CONSENT REPORT TABLE

119647 Huntly Wastewater Sewage Treatment Discharge. Reporting Period 1 July 2011 – 30 June 2012

This consent authorises the Consent Holder: To discharge up to 11,500 cubic metres per day of treated domestic wastewater from oxidation ponds and wetland and gravel bed filter treatment system into the Waikato River, in the vicinity of the Waikato River and East Mine Road, Huntly.

	Conditions	Comply Yes/No	Comments
1	 The wastewater treatment and disposal system shall be designed, operated and maintained in general accordance with: i) The application for this resource consent; ii) The document titled "Waikato District Council Ngaruawahia and Huntly Wastewater Resource Consents Project, Resource Consents Application: Assessment of Effects on the Environment" dated March 2009 and recorded on Waikato Regional Council's document system numbered 1458402; and iii) The document titled "Waikato District Council Ngaruawahia and Huntly Wastewater Resource Consents Project, Resource Consents Application: Response to RMA Section 92(1) Requests for Further Information" dated August 2009 and recorded on Waikato Regional Council's document system numbered 1531323; subject to the resource consent conditions below, which shall prevail should any inconsistency occur between the conditions and the application documents. 	Yes	The Huntly treatment plant has been generally operated in accordance with the conditions of Consent 119647. Deviations from Consent conditions are recorded below and summarised in the attached Summary Report.

	Conditions	Comply Yes/No	Comments
2	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	Administrative charges have been paid.
3	Notwithstanding the stated limits in conditions of this consent, 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 at all times.	Yes	The treatment plant is managed and operated by appropriately trained and experienced engineers and operators.
4	The maximum volume of treated wastewater discharged shall not exceed 11,500 cubic metres per day.	Yes	 Maximum recorded daily out flow was 6164 m³ on 1 July 2011. The average daily out flow was 2372 m³/day. More detailed data is included in the attached spreadsheet, Appendix .

Yes/No Yes/No 5 The consent holder shall ensure that prior to 1 December 2012, the quality of the discharge immediately after all controlled treatment processes and before any wetlands shall comply with the following limits: No i) 15 (of 77) pH readings above 1/3/11) i) The pH of the discharge shall not be less than 6 or greater than 9 pH units; Yes ii) The median cBODs was 24g/n The 90 th percentile was 27.9g ii) The median five day carbonaceous biochemical oxygen demand concentration shall not exceed 90 grams per cubic metre; Yes iii) The median SS was 81g/m ³ iii) The median suspended solids concentration shall not exceed 90 grams per cubic metre; Yes iv) The median TN was 0.03 g/n iv) The median aumoniacal-nitrogen concentration shall not exceed 150 grams per cubic metre; Yes v) The median TN was 11.95 g/n v) The median total nitrogen concentration shall not exceed 40 grams per cubic metre; Yes vi) The median E.coli was 2900cft vii) The median total phosphorus concentration shall not exceed 8 grams per cubic metre; Yes vii) The median E.coli was 2900cft viii) The median total phosphorus concentration shall not exceed 8 grams per cubic metre; Yes vii) The median E.coli was 2900cft	
5 The consent holder shall ensure that prior to 1 December 2012, the quality of the discharge immediately after all controlled treatment processes and before any wetlands shall comply with the following limits: i) 15 (of 77) pH readings above 1/3/11) i) The pH of the discharge shall not be less than 6 or greater than 9 pH units; Yes ii) The median cBOD ₅ was 24g/n The median cBOD ₅ was 24g/n The median cBOD ₅ was 24g/n The median suspended solids concentration shall not exceed 90 grams per cubic metre; Yes iii) The median SS was 81g/m ³ The 90 th percentile was 121g/ Yes iii) iii) The median suspended solids concentration shall not exceed 90 grams per cubic metre; Yes iv) The median ammoniacal-nitrogen concentration shall not exceed 150 grams per cubic metre; Yes vi) The median TN was 11.95 g/m was 2.990cft v) The median total phosphorus concentration shall not exceed 40 grams per cubic metre; Yes vi) The median E.coli was 2900cft vii) The median total phosphorus concentration shall not exceed 8 grams per cubic metre; Yes vii) The median E.coli was 2900cft	
Too millilitres. For the purposes of this condition, to determine compliance with the median limits no more than six samples in any 12 consecutive monthly samples over the period 1 July to 30 June each year shall exceed the specified limit. To determine compliance with the 90 th percentile limits, no more than one sample in any ten consecutive monthly sampling events shall exceed the specified limit.	77) pH readings above 9.0 (10.4 on reading 6.68. edian cBOD ₅ was 24g/m ³ th percentile was 27.9g/m ³ edian SS was 81g/m ³ th percentile was 121g/m ³ edian NH ₃ was 0.03 g/m ³ th percentile was 3.85g/m ³ edian TN was 11.95 g/m ³ edian <i>E.coli</i> was 2900cfu/100ml

	Conditions	Comply Yes/No	Comments		
6	The consent holder shall ensure that, no later than 1 December 2012, the quality of the discharge immediately after all controlled treatment processes and before any wetlands shall comply with the following limits: N/A i) The pH of the discharge shall not be less than 6 or greater than 9 pH units; N/A ii) The median five day carbonaceous biochemical oxygen demand concentration shall not exceed 30 grams per cubic metre and the 90 th percentile shall not exceed 60 N/A	N/A	Note: Condition 6 refers to the monitoring period after 1 December 2012. However, to provide a clear understanding of the current performance, the information is provided below		
			Criteria	Consent	2011-12
	 grams per cubic metre; iii) The median suspended solids concentration shall not exceed 30 40 grams per cubic metre and the 90th percentile shall not exceed 100 grams per cubic metre; The monitoring point for suspended solids shall be at the outlet from the gravel beds until 30 November 2016. From 1 December 2016 the median suspended solids concentration shall not exceed 30 grams per cubic metre. 	s per cubic metre; nedian suspended solids concentration shall not exceed 30 40 grams per cubic and the 90 th percentile shall not exceed 100 grams per cubic metre; nonitoring point for suspended solids shall be at the outlet from the gravel beds 30 November 2016. From 1 December 2016 the median suspended solids entration shall not exceed 30 grams per cubic metre.	ρН	>6.0 - <9.0	15 (of 77) pH readings above 9.0 (10.4 on 1/3/11). Lowest reading 6.68
	 iv) The median ammoniacal-nitrogen concentration shall not exceed 10 grams per cubic metre and the 90th percentile shall not exceed 20 grams per cubic metre; v) The median total pitrogen (TN) concentration shall not exceed 25 grams per cubic 		Median cBOD₅	<30g/m3	24g/m3
	 wi) The median summer (December to May inclusive) total nitrogen (TN_{summer}) 		90 th %ile cBOD₅	<60g/m3	27.9g/m3
	concentration shall not exceed 20 grams per cubic metre;		Median SS	<40 g/m ₃	81 g/m3
	vii) The median summer (December to May inclusive) total nitrogen load (TN _{load}) for Ngaruawahia Wastewater Treatment Plant and Huntly Wastewater Treatment Plant combined shall not exceed 57 kilograms per day:		90 th %ile SS	<100 g/m3	121g/m3
	 viii) The median total phosphorus (TP) concentration shall not exceed 8 grams per cubic metre; ix) The median summer (December to May inclusive) total phosphorus (TP_{summer}) 		Median Ammoniacal nitrogen	<10 g/m3	0.03g/m₃
 concentration shall not exceed 8 grams per cubic metre; x) The median summer (December to May inclusive) total pho Ngaruawahia Wastewater Treatment Plant and Huntly Wastewater Value 	 concentration shall not exceed 8 grams per cubic metre; x) The median summer (December to May inclusive) total phosphorus load (TP_{load}) for Ngaruawahia Wastewater Treatment Plant and Huntly Wastewater Treatment Plant 	phosphorus load (TP _{load}) for /astewater Treatment Plant	90 th %ile Ammoniacal nitrogen	<20g/m3	3.85g/m₃
	 xi) The median <i>Escherichia coli (E-coli)</i> concentration in any 12 month period shall not exceed 126 cfu per100 millilitres. 		Median total nitrogen	<25g/m3	11.95g/m3
	For the purposes of this condition, to determine compliance with the median limits		Median TN (summer)	<20g/m3	23.64g/m ₃
	(excluding <i>E.coli</i>) no more than six samples in any 12 consecutive monthly samples over the period 1 July to 30 June each year shall exceed the specified limit. To determine compliance with the summer median limits, no more than 3 of the 6 monthly samples in any given summer (December to May) shall exceed the specified limit. To determine compliance with the median <i>E.coli</i> limit, no more than 26 samples in any 52 consecutive		Median TN (summer load)	<57kg/day	28kg/day
			Median total phosphorus	<8g/m3	3.94g/m ₃
	weekly samples shall exceed the specified limit. To determine compliance with the 90 th percentile limits, no more than one sample in any ten consecutive monthly sampling		Median TP (summer)	<8g/m3	9g/m3
	events shall exceed the specified limit.		Median TP (summer load)	<17.3kg/day	15kg/day
	Wastewater Treatment Plant is authorised by consent 119642.		Median E.coli	<126cfu/100ml	<2900cfu/100ml

	Conditions	Comply Yes/No	Comments
7	Decommissioning of the gravel filters and construction of the rock-lined channel shall be completed within 12 months of commencement of this resource consent.	No	This work is on hold awaiting design and implementation of a planned upgrade. Funding of \$900,000 has been budgeted for in the 2012-13 financial year for upgrade work to the plant.
8	The consent holder shall decommission the gravel filters, and construct the rock-lined channel in such a manner so as to minimise sediment losses. To this end the works shall be undertaken in such a manner so that they are consistent with the Waikato Regional Council document titled "Erosion and Sediment Control – Guidelines for Soil Disturbing Activities" (Technical Report No.2009/02, dated January 2009).	N/A	Works will be carried out according to the Guidelines.
9	At least one month prior to decommissioning the gravel filters, the consent holder shall provide a Management Plan to the Waikato Regional Council which details as a minimum how the decommissioning works and construction of the rock-lined channel will be undertaken, the design plan for the rock-lined channel, and how compliance will be achieved with condition 8. Note: The Waikato Regional Council reserves the right to make comment on the Management Plan submitted and any subsequent changes to the Management Plan.	N/A	The Management Plan will be provided prior to the commencement of works.
10	Should the measured median concentration or 90 th percentile concentration for either five day carbonaceous biochemical oxygen demand, suspended solids, or ammoniacal- nitrogen exceed 90% of the consented limits, as specified in condition 6 of this consent, for 2 of 3 consecutive years then a "trigger" level will be met. The consent holder shall design, build and commission the appropriate upgrade to the treatment process within two years after the "trigger" level is reached. The upgrade undertaken shall be designed to reduce the median or 90 th percentile concentration, as applicable, for the parameter for which the trigger was reached to less than 80% of the consented limit for that parameter.	Yes	cBOD5 (90% of consented median = 27g/m ³) 09-10 The median was 14.9g/m ³ 10-11 The median was 18.0/m ³ 11-12 The median was 24.0g/m ³ (90% of consented 90 th %ile = 54g/m ³) 09-10 The 90 th percentile was 12.3g/m ³ 10-11 The 90 th percentile was 35.7/m ³ 11-12 The 90 th percentile was 27.9g/m ³
		No	SS (90% of consented median = 36g/m ³) 09-10 The median was 45.0g/m ³ 10-11 The median was 47.0/m ³ 11-12 The median was 81.0g/m ³

Conditions	Comply Yes/No	Comments
	Yes	 (90% of consented 90th %ile = 90g/m³) 09-10 The 90th percentile was 57.6g/m³ 10-11 The 90th percentile was 93.0/m³ 11-12 The 90th percentile was 121g/m³ NH₃ (90% of consented median = 9g/m³) 09-10 The median was 4.1g/m³ 10-11 The median was 3.2/m³ 11-12 The median was 0.03g/m³ (90% of consented 90th %ile = 18g/m³) 09-10 The 90th percentile was 13.8g/m³ 10-11 The 90th percentile was 7.37g /m³ 11-12 The 90th percentile was 3.85g/m³ The median suspended solids has been exceeded for more than 2 of the previous 3 years. Council is currently reviewing treatment options to reduce suspended solids.

	Conditions	Comply Yes/No	Comments
11	Should the measured median concentration for total nitrogen (TN), total phosphorus (TP) or <i>E.coli</i> exceed 90% of the consented limits, as specified in condition 6 of this consent, for 2 of 3 consecutive years then a "trigger" level will be met. The consent holder shall design, build and commission the appropriate upgrade to the treatment process within two years after the "trigger" level is reached. The upgrade undertaken shall be designed to reduce the median for the parameter for which the trigger was reached to less than	Yes	TN (90% of consented median = 22.5g/m ³) 09-10 The median was NRg/m ³ 10-11 The median was NR/m ³ 11-12 The median was 11.95/m ³ (NR – Not Recorded)
	80% of the consented limit for that parameter.	Yes	TP(90% of consented median = 7.2g/m³) 09-1009-10The median was 5.6g/m³ 10-1110-11The median was 4.6/m³ 11-1211-12The median was 3.94g/m³
			E.coli
			The trigger level for both parameters has not been exceeded
12	Chould the measured medice even (Described to Marcinel et al.	Partial	TN _(max) (90% of consented median = 51 3kg/day)
12	total nitrogen (TN _{load}) or total phosphorus (TP _{load}) for Huntly and Ngaruawahia combined reach 90% of the consented limit, as specified in condition 6 of this consent, for 2 of 3 consecutive summer periods then a "trigger" level will be met. The consent holder shall	i ai ciai	09-10 The median was 29.2 kg/day 10-11 The median was 48.0 kg/day 11-12 The median was 49.0 kg/day
	design, build and commission the appropriate upgrade to the treatment process within two years after the "trigger" level is reached. The upgrade undertaken shall be designed to reduce the combined summer mass load of the nutrient for which the trigger was reached to less than 80% of the consented limit for that parameter.		TP _(load) (90% of consented median = 15.6kg/day) 09-10 The median was 19.9 kg/day 10-11 The median was 21.3 kg/day 11-12 The median was 15.0 kg/day
			The median total phosphorus load has been exceeded for more than 2 of the previous 3 years. Construction will begin before the end of 2012 of an upgrade to the Ngaruawahia WWTP which is designed to reduce the combined total phosphorus load below 13.8kg/day.

	Conditions	Comply Yes/No	Comments
13	Unless otherwise agreed with the Waikato Regional Council in writing, the consent holder shall ensure that the treatment system is upgraded in accordance with the application documentation to the satisfaction of Waikato Regional Council.	N/A	Waikato Regional Council will be kept fully informed as upgrade works proceed.
14	The consent holder shall continuously monitor the flow rate of wastewater entering and leaving the treatment plant and shall record the total daily influent and discharge volumes.	Yes	Influent and effluent flows are recorded via telemetry and the data is contained in the attached spreadsheet.
15	The consent holder shall continuously monitor and record rainfall at the site on a daily basis.	No	An electronic rain gauge connected to the Council SCADA system will be installed in the 2012-13 financial year.
16	The consent holder shall, prior to January each year, calculate the ratio of daily Peak Wet Weather Flow (PWWF) to Average Dry Weather Flow (ADWF). Where the ratio of PWWF to ADWF exceeds 4.5, the consent holder shall prepare an Infiltration Management Plan and provide this to Waikato Regional Council for review prior to implementation. For the purposes of this condition, calculation of ADWF will be taken as the median daily wastewater flow measured at the inlet to the oxidation pond during the month of March for the preceding year.	No	ADWF =1992m ³ /day PWWF = 10,000m ³ /day Ratio = 5.02 Waikato District Council have budgeted \$100,000 for inflow and infiltration work in Huntly during the 2012-13 financial year. An infiltration study will be carried out. From this study a management plan will be produced.
17	The consent holder shall undertake an investigation into the extent and magnitude of ammoniacal-nitrogen in the wastewater discharge plume in the Waikato River during low flow conditions. Sampling of ammoniacal-nitrogen shall, as a minimum, be conducted mid-column at six sites below the discharge outfall on three occasions over the summer period (when flows are low). The frequency of monitoring may be reviewed after a minimum of three years of data has been collected, upon request to and approval by a Programme Manager in the Resource Use Group of Waikato Regional Council.	N/A	This programme is scheduled to commence during the summer of 2012-13.
18	The consent holder shall define a sampling location or locations and the sampling method or methods to be used for monitoring the parameters in conditions 5, 6 and 17. The location(s) and method(s) used for the sampling shall be to the satisfaction of Waikato Regional Council.	Yes	Details of the sample points are attached as Appendix 2.

	Conditions	Comply Yes/No	Comments
19	The consent holder shall take grab samples of the treated wastewater on a monthly basis, from the sampling location specified in condition 18 of this consent, for the purpose of determining compliance with conditions 5 and 6. <i>E.coli</i> grab samples shall be taken on a weekly basis.	Yes	Samples are taken in accordance with Condition 9. Results of all are included in the attached spreadsheet (Appendix 1).
20	All wastewater quality analyses shall be undertaken by an IANZ accredited or equivalent laboratory. All methods used shall be appropriate for the wastewater analyses undertaken.	Yes	Analysis is carried out by Hill Laboratories who are IANZ accredited for the appropriate tests. Test methods used are attached as Appendix 3

	Conditions	Comply Yes/No	Comments
21	 The consent holder shall prepare an Operations and Management Plan. This Plan shall be prepared by a suitably qualified and experienced person and shall detail how the treatment and disposal system is to be operated and maintained to ensure compliance with the conditions of this consent and consents 119648, 119649, 119650 and 119651. As a minimum the Plan shall include the following matters: i) A description of the wastewater treatment plant including as-built plans for the wastewater treatment facilities; ii) A description of the sequence, timing and methods of construction of upgrades to the treatment plant; iii) A description and schedule of the routine inspection, monitoring and maintenance procedures to be undertaken to ensure effective plant operation; iv) A schedule of monitoring to be carried out to ensure effective plant operation and compliance with consent conditions; v) A sampling location plan; vi) A schedule of the treatment plant critical aspects and the detailed response and contingency plans to address anticipated variations from normal plant operation; vi) Procedures for recording routine maintenance and all repairs that are undertaken; viii) Chain of command, responsibility and notification protocols; ix) The current infiltration management plan; x) Procedures for improving and/or reviewing the plant management plan. This Plan shall be lodged with Waikato Regional Council within six months of commencement of this consent, and shall be reviewed and updated annually and as required as a result of any changes in plant operation or management. An electronic copy of the management plan shall be provided to Waikato Regional Council within 10 working days of a request to do so. Advice note: The Waikato Regional Council reserves the right to make comment on the Operations and Management Plan submitted and any subsequent changes to the Plan. 	Yes	The Operations and Management Plan was forwarded to Waikato Regional Council on 17 August 2012.
22	The treatment system and discharge to the Waikato River shall be operated, maintained and managed by appropriately experienced personnel in accordance with the Operations and Management Plan pursuant to condition 21 of this consent.	Yes	The Operations and Maintenance Plan (Section 4) refers to the management structure. Experience in wastewater operations of key personnel includes: Lou Larson – Water and Wastewater Manager (18 yrs)

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	Conditions	Comply Yes/No	Comments
			Peter Saward – Treatment Plants Engineer (24yrs) Craig Peebles – Treatment Plants Supervisor (18yrs) Parvati Patel – Planning Engineer (10yrs) Chris Harris – Operator (2yrs) Nigel O'Connor – Operator (8yrs) Johannes Mostert – Operator (4yrs) Caleb Powell – Cadet Operator (3yrs)
23	The consent holder shall ensure contractors are made aware of the conditions of this resource consent and ensure compliance with those conditions.	Yes	All contractors employed at the treatment site are inducted in both health and safety procedures and relevant conditions of this consent.
24	 In conjunction with consent 119648, the consent holder shall maintain and keep a Complaints Register for all complaints made about the treatment and discharge operations received by the consent holder. The Register shall record: i) The date, time and duration of the event/incident that has resulted in the complaint; ii) The location of the complainant when the event/incident was detected; iii) The possible cause of the incident; iv) The weather conditions and wind direction at the site when the incident allegedly occurred, if significant to the complaint; v) Any corrective action undertaken by the consent holder in response to the complaint. 	Yes	Council's CRM database records all complaints from the public. There were no complaints from the public during the consent year regarding the Huntly WWTP.
25	The consent holder shall place and maintain a sign in the vicinity of the discharge to the Waikato River, in such a way that it is conspicuous to river users, advertising of the presence of the wastewater discharge and warning against the use of the location for swimming.	Yes	A sign is located in the vicinity of the discharge that alerts and warns people of the presence of the wastewater discharge.

	Conditions	Comply Yes/No	Comments
26	The consent holder shall be responsible for any erosion that occurs as a result of the exercise of this consent and for any erosion works that become necessary to preserve the integrity and stability of the banks of the Waikato River.	Yes	There are no current issues regarding erosion at the Huntly discharge site.
	Note: A separate resource consent may be required as a result of the need to undertake erosion control works. Any such consent shall be obtained by the consent holder at their sole expense prior to any works being undertaken.		
27	The discharge to the Waikato River shall be via a multi-port diffuser located on the bed of the Waikato River.	Yes	The Huntly discharge is via a multiport diffuser.
28	Ports 2, 4, 6 and 8 of the diffuser, as numbered from the true right bank of the Waikato River, shall remain closed unless specifically permitted in writing by the Waikato Regional Council.	Yes	Ports 2, 4, 6, & 8 are blocked off.
29	The consent holder shall maintain the outfall diffuser in an operational state such that the discharge from ports 1, 3, 5, 7 and 9 is uniform along the operational length of the diffuser and providing effective dispersion of the wastewater in the river flow.	Yes	See dive report attached as Appendix 4.
30	The consent holder shall undertake a survey of the diffuser at six monthly intervals to demonstrate compliance with conditions 28 and 29 of this consent. The frequency of the surveys may be reduced to no less than every two years following written request to and approval from the Waikato Regional Council. The results of each survey and any recommendation as to the frequency of future surveys shall be provided to the Waikato Regional Council within 30 days of the survey.	Yes	As above
31	The consent holder shall forward the results of the monitoring undertaken pursuant to conditions 14, 15, 17 and 19 to the Waikato Regional Council, via electronic means, within one month of receipt of the results by the consent holder.	No	Previously this information has been provided three monthly. From July 2012 the reports will be provided monthly.

	Conditions	Comply Yes/No	Comments			
32	The consent holder shall provide to the Waikato Regional Council, Waikato-Tainui Te Kauhanganui Incorporated (Claims and Environmental unit) and the Hopuhopu Manawhenua Roopu a written report by 30 September each year, addressing the following:	Yes	 i) The monitoring results are included in the attached spreadsheet, Appendix 1). Trend graphs of the monitoring results 			
	 A summary of the monitoring results required by conditions of this resource consent for the year ending 30 June; Critically analyse the monitoring data collected and comment on any emerging trends; 		for the reporting year and the previous four years are included in the attached spreadsheet, ('Trends' page). Analysis and comments are included in the			
	 ii) Comment on compliance with the conditions of this resource consent; iii) Any reasons for non-compliance or difficulties in achieving compliance with the conditions of this resource consent and a description of and a summary of the 	Yes	ii) Comments on compliance are included in			
	 efficacy of any remedial works undertaken; iv) Comment on infiltration rates and any remedial works planned and the efficacy of these works in subsequent reports; v) Any other issue considered relevant to the consent holder. 	Yes	the attached Summary Report.			
		Yes	 iii) See ii) above. iv) See ii) above. v) See ii) above. vi) See ii) above. 			
33	The consent holder shall notify the Waikato Regional Council within 24 hours (where practicable) of the consent holder becoming aware of the limits specified in conditions 4, 5 and 6 of this resource consent being exceeded, or any accidental discharge, plant breakdown or other circumstance which is likely to result in the limits of this consent being exceeded. The consent holder shall, within 10 working days of the incident occurring, provide a written report to the Waikato Regional Council, identifying the breach, possible causes and steps to ensure future compliance.	Yes	There have been no breaches of Condition 4.			
		No	There have been 15 breaches of the pH consent (>9.0) at the pond outlet. There were no readings of high pH at the wetland outlet. These were the only breaches of Condition 5.			
		N/A	Condition 6 refers to monitoring after 1 December 2012. These parameters relate to median levels and 90 th percentiles which are calculated at the end of the monitoring year.			
			The results of the routine monitoring will, in future, be reported monthly as per Condition 31			
			There were no accidental discharges, plant			
			breakdowns or other events that resulted in the limits of this consent being exceeded.			

Conditions	Comply Yes/No	Comments
 The consent holder shall as soon as reasonably practicable, notify the Waikato District Council (Community Assets – Operations Unit), Watercare Services Limited, and the Waikato Regional Council of an event that may in itself, or as a consequence of an event, have a significant adverse effect on the quality of the water within the Waikato River at the abstraction points of the Te Kauwhata and Tuakau (Auckland) Water Supplies. The consent holder shall record the reasons why the situation occurred, the actions taken by the consent holder and an assessment of what measures can be adopted in the future to minimise such occurrences and upon written request from the Waikato Regional Council provide a report to the Waikato Regional Council and the Medical Officer of Health addressing this matter. 	Yes	There were no instances of events that had a significant adverse effect on the water quality of the Waikato River.
 35 The consent holder shall within 5 years of the granting of this consent, submit to Waikate Regional Council a wetland review report prepared in conjunction with Waikato Tainui Te Kauhanganui Incorporated (Claims and Environmental unit), the scope of which shall include: monitor the actual performance of the Huntly WWTP in respect to the median summertime mass-load of nutrients and of the Huntly WWTP in respect of all other parameters for the period from 1 December 2012 to 31 May 2015 (three summer seasons). i) Quantification of the level of and the environmental significance of wastewater treatment provided by the wetlands following the 2008/09 exidation pond upgrade; Immediately following 31 May 2015 the consent holder shall review the performance and review the options for upgrading the treatment processes, all in consultation with Waahi Whaanui Trust and Waikato-Tainui Kauhanganui Incorporated. The preferred upgrade option shall be determined and reported to Waikato Regional Council not later than 31 October 2015. ii) A summary of and an analysis of any wetland operational problems; The preferred upgrade option shall be constructed and commissioned not later than 30 November 2016. iii) The capital and operational costs required to ensure that the wetlands provide effective wastewater treatment; The 2015 review shall include consideration of the future of both the surface-flow and the subsurface-flow wetland cells, based on the monitored performance and the decision in relation to the preferred upgrade option, all in consultation with Waahi 	N/A	Condition 35 refers to monitoring and analysis that is to be carried out after 1 December 2012 and reviewed in 2015.

Conditions	Comply Yes/No	Comments
 iv) An assessment of whether the best practicable option for Huntly wastewater treatment involves wetland treatment; The 2015 review shall also give consideration to the ongoing appropriateness of the median combined summertime mass-load limits for Total Nitrogen and Total Phosphorous from Huntly WWTP, taking account of the actual performance of the two plants from 1 December 2012 to 31 May 2015 and any changes in the environmental objectives for the Waikato River after 31 March 2011. v) Recommendation whether the wetlands should remain in the treatment process or be decommissioned and the reasons for this decision; vi) A plan for the decommissioning or alteration of the wetland, should the conclusion be that the wetlands should be decommissioned or altered in some way. 		

	Conditions	Comply	Comments
		Yes/No	
36	 Waikato District Council shall retain suitably qualified persons to review the findings outlined in Appendix 5 "Alternatives Study" of the AEE, recorded on Waikato Regional Council's document system numbered 1458402, at intervals as below. The investigations shall include the feasibility, technology and economics of alternative collection, treatment and disposal systems for wastewater including land-based disposal options. The reviews shall be carried out in consultation with Waikato-Tainui Te Kauhanganui Incorporated (Claims and Environmental unit) and the Hopuhopu Manawhenua Roopu and the findings of the reviews shall be adopted by Waikato District Council for the proposed upgrade of the treatment system. The first review shall focus on alternative treatment options for removal of algae from the effluent after the pond systems and UV disinfection prior to the proposed rock-lined channel. The review shall be completed and reported to the Waikato Regional Council, Waikato-Tainui Te Kauhanganui Incorporated (Claims and Environmental unit) and the Hopuhopu Manawhenua Roopu. This review shall be completed and reported to the Waikato Regional Council, Waikato-Tainui Te Kauhanganui Incorporated (Claims and Environmental unit) and the Hopuhopu Manawhenua Roopu not later than 30 September 2011. The second review shall consider all aepects the matters listed in condition 35 above. that are covered in Appendix 5 of the AEE and shall include (but not be limited to) consideration of Bio Filtro and an algae treatment system that has been identified by Hopuhopu Manawhenua Roopu. The review shall be completed and reported to Waikato Regional - Council, Waikato-Tainui Te Kauhanganui Incorporated (Claims and Environmental unit) and the Hopuhopu Manawhenua Roopu. The review shall be completed and reported to Waikato Regional - Council, Waikato-Tainui Te Kauhanganui Incorporated (Claims and Environmental unit) and the Hopuhopu Manawhenua Roopu. The review shall be completed and reported to Waikato Regi	Yes N/A N/A	The first review was submitted prior to September 2011. The second review is due before 31 March 2016. The third review is due before 31 March 2022.
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	Conditions	Comply Yes/No	Comments			
37	The consent holder shall, by 30 September 2015 and every five years thereafter, submit to Waikato Regional Council a wastewater treatment system review report, the scope of which shall include:	N/A	Condition 37 refers to reporting that is to be carried out after 30 September 2015.			
	 i) An analysis of the performance of the treatment system with respect to the initial plant design; ii) Identification of any deficiencies in the plant design or operation and the measures that are or have been undertaken to address these deficiencies and the anticipated (or actual) improvements in treated wastewater quality; iii) Timetable for the treatment plant capital upgrade to cater for actual population growth; 					
	IV) A review of the trend in the combined contribution made by the Ngaruawahia and Huntly wastewater discharges to the Total Nitrogen and Total Phosphorus load in the Waikato River at Mercer Bridge since the granting of this consent.					
38	The Waikato Regional Council may, in the six month period following 30 September 2015 and every five years thereafter, 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:		Condition 37 refers to reviews that may be carried out after 30 September 2015.			
	 To review the effectiveness of the conditions of this resource consent in avoiding or mitigating any adverse effects on the environment from the exercise of this resource consent and if necessary to avoid, remedy or mitigate such effects by way of further or amended conditions; or 					
	 To review the adequacy of and the necessity for monitoring undertaken by the consent holder and specifically to review the frequency of record keeping and the method of record collection for the purposes of determining the most appropriate method and frequency; or 					
	iii) If necessary and appropriate, to require the holder of this resource consent to adopt the best practicable option to remove or reduce adverse effects on the surrounding environment; or					

Conditions	Comply Yes/No	Comments
iv) To review the conditions of this resource consent to ensure the exercise of this resource consent is not inconsistent with the Vision and Strategy of the Waikato- Tainui Raupatu Claims Waikato River Settlement Act 2010 (Schedule 2 – Vision and strategy for Waikato River) and if necessary to address any such inconsistencies by way of further or amended conditions.		
Note: Costs associated with any review of the conditions of this resource consent will be recovered from the consent holder in accordance with the provisions of section 36 of the Resource Management Act 1991.		

APPENDIX 2 – Final Effluent Sample Site



Filtration, Unpreserved Sample filtration through 0.45µm membrane filter. - 2-3 EW Report Huntly 119647 WWTP Consent Report 2011-12

APPENDIX 3 – Test Methods used by Hill Laboratories

Total Kjeldahl Digestion Sulphuric acid digestion with copper sulphate catalyst.

Total Phosphorus Digestion Acid persulphate digestion.

Total Suspended Solids Filtration using Whatman 934 AH, Advantec GC-50 or 2-3 equivalent filters (nominal pore size $1.2 - 1.5\mu m$), gravimetric determination. APHA 2540 D 21st ed. 2005.

Total Nitrogen Calculation: TKN + Nitrate-N + Nitrite-N. 0.05 g/m3.

Total Ammoniacal-N Filtered sample. Phenol/hypochlorite colorimetry. Discrete Analyser. (NH4-N = NH4+-N + NH3-N). APHA 4500-NH3 F (modified from manual analysis) 21st ed. 2005.

Nitrite-N Automated Azo dye colorimetry, Flow injection analyser. APHA 4500-NO3- I (Modified) 21st ed. 2005.

Nitrate-N Calculation: (Nitrate-N + Nitrite-N) - NO2N.

Nitrate-N + Nitrite-N Total oxidised nitrogen. Automated cadmium reduction, flow injection analyser. APHA 4500-NO3- I (Modified) 21st ed. 2005.

Total Kjeldahl Nitrogen (TKN) Total Kjeldahl digestion, phenol/hypochlorite colorimetry. Discrete Analyser. APHA 4500-Norg C. (modified) 4500 NH3 F (modified) 21st ed. 2005.

Total Phosphorus Total phosphorus digestion, ascorbic acid colorimetry. Discrete Analyser. APHA 4500-P E (modified from manual analysis) 21st ed. 2005.

Carbonaceous Biochemical Oxygen Demand (cBOD5). Incubation 5 days, DO meter, nitrification inhibitor added, dilutions, seeded. APHA 5210 B 21st ed. 2005.

19 January 2012

DIVER SERVICES LIMITED

INSPECTION WORKS REPORT

FOR

WAIKATO DISTRICT COUNCIL

HUNTLY OUTFALL DSL ID # 2701

EW Report Huntly 119647 WWTP Consent Report 2011-12



Huntly Outfall Tower DIVERS VISUAL and WORKS REPORT

DIVER SERVICES LIMITED

WAIKATO DISTRICT COUNCIL

HUNTLY TREATED WASTEWATER OUTFALL

1.0 INTRODUCTION:

Diver Services Limited was contracted by the Waikato District Council to provide diving services at the Huntly Treated Waste Water Outfall on 19 January 2012.

2.0 SCOPE OF WORKS:

The scope of works comprised an inspection of the outfall and diffusers in the Waikato River and the removal of any debris from and around the diffusers.

3.0 METHODOLOGY:

The visual inspection was carried out in accordance with Diver Services General Visual Inspection Procedure and Diver Services Close Visual Inspection Procedure. Photographs were taken using a 5Megapixel Sony Digital camera, the photos are computer enhanced for picture clarity but no alterations have been made.

4.0 **RESULTS OF INSPECTION:**

Three diving personnel were mobilised to the site where the inspection commenced at 1100 hrs. All debris found was removed by hand as the inspection progressed.

The divers located the outfall easily as it location is well known.

The diffuser is constructed from HDPE with Galvanized mild steel flanges and end plate.

There is 26 metres of 400mm OD pipeline with a 12 metre X 400mm OD diffuser section attached by a flange. There are 5 X 80mm ID diffusers and four blanked 200mm diffuser flanges spaced evenly along the diffuser pipe starting and finishing 1.2M in from each end of the diffuser pipe. All diffuser backing flanges and bolts are now 316 stainless steel.

Weights: There are 2 weight blocks on each section of the pipeline and 3 blocks on the diffuser section.

The Outfall pipe is fully buried with only the diffuser extensions and diffuser tops protruding above the river bed.

The diffusers are in three parts with a 200mm stub welded to the diffuser pipe, this is flanged to a 200mm extension then to five pieces of 80mm diffusers curved to 90 degree angle that point downstream.

There are four blanked diffuser stubs spaced between the active diffusers.

The number 1 and 2 diffusers were blocked with straw and small sticks which had come from the treatment plant; this was cleared by the divers.

The top of #5 diffuser is now level to the sand riverbed, however the eel-stop tail is keeping this diffuser open and it has a normal flow rate. If the river level increases further it will result in this diffuser being blocked.

The diffusers have been fitted with eel-stop diffuser sleeves designed by Diver Services Ltd. These are working well and there were no blockages caused by eels. The sleeves also appear to assist with preventing backfilling of river sediment and with the diffusion as they waiver in the river flow. They were intakes with no sign of wear or damage after 18 month in service.

5.0 River Data:

Location= 37*31'49.34"S175*09'26.91"ËRiver Clarity= Very Poor. Vis- NilMinimum Allowable Flow= 146 Cusec's

6.0 Recommendations:

This Diffuser System is working well with good flows. We would recommend a 6 monthly inspection to check the bottom profile and to ensure that the diffuser ports are not blocked, especially #5.

7.0 Outfall Sketch (Not to scale or orientation)



HUNTLY OUTFALL SKETCH

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9

2M

Height above River Bed									
2009	1100mm	Buried	900mm	Buried	600mm	Buried	400mm	Buried	300mm
2010 Feb.	2300mm	Buried	1300mm	Buried	800mm	Buried	400mm	Buried	300mm
2011 Aug.	1000mm	Buried	800mm	Buried	500mm	Buried	200mm	Buried	100mm
2012 Jan.	800mm	Buried	700mm	Buried	500mm	Buried	100mm	Buried	0
Diffuser ID	80mm	Blank	80mm	Blank	80mm	Blank	80mm	Blank	80mm
Flow	Strong	Blank	Strong	Blank	Strong	Blank	Strong	Blank	Strong

BLOCKS

3pcs On Diffuser section All diffuser flanges and bolts are now 316SS 2pcs On each Pipe section

9.0 Photos of Interest The following photos are from a previous inspection as the river clarity did not allow for photos to be taken.

The Photos below has been digitally altered to counteract poor underwater visibility and are not indicative of the water clarity or visibility.



Diffuser Photos.





Diffuser Sleeves



Diffuser Flange

Diffuser Sleeve discharging

Report Ends