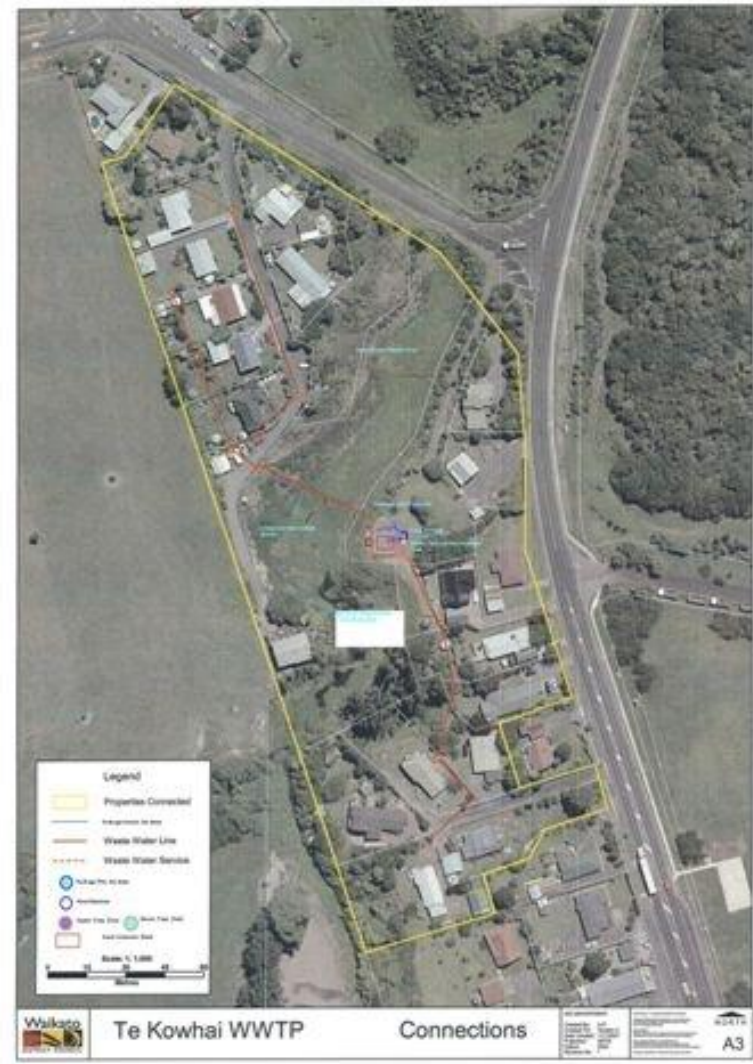


## 116151 Te Kowhai discharge to ground 1 July 2011 – 30 June 2012

**This consent authorises the Consent Holder to:** discharge up to 12 cubic metres per day of treated domestic wastewater into the ground in association with municipal treatment facilities in the vicinity of Bedford and Horotiu Roads, Te Kowhai. Granted 2 September 2008, expires 5 September 2018.

	Conditions	Comply Yes/No	Comments
1	The treatment system and discharge shall be installed, operated and maintained in accordance with the supporting information that made up this consent application, subject to the resource consent conditions below, which shall prevail should any inconsistency occur between the conditions and the above documents.	Yes	
2	The consent holder shall ensure contractors are made aware of the conditions of this resource consent and ensure compliance with those conditions	Yes	It is normal procedure that any contracted organisations be advised of the relevant conditions of the resource consent if it is deemed their work may potentially negatively affect the capacity of the plant to meet conditions of the consent.
3	<p>The consent holder shall retain and update as necessary an operations and maintenance manual. The following matters shall be addressed, as a minimum:</p> <ul style="list-style-type: none"> <li>i) a description of the treatment and disposal facilities,</li> <li>ii) a description of how the wastewater treatment plant will be operated, maintained and managed,</li> <li>iii) operation and maintenance recording,</li> <li>iv) monitoring and reporting requirements, and</li> <li>v) measures to ensure wastewater discharge is within the limits of this resource consent.</li> </ul> <p>The operations and maintenance manual, along with any notification of any changes made to it, shall be provided to the Waikato Regional Council within 6 months of the granting of this consent, or within 6 months making changes to the manual, for approval by a programme manager of the resource use group acting in a technical certification capacity.</p>	Yes	<p>Innoflow Technologies supplied an operation manual at the original upgrade. The document provided a description of the facility and outlined the maintenance requirements for the system. This document was supplied to Environment Waikato as part of the application process for RC 971144 that has expired.</p> <p>A copy of any updated manual will be forwarded to Waikato Regional Council within 6 months of completion.</p>

	Conditions	Comply Yes/No	Comments
4	The consent holder shall not increase the number of properties serviced by the wastewater treatment plant without obtaining in advance the written approval of Environment Waikato, as provided by a programme manager of the resource use group.	Yes	<p>The number of properties serviced by the WWTP has not increased.</p> 

	Conditions	Comply Yes/No	Comments
5	The maximum volume of treated effluent discharged shall not exceed 12 cubic metres per day.  Note: the daily volume may be calculated as an average daily volume based on cumulative volume data, see condition 13.	Yes	The Te Kowhai WWTP has been fully compliant with this condition.  The highest recorded flow was 10.8m <sup>3</sup> /day.
6	Not more than one sample in the preceding ten samples taken as required by condition 11 of this consent shall exceed 15 grams per cubic metre biological oxygen demand.	Yes	The Te Kowhai WWTP has been fully compliant with this condition. The highest recorded cBOD5 was 10g/m <sup>3</sup> .
7	Not more than one sample in the preceding ten samples taken as required by condition 11 of this consent shall exceed 15 grams per cubic metre total suspended solids.	No	Non-Compliant SS.  90 <sup>th</sup> Percentile 412g/m <sup>3</sup> . Maximum 530g/m <sup>3</sup> recorded in October 2011. Median 25g/m <sup>3</sup> .  Widely variable results suggest there may be some problem with how the sample is being obtained. Further investigations needed.
8	Not more than one sample in each preceding ten samples required by condition 11 of this consent shall exceed 40 grams per cubic metre nitrate nitrogen.	No	Non-Compliant NO <sub>3</sub> -N.  The 90th Percentile was 65g/m <sup>3</sup> . The maximum 72g/m <sup>3</sup> was recorded in January 2011.  Median value recorded was 59g/m <sup>3</sup> .  Good treatment results are occurring; however the plant has no de-nitrification step in the process to reduce the NO <sub>3</sub> -N that is generated.
9	The discharge shall be uniformly distributed over the effluent disposal areas.	Yes	The discharge from the final treatment manhole enters the field tile drain system below ground.
10	There shall be no overland flow or ponding of effluent from any part of the wastewater system or disposal areas at any time.	Yes	No overland flow or ponding occurred during the reporting period.
11	The consent holder shall sample the discharge from the wastewater treatment plant on a monthly basis. This sample shall be analysed for the following parameters:	Yes	Additional quality sampling was conducted on a monthly basis to characterise the treatment performance

	Conditions	Comply Yes/No	Comments																																																											
	<div>a. Suspended solids</div> <div>b. Biological oxygen demand</div> <div>c. Nitrate nitrogen</div> <div>d. Ammoniacal nitrogen</div> <div>e. E. Coli</div> <div>Note: The sample analyses shall be undertaken in accordance with the methods detailed in the "standard methods for the examination of water and waste water, 2005" 21st edition by a.p.h.a. and a.w.w.a. and w.e.f. or any subsequent updated version of that document, or any other method approved in advance by the Waikato Regional Council</div>		<table><tr><th>Final Effluent</th><th>2008-09</th><th>2009-10</th><th>2010-11</th><th>2011-12</th></tr><tr><td><i>Parameter</i></td><td><i>Median</i></td><td><i>Median</i></td><td><i>Median</i></td><td><i>Median</i></td></tr><tr><td>Suspended Solids</td><td>8.1</td><td>118</td><td>8</td><td>25</td></tr><tr><td>cBOD5</td><td>7.8</td><td>6.4</td><td>4.2</td><td>1.9</td></tr><tr><td>Ammoniacal-N</td><td>4.8</td><td>5.6</td><td>5.6</td><td>.064</td></tr><tr><td>NO3-N</td><td>33.5</td><td>34</td><td>45</td><td>59</td></tr><tr><td>E coli</td><td>28000</td><td>11500</td><td>14300</td><td>220</td></tr><tr><td>pH</td><td>6.2</td><td>6.1</td><td>6.3</td><td>7.1</td></tr><tr><td>Conductivity</td><td>659</td><td>582</td><td>738</td><td>1315</td></tr><tr><td>Temperature</td><td>17.05</td><td>16.55</td><td>17.7</td><td>16.8</td></tr><tr><td>Dissolved Oxygen</td><td>4.225</td><td>5.39</td><td>2.5</td><td>8</td></tr></table>	Final Effluent	2008-09	2009-10	2010-11	2011-12	<i>Parameter</i>	<i>Median</i>	<i>Median</i>	<i>Median</i>	<i>Median</i>	Suspended Solids	8.1	118	8	25	cBOD5	7.8	6.4	4.2	1.9	Ammoniacal-N	4.8	5.6	5.6	.064	NO3-N	33.5	34	45	59	E coli	28000	11500	14300	220	pH	6.2	6.1	6.3	7.1	Conductivity	659	582	738	1315	Temperature	17.05	16.55	17.7	16.8	Dissolved Oxygen	4.225	5.39	2.5	8				
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			All analysis has been carried out at IANZ approved laboratories using ‘Standard Methods’.																																																											
12	Results of the sampling required by condition 11 shall be forwarded to Waikato Regional Council on a monthly basis.	Yes	Data for the reporting period July 2011 – June 2012 is attached in full. Monthly records were forwarded to Waikato regional Council monthly during the reporting period.																																																											
13	<div>The consent holder shall keep a record of the volume of effluent discharged on a cumulative basis and from this data calculate an average daily discharge.</div> <div>The average daily discharge volume shall be forwarded to Waikato Regional Council on a monthly basis.</div>	Yes	<div>Monthly records were forwarded to Waikato regional Council monthly during the reporting period.</div> <div>The average daily flow was 3.74m³/day</div>																																																											
14	<div>The consent holder shall install a measuring device to record the volume of effluent discharged on a cumulative basis by 31 December 2008. The meter shall be calibrated to an accuracy of +/- 5 percent.</div> <div>Access to the meter shall be provided to Waikato Regional Council staff at all reasonable times.</div>	Yes	An ABB ‘magmaster’ 50mm magnetic flowmeter is installed in the final treatment discharge manhole.																																																											
15	The installation and maintenance of the meter shall be performed in accordance with the manufacturer's specifications.	Yes	The meter was installed so that it remains full of liquid and no air becomes entrained in the pipe. The pipe length before and after the flowmeter meets manufacturers recommendations minimum 5 diameter upstream and 2 diameters downstream.																																																											

	Conditions	Comply Yes/No	Comments
	To this end the consent holder shall forward a copy of the installation certificate, an 'as built' plan of the installation and meter manufacturers' specifications to the Waikato Regional Council within 1 month of the meter being installed.	Yes	Supplied with the 2008-09 annual report
16	The consent holder shall ensure the full operation of the meter at all times while the activity is authorised.	Yes	The flow meter is fully operational at all times except when removed for flushing during normal maintenance.
17	Calibration of the meter shall be undertaken by the consent holder at the time of installation and during the calendar year of 2013 or at any other time if requested by Waikato Regional Council. The calibration certificate shall be forwarded to the Waikato Regional Council within one month of each calibration being completed.	Yes	Supplied with the 2008-09 annual report
18	The consent holder shall ensure that the wastewater treatment and discharge systems are properly installed, operated and maintained at all times.	Yes	The site is visited on a weekly basis and preventative maintenance operations carried out.
19	The consent holder shall be responsible for the structural integrity and maintenance of the banks adjacent to the discharge areas and for any erosion control works that become necessary to preserve the integrity and stability of the stream banks and/or to control erosion that occurs as a result of the exercise of this resource consent	Yes	No remedial works have been required in the reporting period.
20	<p>The activities authorised by this resource consent shall be undertaken in such a manner that they do not provide an odour that is objectionable to the extent that it causes an adverse effect at or beyond the outer boundary of the land upon which the wastewater treatment plant is sited.</p> <p>Note: Please refer to section 6.4.1.4 of the Waikato Regional Plan for guidance on how complaints on odour emissions will be assessed.</p>	Yes	<p>No objectionable odours have been noted during operations visits.</p> <p>No complaints have been received.</p>

	Conditions	Comply Yes/No	Comments
21	<p>The consent holder shall maintain and keep a register for all complaints, including odour and discharge complaints, regarding operations at the site received by the consent holder. The register shall record:</p> <ul style="list-style-type: none"> <li>(a) the date, time and duration of the event that has resulted in a complaint,</li> <li>(b) any corrective action undertaken by the consent holder in response to the complaint, including actions taken to prevent similar events in the future,</li> <li>(c) the location of the complainant when the event was detected,</li> <li>(d) the possible cause of the event, and</li> <li>(e) the weather conditions and wind direction at the site when the event allegedly occurred.</li> </ul> <p>The complaints register shall be forwarded to Waikato Regional Council by 1 June each year.</p>	Yes	<p>Council's CRM database records all complaints from the public. There were no complaints from the public during the consent year regarding the Te Kowhai WWTP.</p>
22	<p>The Waikato Regional Council may within the two months following the second, fourth, sixth and eighth anniversaries of the date of commencement of this consent, serve notice on the consent holder under section 128(1) of the resource management amendment act (1991), of its intention to review the conditions of this resource consent for the following purposes:</p> <ul style="list-style-type: none"> <li>i) Require the consent holder to adopt the best practical option to remove or reduce any adverse effect on the environment,</li> <li>ii) To deal with any other adverse effect on the environment that the exercise of this consent may have an influence,</li> <li>iii) To review monitoring requirements to determine any actual or potential adverse effect on the environment.</li> </ul>	Yes	<p>No notice of intention to review the consent has been received from the Waikato Regional Council</p>

	Conditions	Comply Yes/No	Comments
	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.		
23	The consent holder shall pay the Waikato Regional Council any administrative charge fixed in accordance with section 36 of the resource management act 1991, or any charge prescribed in accordance with regulations made under section 360 of the resource management act 1991	Yes	Fees have been paid.
ADV1	In accordance with section 125 RMA, this consent shall lapse five (5) years after the date on which it was granted unless it has been given effect to before the end of that period.	N/a	The consent is active
ADV2	Where a resource consent has been issued in relation to any type of construction (eg dam, bridge, jetty) this consent does not constitute authority to build and it may be necessary to apply for a building consent from the relevant territorial authority.	N/a	
ADV3	This resource consent does not give any right of access over private or public property. Arrangements for access must be made between the consent holder and the property owner.	N/a	
ADV4	This resource consent is transferable to another owner or occupier of the land concerned, upon application, on the same conditions and for the same use as originally granted (s.134-137 RMA).	N/a	
ADV5	The consent holder may apply to change the conditions of the resource consent under s.127 RMA.	N/a	
ADV6	The reasonable costs incurred by Waikato Regional Council arising from supervision and monitoring of this/these consents will be charged to the consent holder. This may include but not be limited to routine inspection of the site by Waikato Regional Council officers or agents, liaison with the consent holder, responding to complaints or enquiries relating to the site, and review and assessment of compliance with the conditions of consents.	Yes	