reasoning | | |
| Action Required | | Not assessed |
| 34 | <p>Within 12 months of any co-management legislation commencing for the Hauraki Gulf catchment, the Waikato Regional Council may, following service of notice on the consent holder pursuant to section 129 of the Resource Management Act 1991, commence a review of the conditions of this consent pursuant to section 128 of the Resource Management Act 1991, for the purpose of ensuring that this consent is consistent with the provisions of any such legislation.</p> | |
| Evidence | | |
| Status Reasoning | | |
| Action Required | | Not assessed |
| | Authorisation Compliance: | Low Risk Non-Compliance |

4 SUMMARY OF COMPLIANCE

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

| Authorisation | Authorisation Description | Compliance Status |
|------------------|--|-------------------------|
| AUTH135636.01.01 | Discharge of treated municipal wastewater to the Wigmore Stream and associated seepage to groundwater from treatment ponds | Low Risk Non-Compliance |

Overall Site Compliance: Low Risk Non-Compliance

5 DISCUSSION AND CONCLUSIONS

The rating of low risk non-compliance is due to the elevated e. coli, total ammoniacal nitrogen, and total Kjeldahl nitrogen. The elevated levels have started to decline since February 2023. Although the cause of the spike is still unknown TCDC is still investigating the cause, and reviewing the sampling procedures.

6 SUMMARY OF ACTIONS REQUIRED

The following actions are required to be undertaken:

| Resource consent | Condition Number | Action Required |
|------------------|------------------|---------------------------------------|
| AUTH135636.01.01 | 8 | Ensure consent limits are adhered to. |

7 RECOMMENDATIONS FOR WAIKATO REGIONAL COUNCIL

- Recommend this site remains as a Focus Area 1 and is audited again in the next monitoring period.



Haley O'Donoghue
Monitoring Officer - Resource Use
Resource Use

Date: 20 June 2023

7.1 Decision

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



Jack Blunden
Team Leader - Rud Environmental Compliance
Resource Use

Date: 12 June 2023

APPENDIX 1

Compliance Rating System

| Compliance Status | Compliance Grade |
|-------------------|--|
| | Not Assessed |
| | Full Compliance Full compliance with all relevant consent conditions, plan rules, regulations and national environmental standards. |
| | Low Risk Non-Compliance Non-compliance with some of the relevant consent conditions, plan rules, regulations and national environmental standards. Non-compliance carries a low risk of adverse environmental effects or is technical in nature (e.g. failure to submit a monitoring report). |
| | Moderate Non-Compliance Non-compliance with most of the relevant consent conditions, plan rules, regulations and national environmental standards, where there are some environmental consequences and/or there is a moderate risk of adverse environmental effects. |
| | Significant Non-Compliance Non-compliance with many of the relevant consent conditions, plan rules, regulations and national environmental standards, where there are significant environmental consequences and/or a high risk of adverse environmental effects. |