

**CONDITIONS RELATING TO CENTRAL HAWKE'S BAY DISTRICT COUNCIL WASTEWATER DISCHARGE CONSENTS**

**CONSENT HOLDER: CENTRAL HAWKE'S BAY DISTRICT COUNCIL**

**TAKAPAU WASTEWATER TREATMENT PLANT DISCHARGES**

**Definitions:**

The following definitions apply across all resource consents:

Terminology Used	Definition
Active Storage	Means storage of treated wastewater ready for land discharge that has left the Takapau Wastewater Treatment Plant.
Activities	Means the Activities authorised by the Resource Consents
Consent holder	Means Central Hawke's Bay District Council
Council	Means the Regulatory Compliance Manager of the Hawke's Bay Regional Council.
HRLP	Means High Rate Land Passage where the existing discharge from the Takapau Wastewater Treatment Plant to the Makaretu River occurs.
Land application	The process of application of wastewater to land, and in this case using irrigation.
Properties	Means the two land parcels to receive wastewater irrigation. These are 45 Burnside Road (Part Lot 1 DP 15623 – 23.95 ha & 4292 State Highway 2 Lot 1 DP 16445 – 18.9 ha).
Treated Wastewater	Means treated wastewater derived from the Consent Holder's Takapau WWTP.
WWTP	Means the Takapau wastewater treatment plant including all current and future treatment processes and storage facilities within the CHBDC land parcel located at 53 Burnside Road legally described as Lot 1 DP 17032, Central Hawke's Bay District.

With each condition number, there is a reference. This reference refers to:

GC: General Conditions; LD: Land Discharge; LU: Land Use; AD: Air Discharge; ID: Indirect Discharge.

Number	Wording	Comment / Notes
<b>L1</b>	<b>GENERAL CONDITIONS</b>	
1 GC	These general conditions apply to Discharge consents X, Y and Z, and Land Use consent A, collectively called 'the Consents'.	
<b>L2</b>	<b>Overarching Principles</b>	
2 GC	<p>Except as otherwise required by any other condition of the Resource Consents, the Activities must be carried out in general accordance with the following information provided by the applicant (collectively referred to as 'the Application') where the most recent information takes priority over older information in the event of any conflicts:</p> <ul style="list-style-type: none"> <li>(a) Takapau Wastewater Discharge – Resource Consent Application and AEE, dated [X] 2021, including Appendices A-[?]; and</li> <li>(b) ?</li> <li>(c) ?</li> <li>(d) Agreed outcomes from engagement with submitters as detailed in                             <ul style="list-style-type: none"> <li>i. ?</li> <li>ii. ?</li> <li>iii. ?</li> </ul> </li> </ul> <p><i>Advice Note: If any conflict arises between the conditions of the consent and the application, the conditions of this consent will prevail.</i></p>	

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L2	<b>Operational Matters</b>	
L3	<b>Discharge Quality Parameters</b>	
3 GC	<p>The Consent Holder must ensure that the treated wastewater meets the following standards prior to discharge to the irrigation and High Rate Land Passage (HRLP):</p> <ul style="list-style-type: none"> <li>(a) The concentration of Carbonaceous five-day Biochemical Oxygen Demand (BOD<sub>5</sub>) must not exceed <b>30 g/m<sup>3</sup></b> in more than 8 out of 12 consecutive monthly samples, or <b>60 g/m<sup>3</sup></b> in more than 2 out of 12 consecutive monthly samples;</li> <li>(b) The concentration of Total Suspended Solids (TSS) must not exceed <b>90 g/m<sup>3</sup></b> for more than 8 out of 12 consecutive monthly samples, or <b>180 g/m<sup>3</sup></b> in more than 2 out of 12 consecutive monthly samples;</li> <li>(c) The concentration of Ammoniacal Nitrogen (NH<sub>4</sub>-N) must not exceed <b>12 g/m<sup>3</sup></b> for more than 8 out of 12 consecutive monthly samples, or <b>25 g/m<sup>3</sup></b> in more than 2 out of 12 consecutive monthly samples; and</li> <li>(d) The concentration of Dissolved Reactive Phosphorus (DRP) must not exceed <b>4 g/m<sup>3</sup></b> for more than 8 out of 12 consecutive monthly samples, or <b>8 g/m<sup>3</sup></b> in more than 2 out of 12 consecutive monthly samples; and</li> <li>(e) The concentration of Escherichia coli (E. coli) must not exceed <b>X cfu /100 mL</b> for more than 8 out of 12 consecutive monthly samples, or <b>X cfu/100 mL</b> in more than 2 out of 12 consecutive monthly samples.</li> </ul> <p><i>Advice Note: Compliance will be demonstrated based on the samples required by Condition 33 [monitoring section]. The exceedance frequency allowed for the Treated Wastewater quality values identified above are based on monthly sampling over an annual 12-month monitoring period of 1 July to 30 June each year in accordance with the New Zealand Municipal Wastewater Monitoring Guidelines (NZWERF, Sept 2002) Table 13.2. If the frequency of sampling is more than monthly, the allowed numbers of annual exceedances will need to be amended to remain in line with the New Zealand Municipal Wastewater Monitoring Guidelines (NZWERF, Sept 2002) Table 13.2.</i></p>	<p>Note: numbers highlighted need confirmation. Values for a-d are approximate to median or average and 95<sup>th</sup> percentile values as used to assess effects to surface water.</p>
L3	<b>Discharge Volumes and Timing</b>	
4 GC	<p>The timing of changes to the treatment and discharge regime shall be as follows:</p> <ul style="list-style-type: none"> <li>(a) Stage 0: To have ceased within 3 years of commencement of these consents;</li> <li>(b) Stage 1: To be operational within 3 years of commencement of these consents; and</li> <li>(c) Stage 2: To be operational within 5 years of commencement of these consents and then for the duration of this consent.</li> </ul>	
L4	<b>Land</b>	
5 LD	<p>The discharge of treated wastewater to the land via irrigation shall meet the following criteria:</p> <ul style="list-style-type: none"> <li>a) Stage 0: 0 ha of irrigation;</li> <li>b) Stage 1: Not less than 5 ha of irrigation; and</li> <li>c) Stage 2: Not less than 20 ha of irrigation.</li> </ul>	
6 LD	<p>The Consent Holder must ensure the application rate of treated wastewater onto land or into land does not exceed:</p> <ul style="list-style-type: none"> <li>(a) 2 mm above field capacity;</li> <li>(b) 5 mm/h; and</li> <li>(c) 20 mm in any one application.</li> </ul>	
7 LD + LU	<p>The Consent Holder must ensure that the nutrient loading resulting from the discharge of treated wastewater and any other fertiliser material onto and into land of the <b>Properties</b>, does not exceed the following criteria on a 5 year rolling average:</p> <ul style="list-style-type: none"> <li>(a) Max N Load 250 kg N/ha/year; and</li> <li>(b) Max P Load 80 kg P/ha/year.</li> </ul>	
8 LD + LU	<p>Meeting the requirements of Condition 7 shall be determined by calculating the nutrient loading to each block within the properties receiving wastewater. The nutrient loading will be based on the results of monitoring required in accordance with Condition 33 and a record of the volume of treated wastewater applied to each block.</p>	

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9 LD + AD	<p>The Consent Holder must ensure that treated wastewater is not discharged to land closer than:</p> <ul style="list-style-type: none"> <li>(a) 20 m from any watercourse, whether flowing continuously or intermittently, including any open drain;</li> <li>(b) 5 m from any property boundary where there are no buildings;</li> <li>(c) 50 m from any bores used for water supplies; or</li> <li>(d) 150 m from any dwelling house, milking shed or other building on any property bordering the land treatment area when that building is directly downwind.</li> </ul>	
10 LD	<p>The Consent Holder must not discharge treated wastewater to land of the Properties:</p> <ul style="list-style-type: none"> <li>(a) Within 48 hours after the application of fertiliser;</li> <li>(b) Within 24 hours after any harvesting activity;</li> <li>(c) Within 48 hours prior to any harvesting activity; or</li> <li>(d) When 50 mm or more rainfall has occurred in the previous 24 hour period as recorded at the Waipukurau Climate Station [No.31620].</li> </ul>	
11 LD	<p>In the event that storage is reaching 90 % of capacity and river flow conditions as set out in Condition 12 do not permit discharge, then irrigation can occur at a rate that exceeds those in Condition 6 [discharge rate condition] but no more than 50 mm in any one application .</p> <p><i>Advice note: Storage capacity is measured on a volume basis and excludes freeboard capacity.</i></p>	
L4	<b>HRLP</b>	
12 ID	<p>The discharge of treated wastewater to the HRLP which drains to the Makaretu River shall meet the following criteria:</p> <ul style="list-style-type: none"> <li>a) Stage 0: <ul style="list-style-type: none"> <li>i. The flow rate averaged over the preceding 365 days of the discharge shall not exceed 216 m<sup>3</sup>/d.</li> </ul> </li> <li>b) Stage 1: <ul style="list-style-type: none"> <li>i. When the river flow is below 4,735 L/s (half median) there shall be no discharge to the Makaretu River;</li> <li>ii. When the river flow is greater than 4,735 L/s (half median) and less than 9,470 L/s (median), the discharge shall not exceed 200 m<sup>3</sup>/d;</li> <li>iii. When the river flow is greater than 9,470 L/s (median) and less than 28,410 L/s (3x median), the discharge shall not exceed X m<sup>3</sup>/d; and</li> <li>iv. When the river flow is greater than ....</li> </ul> </li> <li>c) Stage 2: <ul style="list-style-type: none"> <li>i. When the river flow is below 9,470 L/s (median) there shall be no discharge to the Makaretu River;</li> <li>ii. When the river flow is greater than 9,470 L/s (median) and less than 28,410 L/s (3x median), the discharge shall not exceed X m<sup>3</sup>/d; and</li> <li>iii. When the river flow is greater than ....</li> </ul> </li> </ul> <p><i>Advice Note: River flow shall be measured for the Tukituki River at Tapairu Road at 9 am and the ability to discharge shall span a period of 24 hr to 9 am the following morning.</i></p>	<p>There is a need to discuss with HBRC consenting staff the criteria to apply when a discharge is needed and the river is in flood flow.</p>
	<b>Storage</b>	
13 GC	<p>The Consent Holder shall provide the following volume of active storage:</p> <ul style="list-style-type: none"> <li>a) Stage 0: 0 m<sup>3</sup>;</li> <li>b) Stage 1: Use of the existing treatment pond to provide not less than 2,000 m<sup>3</sup>; and</li> <li>c) Stage 2: Construction of a new pond with a volume not less than 18,000 m<sup>3</sup>.</li> </ul> <p><i>Advice note: Stage 1 provides for the use of the existing pond for storage until a new pond is built as required by Stage 2.</i></p>	
L3	<b>Farm Management</b>	
14 LU	<p>The Consent Holder can use clean water and wastewater in the same growing season to provide for the growth of pasture and crops. Fertiliser can also be used to supplement nutrient in wastewater up to the limit as noted in Condition 7 [N and P loading limit condition].</p>	

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	<p><i>Advice note: clean water is available from a number of sources, including groundwater and surface water. The approval process for obtaining this water is outside this consent process.</i></p>	
15 LU	<p>The Consent Holder can graze permanently fenced riparian margins for weed control purposes providing:</p> <ol style="list-style-type: none"> <li>The total grazing period in any year does not exceed 7 days; and</li> <li>The fenced riparian margin shall be grazed no more than twice in any year during the period 1 November to 30 April.</li> </ol>	
L3	<p><b>Odour and Aerosols</b></p>	
16 AD	<p>The Consent Holder must operate the system at all times such that as a result of the activities associated with the exercise of this consent, including storage and irrigation of wastewater, there shall be no offensive or objectionable odour or spray drift at or beyond the property boundary to which this consent relates.</p> <p><i>Advice Note: An odour or spray drift will only be considered offensive or objectionable after a Council enforcement officer has considered the Frequency, Intensity Duration, Offensive and Location of the odour or spray drift (i.e. the FIDOL Factors). The property boundary is defined as the edge of any of the properties identified in Condition 2 adjacent to property that is not identified in Condition 2.</i></p>	
17 AD	<p>Prior to the discharge of <b>treated wastewater</b> to land the Consent Holder must install a weather station on the site to be used for land application of treated wastewater and maintained at all times to provide data for managing the land application system. At a minimum this must include:</p> <ol style="list-style-type: none"> <li>Wind speed and direction at 6 m above the ground ; and</li> <li>Rainfall at ground level; and</li> <li>Air temperature at 1.5 m and 6 m above ground; and</li> <li>Relative humidity</li> </ol>	
18 AD	<p>The Consent Holder must operate the system such that irrigation of treated wastewater automatically ceases when:</p> <ul style="list-style-type: none"> <li>the 10 minute average wind speed at the site exceeds 10 m/s; or</li> <li>where the <i>E.coli</i> concentration in treated wastewater for the most recent sample is greater than 10,000 cfu/100 mL and the 10 minute average wind speed at the site exceeds 4 m/s from any wind direction</li> </ul> <p><i>Advice note: The purpose of this condition is to avoid adverse health effects where there is the potential for winds to cause spray drift that may contain pathogens to be carried beyond the property boundary upon which the activity is taking place. This condition applies only to the discharge of wastewater – clean water irrigation is not subject to the same shut down requirements.</i></p>	
	<p><b>Signage</b></p>	
19 GC	<p>The Consent Holder must, before commencing irrigation activity, erect and maintain signs on SH2 and Burnside Road fences, and the true right bank both upstream and downstream of the Makaretu River Bridge. The wording of the signage shall be large enough to be read by a person with normal eyesight at 20 m and shall advise of the presence of the treated wastewater discharge in the area. The precise wording and location of the signage must be certified by the Council’s Regulatory Manager.</p>	
	<p><b>Representative</b></p>	
20 GC	<p>The consent holder shall nominate a person who is responsible for the maintenance of the wastewater treatment system and the return of information (as required by conditions of this consent). The consent holder shall advise the Council (Manager Compliance) who this person is within one month of the commencement date of this consent and within ten working days of any change occurring.</p>	
	<p><b>Sampling Port</b></p>	
21 GC	<p>From the commencement of these Consents, the Consent Holder must install and maintain a sampling port in the pipeline to the land treatment system and the HRLP system.</p>	

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<b>Metering</b>		
22 GC	<p><u>From the commencement of these Consents, the Consent Holder must install and maintain flow meters to measure and record the wastewater volumes discharged:</u></p> <p><u>a) into and out of the Takapau WWTP;</u>  <u>b) to the HRLP;</u>  <u>c) into and out of the storage pond; and</u>  <u>d) to the land treatment area.</u></p> <p><u>The measuring device and recording system shall be maintained to continually measure and record the rate and volume of effluent discharged from the oxidation pond. Measuring and recording shall be at intervals not exceeding 30 minutes and to an accuracy of +/- 5%.</u>  <del>From the commencement of these Consents, the Consent Holder must install and maintain flow meters to measure and record the wastewater volume discharged to the anaerobic treatment pond, land treatment area and the HRLP system. The flow meters must be calibrated to an accuracy of plus or minus 5 % or better and must be maintained at this level of accuracy for the term of Discharge Consents (to water, to land, to air, to groundwater).</del></p>	<p><a href="#">Changed for consistency with other consents.</a></p>
23 GC	<p>Within three months following the installation of the flow meter, and every five years thereafter for the duration of Consents, the Consent Holder must have the flow meters, required by Condition 22, verified in accordance with the manufacturer’s specifications. The Consent Holder must provide to the Council’s Regulatory Manager, an in-situ flow meter verification certificate confirming the validity of the meters within one month of the verification being completed.</p>	
24 GC	<p>Within three months of the commencement of these Consents, the Consent Holder must provide the Council’s Regulatory Manager with near real-time treated wastewater discharge information recorded and collected from the flow meters referred to in Condition 22. This information must be recorded at [?] minute intervals and be provided automatically on a daily basis in a format compatible with the Council’s database.</p>	
<b>Infrastructure Inspection</b>		
25 GC	<p>The Consent Holder must ensure that the physical infrastructure of the pond system is inspected every month. Any damage to pond embankments, or signs of pond seepage must be identified, noted, and fixed as soon as practicably possible.</p>	
26 LD	<p>The Consent Holder must ensure that the physical infrastructure of the land treatment system and the land treatment area are inspected every week when operational, and that relevant parts of the systems are also inspected whenever any alarms associated with the systems are activated.</p>	
27 ID	<p>The Consent Holder must ensure that the physical infrastructure of the HRLP system is inspected every month and that relevant parts of the systems are also inspected whenever any alarms associated with the systems are activated.</p>	
28 GC	<p>If any blockages and/or breaks are identified in an inspection under Condition 25 and 26 or otherwise, the system affected must cease operation until the blockage and/or break is remedied, and the Consent Holder must notify Council’s Regulatory Manager within 48 hours of identifying the blockage and/or break.</p>	
29 GC	<p>Records of the inspections made in accordance with Condition 25, 26 and 27, and any resulting system maintenance, must be kept and made available to the Council on request and a copy be provided within the Annual Report required under Condition 57.</p>	

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<b>L2</b>	<b>Monitoring</b>	
<b>L3</b>	<b>General</b>	
30 GC	The Consent Holder must ensure that all sampling equipment, including meters and field measurement devices, are maintained in good working order by suitably qualified persons in accordance with the manufacturer's instructions and industry best practice guidelines. Records of calibration shall be kept and made available to the Council upon request.	
31 GC	In respect of monitoring required by the Consents, the following apply: <ul style="list-style-type: none"> <li>(a) All monitoring and sampling techniques employed in respect of the conditions of the Resource Consents must be carried out by suitably experienced and qualified persons;</li> <li>(b) All analytical testing other than on-site measurements, undertaken in connection with these Resource Consents must be performed by a laboratory that is IANZ accredited for the analytical tests or any other method approved in advance in writing by the Council Manager;</li> <li>(c) All water sample analyses must be undertaken in accordance with the methods detailed in the "Standard Methods For The Examination Of Water And Waste Water, 2017" 23rd edition by A.W.W.A., A.P.H.A. and W.E.F., or any other method approved in advance in writing by the Council Manager; and</li> <li>(d) If any monitoring sites are identified as unsuitable, alternative monitoring sites must be identified and developed within a reasonable time after consultation with the Council Manager.</li> </ul>	
32 GC	Results of monitoring collected in accordance with Conditions 33 to 42 below must be transferred within 10 working days of their receipt to the Council in a format compatible with Council systems.	
<b>L3</b>	<b>Wastewater</b>	
33 GC	From the commencement of these Consents, the Consent Holder must take samples of treated wastewater from the sampling port(s) (installed in accordance with Condition 21), once per month in any month that a discharge to the land treatment area or the HRLP system occurs, and while the discharge is occurring. The sample must be analysed for: <ul style="list-style-type: none"> <li>(a) ScBOD<sub>5</sub>;</li> <li>(b) Total Suspended Solids;</li> <li>(c) Total Nitrogen;</li> <li>(d) Nitrate Nitrogen (NO<sub>3</sub>-N);</li> <li>(e) Ammoniacal-Nitrogen (NH<sub>4</sub>-N);</li> <li>(f) Nitrite Nitrogen (NO<sub>2</sub>-N);</li> <li>(g) Total Phosphorus;</li> <li>(h) Dissolved Reactive Phosphorus (DRP);</li> <li>(i) Sodium (Na);</li> <li>(j) Potassium (K);</li> <li>(k) Magnesium (Mg);</li> <li>(l) Calcium (Ca); and</li> <li>(m) Escherichia coli (<i>E. coli</i>).</li> </ul>	
<b>L3</b>	<b>Soils</b>	

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34 LD	<p>The Consent Holder must take annual composite soil samples from areas that align with blocks detailed in nutrient budget reporting and have received treated wastewater within the previous 12 month period (starting 1 October and ending 30 September) for the duration of this Discharge Consent. A minimum of ten 75 mm depth composite samples must be obtained from each paddock, and must be analysed for the following:</p> <ul style="list-style-type: none"> <li>(a) pH;</li> <li>(b) Exchangeable Sodium (Na);</li> <li>(c) Exchangeable Sodium percentage (Na);</li> <li>(d) Exchangeable Potassium (K);</li> <li>(e) Exchangeable Magnesium (Mg);</li> <li>(f) Exchangeable Calcium (Ca);</li> <li>(g) Phosphorus (Olsen);</li> <li>(h) Sulphate-S;</li> <li>(i) Total Nitrogen (TN); and</li> <li>(j) Cation Exchange Capacity.</li> </ul>	
L3	<b>Groundwater</b>	
35 GC	<p>The Consent Holder shall monitor groundwater quality in the months of x, y and z in the locations identified on Plan x and in accordance with the MfE Groundwater sampling protocols (2006) or any subsequent updated document.</p>	
36 GC	<p>The Consent Holder must measure and record the static water level of all bores identified in Condition 35 prior to purging and sampling. Samples collected from the bores and shall be analysed for the following parameters:</p> <ul style="list-style-type: none"> <li>(a) Temperature (field measurement);</li> <li>(b) pH (field measurement);</li> <li>(c) Electrical Conductivity (EC);</li> <li>(d) Chloride (Cl);</li> <li>(e) Nitrate-Nitrogen (NO<sub>3</sub>);</li> <li>(f) Ammoniacal-Nitrogen (NH<sub>4</sub>N);</li> <li>(g) Nitrite-Nitrogen (NO<sub>2</sub>);</li> <li>(h) Dissolved Reactive Phosphorus (DRP);</li> <li>(i) <i>Escherichia coli</i> (<i>E. coli</i>); and</li> <li>(j) Sodium (Na).</li> </ul>	
L3	<b>Surface Water Chemistry</b>	
37 ID	<p>The Consent Holder shall monitor surface water quality in the months of November, March and July in the locations identified on Plan x. These include sites located:</p> <ul style="list-style-type: none"> <li>a) 50 m upstream of the discharge location;</li> <li>b) 50 m downstream of the discharge location; and</li> <li>c) 400 m downstream of the discharge location.</li> </ul> <p><i>Advice note: The exact location of the monitoring sites shall be confirmed in consultation with the Council's Regulatory Manager. Should the monitoring locations become unsuitable or inaccessible for sampling due to reasons beyond the consent holder's control during the term of the consent, the consent holder shall identify new monitoring locations, in consultation with the Council's Regulatory Manager.</i></p>	
38 ID	<p>Three years after the commencement of this consent, the Consent Holder may prepare a review report that seeks to reduce or cease the monitoring required by Condition 37 by way of a variation. This report shall be prepared by a suitably qualified and experienced person and be submitted to Council's Regulatory Manager. The justification shall detail and demonstrate the appropriateness of future monitoring, if any, and take into account the impacts, or lack of, as a result of the Stages implemented in accordance with Condition 4. No change in monitoring shall occur until such time as the Council's Regulatory Manager has agreed to a variation to this consent.</p>	

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39 ID	<p>The Consent Holder must monitor the following parameters at the sites identified in Condition 37:</p> <ul style="list-style-type: none"> <li>(a) pH (field measurement);</li> <li>(b) Temperature (field measurement);</li> <li>(c) Dissolved oxygen (field measurement);</li> <li>(d) Total Suspended Solids (TSS);</li> <li>(e) scBOD5 (Dissolved carbonaceous biochemical oxygen demand being material passed through a GF/C filter);</li> <li>(f) Total Nitrogen (TN);</li> <li>(g) Nitrate Nitrogen (NO<sub>3</sub>);</li> <li>(h) Ammoniacal Nitrogen (NH<sub>4</sub>N);</li> <li>(i) Nitrite-Nitrogen (NO<sub>2</sub>);</li> <li>(j) Dissolved Reactive Phosphorus (DRP);</li> <li>(k) Total Phosphorus (TP); and</li> <li>(l) <i>Escherichia coli</i> (<i>E. coli</i>).</li> </ul>	
L3	<b>Macroinvertebrate Sampling</b>	
40 ID	<p>The Consent Holder must have a suitably qualified and experienced freshwater ecologist undertake macroinvertebrate sampling in the Makaretu River between January and April for the first two years following commencement of this consent and thereafter every five years. The macroinvertebrate assessment must be undertaken following a period of at least three weeks without a flood event and during a period of stable flow. The timing of the monitoring must be confirmed by Council's Regulatory Manager prior to the commencement of the monitoring.</p> <p>The locations of the assessments and sampling shall be a collection of at least 5 replicate 0.1 m<sup>2</sup> surber samples from at least three upstream and three downstream sampling sites, pooled to give multiple composite upstream and downstream samples.</p> <p><i>Advice Note: A flood event is considered to be when the Makaretu River is at and above 28,410 L/s (3x median flow) as measured for the Tukituki River at Tapairu Road.</i></p>	<p>The frequency of monitoring is proposed to reduce to reflect the reduced discharge potentially reaching surface water.</p>
41 ID	<p>The Consent Holder must ensure that the macroinvertebrate sampling referred to in Condition 40 above follows Protocols C3 (Hard-bottomed quantitative), P3 (full count with subsampling option) and QC3 (Quality control for full count with subsampling option) from the Ministry for the Environment's "protocols for sampling macroinvertebrates in wade-able streams" (Stark et al. 2001). This shall involve:</p> <ul style="list-style-type: none"> <li>(a) Collection of five replicate 0.1 m<sup>2</sup> surber samples at random within a 20 m section of riffle habitat at each sampling site;</li> <li>(b) Full count of the macroinvertebrate taxa within each replicate sample to the taxonomic resolution level specified for use of the Macroinvertebrate Community Index (MCI); and</li> <li>(c) Enumeration of the results as taxa richness, MCI, QMCI, % EPT taxa and % EPT individuals.</li> </ul>	
L3	<b>Chlorophyll a Monitoring</b>	



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42 ID	<p>Consent Holder shall have an appropriately experienced and qualified freshwater ecologist undertake assessments in the Makaretu River once between January and April for the first two years following commencement of this consent and thereafter every five years of the percentage cover, biomass, chlorophyll <i>a</i>, AFDW and community composition of periphyton, filamentous algae and cyanobacterial mats in run habitat, as close as possible to the sites selected for macroinvertebrate sampling above. The periphyton and algae assessment is to include:</p> <p>(a) A visual assessment of the percentage cover of both filamentous algae and algal mats (to the nearest 5%) at 5 points across four transects encompassing run habitat and extending across the width of the river at each sampling site. The visual monitoring methods shall follow the protocols outlined in Appendix 2 of 'A periphyton monitoring plan for the Manawatu-Wanganui Region' (Kilroy et al 2008). Reported estimates shall include:</p> <ol style="list-style-type: none"> <li>i. Percentage cover of visible stream or river bed by bacterial and/or fungal growths (sewage fungus) visible to the naked eye;</li> <li>ii. Percentage cover of visible stream or river bed by filamentous algae more than 2 cm long;</li> <li>iii. Percentage cover of visible stream or river bed by diatoms or cyanobacteria mats more than 0.3 cm thick;</li> <li>iv. Percentage cover of visible stream or river bed by diatoms less than 0.3 cm thick; and</li> <li>v. Percentage cover of visible stream or river bed that is clean.</li> </ol> <p>The collection of a periphyton sample at the same established monitoring sites and transects, using method QM-1b from the Stream Periphyton Monitoring Manual (Biggs &amp; Kilroy 2000). Analysis of periphyton samples shall follow the Biggs and Kilroy (2000) guidelines for chlorophyll <i>a</i> analysis.</p>	The frequency of monitoring is proposed to reduce to reflect the reduced discharge potentially reaching surface water.
L3	<b>Cultural Health Index Monitoring Protocols</b>	
43 GC	<p>Within two years of the commencement of this consent, the Consent Holder must invite X (body representing Māori interests) to undertake Cultural Health Monitoring according to their respective tikanga. If the engagement is accepted, the Consent Holder must commission X (body representing Māori interests) or nominees (as advised) to undertake Cultural Health Monitoring in compliance with the Cultural Health Monitoring protocol prepared in accordance with Condition 44.</p>	
44 GC	<p>If the engagement is accepted to undertake Mauri Cultural Health Monitoring as set out in Condition 43, the Consent Holder must commission X to prepare a Cultural Health Monitoring protocol that as a minimum, must:</p> <ol style="list-style-type: none"> <li>(a) Describe the relationship of tangata whenua to the discharge area and the sites of interest in or near the locations to which these Permits apply;</li> <li>(b) Describe the tikanga relevant to the proposed cultural monitoring (including kaitiakitanga, mauri of awa, whenua, tangata, whanaungatanga and te ha tawhirimatea), the activities, and the site(s);</li> <li>(c) Identify and map (with map references) the site(s) to be monitored;</li> <li>(d) Set out the frequency of monitoring;</li> <li>(e) Describe the procedures required to access the application site for the monitoring (in particular health and safety requirements);</li> <li>(f) Identify the parameters and methods used for the monitoring and assessments of effects on cultural health;</li> <li>(g) Set out the matters to be included in the Cultural Health Monitoring Report and the frequency of the reporting obligations; and</li> <li>(h) Set out the procedures for amendments to the Cultural Health Monitoring protocols.</li> </ol> <p><i>Advice Note: there are multiple tools for assessing cultural health, including the Mauri Compass. The selection of the methodology is up to the body representing Māori interests.</i></p>	

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45 GC	<p>The Consent Holder must provide a copy of the Cultural Health Monitoring protocol, or any amended version, and any subsequent Cultural Health Monitoring Reports to the Council Manager within 1 month of receiving it.</p> <p><i>Advice Note: These documents are the intellectual property of the Māori cultural health experts and are not subject to certification or review by the Consent Holder or Council.</i></p>	
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L2	<b>Plans</b>	
L3	<b>Monitoring Plan</b>	
46 GC	<p>No later than six months after the commencement of this Consent, the consent holder shall submit to Council’s Regulatory Manager for certification, a Monitoring Plan (MP), completed by a suitably qualified and experienced person. The MP shall be designed to monitor any effects of the irrigation system, storage of wastewater in the oxidation pond (e.g. though leakage), impacts on groundwater impacts on surface water. The MP shall include, but not be limited to:</p> <ul style="list-style-type: none"> <li>(a) ?</li> <li>(b) ?</li> <li>(c) ?</li> </ul> <p>The MP shall be considered certified unless the Council’s Regulatory Manager, within 20 working days of receiving the MP, refuses to certify it, and outlines its reasons in writing for not certifying the MP. If the MP is not certified, an amended MP must be submitted. Once certified by the Council, the MP shall be implemented within three months.</p>	
L3	<b>Operational and Management Plan</b>	
47 GC	<p>No later than six months after the commencement of this Consent, the Consent Holder must submit to the Council’s Regulatory Manager for technical certification an Operation and Management Plan (OMP) detailing (but not limited to) the following items:</p> <ul style="list-style-type: none"> <li>(a) A description of the treatment plant, storage, land application system and the HRLP system, including a site map indicating the location of discharge infrastructure, the land treatment area, and monitoring sites;</li> <li>(b) Intended operation and maintenance procedures for the land treatment system and the HRLP system, including how the systems will be operated and maintained to comply with these Conditions and the Conditions of Discharge Consents [?], [?] and [?];</li> <li>(c) A methodology statement and summary setting out recent and proposed infiltration management. This should include forward work to reduced infiltration into the reticulated wastewater system, and a timeline for carrying out these works.</li> <li>(d) The procedures to be implemented to ensure that, where practicable, treated wastewater is discharged as a priority to land in accordance with the general conditions, including record-keeping procedures to demonstrate that the prioritisation has occurred;</li> <li>(e) A procedure to utilise the irrigation system to discharge at a higher application rate when storage is full and river flow conditions do not allow for the use of the HRLP system;</li> <li>(f) The measures to be implemented to control, regulate and record irrigation application, including application depths and details about how the management blocks within the land treatment area will be managed;</li> <li>(g) Cropping, pasture, grazing and harvesting management and maintenance procedures;</li> <li>(h) The frequency of flushing of the irrigation pipes and the circumstances under which pipe flushing will occur;</li> <li>(i) Measures to ensure the treated wastewater irrigated remains aerobic;</li> <li>(j) On-site responsibilities, including operation and maintenance of the wastewater treatment facilities and pipelines to the river and land discharge points;</li> <li>(k) Key operational matters, including daily, weekly and monthly maintenance checks, and the keeping of a maintenance register to record the details of all maintenance events and any system malfunctions;</li> <li>(l) Monitoring and reporting procedures required to demonstrate compliance with these Conditions (to water, to land, to air and to groundwater);</li> <li>(m) A description of any other on-farm operations affecting nutrient loading or leaching within the land treatment area (e.g. grazing, crops, fertiliser application);</li> <li>(n) A risk assessment plan and contingency plans in the event of system malfunctions or breakdowns;</li> </ul>	

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	<ul style="list-style-type: none"> <li>(o) Procedures for receiving, recording and responding to all complaints in accordance with Conditions (58 and 59);</li> <li>(p) A protocol for managing accidental discovery of artefacts of historic, archaeological or cultural significance during construction;</li> <li>(q) Mitigation and contingency measures for controlling odour, aerosols, ponding and run-off in and from the land treatment area;</li> <li>(r) Procedures for the wind speed shut-down required by Condition 18;</li> <li>(s) Procedures for the rainfall induced shut-down required by Condition 10; and</li> <li>(t) Details of how changes in wastewater composition and volume are to be managed and measures to ensure ongoing compliance with conditions.</li> </ul>	
48 GC	The Consent Holder must review the OMP by 31 July of each year, commencing [x] [y] 2023 to incorporate any proposed changes to the management of the activities. Following each review, the OMP, including any proposed changes must be submitted to the Council's Regulatory Manager for technical re-certification before 30 November of the same year.	
49 GC	The Consent Holder must undertake the activities in accordance with the OMP that is most recently certified pursuant to Condition 47.	
<b>L3</b>	<b>Education Plan</b>	
50 GC	<p>Within 12 months of the commencement date of this consent, the Consent Holder must prepare and implement a Wastewater Education Plan (WEP) detailing a multi-faceted programme designed to increase the public's understanding and awareness of how their [the public's] actions/activities can influence wastewater volumes, and the ways in which the public can reduce water use. Within six months after submitting the WEP to the Council Manager, the Consent Holder shall commence delivery of the WEP.</p> <p>The Plan shall be reviewed and updated annually.</p>	
<b>L3</b>	<b>Farm Environmental Management Plan</b>	
51 LU	<p>The Consent Holder shall ensure that:</p> <ul style="list-style-type: none"> <li>a) Records specified within Schedule XXI of the Tukituki Plan Change 6 are retained for each year (1<sup>st</sup> June to 31<sup>st</sup> May) enabling a nutrient budget to be prepared; or</li> <li>b) Copies of Nutrient Budget input and output files have been prepared in accordance with an industry programme approved by HBRC.</li> </ul>	
52 LU	<p>The Consent Holder shall prepare a Farm Environmental Management Plan in accordance with Schedule XXII of the Tukituki Plan Change 6 (PC6) by <b>date X</b> for properties receiving wastewater. The Farm Environmental Management Plan shall include:</p> <ul style="list-style-type: none"> <li>a) A Nutrient Budget incorporating the measurement or modelling of whole of property nutrient losses (kg/ha/year) calculated using the annual records specified in Schedule XXI and the Overseer Nutrient Budget model (or an alternative model approved by Hawke's Bay Regional Council;</li> <li>b) A Phosphorus Management Plan including details specified in Schedule XXII; and</li> <li>c) Alongside all other information relevant to the farm property required for a Farm Environmental Management Plan.</li> </ul>	

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L2	<b>Reporting and Notification</b>	
53 GC	Records of the inspections carried out in accordance with Conditions 25, 26 and 27 and any resulting system modifications must be recorded in the Annual Monitoring Report as required by Condition 57.	
54 GC	<p>The Consent Holder must maintain a record of all irrigation activities authorised by this resource consent that occur within the land treatment area. This record must include but not be limited to:</p> <ul style="list-style-type: none"> <li>(a) The date, time, location and volume of each irrigation;</li> <li>(b) The date, time, location, volume and nitrogen loading of any nitrogenous and phosphorus material applied; and</li> <li>(c) The date and time of pipeline flushes when they occur.</li> </ul> <p>Records shall be reported included in the Annual Monitoring Report as required by Condition 57.</p>	
55 GC	<p>The Consent Holder must maintain a record of all HRLP discharges authorised by this resource consent. This record must include but not be limited to:</p> <ul style="list-style-type: none"> <li>(a) The date, time, location and volume of each discharge; and</li> <li>(b) The river flow at the time as measured at the ? site.</li> </ul> <p>Records shall be reported included in the Annual Monitoring Report as required by Condition 57.</p>	
56 GC	The Consent Holder must notify the Council Manager as soon as possible and no later than within two working days of 24 hours from the identification of any actual or potential non-compliance or when it becomes evident that a breach of Consent Conditions is about to occur. For conditions requiring compliance with a particular water quality standard, notification to the Council Manager is required within two working days 24 hours of receipt of the water quality analysis result from the Laboratory of the non-compliance.	
	<b>Annual Monitoring Report</b>	
57 GC	<p>By 31 <del>July</del> <u>September</u> of each year (commencing 31 July 2023) the Consent Holder must provide the Council’s Regulatory Manager an annual monitoring report for the 12 month period ending the previous 30 June. The annual monitoring report must include (but not be limited to):</p> <ul style="list-style-type: none"> <li>(a) Results of sampling and a summary and interpretation of analyses and records collected in accordance with these conditions;</li> <li>(b) Comment on compliance with each of these Conditions, including the effluent standards;</li> <li>(c) A summary of inspections made on the physical infrastructure in accordance with Conditions 25, 26 and 27;</li> <li>(d) Results of soil sampling required by Condition 34, and an analysis to determine whether any material change in soil quality has occurred and actions taken to remedy any nutrient deficiency or excess;</li> <li>(e) Results of groundwater monitoring required by Conditions 35 and 36, including an assessment of whether there has been a decline in groundwater quality due to the activities;</li> <li>(f) Results of surface water monitoring required by Conditions 37, 38 and 39, including an assessment of whether there has been a decline in surface water quality due to the activities;</li> <li>(g) General comment on any non-compliances and operational problems;</li> <li>(h) Details of any works undertaken or proposed to improve the performance of the treatment system; and</li> <li>(i) A copy of the complaints register required by Condition 59.</li> </ul>	<a href="#">September to provide more time to prepare reports.</a>
	<b>System Review Report</b>	
	<a href="#">Within five years of the commencement date of this consent, and there after every 5 years, the Consent Holder must prepare a ‘System Review Report’ including but not limited to summaries of:</a>	<a href="#">In response to CIA</a>

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	<p><a href="#">(a) the volume applied to land and discharged to the HRLP;</a>  <a href="#">(b) when the HRLP was used and the river flow conditions at the time;</a>  <a href="#">(c) changes that have been made to the wastewater treatment plant and details of changes proposed;</a>  <a href="#">(d) all monitoring undertaken as required by this consent, including Mauri monitoring, and may include additional monitoring undertaken by the Consent Holder; and</a>  <a href="#">(e) storage utilisation and opportunities to better utilise it to avoid the use of the HRLP.</a></p> <p><a href="#">Further, management of the system can be updated, with proposed changes to be made as necessary to the Operation and Management Plan after an annual review by the Consent Holder.</a></p>	
	<b>Spillages and Complaints</b>	
58 GC	<p>The Consent Holder must maintain and make available to the Council’s Regulatory Manager on request, a record of complaints which lists all complaints received alleging adverse effects attributable to the activities. The record must include but not be limited to the following:</p> <p>(a) Name and address of the complainant (if given);          (b) The nature and duration of the effect;          (c) The date and time the effect was detected;          (d) The location where the effect was detected;          (e) The prevailing weather conditions when the effect was alleged to be occurring e.g. wind speed and direction;          (f) The likely cause of the effect detected; and          (g) Any measures taken to mitigate the alleged effect and to avoid its recurrence.</p>	
59 GC	<p>The consent holder shall establish and maintain a 'complaints register' to record the date and time of any complaints received and from whom, the nature and location of the complaint, and any actions taken in response to that complaint. A copy of the complaints register shall be made available to the Council on request.</p>	
60 GC	<p>The Consent Holder must immediately notify the Council’s Regulatory Manager <a href="#">and chairs of Te Rongo o Tahu marae and Rākoutātahi marae</a> of, and keep a record of, any major spillage of material into the wastewater collection system that may adversely impact on the wastewater treatment plant, the land application system or the river discharge system that have the potential to or will result in a non-compliance with any of the conditions of the activities authorised by these Consents.</p>	<a href="#">From CIA.</a>
L3	<b>Accidental Discovery</b>	
61 GC	<p>In the event of an archaeological site, waahi tapu or koiwi being discovered or disturbed during the activities, the Consent Holder must immediately cease further work in the immediate area and inform <a href="#">Te Rongo o Tahu marae, Rākoutātahi marae, Te Taiwhenua o Tamatea</a>, the Council’s Regulatory Manager, Heritage New Zealand and (in the event that human remains are found) the New Zealand Police. Further work at the immediate area must be suspended while Iwi carry out their procedures for the removal of Taonga. The Council’s Regulatory Manager will advise the Consent Holder when work can resume.</p> <p><i>Advice Note: In accordance with Section 14(1) of the Coroners Act 2006, in the event that human remains are found the NZ Police should be contacted immediately and all works in the immediate vicinity will cease until advice is given that works can recommence.</i></p>	<a href="#">From CIA. Further work is required to establish a protocol that is acceptable to all parties.</a>

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L2	Review	
61 GC	<p>The Hawke’s Bay Regional Council may annually during the month of May review the conditions of the consent in accordance with Sections 128, 129, 130, 131 and 132 of the Resource Management Act 1991 for the following purposes:</p> <ul style="list-style-type: none"> <li>a) To address any adverse effect on the receiving environment that can be reasonably attributed to the Activities which may arise from the exercise of the resource consent and which is appropriate to deal with at a later stage;</li> <li>b) To modify the monitoring programme required by the resource consent or require additional monitoring if there is evidence that the current monitoring requirements of the resource consent are inappropriate or inadequate;</li> <li>c) To modify the reporting requirements of the resource consent if there is evidence that the current reporting requirements of the resource consent are inappropriate or inadequate; and</li> <li>d) To address any new regional or national rules, standards, or regulations relating to freshwater and/or coastal water management.</li> </ul>	

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