

General Condition Schedule

General Conditions

1. These general conditions apply to Discharge Permits ATH-1996001196.01, ATH-2015200191.00, ATH-1996004494.01, and ATH-1996001182.02, collectively called **the Permits**.
2. The Permit Holder must undertake the activities under the Permits in general accordance with the information supplied in the consent application, the Assessment of Environmental Effects dated 31 March 2015, including all concepts, parameters, drawings, activity specifications, proposed mitigation measures, methods concerning how the activity will be conducted and the scale, character and intensity of effects. Where the information is inconsistent with the requirements of specific consent conditions, the conditions prevail.
3. The Permit Holder must ensure that all treated wastewater, water quality and soil sampling required under these Conditions and the Conditions of the Permits is collected by a suitably experienced and/or qualified person and analysed by an appropriately accredited, independent laboratory. All analytical methods must be appropriate for treated meatworks effluent, water quality or soil analysis

Infrastructure Inspection

4. The Permit Holder must ensure that the physical infrastructure of the land treatment system and the land treatment area are inspected every week when operational, and the physical infrastructure of the river discharge system is inspected every month, and that relevant parts of the systems are also inspected whenever any alarms associated with the systems are activated.
5. If any blockages and/or breaks are identified in an inspection under Condition 4 or otherwise, the system affected must cease operation until the blockage and/or break is remedied, and the Permit Holder must notify Manawatu-Wanganui Regional Council's Regulatory Manager within 48 hours of identifying the blockage and/or break.
6. Records of the inspections made in accordance with Condition 4 and any resulting system maintenance must be kept and made available to the Manawatu-Wanganui Regional Council on request.

7. By 1 July 2017 the Permit Holder must submit a report prepared by suitably qualified and experienced person confirming how the minimum of 64,500 m³ of storage capacity available for the storage of treated wastewater is to be maintained throughout the term of the Permits. This must be “live storage” (that is, storage that is not used for wastewater treatment purposes and which holds treated wastewater that can be used for discharge purposes when conditions allow) provided in addition to the existing treatment volume. At least 500 mm of freeboard must be provided in addition to the 64,500 m³ capacity required for storage. The Permit Holder must irrigate the volume retained in the live storage as soon as practically possible or discharge it to the river in a way that ensures maximum storage capacity is not exceeded.

Treated Wastewater Quality Standards

8. The treated wastewater must meet the following standards prior to discharge to the land treatment area and the Oroua River:
 - a. the concentration of Soluble Carbonaceous five day Biochemical Oxygen Demand (ScBOD5) must not exceed 40 g/m³ in more than 8 out of 12 consecutive samples, or 74 g/m³ in more than 2 out of 12 consecutive samples;
 - b. the concentration of Total Suspended Solids must not exceed 85 g/m³ for more than 8 out of 12 consecutive samples, or 295 g/m³ in more than 2 out of 12 consecutive samples;
 - c. the concentration of Escherichia coli must not exceed 9,500 /100 mL for more than 8 out of 12 consecutive samples, or 20,000 /100 mL in more than 2 out of 12 consecutive samples;
 - d. the concentration of Total Ammoniacal Nitrogen must not exceed 84 g/m³ for more than 8 out of 12 consecutive samples, or shall it exceed 140 g/m³ in more than 2 out of 12 consecutive samples; and
 - e. the concentration of Dissolved Reactive Phosphorus must not exceed 40 g/m³ for more than 8 out of 12 consecutive samples, or 50 g/m³ in more than 2 out of 12 consecutive samples

Advice Note: Compliance will be demonstrated based on the samples required by Condition 10 below. There is the potential that water use improvements may result in the same mass being discharged but possibly at a higher concentration. If this occurs then there may be a need for these standards to be revised.

9. Prior to the commencement of the activities, the Permit Holder must install and maintain a sampling port in the pipeline to the land treatment system and the river discharge system.

10. From the commencement of the activities, the Permit Holder must take samples of treated wastewater from the sampling port (installed in accordance with Condition 9), once per month in any month that a discharge to the land treatment area or the Oroua River occurs, and while the discharge is occurring. The sample must be analysed for:
- a. Soluble Carbonaceous five day Biochemical Oxygen Demand (ScBOD₅);
 - b. Total Suspended Solids;
 - c. Total Nitrogen;
 - d. Nitrate Nitrogen (NO₃-N);
 - e. Ammoniacal-Nitrogen (NH₄-N);
 - f. Nitrite Nitrogen (NO₂-N);
 - g. Total Phosphorus;
 - h. Dissolved Reactive Phosphorus (DRP);
 - i. Sodium (Na);
 - j. Potassium (K);
 - k. Magnesium (Mg);
 - l. Calcium (Ca);
 - m. Escherichia coli (E. coli); and
 - n. Particulate Organic Matter
11. From the commencement of the activities, the Permit Holder must take samples of treated wastewater from the sampling port (installed in accordance with Condition 9), once per week from 1 April to 31 May each year when a discharge to the Oroua River occurs. The sample must be analysed for dissolved reactive phosphorus (DRP).
- Advice Note:** Results from the DRP analysis will be used to determine the discharge limits using the equation specified in Condition 2a (ii) of the discharge permit,
12. Prior to the commencement or continuation of the activities, the Permit 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 Oroua River. 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 Permits (to water, to land, to air, to groundwater).
13. Within three months of the granting of these Permits, and every five years thereafter for the duration of Permits, the Permit Holder must have the flow meters required by Condition 12 verified in accordance with the manufacturer's specifications. The Permit Holder must provide to the Manawatu-Wanganui Regional 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.

14. Within three months of the granting of these Permits, the Permit Holder must provide the Manawatu-Wanganui Regional Council's Regulatory Manager with near real-time treated wastewater discharge information recorded and collected from the flow meters referred to in Condition 12. This information must be recorded at 15 minute intervals and be provided automatically on a daily basis in a format compatible with the Manawatu-Wanganui Regional Council's database.

Advice note: This requirement is for the meters monitoring the discharge to land and water and not to the anaerobic pond.

Monitoring

15. The Permit Holder must establish a site for sampling each of:

- a. Anaerobic pond effluent;
- b. Aerated pond effluent; and
- c. Final (discharged) wastewater.

Each sample location must be representative of that effluent type and be close to the relevant discharge point and be recorded in the Operational and Management Plan required by Condition 21 of the General Conditions.

16. The Permit Holder must sample solids:

- a. at the location from which they are to be finally loaded into the solids spreading equipment;
- b. in the physical condition in which they are to be applied to land; and
- c. not more than one month (30 days) before the solids are to be applied to land.

17. The Permit Holder must ensure that samples of solids taken as described in Condition 16 are:

- a. repeated for any land application that is to take place more than one month (30 days) after the most recent previous sampling; and
- b. analysed by an appropriately accredited registered laboratory for the following parameters;
 - i. total Nitrogen;
 - ii. plant Available Nitrogen;
 - iii. moisture content; and
 - iv. bulk density.

Spillages and Complaints

18. The Permit Holder must maintain and make available to the Manawatu-Wanganui Regional 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:
 - 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.
19. The Permit Holder must notify the Manawatu-Wanganui Regional Council's Regulatory Manager of any complaints related to the exercise of the Permits as soon as practicable and no later than 24 hours of the complaint being received.
20. The Permit Holder must immediately notify the Manawatu-Wanganui Regional Council's Regulatory Manager 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 treatment 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 the Permits.

Advice Note: The Regulatory Manager or team representative can be contacted on Freephone 0505 800 800 or by email at compliance.shared@horizons.govt.nz

Operational and Management Plan

21. No later than three months after the grant of this permit, the Permit Holder must submit to the Manawatu-Wanganui Regional Council's Regulatory Manager an Operation and Management Plan detailing (but not limited to) the following items:
 - a. A description of the land treatment system and the river discharge system, including a site map indicating the location of discharge infrastructure, the land treatment area, and monitoring sites;

- b. Intended operation and maintenance procedures for the land treatment system and the river discharge system, including how the systems will be operated and maintained to comply with these Conditions and the Conditions of Discharge Permits ATH-1996001196.01, ATH-2015200191.00, ATH-1996004494.01, and ATH-1996001182.02;
- c. The procedures to be implemented to ensure that, where practicable, treated wastewater is discharged as a priority to land in accordance with Discharge Permit ATH-1996001196.01 (to land), including record-keeping procedures to demonstrate that the prioritisation has occurred;
- d. A plan identifying the location and size of each management block within the land treatment area;
- e. 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;
- f. Pasture, grazing and harvesting management and maintenance procedures;
- g. The frequency of flushing of the irrigation pipes and the circumstances under which pipe flushing will occur;
- h. Measures to ensure the treated wastewater irrigated remains aerobic;
- i. On-site responsibilities, including operation and maintenance of the wastewater treatment facilities and pipelines to the river and land discharge points;
- j. 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;
- k. Monitoring and reporting procedures required to demonstrate compliance with these Conditions and the Conditions of Discharge Permits (to water, to land, to air and to groundwater);
- l. A description of any other on-farm operations affecting nutrient loading or leaching within the land treatment area (e.g. grazing, crops, fertiliser application);
- m. A risk assessment plan and contingency plans in the event of system malfunctions or breakdowns;
- n. Procedures for receiving, recording and responding to all complaints in accordance with Conditions (18 and 19);
- o. A protocol for managing accidental discovery of artefacts of historic, archaeological or cultural significance during construction;
- p. Mitigation and contingency measures for controlling odour, aerosols, ponding and run-off in and from the land treatment area;
- q. Procedures for the wind speed shut-down required by Condition (5) of Discharge Permit (to air);
- r. Details of how changes in wastewater composition and volume are to be managed; and
- s. Measures to ensure that the activities do not result in any erosion or scouring of the bed or banks of the Oroua River.

22. The Permit Holder must review the Operation and Management Plan by 31 October of each year, commencing 31 October 2018 to incorporate any proposed changes to the management of the activities. Following each review, the Operation and Management Plan, including any proposed changes must be submitted to the Manawatu-Wanganui Regional Council's Regulatory Manager for technical re-certification before 30 November of the same year.
23. The Permit Holder must undertake the activities in accordance with the Operational and Management Plan that is most recently certified pursuant to Condition 22.

Advice Note: The Regulatory Manager or team representative can be contacted on Freephone 0505 800 800 or by email at compliance.shared@horizons.govt.nz

Annual Monitoring Report

24. By 31 October of each year (commencing 31 October 2017) the Permit Holder must provide the Manawatu-Wanganui Regional Council's Regulatory Manager an annual monitoring report for the 12 month period ending the previous 30 September. The annual monitoring report must include (but not be limited to):
 - a. results of sampling and a summary and interpretation of analyses and records collected in accordance with these Conditions and the Conditions of Discharge Permits ATH-1996001196.01, ATH-2015200191.00, ATH-1996004494.01, and ATH-1996001182.02;
 - b. a comment on compliance with each of these Conditions and the Conditions of the Permits;
 - c. a summary of inspections made on the physical infrastructure in accordance with Condition 4 of this schedule, and Conditions 3 and 4 of Discharge Permit ATH-1996004494.01- pond seepage;
 - d. results of soil sampling required by Condition 16 of Discharge Permit ATH-1996001096.01 – to land, and an analysis to determine whether any material change in soil quality has occurred and actions taken to remedy any nutrient deficiency or excess;
 - e. results of groundwater monitoring required by Conditions 18 to 24 of Discharge Permit ATH-1996001096.01 – to land and Conditions 6 to 11 of Discharge Permit ATH-1996004494.01- pond seepage, including an assessment of whether there has been a decline in groundwater quality due to the activities;
 - f. every second year (starting 2018), results of surface water monitoring required by Conditions 9 to 14 of Discharge Permit ATH-1996001182.02 - to water, including an assessment of:
 - i. the ammonia, DRP, SIN, E.coli, and scBOD₅ monitoring results against the One Plan Schedule E targets (where monitoring is required). This assessment shall be undertaken on the basis of daily time step mass balance modelling, using the model developed as part of the resource consent application or equivalent model approved by the Manawatu-Wanganui Regional Council's Regulatory Manager;

- ii. the chlorophyll *a* monitoring results (where they are required) against the One Plan Schedule E target and against the outputs of the model developed as part of the resource consent application or equivalent model approved by the Manawatu-Wanganui Regional Council's Regulatory Manager; and
 - iii. the effects of the discharge on macroinvertebrate communities (where monitoring is required).
- g. a copy of the complaints register required by Condition 18;
 - h. the number, duration and volume of discharges to the Oroua River;
 - i. a copy of the wind speed shut-off level review required by Condition 5 of Discharge Permit ATH-2015200191.00 - to air;
 - j. results and a summary of inspections made on the treatment pond system and any system modifications made in accordance with Condition 4 of Discharge Permit ATH-1996004494.01 – pond seepage;
 - k. a copy of the land treatment irrigation and harvest records as required by Condition 27 of Discharge Permit ATH-1996001196.01 - to land;
 - l. a nutrient budget incorporating details of all applications to land as well as of relevant ongoing farm system inputs;
 - m. where a discharge occurs below the 20 FEP in March and April, an explanation as to the reasons for the discharge, as detailed in Condition 6 of Discharge Permit ATH-1996001182.02 - to water.

Advice Note: The purpose of f. (i). is for comparison with the One Plan targets; f. (ii). Is for the purpose of validating the model.

- 25. The Permit Holder will consult with neighbours in regards to any changes in its consents or management of its consents that may impact the neighbours. The Permit Holder will provide an opportunity to meet with neighbours to discuss matters relevant to the activities permitted by the Permits at least once per year.
- 26. In the event of an archaeological site, waahi tapu or koiwi being discovered or disturbed during the activities, the Permit Holder must immediately cease further work in the immediate area and inform Ngati Kauwhata, Tanenuiarangi Manawatu Incorporated, the Manawatu-Wanganui Regional 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 Manawatu-Wanganui Regional Council's Regulatory Manager will advise the Permit Holder when work can resume.

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.

Optimisation Investigation

27. The Permit Holder must every five years, starting 31 July 2021, provide a draft report on the discharge regime, and in particular the volume of water applied to land, discharged to water and stored to:

- Ngāti Kauwhata; and
- Tanenuiarangi Manawatu Incorporated

The report shall record:

- a. the frequency of discharges to surface water at the times referred in Condition 2 of Discharge Permit ATH-1996001182.02 - to water;
 - b. the volumes applied to land; and
 - c. an evaluation of alternatives that will increase the discharge to land, ideally to 100% land application, including an assessment of the effects of the of the alternatives on the ongoing viability of the plant.
28. Within two months of providing the report, the Permit Holder must invite representatives of Ngāti Kauwhata to meet to discuss the report.
29. Within two months of providing the report, the Permit Holder must invite representatives Tanenuiarangi Manawatu Incorporated to meet to discuss the report.
30. Within eight months of providing the draft report to Ngāti Kauwhata and Tanenuiarangi Manawatu Incorporated, the Permit Holder must supply a copy of the final report, along with the feedback, if any, from discussions with Ngāti Kauwhata and Tanenuiarangi Manawatu Incorporated, under Conditions 28 and 29, to the Manawatu-Wanganui Regional Council's Regulatory Manager. Where feedback from discussions with Ngāti Kauwhata and Tanenuiarangi Manawatu Incorporated is not adopted, the Permit Holder must provide a separate document outlining the reasons for not adopting or including it.

Cultural Health Index Monitoring Protocols

31. The Permit Holder must invite Ngāti Kauwhata to work with it in preparing Cultural Health Index Monitoring Protocols within the immediate environs of the AFFCO plant site, including the Oroua River. The Permit Holder must provide an update to the Manawatu-Wanganui Regional Council's Regulatory Manager a summary of what actions have been undertaken every six months from the date of the first invitation. If the invitation is accepted, within 18 months of the commencement of this consent, the Permit Holder must provide the Manawatu-Wanganui Regional Council's Regulatory Manager (unless otherwise agreed) a Cultural Health Index Monitoring Protocol, developed in consultation with Ngāti Kauwhata. The protocols, as a minimum, must:
- a. describe the relationship of Ngāti Kauwhata to the land consented for irrigation of wastewater and the adjacent areas of the Otoku Stream and the Oroua River and the sites of interest to Ngāti Kauwhata related to those areas;
 - b. describe Ngāti Kauwhata's tikanga relevant to the proposed cultural monitoring, the activities, and the site(s);
 - c. identify and map (with map references) the site(s) to be monitored (where the Permit Holder is able to legally obtain access to those sites);
 - d. set out the frequency of monitoring;
 - e. describe the procedures required to access the application site for the monitoring (in particular health and safety requirements);
 - f. identify the parameters and methods used for the monitoring; and
 - g. set out the matters to be included in any Cultural Health Index Monitoring Report and the frequency of the reporting obligations.

Advice Note: This condition relates solely to the preparation of protocols only. It does not require the permit Holder to undertake or assist with any monitoring. This is due to multiple discharges occurring in the area and the need for any reporting to be able to capture combined effects.

32. The Permit Holder must invite Tanenuiarangi Manawatu Inc to work with it in preparing Cultural Health Index Monitoring Protocols within the immediate environs of the AFFCO plant site, including the Oroua River. The Permit Holder must provide an update to the Manawatu-Wanganui Regional Council's Regulatory Manager a summary of what actions have been undertaken every six months from the date of the first invitation. If the invitation is accepted, within 18 months of the commencement of this consent, the Permit Holder must provide the Manawatu-Wanganui Regional Council's Regulatory Manager (unless otherwise agreed) a Cultural Health Index Monitoring Protocol, developed in consultation with Tanenuiarangi Manawatu Inc. The protocols, as a minimum, must:
- a. describe the relationship of Rangitaane to the land consented for irrigation of wastewater and the adjacent areas of the Otoku Stream and the Oroua River and the sites of interest to Tanenuiarangi Manawatu Inc related to those areas;

- b. describe Tanenuiarangi Manawatu Inc tikanga relevant to the proposed cultural monitoring, the activities, and the site(s);
- c. identify and map (with map references) the site(s) to be monitored (where the Permit Holder is able to legally obtain access to those sites);
- d. set out the frequency of monitoring;
- e. describe the procedures required to access the application site for the monitoring (in particular health and safety requirements);
- f. identify the parameters and methods used for the monitoring; and
- g. set out the matters to be included in any Cultural Health Index Monitoring Report and the frequency of the reporting obligations.

Advice Note: This condition relates solely to the preparation of protocols. It does not require the permit Holder to undertake or assist with any monitoring. This is due to multiple discharges occurring in the area and the need for any reporting to be able to capture combined effects.

Review

33. The Manawatu-Wanganui Regional Council may, under Section 128 of the Act, initiate a review of the Conditions of this Discharge Permit every year commencing 30 November 2018 and for the duration of this Discharge Permit. The review must be for the purposes of avoiding, remedying or mitigating any more than minor unanticipated adverse effects on the environment, arising from the exercise of the Permits.

The review must allow for consideration of the following matters:

- a. the deletion or amendment of these Conditions;
- b. evaluation and modification of these Conditions to ensure that discharges to land authorised by Discharge Permit ATH-1996001196.01 - to land, are used preferentially over discharges to the Oroua River under this Discharge Permit, to the extent practicable and financially viable for the ongoing operation of the plant,
- c. the modification of the monitoring program required by the General Conditions;
- d. the amendment or addition of new Conditions as necessary to avoid, remedy or mitigate any more than minor unanticipated adverse effects on the environment, including but not limited to Conditions to mitigate adverse effects attributed to any breach of any conditions; and
- e. the adoption of the Best Practicable Option, including the outcome of any optimisation investigation, to prevent or minimise significant unanticipated adverse effects from the exercise of these Discharge Permits and Land Use Permit.

Condition Schedule – AFFCO Water Discharge

1. Discharge Permit ATH-1996001182.02 expires on 1 July 2029

Discharge Limits

2. The activity authorised by this Discharge Permit is restricted to the discharge of treated wastewater to the Oroua River (at approximate map reference NZTM (RE79ts) BM34:1819780E, 5543130N) under the following criteria:

- a. During the period 1 April to 30 November of any year:
 - i. When the river flow is below 7,590 L/s, there shall be no discharge of wastewater; or
 - ii. When the river flow is 7,590 L/s or greater, but less than 16,193 L/s, the discharge rate shall not exceed 35 L/s or the daily mass that is determined by the equation $QOR * (0.005 * [DRP]_{ww})$

Where:

- QOR is the average daily river flow or instantaneous river flow (L/s) in the Oroua River; and
 - $[DRP]_{ww}$ is the concentration of DRP (g/m^3) in the treated wastewater from the most recent sample for which a DRP test result has been received by the Permit Holder; or
- iii. When the river flow is 16,193 L/s or greater, the discharge rate shall not exceed 3,000 m^3/d and 35 L/s
- b. During the period 1 December to 31 March of any year;
 - i. when the river flow is greater than 22,772 L/s, the discharge shall not exceed 3,000 m^3/d and 35 L/s; and
 - ii. when the river flow is below 22,772 L/s there shall be no discharge to the Oroua River

Compliance with river flow requirements is assessed at 9.00 am on the day of any discharge to the river for the following 24 hour period, except from 1 April – 31 May each year when discharge is occurring it shall be assessed at 9.00 am and then again every six hours while the discharge continues. Compliance with DRP requirements are based on the most recent analysis results of treated wastewater. All flows relate to those calculated for the Oroua River's Kawa Wool monitoring site.

Advice Note: As flow statistics change with every new data point added the flows used are locked in, rather than the statistical parameter described. The following applies:

- Median flow - 7,590 L/s
 - Twentieth flow exceedance percentile - 16,193 L/s
 - Three times median flow – 22,772 L/s
3. The zone of reasonable mixing in the waters receiving the treated wastewater is defined as that reach of the Oroua River from the wastewater discharge structure to within a distance of 200 m downstream of the river discharge structure, as shown on the Plan titled Consent Monitoring Sites, dated 2 December 2016, attached to and forming part of the conditions.
4. The discharge authorised by this Discharge Permit must not cause any of the following effects:
- a. any emission of objectionable or offensive odour; or
 - b. any of the following effects in the receiving waters, after a reasonable mixing distance of 200 metres:
 - i. the production of any conspicuous oil or grease films, or
 - ii. scums or foams, or
 - iii. floatable or suspended materials; or
 - iv. bacterial and / or fungal slime growths visible to the naked eye as plumose growths or mats; or
 - v. a reduction in horizontal visibility exceeding 30%; or
 - vi. a reduction in QMCI of greater than 20%; or
 - vii. the DO concentration to fall below 70% saturation; or
 - viii. the rolling monthly average ammoniacal nitrogen concentration to exceed 0.400 g/m³; or
 - ix. the maximum total ammoniacal nitrogen concentration to exceed 2.1 g/m³; or
 - x. the monthly average soluble carbonaceous BOD₅ concentration due to dissolved organic compounds (that is, material passing through a GF/C filter) to exceed 2 grams per cubic metre at river flows below the 20th FEP; or
 - xi. the maximum cover of visible streambed of periphyton as filamentous algae more than 2cm long to exceed 30% in a run habitat; or
 - xii. the maximum cover of visible streambed of periphyton as mat algae more than 3cm thick to exceed 60% in a run habitat; or
 - xiii. the chlorophyll *a* concentration to exceed 120 mg/m² in more than 1 out of 12 consecutive monthly samples.

Advice note: Compliance with the rolling monthly average ammonia and scBOD₅ concentrations shall be based on model outputs based on discharge flow rates, Oroua River flows, and effluent concentrations.

5. The Permit Holder must endeavour to avoid discharges to surface water below the 16,193 L/s in the months of April and May for the duration of this permit. For the purposes of this condition, 'endeavour' is demonstrated by management options within the control of the Permit Holder including, but not limited to:
 - a. Maximising land irrigation subject to compliance with Conditions 7 and 11 of Discharge Permit ATH-1996001196.01 - to land; and
 - b. Discharge to the river only occurs when 75% of storage capacity is exceeded.
6. By 1 July each year, should there have been a discharge during the previous months of April and May, the Permit Holder must prepare a summary which is attached to the Annual Monitoring Report, as required by Condition 24 of the General Conditions, detailing:
 - a. the frequency and extent of discharges below 16,193 L/s in the preceding April and May period;
 - b. a discussion on why the discharge was not avoidable;
 - c. the performance / impacts of any measures implemented the previous year related to avoiding or reducing discharges below 16,193 L/s;
 - d. whether the discharge under a) could have been avoided through plant operational efficiency improvements;
 - e. cost implication of any efficiencies, improvements or factors identified to avoid discharges under a) on the ongoing viability of the plant;
 - f. any measures to be implemented to seek to avoid future discharges below 16,193 L/s in the forthcoming year; and
 - g. a timeframe for any measures identified under f) to be implemented.

Advice Note: the annual report required by this condition are to be considered as part of the five yearly investigative report required by Condition 27 of the General Conditions.

7. The treated wastewater to be discharged to the Oroua River must be discharged through the river discharge structure, as shown on the Plan titled Consent Monitoring Sites, dated 2 December 2016, attached to and forming part of the conditions.

Signage

8. The Permit Holder must, before commencing the activity at the new discharge location, erect and maintain two signs on the true left bank immediately adjacent to the upstream and downstream of the discharge structure. The wording of the signage shall be large enough to be read by a person with normal eyesight on the true right bank and shall advise of the presence of the treated wastewater discharge. The precise wording and location of the signage must be certified by the Manawatu-Wanganui Regional Council's Regulatory Manager.

Monitoring

Chemistry

9. The Permit Holder must monitor the following parameters in samples of water collected from the Oroua River at two sampling locations, comprising one located no more than 50 m upstream of the discharge point, and the second located 200 m downstream of the discharge point on the true left bank of the Oroua River:
- a. pH (field measurement);
 - b. Temperature (field measurement);
 - c. Dissolved oxygen (field measurement);
 - d. Total Suspended Solids;
 - e. scBOD₅ (Dissolved carbonaceous biochemical oxygen demand being material passed through a GF/C filter);
 - f. Total Nitrogen;
 - g. Nitrate Nitrogen;
 - h. Ammoniacal Nitrogen;
 - i. Nitrite-Nitrogen;
 - j. Dissolved Reactive Phosphorus;
 - k. Total Phosphorus; and
 - l. E. coli.

Sampling must be undertaken on a monthly basis, but only when the discharge is occurring **and** flows are between 7,590 L/s and 16,193 L/s.

Advice note: The exact location of the monitoring sites shall be confirmed in consultation with the Manawatu-Wanganui Regional 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 Manawatu-Wanganui Regional Council's Regulatory Manager.

Macroinvertebrate Sampling

10. The Permit Holder must have a suitably qualified and experienced freshwater ecologist undertake macroinvertebrate sampling in the Oroua River during October or November on three occasions, but no more than once each year. Provided the flow conditions allow monitoring to occur, the three rounds shall occur during the first three years following commencement of the consent. 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 and when the discharge has been occurring for at least two weeks. The timing of the monitoring must be confirmed by Manawatu-Wanganui Regional Council's Regulatory Manager prior to the commencement of the monitoring.

The locations of the assessments and sampling shall be:

- a. upstream of the discharge point in the first suitable riffle upstream within 200 m of the discharge point; and
- b. more than 200 m downstream of the discharge point in the first suitable riffle but no further than 400 m of the discharge point.

Advice Note: Should the flow conditions not be met, then monitoring shall occur in the following year until three monitoring rounds are completed.

Advice Note: A flood event is considered to be when the Oroua River is at and above 16,080 L/s.

11. The Permit Holder must ensure that the macroinvertebrate sampling referred to in Condition 10 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:
 - a. collection of five replicate 0.1 m² Surber samples at random within a 20 m section of riffle habitat at each sampling site;
 - 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
 - c. enumeration of the results as taxa richness, MCI, QMCI, %EPT taxa and %EPT individuals.

Chlorophyll *a* Monitoring

12. The Permit Holder must engage a suitably experienced and qualified freshwater ecologist to undertake an assessment of the chlorophyll *a* biomass in runs. Sampling must be undertaken monthly during October and November in 2017, 2018 and 2019.

The locations of the assessments and sampling shall be:

- a. upstream of the discharge point in the first suitable run upstream within 200 m of the discharge point; and
- b. more than 200 m downstream of the discharge point in the first suitable run but no further than 400 m of the discharge point.

13. The collection of a periphyton sample for chlorophyll *a*, referred to in Condition 12 above, shall be analysed using method QM-1b from the Stream Periphyton Monitoring Manual (Biggs & Kilroy 2000). Analysis of periphyton samples must follow the protocols outlined in Appendix 3 of 'A periphyton monitoring plan for the Manawatu/Wanganui Region' (Kilroy et al 2008) and shall involve extraction of chlorophyll *a* by ethanol.

Advice note: this monitoring is to assess the accuracy of the periphyton growth model that was developed as part of the application, and for which verification is required as part of the Annual Monitoring Report, as required by Condition 24 of the General Conditions.

14. Should the discharge cause, after a reasonable mixing distance of 200 m, the chlorophyll *a* concentration to exceed to 120 mg/m² on any sampling occasion then the Permit Holder shall have a suitably qualified and experienced freshwater ecologist undertake monthly monitoring of the chlorophyll *a* biomass in runs. Sampling shall be undertaken monthly for 12 consecutive months following the condition being triggered at sites prescribed under Condition 12, to assess compliance against Condition 4(b)(xiii).

Advice note: This requirement can be triggered by monitoring undertaken by or on behalf of Horizons Regional Council and is therefore not limited to the monitoring required by Condition 12.

Reporting

15. Monitoring as required in Conditions 10 and 12 above shall be included in an Annual Monitoring Report, as required by Conditions 24 of the General Conditions.

General

1. The activities authorised by this Land Use Consent are restricted to:
 - a. the installation, operation, and maintenance, of pipelines and an outlet structure (at approximately map reference NZTopo50 BM BM34: 1819765E, 5543130N), within 8 m of the true left bank of the Oroua River and Otoku Stream to convey treated wastewater;
 - b. the installation, operation and maintenance of a bed level control structure in the bed of the Otoku Stream at and immediately upstream from its confluence with the Oroua River; and
 - c. the associated temporary discharge of sediment during construction, on the property legally described as “legal river”, ID 4105837 (47.2899 ha), being part of the Oroua River bed adjacent to and west of AFFCO New Zealand Ltd site.
2. The Consent Holder must complete the construction and commissioning of the works authorised by condition 1(a)-(c) within four years from commencement of this consent.
3. The Consent Holder must ensure the proposed pipeline, outfall structure and bed level control structure is designed in accordance with the Manawatu-Wanganui Regional Council’s engineering requirements.
4. At least 20 working days prior to commencement of the activities, the Consent Holder must provide to the Manawatu-Wanganui Regional Council’s Regulatory Manager for certification a copy of the design and specification of all works, as prepared by an appropriately qualified and experienced Engineer. No work may commence until the Manawatu-Wanganui Regional Council’s Regulatory Manager certifies in writing that the work may proceed in accordance with the design and specification provided.

Erosion and Sediment Control Plan

5. At least 20 working days prior to commencement of the activities, the Consent Holder must provide to the Manawatu-Wanganui Regional Council's Regulatory Manager for technical certification an Erosion and Sediment Control Plan (ESCP) to address erosion and sediment control for the land disturbance and vegetation clearance authorised by this Consent. The ESCP must be developed in accordance with the "Greater Wellington Regional Council Guidelines – Guidelines for the Wellington Region 2002 and reprint 2006" and include as a minimum, but not be limited to:
 - a. Details of principles, procedures and practices that will be implemented to minimise the potential for sediment to enter surface water bodies (including drains);
 - b. Provision of a construction timetable for bulk earth disturbance works and establishment of the erosion and sediment control structures;
 - c. Provision of a timetable for progressive site rehabilitation, re-vegetation and stabilisation;
 - d. Rainfall response and contingency measures for managing the stability of the disturbed or excavated areas to prevent sediment release into surface water bodies during high rainfall events;
 - e. A site plan showing:
 - i. the location of surface water bodies (including drains);
 - ii. extent of proposed soil disturbance (including borrow areas), vegetation clearance, and cut and fill areas; and
 - iii. any temporary or permanent stockpile areas;
 - f. Methods and measures to ensure sediment entering surface water bodies is minimised; and
 - g. Identification and contact details of personnel responsible for the operation and maintenance of the key erosion and sediment control measures.

Construction

6. The Consent Holder must ensure that no earthworks authorised by this Land Use Consent commence until the Manawatu-Wanganui Regional Council's Regulatory Manager certifies in writing that the ESCP satisfies the requirements of Condition 5.
7. The Consent Holder must submit any proposed changes to the ESCP to Manawatu-Wanganui Regional Council's Regulatory Manager for technical certification prior to the implementation of any proposed changes.

8. The Consent Holder must undertake the activities in accordance with the ESCP most recently certified pursuant to Condition 6 or 7.
9. At least 20 working days prior to commencing the activities, the Consent Holder must submit a flood contingency plan to Manawatu-Wanganui Regional Council's Regulatory Manager. The flood contingency plan must include:
 - a. mechanisms for advance flood warning;
 - b. provision of relevant contact phone numbers; and
 - c. methods for removal of machinery, should this be necessary.
10. The Consent Holder must complete the construction of the authorised structures as quickly as possible and ensure that all equipment and materials required to complete construction are present on site prior to any works commencing.
11. The Consent Holder may only commence works where:
 - a. there is at least four days of settled and/or dry weather forecast by the New Zealand Meteorological service (MetService) for the Oroua River catchment; and
 - b. the Consent Holder has notified the Manawatu-Wanganui Regional Council's Regulatory Manager and the Area Engineer Central at least two working days prior to the planned commencement of the works.

Advice Note: The Regulatory Manager and Area Engineer – Central can be contacted on Freephone 0508 800 800.

12. The Consent Holder must ensure that any material excavated as a result of the activities is lifted clear of all surface water bodies and disposed of in a location where sediment cannot be washed back into surface water.
13. The Consent Holder must ensure that all bare areas are stabilised within 10 working days of completion of the relevant work.
14. The Consent Holder must ensure that no holes or mounds are left within any part of the bed of the Oroua River after the completion of the activities.

Advice Note: for the purposes of this condition, any raising of ground levels to construct the authorised structures are not a 'mound'.

15. The activities must not result in the discharge of contaminants that are toxic to aquatic ecosystems.

Advice note: This includes leakage of fuel, oil and other contaminants from machinery used for the activities.

16. The Consent Holder must ensure that the activities do not result in suspended sediment being conspicuous during Saturdays, Sundays and public holidays during 1 December to 28 February (inclusive).
17. The Consent Holder must ensure that:
 - a. machinery or vehicles entering any water body have had a stand down period of at least 48 hours since being in contact with another water body other than a water body in the upstream catchment of the Oroua River;
 - b. following use any machinery or vehicles must have a stand down period of at least 48 hours prior to use in any catchment, other than a water body in the downstream catchment of the Oroua River; and
 - c. standard check, clean or dry procedures are used for any vehicles, equipment, clothing or footwear that has been in contact with a water body other than a water body in the upstream catchment of the Oroua River within the past 48 hours.
18. The Consent Holder must comply with all notices and guidelines issued by Biosecurity New Zealand in relation to avoiding spreading the Pest Organism *Didymosphenia geminata*, known as "Didymo" (refer to www.biosecurity.govt.nz/didymo).
19. The Consent Holder must ensure that no uncured cement or cement based products enter the flowing water in any surface water body (including drains) within the application site during the activities. Any uncured cement placed in or near a watercourse must be placed in such manner that no concrete or cement leaches out and enters the watercourse. Such measures may include:
 - a. working during summer low flow conditions; or
 - b. containing the concrete in a watertight form work.
20. The Consent Holder must ensure that the activities do not cause any objectionable deposition of dust at or beyond the river bank location.

Advice Note: A deposition of dust will only be considered objectionable after a Manawatu-Wanganui Regional Council officer has considered the Frequency, Intensity, Duration, Offensiveness and Location of the deposited dust (i.e. the FIDOL factors).

Maintenance

21. At least 20 working days prior to undertaking any maintenance works associated with the activities, the Consent Holder must provide to Manawatu-Wanganui Regional Council's Regulatory Manager, details of the proposed works and a methodology for undertaking the works, including provision for compliance with these Conditions.

22. Any structures constructed by the activities will remain the responsibility of the Consent Holder and must be maintained so that:
 - a. any erosion, scour or instability of the river bed or banks that is attributable to the structures is remedied by the Consent Holder within 10 working days, and
 - b. the structural integrity of the structures remains sound.

23. In the event that any damage is caused to any Manawatu-Wanganui Regional Council stopbank or river protection works as a result of the activities, the Consent Holder must immediately contact the Manawatu-Wanganui Regional Council's Area Engineer Central and repair the damage to the standard required by the Area Engineer.

Condition Schedule – AFFCO Pond Seepage

General

1. Discharge Permit ATH-1996004494.01 expires on 1 July 2029
2. This Discharge Permit authorises the discharge into land of wastewater for the purpose of storing and treating wastewater in ponds and to land via seepage from the ponds on property legally described as Lot 3, DP 89045 (hereafter referred to as the property) at approximate map reference BM34 205 432.
3. The Permit 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.
4. Records of the inspections carried out in accordance with Condition 3 and any resulting system modifications must be recorded in the Annual Monitoring Report as required by Condition 24 of the General Conditions.
5. Records of the inspections carried out in accordance with Condition 3 and any resulting system modifications must be kept and made available to the Manawatu-Wanganui Regional Council's Regulatory Manager on request.

Groundwater Monitoring and Investigations

6. The Permit Holder shall monitor groundwater quality measured in six locations. Monitoring must be undertaken from three existing monitoring bores (325273A, 325275B and 325269C) and three new monitoring bores established in accordance with Condition 7 below.
7. Within six months of the date of commencement of this consent, the Permit Holder must install three new groundwater monitoring wells on the site at or as near as practicable at the locations shown on the Plan titled Consent Monitoring Sites, dated 2 December 2016, attached to and forming part of the conditions, and to the following specifications:
 - a. the monitoring wells must have a diameter of a sufficient size to enable samples to be taken;
 - b. the wells must be drilled to a depth of up to 10 metres below the summer low ground level and must be screened across the full depth of the water table/aquifer, with a screen length of no more than 3 m below the seasonally lowest groundwater level;

- c. the borehole casing must be constructed of polyvinyl chloride (PVC) or a similar inert material and shall be capped and secured to prevent entry of surface water.
- d. a concrete pad at least 0.3 metres radius must be constructed around the bore head of the monitoring well at ground level, to prevent leakage around the casing. The concrete pad shall slope away from the bore; and
- e. the wells must be installed by a suitably qualified person(s) and constructed in accordance with the New Zealand Standard for Drilling Rock and Soil NZS 4411:2001.

Advice Note: Any new bore requires a controlled activity land use consent under Rule 16-14 of the One Plan (2014).

8. The Permit Holder must notify the Manawatu-Wanganui Regional Council's Consents Monitoring Team of the installation, location and depth of the additional monitoring well's installed under Condition 7.

Advice Note: The Consents Monitoring Team can be notified via 0508 800 800 or compliance.shared@horizons.gov.nz.

9. The Permit Holder must take samples from all bores identified in Condition 6 in the months of January, March, April, July and October in accordance with the MfE Groundwater sampling protocols (2006) or updated document.

Advice Note: The additional samples in March for the first two years are to ensure that samples are taken at times of low river flows so correlation with river water quality samples is possible.

10. After two years of monitoring in accordance with Condition 6, the monitoring frequency reduces to quarterly in the months of January, April, July and October and the monitoring is undertaken in accordance with the MfE Groundwater sampling protocols (2006) or updated document.

11. The Permit Holder must measure and record the static water level in the bore prior to purging and sampling. Samples collected under Condition 6 shall be analysed for the following parameters:

- a. temperature;
- b. pH;
- c. electrical conductivity;
- d. chloride;
- e. nitrate-nitrogen;
- f. ammonia-nitrogen;
- g. nitrite-nitrogen;
- h. dissolved reactive phosphorus;
- i. E.Coli; and
- j. Sodium

12. Results of monitoring collected in accordance with Condition 9 to 11 must be transferred within 10 working days of their receipt to the Manawatu-Wanganui Regional Council in a format compatible with the Manawatu-Wanganui Regional Council systems.

Water Balance

13. The Permit Holder must prepare an annual water balance using daily flow and climatic data to quantify pond seepage rates for two years after the consent is granted. This information will be included in the Annual Review.

Contribution Investigation

14. The results of groundwater quality monitoring collected under Condition 11 and quantification of pond seepage rates determined under Condition 13 will be reviewed after two years by an independent and suitably qualified expert appointed by the Permit Holder. The purpose of that review will be to determine the effects of pond seepage on the groundwater environment and the likely contribution to the Oroua River, specifically whether seepage from the ponds may result in a 20 ppb SIN increase (during summer low flow) which would trigger the need to undertake a more detailed Contribution Investigation as detailed below.

The Contribution Investigation must use the water balance assessment from Condition 13 and incorporate a mass balance exercise to quantify the contaminant load from the pond seepage to the Oroua River during low flow conditions. The assessment shall include determination of subsurface permeability and relative contribution of pond leakage to surface water to the Aorangi Bridge. If necessary to avoid, remedy or mitigate a more than minor effect of pond leakage on surface water quality in the Oroua River the Contribution Investigation must consider and propose remedial options and the cost of each option on the ongoing viability of the plant. The remedial option(s) to reduce leakage proposed in the Contribution Investigation must be included in the Annual Monitoring Report, as required by Condition 24 of the general conditions.

Advice note: Remedial action may or may not include lining. A nominal 20 ppb SIN increase in river concentration should be used as a guide during the summer low flow conditions to trigger further investigations as required by this condition.

15. Monitoring in accordance with Conditions 6 and 9 to 11 must continue, and the Contribution Investigations must continue, on a five yearly cycle until the independent and suitably qualified and experienced person recommends ceasing further investigations on the basis that seepage from the ponds is unlikely to be causing more than minor adverse effects on the water quality of the Oroua River. The recommendation to cease investigations shall be supplied to the Manawatu-Wanganui Regional Council's Regulatory Manager for certification.

Condition Schedule – AFFCO Land Discharge

General

1. Discharge Permit ATH-1996001196.01 expires on 1 July 2029.
2. The activities authorised by this Discharge Permit are restricted to:
 - a. the discharge of treated wastewater by irrigation onto or into land in the land treatment area; and
 - b. the discharge of treated organic solids onto or into land in the land treatment area.
3. Any discharge undertaken in accordance with Condition 2 must occur on land legally described as:

AFFCO

- Lot 3, DP 89045; 16.7295 ha;
- Sbdn 1, Sec 12, Block XIV Oroua SD; 0.73 ha;
- Part Section 13, BLK XIV Kairanga SD; 18.32 ha;
- Lot 21, DP 2688; 0.6 ha;
- Lot 22, DP 2688; 0.6 ha;
- Lot 23, DP 2688; 0.6 ha;
- Lot 24, DP 2688; 0.59 ha;
- Lot 28, DP 2688; 0.67 ha.

Byreburn

- Part Section 225 Sbdn A Manchester DIST; 14.46 ha;
- Lot 191, DP 100; 13.7947 ha;
- Lot 2, DP 89128; 39.9744 ha;
- Lot 1, DP 57560; 22.7125 ha;
- Lot 1, DP 89045; 19.2740 ha (owned by ANZ, but occupied by Byreburn Farm);
- Lot 2, DP 89045; 11.7475 ha;
- Lot 31, DP 2688; 0.6171 ha;
- Lot 30, DP 2688; 0.6171 ha;
- Sec 5, Blk XIV, Oroua SD; 32.2332 ha.

Dalcam

- Part Aorangi 1C Block; 4.09 ha;
- Lot 18 DP 2688; 0.81 ha;
- Lot 18 DP 2688; 0.6 ha.

4. The maximum daily discharge of treated wastewater to the land treatment area must not exceed 3,000 m³/ day.
5. The Permit Holder must ensure the maximum daily discharge of treated wastewater and organic solids is undertaken in a manner that complies with the nitrogen and phosphorus loading limits specified in Condition 11.

Prioritisation

6. The Permit Holder must ensure at all times that the discharge and management of treated wastewater is prioritised in the following order:
 - a. irrigation to land;
 - b. storage and buffering; and
 - c. discharge to the Oroua River in accordance with Discharge Permit Number.

Advice note: This condition shows the intent of the Permit Holder to discharge as much as practically possible to land. It reflects the desire of the community and undertaking of the Permit Holder to maximise land application.

Application and Loading

7. The Permit Holder must ensure the application rate of treated wastewater onto land or into land does not exceed:
 - a. Travelling boom irrigator:
 - i. 37 mm/h; and
 - ii. 34 mm in any one application.
 - b. Sprinkler irrigators:
 - iii. 4 mm/h; and
 - iv. 12 mm in any one application.

Advice Note: A hydraulic limit for solids is not appropriate as direct leaching and run off will not occur. Setting an application depth is problematic due to the potential variability of the material and the application method. Consequently limiting the application of material through a nitrogen and phosphorus limit, as proposed in Condition 11, has been adopted.

8. The Permit Holder must ensure that the rate, frequency and method of the discharge of wastewater onto and into land does not result in:
- any statistically significant contamination of groundwater (when measured between the upstream and downstream monitoring sites as required by Condition 21);
 - run-off to surface water or subsurface drains; or
 - any ponding on the soil surface (defined as a depth of wastewater greater than 25 mm [covering a continuous area exceeding 10 m² or a combined area greater than 20 m²] during and following irrigation, or any treated wastewater on the soil surface five hours after irrigation has occurred).

Advice Note: To establish if there is noticeable contamination of groundwater as a result of treated wastewater being discharged to the site, the results of a minimum of three groundwater monitoring events will be analysed.

9. The Permit Holder must maintain a daily soil moisture balance for each of the four LMU's (LMU1, 2, 3 and 4). This shall be verified with daily data from a soil moisture probe in each LMU.
10. In addition to Condition 9 above, the Permit Holder must ensure that any wastewater application does not exceed field capacity.

Advice note: Field capacity is when gravity drainage has ceased.

11. The Permit Holder must ensure that the nutrient loading resulting from the discharge of treated wastewater and solids onto and into land, does not exceed the following criteria when applied to pasture that is not harvested or areas that are not cropped:

	LMU 1	LMU 2	LMU 3	LMU 4
Max N Load (/year)	250 kg N/ha	250 kg N/ha	250 kg N/ha	100 kg N/ha
Max P Load (/year)	50 kg P/ha	50 kg P/ha	50 kg P/ha	20 kg P/ha

Advice Note: LMU means Land Management Unit, which are defined in the Assessment of Environmental Effects, dated 31 March 2015 and shown on the Plan titled 'Land Management Units' attached.

12. Should the nutrient loading rates in Condition 11 be exceeded, the equivalent additional mass of nutrient loading over and above that in Condition 11 must be removed from the area to which it is applied in harvested material.

Advice Note: Nutrient loading over and above the grazed maximum requires harvesting as hay or silage, or some form of crop removal. The efficacy of the additional removal shall be demonstrated by recording the mass of herbage or crop removed and its nutrient concentration. The details of this harvesting regime shall be detailed in the Operation and Management Plan as required by Condition 21 of the General Conditions.

13. Meeting the requirements of Condition 12 shall be determined by calculating the nutrient loading to each block receiving treated wastewater. The nutrient loading will be based on the results of monitoring required in accordance with Condition 8 of the General Conditions (treated wastewater monitoring) and a record of the volume of treated wastewater or solids applied to each paddock.
14. The permit holder must ensure that treated wastewater or treated organic solids are not discharged to land closer than:
 - a. 20 m from any watercourse, whether flowing continuously or intermittently, including any open drain;
 - b. 20 m from any property boundary where there are no buildings; or
 - c. 200 m from any dwelling house, milking shed or other building on any property bordering the land treatment area when that building is directly downwind.

Advice Note: this condition does not apply to dwellings and buildings within the application site.

15. The Permit Holder must not discharge treated wastewater and solids to land:
 - a. within 48 hours after the application of fertiliser;
 - b. within 24 hours after any harvesting activity;
 - c. within 48 hours prior to any harvesting activity; or
 - d. when 50 mm or more rainfall has occurred in the previous 24 hour period as recorded at the WWTP.

Monitoring

16. The Permit Holder must take annual composite soil samples from any Land Management Unit that has received treated wastewater or solids within the previous 12 month period (starting 1 October and ending 30 September) for the duration of this Discharge Permit. Samples must be taken from a minimum of three paddocks in each Land Management Area. A minimum of 10 75 mm depth composite samples must be obtained from each paddock, and must be analysed for the following:
 - a. pH;
 - b. Exchangeable Sodium (Na);
 - c. Exchangeable Sodium percentage (Na);
 - d. Exchangeable Potassium (K);
 - e. Exchangeable Magnesium (Mg);
 - f. Exchangeable Calcium (Ca);
 - g. Phosphorus (Olsen);
 - h. Sulphate-S;
 - i. Total Nitrogen; and

- j. Cation Exchange Capacity.
17. The Permit Holder must take soil samples from all Land Management Units in 2022 and thereafter at five yearly intervals, in a minimum of three paddocks in each Land Management, at depth. This requires a minimum of 10 composite samples collected at a 200-300mm and analysed for the following:
- a. pH;
 - b. Exchangeable Sodium (Na);
 - c. Exchangeable Sodium Percentage (Na);
 - d. Exchangeable Potassium (K);
 - e. Exchangeable Magnesium (Mg);
 - f. Exchangeable Calcium (Ca);
 - g. Phosphorus (Olsen);
 - h. Sulphate-S;
 - i. Total Nitrogen; and
 - j. Cation Exchange Capacity.
18. The Permit Holder must monitor groundwater quality in nine locations. Monitoring shall be undertaken from four existing monitoring bores (325413, 325416B, 325411 and 31 Matai) and seven new monitoring bores establish in accordance with Condition 19 below.
19. Within six months of the date of commencement of this consent, the Permit holder shall install seven new groundwater monitoring wells to the following specifications:
- a. the monitoring wells must have a diameter of a sufficient size to enable samples to be taken and shall be installed at or as near as practicable at the locations shown in the Plan titled Consent Monitoring Sites, dated 2 December 2016, attached to and forming part of the conditions;
 - b. the wells must be drilled to a depth of up to 10 metres below the summer low ground level and/ shall be screened across the full depth of the water table/aquifer, with a screen length of no more than 3 m;
 - c. the borehole casing must be constructed of polyvinyl chloride (PVC) or a similar inert material and shall be capped and secured to prevent entry of surface water;
 - d. a concrete pad at least 0.3 metres radius must be constructed around the bore head of the monitoring well at ground level, to prevent leakage around the casing. The concrete pad must slope away from the bore;
 - e. the wells must be installed by a suitable qualified person(s) and constructed in accordance with the New Zealand Standard for Drilling Rock and Soil NZS 4411:2001.

Advice Note: Any new bore requires a controlled activity land use consent under Rule 16-14 of the One Plan (2014).

20. The Permit Holder must notify the Manawatu-Wanganui Regional Council's Consents Monitoring Team of the installation, location and depth of any monitoring well's installed under Condition 19.

Advice Note: The Consents Monitoring Team can be notified via 0508 800 800 or compliance.shared@horizons.gov.nz

21. The Permit Holder must take samples from all bores identified in Condition 18 in the months of January, March, April, July and October in accordance with the MfE Groundwater sampling protocols (2006) or updated document.

22. After two years of monitoring in accordance with Condition 18, the monitoring frequency shall be reduced to quarterly in the months of January, April, July and October in accordance with the MfE Groundwater sampling protocols (2006) or updated document.

23. After two years of monitoring in accordance with Condition 18, sampling from bores 325413, 325416B shall cease.

24. The Permit Holder shall measure and record the static water level in the bore prior to purging and sampling. Samples collected under Condition 21 shall be analysed for the following parameters:

- a. temperature;
- b. pH;
- c. electrical conductivity;
- d. chloride;
- e. nitrate-nitrogen;
- f. ammonia-nitrogen;
- g. nitrite-nitrogen;
- h. dissolved reactive phosphorus; and
- i. E.coli

Recording and Reporting

25. Results of monitoring collected in accordance with Condition 21 and 24 shall be transferred within 10 working days of their receipt to the Manawatu-Wanganui Regional Council in a format compatible with the Manawatu-Wanganui Regional Council systems.

26. The Permit 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:

- a. the date, time, location and volume of each irrigation and solids application;
- b. the date, time, location, volume and nitrogen loading of any nitrogenous and phosphorus material applied; and
- c. the date and time of pipeline flushes when they occur.

Records shall be reported in the Annual Monitoring Report as required by Condition 24 of the general conditions.

27. The Permit Holder must maintain a record of all harvest and stock grazing events that occur within the land treatment area. This record must include the date, time, stock numbers, number of bales and mass of harvested material.

Records shall be reported in the Annual Monitoring Report as required by Condition 24 of the general conditions.

Condition Schedule – AFFCO Air Discharge

General

1. Discharge Permit ATH-2015200191.00 expires on 1 July 2029.
2. Any discharge undertaken in accordance with Condition 2 of Discharge Permit ATH-1996001196.01 - to land must occur on land legally described as:

AFFCO

- Lot 3, DP 89045; 16.7295 ha;
- Sbdn 1, Sec 12, Block XIV Oroua SD; 0.73 ha;
- Part Section 13, BLK XIV Kairanga SD; 18.32 ha;
- Lot 21, DP 2688; 0.6 ha;
- Lot 22, DP 2688; 0.6 ha;
- Lot 23, DP 2688; 0.6 ha;
- Lot 24, DP 2688; 0.59 ha;
- Lot 28, DP 2688; 0.67 ha

Byreburn

- Part Section 225 Sbdn A Manchester DIST; 14.46 ha;
- Lot 191, DP 100; 13.7947 ha;
- Lot 2, DP 89128; 39.9744 ha;
- Lot 1, DP 57560; 22.7125 ha;
- Lot 1, DP 89045; 19.2740 ha (owned by ANZ, but occupied by Byreburn Farm);
- Lot 2, DP 89045; 11.7475 ha;
- Lot 31, DP 2688; 0.6171 ha;
- Lot 30, DP 2688; 0.6171 ha;
- Sec 5, Blk XIV, Oroua SD; 32.2332 ha.

Dalcam

- Part Aorangi 1C Block; 4.09 ha;
- Lot 18 DP 2688; 0.81 ha;
- Lot 18 DP 2688; 0.6 ha

3. The Permit Holder must ensure that the activity does not result in offensive or objectionable odour or spray drift at or beyond the property boundary.

Advice Note: An odour or spray drift will only be considered offensive or objectionable after a Manawatu-Wanganui Regional 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.

4. Upon receiving an odour complaint, the Permit Holder must carry out an investigation as soon as practicable to determine the cause of the odour complaint. If the cause of the odour can be attributed to the Permit Holder, then the Permit Holder must carry out any necessary action recommended by the investigation to ensure compliance with Condition 3. The Permit Holder shall provide a report to the Manawatu-Wanganui Regional Council Compliance Team leader, within 48 hours of completing an investigation into an odour complaint.

Wind Shut-off and Climate Station

5. The Permit Holder must ensure the irrigation of treated wastewater automatically ceases when the 10 minute average wind speed as measured by the weather station required under Condition 7 exceeds 12 m/s from a direction whereby irrigation is occurring up wind of and is within 200 m of the property boundary. The activity can resume 30 minutes after the wind speed drops below the nominated threshold or the wind direction changes such that irrigation is no longer upwind of and within 200 m of the property boundary.

Advice Note: Wind speed as measured by the climate station to be installed in accordance with Condition 7.

6. The Permit Holder must review the adequacy of the wind speed shut-down level and direction in Condition 5 on an annual basis, commencing 1 October **2017**. The results of this review must be provided to Manawatu-Wanganui Regional Council's Regulatory Manager in the Annual Monitoring Report required by General Condition 24.

Advice Note: If the current wind speed shut-down level and wind direction is deemed inadequate to avoid odour or spray drift onto adjacent properties following a review under Condition 6, a variation to Condition 5 by way of s127 may be required.

7. Prior to commencing the activity, the Permit Holder must install a climate station near the AFFCO wastewater treatment plant that is capable of continuous real time monitoring of wind speed and direction, air temperature and rainfall. Monitoring must be undertaken in accordance with the Good Practice Guide for Air Quality Monitoring and Data Management, Ministry for the Environment, 2009.

8. The climate station required by Condition 7 must be able to:
 - a. be remotely accessed via a telemetered link; and
 - b. be connected to the irrigation controller and be able to shut down automatically when wind conditions described in Condition 5 occur.