

Annexure 1

Discharge Permit: AUTH-20181129-01

Expiry Date: XX July 2034

1. This consent authorises the discharge of treated wastewater from the Tokanui Wastewater Treatment Plant:
 - a. To land; and
 - b. To land and water from the base of the oxidation ponds and the infiltration trench; and
 - c. To the Tokanui River;in general accordance with the application "*Tokanui Wastewater Treatment Plant Discharge to Land and Water*" dated February 2018.
2. The discharge of treated wastewater from the Tokanui wastewater treatment plant to land and to water shall not exceed an annual average of 55 m³/day.

Monitoring

3. The consent holder shall monitor and record the daily volume of wastewater inflows received at the Tokanui Wastewater Treatment Plant to determine compliance with Condition 2 of this consent.
4.
 - a. The consent holder shall maintain monitoring bores installed for monitoring the effect of discharges from the Tokanui wastewater treatment plant to land and groundwater. These shall be in the locations as specified in Table 1 and shown in **Attachment A**, and used for monitoring or decommissioned as set out in this condition:

Table 1: Groundwater Monitoring Locations

Identifier	Environment Southland ID	Easting	Northing
BH1	F47/0339	1288696	4835375
BH2	F47/0340	1288769	4835240
BH3	F47/0342	1288710	4835196
BH4	F47/0341	1288760	4835176
BH5	F47/0343	1288645	4835063
BH6	F47/0344	1288621	4835229

(Eastings and Northings in NZTM2000 projection)

- b. The consent holder shall monitor the groundwater in the vicinity of the Tokanui wastewater treatment plant and infiltration trench by collecting representative samples from the bores identified in condition (4)(a) of this consent, and having those samples analysed for:

- i. Temperature
 - ii. pH
 - iii. Electrical conductivity
 - iv. Total ammoniacal-nitrogen
 - v. Total oxidised nitrogen concentration
 - vi. Dissolved reactive phosphorus concentration
 - vii. *Escherichia coli* concentration
 - viii. Chloride concentration
 - ix. Nitrate (plus nitrite) Nitrogen concentration
 - c. Monitoring from bores BH5 and BH6 shall cease and the bores shall be decommissioned no more than two years after the commencement of this consent.
 - d. Groundwater monitoring after the first two years following the commencement of this consent shall be undertaken once every two years from bores BH1 to BH4. The monitoring shall be undertaken in conjunction with the summer (February) surface water monitoring sampling undertaken in accordance with condition 5.
5. The consent holder shall monitor and record the following twice each year, once in the month of February (summer) and once in the month of July (winter) each year:
- a. the instantaneous rate of the treated wastewater discharge from the Tokanui Wastewater Treatment Plant at the maturation pond outlet, and to the outfall pipe to the Tokanui River at the time of the treated wastewater sampling event, using an appropriate method to measure instantaneous flow.
 - b. the quality of the treated wastewater discharged from the maturation pond outlet by collecting representative samples of the discharge and having those samples analysed for:
 - i. Electrical conductivity
 - ii. Total suspended solids concentration
 - iii. Carbonaceous oxygen demand concentration (BOD₅)
 - iv. Total ammoniacal nitrogen concentration
 - v. Total nitrogen concentration
 - vi. Total phosphorus concentration
 - vii. *Escherichia coli* concentration
 - viii. pH
 - c. The quality of water in the Tokanui River by collecting representative samples from the stream, upstream and approximately 150 metres downstream of the point of direct discharge to the river. The samples shall be analysed for:
 - i. Temperature
 - ii. pH
 - iii. Electrical conductivity
 - iv. Turbidity

- v. Visual clarity as measured using either a black disc or clarity tube
 - vi. Dissolved oxygen concentration (%sat and mg/L)
 - vii. Total ammoniacal-nitrogen concentration
 - viii. Nitrate (plus nitrite) Nitrogen concentration
 - ix. Dissolved reactive phosphorus concentration
 - x. *Escherichia coli* concentration
6. The treated wastewater samples taken from the pond outlet and the samples taken from the Tokanui River shall be taken within a two-hour period on each monitoring occasion.
 7. All sampling procedures, including collection, preservation, transportation of samples, and laboratory analysis undertaken in accordance with the conditions of this permit must be performed to IANZ registered standards or otherwise as agreed upon in writing by the Consent Authority.
 8. Visual observations of bacterial or fungal slime growths shall be undertaken in the Tokanui River throughout the length of the mixing zone downstream of the discharge.
 - a. These observations shall be undertaken at each sampling event completed in accordance with Condition 5 of this consent.
 - b. Photographs of the stream bed taken 5 m downstream of the point of direct discharge to the river and then every 10 m up to 45 m from the point of discharge shall be recorded and provided to the Consent Authority when reporting the results of the visual observations required by this condition, in accordance with Condition 11.
 9. The consent holder shall undertake aquatic ecology monitoring in 2022 and every five years thereafter, to characterise the impact of the discharge on the aquatic environment of the Tokanui River. The aquatic ecology monitoring shall:
 - a. consist of Macroinvertebrate sampling, following Protocol C2 (soft-bottomed, semi-quantitative) as outlined in the document "Protocols for sampling macroinvertebrates in wadeable streams" (authors Stark, Boothroyd, Harding, Maxted, & Scarsbrook, 2001), with analysis for a full range of metrics, including %EPT, MCI and SQMCI;
 - b. be undertaken at two downstream sample locations and one upstream sample location (as identified on the plan attached to these conditions as Attachment A), with at least five replicate samples (or the number considered appropriate as outlined in Section 3 of the document "Stream Periphyton Monitoring Manual" (authors Biggs & Kilroy, 2000)) being collected from each location measured from the point of discharge as follows:
 - i. Upstream Point 1 (15 metres upstream), located at 1288780 E 4835219 N;
 - ii. Downstream Point 2 (60 metres downstream), located at 1288785 E 4835150 N; and
 - iii. Downstream Point 3 (150 metres downstream), located at 1288797 E 4835102 N.
 - c. occur when flows are lower than the median flow condition. No sampling shall be carried out within ten days of the Tokanui River exceeding seven times its median flow or within seven days of flows that are greater than three times the median flow.

Median flow conditions in the Tokanui River shall be indicated by the monitoring conducted on the Waikawa River at Biggar Road by the Consent Authority which is to be used as a surrogate. Median flow for the Waikawa River is 2.706 cumecs¹.

Consent Limits

10. The discharge of treated wastewater to the Tokanui River shall not, at or beyond the zone of reasonable mixing (being at point 1288797 E 4835102 N, 150 metres downstream from the wastewater treatment plant surface water outfall pipe) result in:
 - a. The production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b. Any conspicuous plumes, change in colour or reduction of visual clarity
 - c. Any emission of objectionable odour;
 - d. The rendering of fresh water as unsuitable for consumption by farm animals;
 - e. Any significant adverse effects on aquatic life; and
 - f. The minimum standards set for Lowland Soft Bed waters, as described in the Southland Regional Water Plan (attached as Attachment B to this discharge permit), being exceeded.

Reporting

11. The consent holder shall submit a report to the Consent Authority and copy it to Te Ao Marama Inc. and the Department of Conservation by 31 August each year which shall:
 - a. describe the daily wastewater inflows into the Tokanui Wastewater Treatment Plant, as recorded under Condition 3 of this permit. In particular this shall specify the average daily inflow over the previous 1 July to 30 June period; and
 - b. summarise and interpret the results of all monitoring undertaken in accordance with Conditions 3 - 9 of this consent undertaken during the previous year between 1 July and 30 June. The report shall summarise the results of all monitoring, analyse trends and comment on compliance with the relevant Lowland Soft Bed standard (attached as **Attachment B** to these conditions).
 - c. Include, based on observations, commentary on the extent that direct discharge to the Tokanui River is avoided.

The consent holder shall provide a report prepared in accordance with Condition 11(b) of this permit, to Te Ao Marama Inc. and the Department of Conservation within two months of the receipt of results for monitoring undertaken in accordance with Conditions 3 - 9 of this consent.

¹ This was determined from the time series provided by Environment Southland from December 2007 to June 2017.

12. The Consent Holder shall submit a report to Environment Southland, Te Ao Marama Inc and the Department of Conservation on the 7th and 14th anniversary of the commencement of this consent, which shall:
 - a. Include an assessment of any significant technological changes and advances in wastewater management, treatment and disposal options since the date the consent commenced, that could be relevant to the Tokanui WWTP treatment and discharge facilities; and
 - b. An assessment of whether any newly available technologies, or combination of options identified through (a) above represent the Best Practicable Option (BPO) to minimise the actual or potential adverse effects of the treated wastewater discharge to the Tokanui River.

Operations and Management

13. Objectionable material (other than wastewater) shall not be discharged from the Tokanui Wastewater Treatment Plant to the Tokanui River.

Advice note:

Objectionable material is defined as conspicuous solid waste matter, including organic and synthetic materials, that are typical of domestic wastewater.

14. There shall be no addition of nitrogen, phosphorous or sulphur based chemicals to the Tokanui Wastewater Treatment System beyond those typical of urban wastewater, unless as agreed in writing with the Consent Authority.
15. The consent holder shall maintain a log of inspections and works carried out on the treatment system and make the log available upon request, to the Consent Authority's Compliance Manager.
16. Prior to the exercise of this consent and at all times thereafter the consent holder shall maintain an Operations and Management Plan (O&M Plan) detailing the operational, management and maintenance requirements of the Tokanui Wastewater Treatment Plant. The O&M Plan shall include but not be limited to:
 - a. The name and contact details of a person responsible for the day-to-day operation of the wastewater treatment plant, to be the primary contact for staff of the Consent Authority for monitoring purposes and / or in the event of an incident;
 - b. Confirmation that the operator is suitably experienced and qualified to competently operate the wastewater treatment plant;
 - c. How the systems are to be operated to ensure that wastewater treatment as a minimum meets the performance conditions of this discharge permit at all times;
 - d. Measures to handle an emergency and / or contingency event;
 - e. Descriptions of the methods for water quality sampling;
 - f. A site map showing the location of sampling sites as described in this discharge permit.
17. The consent holder shall operate and maintain the Tokanui Wastewater Treatment Plant in accordance with the O&M Plan. Any changes to the O&M

Plan shall be advised in writing to the Consent Authority's Compliance Manager no less than 14 days prior to the change occurring and shall provide an updated O&M Plan to the Consent Authority prior to the change taking effect.

Signage

18. The consent holder shall establish and maintain permanent signage in a prominent position at or near the point of discharge to the Tokanui River to advise the public of the potential risk associated with the presence of treated wastewater in the Tokanui River resulting from the discharge of treated wastewater from the Tokanui Wastewater Treatment Plant.

Accidental or Emergency Discharge

19. In the event of an accidental or emergency discharge of untreated or partially treated sewage to land or water from the Tokanui Wastewater Treatment Plant, other than authorised by this discharge permit, the consent holder or their agent shall, without undue delay, notify:
 - a. The Medical Officer of Health or Health Protection Officer (Ph 03 211 0900)
 - b. Te Ao Marama Inc. (Ph 03 931 1242); and
 - c. The Consent Authority's Compliance Manager (escompliance@es.govt.nz)

Duration

20. The duration of this Consent under s123 shall be 15 years from the date of commencement.

Review

21. The Consent Authority may serve notice, as a result of information received in accordance with the conditions of this permit, and in accordance with Sections 128 and 129 of the Act, in the period 1 February to 30 September each year, of its intention to review the conditions of the consent for the purposes of:
 - a. Determining whether the conditions of this permit are adequate to deal with any adverse effect on the environment, including cumulative effects, which may arise from the exercise of the permit, and which it is appropriate to deal with at a later stage, or which become evident after the date of commencement of the permit; or
 - b. Ensuring the conditions of this consent are consistent with any National Environmental Standards Regulations, relevant plans and/or the Environment Southland Regional Policy Statement, or to address nutrient allocation following limit setting; or
 - c. Amending the monitoring programme to be undertaken; or
 - d. Adding or adjusting compliance limits; or
 - e. Requiring the consent holder to adopt the best practicable option to remove or reduce any adverse effect on the environment arising as a result of the exercise of this permit.

Advice note:

The consent holder shall pay annual administration and monitoring charges to the consent authority, collected in accordance with Section 36 of the Resource Management Act 1991, payable in advance on the first day of July each year.

Attachment A: Water Monitoring Plan



Attachment B: Water Quality Standards from Regional Water Plan – Appendix G

Surface water bodies classified as “Lowland soft bed”

The temperature of the water:

- shall not exceed 23°C
- the daily maximum ambient water temperature shall not be increased by more than 3°C when the natural or existing water temperature is 16°C or less, as a result of any discharge. If the natural or existing water temperature is above 16°C, the natural or existing water temperature shall not be exceeded by more than 1°C as a result of any discharge.

The pH of the water shall be within the range 6.5 to 9, and there shall be no pH change in water due to a discharge that results in a loss of biological diversity or a change in community abundance and composition.

The concentration of dissolved oxygen in water shall exceed 80% of saturation concentration.

There shall be no bacterial or fungal slime growths visible to the naked eye as obvious plumose growths or mats. Note that this standard also applies to within the zone of reasonable mixing for a discharge.

When the flow is below the median flow, the visual clarity of the water shall not be less than 1.3 metres.²

The concentration of total ammonia shall not exceed the values specified in Table 1 “Ammonia standards for Lowland and Hill surface water bodies”.

The concentration of faecal coliforms shall not exceed 1,000 coliforms per 100 millilitres, except for popular bathing sites, defined in Appendix K “Popular Bathing Sites” and within 1 km immediately upstream of these sites, where the concentration of *Escherichia coli* shall not exceed 130 *E. coli* per 100 millilitres.

The Macroinvertebrate Community Index shall exceed 80 and the Semi-Quantitative Macroinvertebrate Community Index shall exceed 3.5.³

² Visual clarity is assessed using the black disc method or other comparable method employed by Environment Southland

³ MCI and SQMCI indices to be determined using Environment Southland’s SOE sampling protocol and MfE’s Protocol P2 for sample processing (Stark et al. 2001)

Fish shall not be rendered unsuitable for human consumption by the presence of contaminants.

Table 1: Ammonia standards for Lowland and Hill surface water bodies

Total Ammoniacal Nitrogen in mg/m³ at different pH	
pH	NH₄⁺-N + NH₃-N mg/m³
6.0	2570
6.1	2555
6.2	2540
6.3	2520
6.4	2490
6.5	2460
6.6	2430
6.7	2380
6.8	2330
6.9	2260
7.0	2180
7.1	2090
7.2	1990
7.3	1880
7.4	1750
7.5	1610
7.6	1470
7.7	1320
7.8	1180
7.9	1030
8.0	900
8.1	780
8.2	660
8.3	560
8.4	480
8.5	400
8.6	340
8.7	290
8.8	240
8.9	210
9.0	180

Annexure 2

Land Use Consent: AUTH-20181129-02

Expiry Date: XX July 2034

1. This consent authorises the construction, maintenance and use of an infiltration trench in general accordance with the application “*Tokanui Wastewater Treatment Plant Discharge to Land and Water*” dated February 2018.
2. The consent holder shall design and construct the infiltration trench to ensure that it is as long as practicable, taking into account the physical constraints of the Tokanui WWTP site, and operational requirements.

Earthworks

3. All vegetation clearance and soil disturbance shall be preceded by erosion and sediment control measures necessary to ensure that disturbed soil and sediment-laden stormwater migration from construction of the infiltration trench is minimised to the extent practicable. All erosion and sediment control measures shall be maintained as effective until such time as all disturbed areas are stabilised.
4. No cut or cleared vegetation shall be placed in a manner where it could obstruct or enter the Tokanui River;
5. No stockpiling of excavated soils and / or materials will occur within 20 m of the Tokanui River;
6. No refuelling, repairs or maintenance of plant or machinery shall take place within 20 m of the Tokanui River.

Planting

7. Within 12 months of completing the construction of the infiltration trench, the consent holder shall prepare and implement a planting plan using appropriate indigenous species, as necessary to achieve the following objectives:
 - a. Assist with groundwater management along the infiltration trench; and
 - b. Assist with stabilising the true-right river bank of the Tokanui River along the reach adjacent to the Tokanui Wastewater Treatment Plant designation.

Certification

8. Prior to commencing the construction of the infiltration trench authorised by this consent, the consent holder shall submit detailed design plans and a planting plan to the Consent Authority's Compliance Manager for certification that the implementation of the design and planting plan will achieve the objectives specified in Conditions 2, 7(a) and 7(b) of this consent.

Advice Note: *The Council's certification of the design and planting plan is to confirm that the design of the trench and the planting plan is likely to result in compliance with the conditions of this consent.*

Accidental Discovery

9. In the event that archaeological material, koiwi tangata (human skeletal remains), Taonga or artefact material is discovered or disturbed, the consent holder shall apply the protocols specified in the Heritage New Zealand Pouhere Taonga Archaeological Discovery Protocol and Protocol in the event of a discovery, or suspected discovery of a site of cultural importance (Waahi Taonga/Tapu) in **Attachment A** to this consent, and forming part of this condition.

Duration

10. The duration of this Consent under s123 shall be 15 years from the date of commencement.

Review

11. The Consent Authority may serve notice, as a result of information received in accordance with the conditions of this permit, and in accordance with Sections 128 and 129 of the Act, in the period 1 February to 30 September each year, of its intention to review the conditions of the consent for the purposes of:
 - a. Determining whether the conditions of this consent are adequate to deal with any adverse effects on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage, or which became evident after the date of commencement of the consent; or
 - b. Amending any monitoring, if the results indicate that the monitoring programme is inadequate;
 - c. Adding or adjusting compliance limits;
 - d. Requiring the adoption of the best practicable option to remove, reduce or mitigate any adverse effect on the environment arising as a result of the exercise of this consent; or
 - e. Without limiting the statutory powers of review, to achieve consistency with any future changes to the to the Southland Regional Council's plans or policies and to address nutrient allocation following limit setting.

Attachment A: Accidental Discovery Protocol

Appendix A Protocol in the event of a discovery, or suspected discovery, of a site of cultural importance (Waahi Taonga/Tapu)

1. *Kōiwi tangata accidental discovery*

If Kōiwi tangata (human skeletal remains) are discovered, then work shall stop immediately and the New Zealand Police, Heritage New Zealand ([contact details below](#)) and Te Ao Marama Inc (Ngai Tahu (Murihiku) Resource Management Consultants) shall be advised. Contact details for Te Ao Marama Inc are as follows:

Te Ao Marama Inc
Murihiku Marae, 408 Tramway Road, Invercargill
P O Box 7078, South Invercargill 9844
Phone: (03) 931 1242

Te Ao Marama Inc will arrange a site inspection by the appropriate Tangata Whenua and their advisers, including statutory agencies, who will determine how the situation will be appropriately managed in accordance with tikanga māori.

2. *Archaeological Sites*

Archaeological sites are protected under the Heritage New Zealand Pouhere Taonga Act (2014), and approval is required from Heritage New Zealand before archaeological sites can be modified, damaged or destroyed.

Not all archaeological sites are known or recorded precisely. Where an archaeological site is inadvertently disturbed or discovered, further disturbance must cease until approval to continue is obtained from Heritage New Zealand. As stated above, the New Zealand Police also need to be advised if the discovery includes kōiwi tangata /human remains.

[Heritage New Zealand Regional archaeologist contact details:](#)

[Dr Matthew Schmidt](#)

[Regional Archaeologist Otago/Southland](#)

[Heritage New Zealand](#)

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[Fax +64 3 4773893](#)

mschmidt@heritage.org.nz

3. *Taonga or artefact accidental discovery*

If taonga or artefact material (e.g. pounamu/greenstone artefacts) other than kōiwi tangata is discovered, disturbance of the site shall cease immediately and Southland Museum and Te Ao Marama Inc. shall be notified of the discovery by the finder or site archaeologist in accordance with the Protected Objects Act 1975. All taonga tuturu are important for their cultural, historical and technical value and are the property of the Crown until ownership is resolved.

4. *In-situ (natural state) pounamu/greenstone accidental discovery*
- Pursuant to the Ngai Tahu (Pounamu Vesting) Act 1997, all natural state pounamu/greenstone in the Ngai Tahu tribal area is owned by Te Runanga o Ngai Tahu. Ngai Tahu Pounamu Management Plans provide for the following measures:
- any *in-situ* (natural state) pounamu/greenstone accidentally discovered should be reported to Te Runanga o Ngai Tahu staff as soon as is reasonably practicable. Te Runanga o Ngai Tahu staff will in turn contact the appropriate Kaitiaki Papatipu Runanga;
 - in the event that the finder considers the pounamu is at immediate risk of loss such as erosion, animal damage to the site or theft, the pounamu/greenstone should be carefully covered over and/or relocated to the nearest safe ground.

The find should then be notified immediately to the Programme Leader – Ohanga, at Te Rūnanga o Ngāi Tahu. The contact details are as follows:

Programme Leader - Ohanga
Te Rūnanga o Ngāi Tahu
Te Whare o Te Wai Pounamu
15 Show Place
P O Box 13-046,
Otautahi/Christchurch 8021
Phone: (03) 366 4344; Fax: (03) 341 6792
Web: www.ngaitahu.iwi.nz