Silver Fern Farms Ltd Waitōtara

Monitoring Programme
Annual Report
2023/24
Technical Report 2024-32

Taranaki
Regional Council

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Taranaki Regional Council
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Executive summary

Silver Fern Farms Ltd (the Company) operates a meat processing plant located on Waiinu Beach Road, Waitōtara in the Waitōtara Catchment.

This report, for the period 1 October 2023 to 30 September 2024 coincides with the processing season. It describes the monitoring programme implemented by Taranaki Regional Council (the Council) to assess the Company's environmental and consent compliance performance during the period under review. The report also details the results of the monitoring undertaken and assesses the environmental effects of the Company's activities.

During the monitoring period, the Company overall required improvement in their environmental and administrative performance.

The Company holds five resource consents, which include a total of 56 conditions setting out the requirements that they must satisfy. The Company holds resource consents to allow it to take and use groundwater and spring water, to discharge wastes by spray irrigation to land, to discharge stormwater and cooling water to an unnamed tributary of the Waitōtara River, and to discharge emissions into the air. The Council's monitoring programme for the year under review included four inspections, the collection of four wastewater, stormwater and process water samples, and 28 groundwater samples for physicochemical analysis. During the 2023/24 monitoring year, the Council also collected one water sample from Te Kiri o Rauru Spring. The Company supplied records of their own monitoring, as well as records of the volume of water abstracted and the volume of wastewater discharged.

No breaches of the daily abstraction volume limits were recorded for the production bores during the monitoring period. There were occasional exceedances of the instantaneous abstraction rate that were above the permitted measurement error of the metering devices. The abstraction rate and daily abstraction volume from the spring complied with consented limits. The accurate recording and transmission of abstraction and water level data to the Council has remained an issue. The Council and Company have continued to work towards a permanent resolution to ensure compliance with consent conditions. Priority will be given to reinstating level data recording and transmission for the monitoring bore in the 2024/25 monitoring year as this information will underpin the three-yearly aquifer sustainability report. The Council is also continuing to work with the Company to ensure that there are adequate validation and/or verification procedures in place to guarantee the accuracy and compliance of all groundwater level measuring devices.

The 2023/24 monitoring year saw a reduction in the number of exceedances of Nitrate N levels in relation to the Drinking Water Standard (DWS) from the previous year. For this year, the 11.3mg/L threshold was exceeded during four out of 28 sampling rounds. While improvement is commendable, exceedances of the DWS are unacceptable given that the Waiinu Water Supply bore is situated downgradient of the irrigation area. On 30 June 2022, the Council initiated a review of the consent conditions for the discharge of wastewater to land in response to the elevated nitrate concentrations found in the vicinity of the Longview Farm irrigation area. This process was finalised in the 2023/24 monitoring year, with Consent 2260-3.2 being granted in May 2024. The new requirements of this consent introduced more stringent monitoring with the addition of trigger levels for analytes of concern. An exceedance of the trigger levels would in turn catalyse a sequence of events relating to the reporting, remediation and monitoring of environmental effects until such a time that sampling results demonstrate that parameters have returned to acceptable levels. It is recommended that the Council and Company conduct interlaboratory testing during two out of four Council-led sampling rounds. Sampling is currently undertaken separately and while the range of results was generally similar, an interlaboratory comparison would afford a more meaningful comparison of results.

Based upon the data obtained for the monitoring of Te Kiri O Rauru Spring, it was concluded that the irrigation of wastewater to land was not having a detrimental impact upon the water quality of the spring. It is however

desirable that specific faecal coliform testing is added to the Company's suite of analytes as total coliforms incorporate species which would naturally be present in the environment, and which may not necessarily be linked to the irrigation of wastewater.

There were no issues found in relation to the discharges to air from either the plant site or the irrigation activities.

For reference, in the 2023/24 year, consent holders were found to achieve a high level of environmental performance and compliance for 864 (89%) of a total of 967 consents monitored through the Taranaki tailored monitoring programmes, while for another 75 (8%) of the consents a good level of environmental performance and compliance was achieved. A further 26 (3%) of consents monitored required improvement in their performance, while the remaining two (<1%) achieved a rating of poor.

In terms of overall environmental and compliance performance by the consent holder over the last several years, this report shows that the consent holder's performance requires improvement.

This report includes recommendations for the 2023/24 year, including a recommendation relating to the optional review of Consents 2260-3.1 and 10256-1.0 in June 2025.

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1. Introduction

1.1 Compliance monitoring programme reports and the Resource Management Act 1991

1.1.1 Introduction

This report for the period 1 October 2023 to 30 September 2024 describes the monitoring undertaken by Taranaki Regional Council (the Council) in relation to the resource consents held by Silver Fern Farms Ltd (the Company). The Company operates a meat processing plant situated on Waiinu Beach Road at Waitōtara, in the Waitōtara Catchment. The monitoring period coincides with the plant's processing season.

The report includes the results and findings of the monitoring programme implemented by the Council with respect to the consents held by the Company. These relate to abstraction of ground and surface water, discharge of wastes by spray irrigation to land, discharge of stormwater and cooling water in the Waitōtara Catchment, and the air discharge permit held by the Company to cover emissions to air from the site.

One of the intents of the *Resource Management Act 1991* (RMA) is that environmental management should be integrated across all media, so that a consent holder's use of water, air, and land should be considered from a single comprehensive environmental perspective. Accordingly, the Council generally implements integrated environmental monitoring programmes and reports the results of the programmes jointly. This report discusses the environmental effects of Silver Fern Farm's use of water, land and air, and is the 29th combined annual report written by the Council for this meat processing plant.

1.1.2 Structure of this report

Section 1 of this report is a background section. It sets out general information about:

- consent compliance monitoring under the RMA and the Council's obligations;
- the Council's approach to monitoring sites though annual programmes;
- the resource consents held by the Company in the Waitōtara Catchment;
- the nature of the monitoring programme in place for the period under review; and
- a description of the activities and operations conducted in the Company's site.

Section 2 presents the results of monitoring during the period under review, including scientific and technical data.

Section 3 discusses the results, their interpretations, and their significance for the environment.

Section 4 presents recommendations to be implemented in the 2024/25 monitoring year.

A glossary of common abbreviations and scientific terms, and a bibliography, are presented at the end of the report.

1.1.3 The Resource Management Act 1991 and monitoring

The RMA primarily addresses environmental 'effects' which are defined as positive or adverse, temporary or permanent, past, present or future, or cumulative. Effects may arise in relation to:

a. the neighbourhood or the wider community around an activity, and may include cultural and social-economic effects;
b. physical effects on the locality, including landscape, amenity and visual effects;

c. ecosystems, including effects on plants, animals, or habitats, whether aquatic or terrestrial;
d. natural and physical resources having special significance (for example recreational, cultural, or aesthetic); and
e. risks to the neighbourhood or environment.

In drafting and reviewing conditions on discharge permits, and in implementing monitoring programmes, the Council is recognising the comprehensive meaning of 'effects' in as much as is appropriate for each activity. Monitoring programmes are not only based on existing permit conditions, but also on the obligations of the RMA to assess the effects of the exercise of consents. In accordance with Section 35 of the RMA, the Council undertakes compliance monitoring for consents and rules in regional plans and maintains an overview of the performance of resource users and consent holders. Compliance monitoring, including both activity and impact monitoring, enables the Council to continually re-evaluate its approach and that of consent holders to resource management and, ultimately, through the refinement of methods and considered responsible resource utilisation, to move closer to achieving sustainable development of the region's resources.

1.1.4 Evaluation of environmental performance

Besides discussing the various details of the performance and extent of compliance by the consent holders, this report also assigns a rating as to each Company's environmental and administrative performance during the period under review. The rating categories are high, good, improvement required and poor for both environmental and administrative performance. The interpretations for these ratings are found in Appendix II.

For reference, in the 2023/24 year, consent holders were found to achieve a high level of environmental performance and compliance for 864 (89%) of a total of 967 consents monitored through the Taranaki tailored monitoring programmes, while for another 75 (8%) of the consents a good level of environmental performance and compliance was achieved. A further 26 (3%) of consents monitored required improvement in their performance, while the remaining two (<1%) achieved a rating of poor. [1]

1.2 Process description

The meat processing plant was constructed in 1987 within pastoral lands beside Waiinu Beach Road, approximately 3.5km south of Waitōtara and 3km north of Waiinu Beach. The location of the plant site is shown in Figure 1 and the areas where irrigation is permitted are shown in Figure 2. The nearest dwellings are farmhouses, situated about 900m to the north and 1.2km to the south-east. The Waitōtara River is located approximately 450m to the north of the plant.

The plant primarily slaughters and processes sheep and lambs but can also process bobby calves and goats. During March 2019, operations were reduced from 7 days to 5 days a week. The majority of the processed output is exported. There are no fellmongery or rendering facilities, with all blood and renderable material taken off-site for processing. Ownership of the plant has changed twice. The original owner, Waitōtara Meat Company, merged with Richmond Ltd in October 1999, which in turn amalgamated with PPCS Ltd in December 2004. PPCS Ltd was rebranded Silver Fern Farms Ltd in June 2008.

[1] The Council has used these compliance grading criteria for more than 20 years. They align closely with the four compliance grades in the MfE Best Practice Guidelines for Compliance, Monitoring and Enforcement, 2018

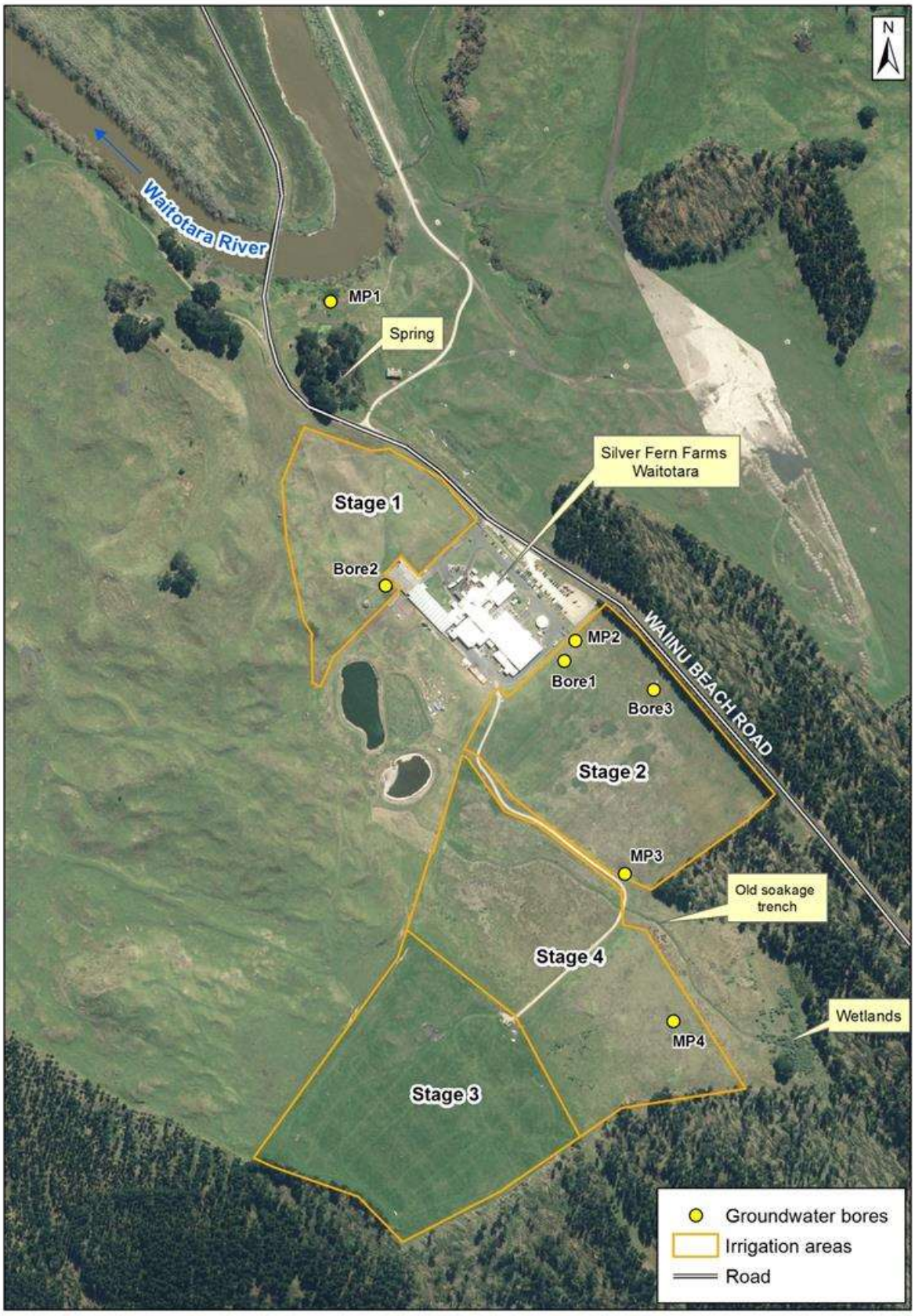

Figure 1 Location of Silver Fern Farms Waitōtara meat processing plant showing irrigation areas and groundwater monitoring points MP1 to MP4

Note: Bores 1 to 3 are production bores which are used to supply the plant with water.

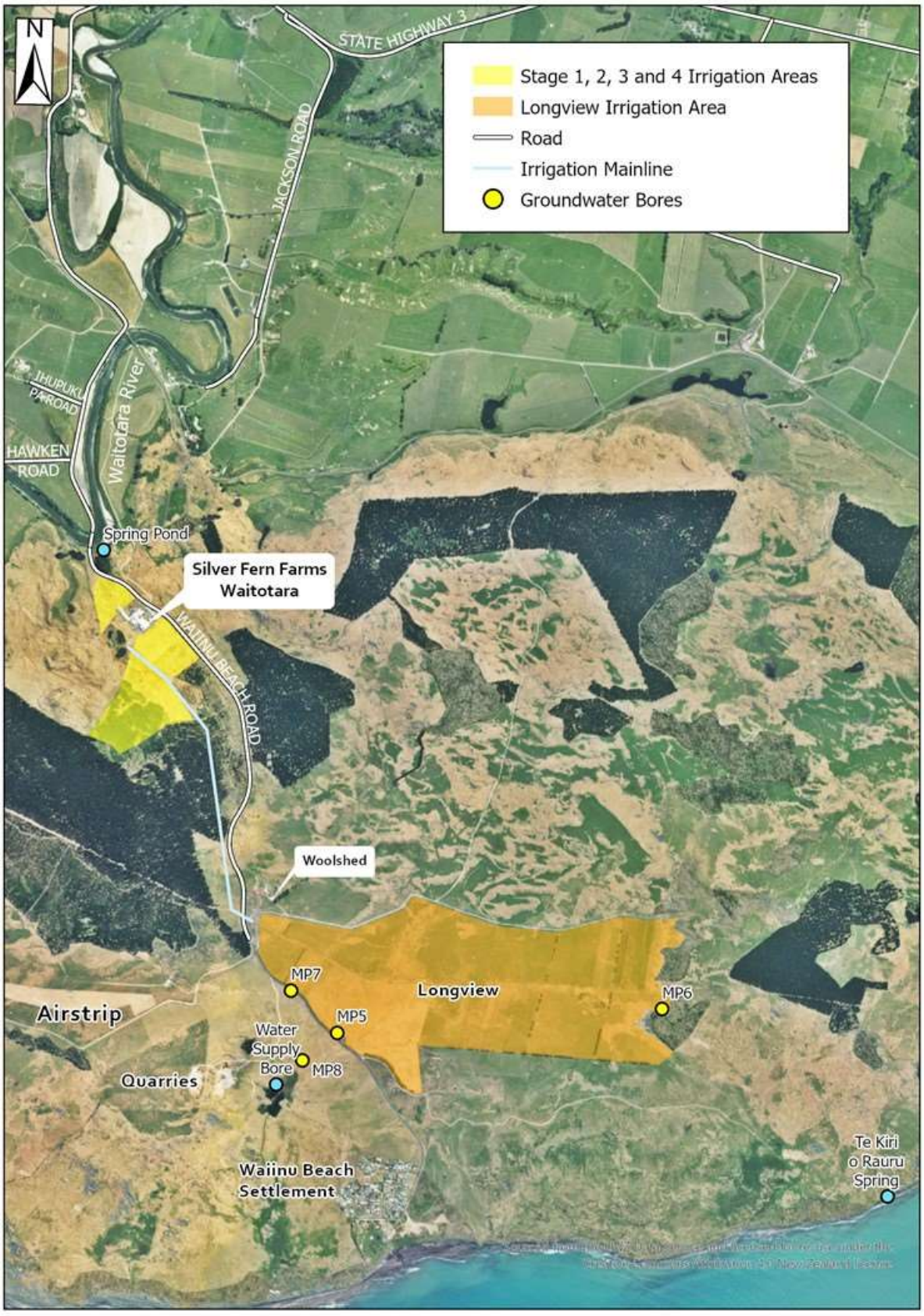

Figure 2 Location of Silver Fern Farms Waitōtara meat processing plant showing irrigation areas and groundwater monitoring points MP5 to MP8

1.2.1 Water abstraction

Process water for the site is drawn from three groundwater bores: GND1195 (Bore 1), GND0230 (Bore 2), and GND0585 (Bore 3a), and a spring (GND1124) via separate pumps. Under the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010, and Consent 2261-3.1, the Company was required by 10 November 2014, to take continuous measurements and keep daily records of the volume abstracted. Thereafter, the Company was required to make the records available to the Council at all reasonable times, and to supply the record for the preceding 1 July to 30 June period by 31 July each year. In the case of the abstraction from the spring, the consent requires that the data shall be transmitted directly to the Council. The plant's water usage is proportional to the number of stock being processed through any particular period and the maximum daily water usage follows the same pattern as daily stock kill rate.

Water for operation of the plant is taken from two sources. Water of high quality is drawn from a deep aquifer via bores at the plant site (Consent 2261-3.1). Water of lesser quality (high hardness and elevated nitrates) is piped from springs near the Waitōtara River (Consent 10256-1.0).

There are three production bores, each with the capacity to pump 770m^3/d, that pump from a depth of 122 to 140m. Two bores are pumped at any one time (usually Bore 1 and Bore 3a), with the other (Bore 2) being a reserve supply. The aquifer is recharged by rainfall/riverbed infiltration in the hill country north of Waitōtara. Aquifer analysis undertaken by the Company, and reviewed by the Council, shows that the maximum sustainable yield is 3,000m^3/d.

A secondary supply, for stock and yard washing purposes, is drawn at a rate of up to 350m^3/d from springs which arise beside the Waitōtara River. This is piped approximately 400m to the plant across Waiinu Beach Road.

1.2.2 Discharges to land

Wastewater derives primarily from two sources: the plant and the stockyards. Plant wastewater consists of washwater from the washing of carcasses, pelts and offal, and from cleansing of process areas. Wastewater is produced from the external yards as a result of washing incoming stock, stockyard washings and of discharge from the truck-wash facility.

After primary treatment by screening, the wastewater is stored in two clay-lined holding ponds before discharge onto land by spray irrigation. Discussions around the possible upgrade of the pond linings are underway and are likely to feature in longer term plans for the site. Screenings from inside the processing plant are taken off site for rendering. Screenings from the external yard areas, truck wash and sheep dip are spread mechanically on to the irrigation areas adjacent to the plant.

The sludge from the wastewater storage ponds is removed periodically. The sludge is stored on the edge of the pond to dewater. It is then transferred to the bunded holding area below the ponds to stabilise. Sludge remains in this area for several years before it is spread onto land.

The irrigation area was increased to a total area of 110.5ha in January 2013. An area of 19.3ha adjacent to the plant that was owned by the Company was irrigated by 15 independently controlled fixed sprinkler networks. However, the land around the Waitōtara plant site has not been used since March 2019, as the contract between the Company and Longview Farm states that all wastewater will be preferentially irrigated to Longview Farm. An area of 91.2ha on Longview Farm, which is situated on the Waiinu Beach Road approximately 2km in a coastward direction, was irrigated by one of three rotary boom travelling irrigators. Reticulation is by a ring main, around which a travelling irrigator is rotated manually according to weather conditions and wastewater availability. Irrigator run lengths are about 400m, with a wetted width of 45m, giving an area of about 1.8ha per application. An independent automated control system is in place for

control of spray drift towards Waiinu Beach. The reticulation system has been designed to enable the addition of future pipework to service additional consented land that is yet to be developed for irrigation. The areas that are consented for irrigation, but that do not have irrigation infrastructure are shown in Figure 3.

The land that is irrigated is largely undulating stabilised sand dunes, with an overlay of free draining yellow brown soils of very low natural fertility which frequently experience periods of soil moisture deficit. Properly managed, the irrigation system is expected to increase nutrient and moisture levels and moisture retention ability of the land while minimising the effect on groundwater quality.

The discharge of stormwater and wastewater is primarily managed by the Company via the Wastewater Management Plan, which defines operational, monitoring and reporting procedures. The plan is essentially 'response driven' in that changes in operation of the treatment system are made in response to regular performance evaluations based on monitoring results.

Figure 3 Wastewater irrigation areas and discharge area nomenclature

1.2.3 Discharges to air

The sources of aerial emission from the plant are a boiler for hot water production, the stockyards, the wastewater ponds, the wastewater irrigation system, and miscellaneous plant processes.

1.3 Resource consents

The Company currently holds five resource consents, the details of which are summarised in Table 1 below. Copies of all permits held by the Company during the period under review are included in Appendix I.

Table 1 Consents held by the Company in relation to their Waitōtara site

Consent number	Purpose	Granted	Review	Expires
Water abstraction permits				
2261-3.1	To take groundwater from three bores in the vicinity of the Waitōtara River for meat processing purposes	23 August 2016	June 2028	1 June 2040
10256-1.0	To take and use water from a spring for non-potable plant processes	14 December 2016	June 2025	1 June 2040
Water discharge permits				
5027-2	To discharge stormwater, defrost water and evaporative cooling water from a meat processing plant site into an unnamed tributary of the Waitōtara River	8 November 2010	-	1 June 2028
Air discharge permit				
4629-3.1	To discharge emissions into the air from various activities associated with meat processing operations	13 September 2017	June 2028	I June 2034
Discharges of waste to land				
2260-3.1	To discharge to land wastewater by spray irrigation, stockyard solid wastes and stabilised sludges by spreading, from meat processing operations in the vicinity of the Waitōtara River, including associated discharges to air	13/07/2017	June 2025	Superseded by 2260-3.2 in May 2024
2260-3.2	To discharge to land wastewater by spray irrigation, stockyard solid wastes and stabilised sludges by spreading, from meat processing operations in the vicinity of the Waitōtara River, including associated discharges to air	21 May 2024	June 2025	1 June 2034

The Company was notified of the Council's intention to review Consent 2260-3.1 in June 2022 as per the recommendations in the 2020/21 Annual Report.

The conditions that were added or amended were as follows:

- The inclusion of a condition defining and prohibiting ponding of wastewater (condition 6) This was in addition to the requirements of the Irrigation Land Management Plan (ILMP).
- The requirement for a Groundwater and Soil Management Plan (GSMP) (condition 7) for the purposes of maintaining the long-term suitability of groundwater and soils for future uses, including rural use of the soils and groundwater, and use of the Waiinu Water Supply. This includes information on trigger levels for various analytes
- The addition of conditions 8 to 11 to specifically address notification, remediation, reporting and monitoring requirements in the event that there are exceedances and any associated risks to the Waiinu Water Supply.
- The addition of condition 12 which specifies that a suitably trained officer is appointed to manage the spray irrigation system and the implementation of the Irrigation Management Plan and the GSMP.

1.4 Monitoring programme

1.4.1 Introduction

Section 35 of the RMA sets obligations upon the Council to gather information, monitor and conduct research on the exercise of resource consents within the Taranaki region. The Council is also required to assess the effects arising from the exercising of these consents and report upon them.

The Council may therefore make and record measurements of physical and chemical parameters, take samples for analysis, carry out surveys and inspections, conduct investigations and seek information from consent holders.

Monitoring at The Company's meat processing plant is carried out by both the Company and the Council. The purposes of monitoring are:

- to determine compliance with conditions on resource consents;
- to determine the effects on surface waters and groundwater, and air quality from the exercise of the resource consents; and
- to provide information for management of the wastewater disposal system.

The monitoring programme has developed with experience in operation of the plant. A comprehensive wastewater management plan has been prepared which specifically addresses monitoring of discharges to land.

1.4.2 Monitoring by the Company

Monitoring undertaken by the Company covers two main areas as described below.

Water abstraction

Groundwater level monitoring at Silver Fern Farms Waitōtara, was instituted as a requirement of Consent 9608-1.2, held by DR Wilson for abstraction of groundwater at a location across the Waitōtara River for irrigation of pasture. Consent 9608-1.2 requires that abstraction ceases if the water levels in the Company supply bores GND0585 (Bore 3a) and GND1195 (Bore 1) fall below 104m and 109m respectively.

Consent 2261-3.1 relates to abstraction from production Bore 1 (GND1195), Bore 2 (GND0230) and Bore 3a (GND0585). The daily abstraction volume is limited to 1,300m^3 (15.0L/s) in 24 hours, with a maximum rate of 20L/s. Consent 10256-1.0 relates to abstraction from the spring MP1 (GND1124). The daily abstraction volume limit for this source is 350m^3 in 24 hours, with a maximum abstraction rate of 4.4L/s.

Telemetry of the abstraction rate and bore water level was commissioned on 24 September 2014 and is monitored under Consent 2261-3.1. Continuous level monitoring data is required for the abstraction bores GND1195 (Bore 1), GND0230 (Bore 2), GND0585 (Bore 3a), and monitoring bore GND2593. The issues with the transmission of data that followed due to the reliability of the mobile telecommunications network in the area have been eased somewhat by transitioning to the Company's Supervisory Control and Data Acquisition (SCADA) System. However, to date there are on-going issues with the reliability of the capture and transmission of the groundwater level and abstraction data for the production bores and the level data for the monitoring bore. The Council is working with the Company to ensure that the remaining on-going monitoring and reporting issues are resolved.

Level loggers are also installed in water quality monitoring bores GND0686 (MP5) and GND3071 (MP8). The data are manually downloaded by Council staff who also obtain dip readings for quality control purposes.

Accurate water level information particularly from the monitoring bore (GND2593) is vital to inform the sustainability report that the Company is required to provide on a three yearly basis (condition 12 of Consent 2261-3.1). The latest report was received for the 2020-2023 period and was reported in the Council's 2022/23 compliance monitoring report.

Irrigation system management

The irrigation system is managed through monitoring and control of volumes of wastewater applied to approximately 77 runs across up to 25 paddocks at Longview Farm. Results of irrigation monitoring are reported to the Council annually. Prior to March 2019, irrigation also occurred on 23 irrigation fields at the plant's Waitōtara site.

In October 2009, the Company commenced monthly monitoring of the chemical composition of irrigated wastewater. This information is used to monitor nitrogen loading on irrigation areas.

If soil analysis indicates an imbalance in soil nutrients as a consequence of the application of wastewater to land, then the Company is required under a legal agreement with Longview Farm, to apply the appropriate supplementary corrective fertilisers. To more accurately estimate the total nitrogen loads at both irrigation areas, records are maintained by the Company of the nitrogen content in any fertiliser applied to the Waitōtara wastewater irrigation blocks. Longview Limited provide the Company with records of any nitrogen-based fertiliser that has been applied to the Longview Farm blocks used for wastewater irrigation.

The records kept include the name of fertiliser, the rate applied (kg N/ha), the irrigation block this has been applied to, and the date of application. Additional nitrogen loading from any fertiliser applications are also reported to Council, providing that the information from Longview Farm has been made available to the Company. The information associated with the discharge to land was received by 30 November 2024 as required by the Integrated Land Management Plan (ILMP), which states that the following information will be provided annually by this date:

- Dates of the maintenance shutdown periods;
- Results from the quarterly monitoring of the Te Kiri o Rauru spring;
- Details of wastewater application to land, including as a minimum:
    - Daily wastewater discharge volumes;
    - Volume and source of solid waste discharged;
    - Nitrogen loadings for each sector/block in kgN/ha/y.
- Results of any groundwater monitoring undertaken;
- Monthly wastewater sampling results;
- A summary of any complaints received by the Company and/or investigations undertaken; and
- Details of nitrogen-based fertiliser use.

Application of solids

Stockyard solids are applied to Stages 2 to 4 at the plant site in up to $4m^3$ loads at a variable frequency. The frequency of spreading is dependent upon the kill configuration, time of year and amount of same day kill. Spreading historically occurred every one to three days during full kills. Records are maintained of each application, with the total solids and total nitrogen concentrations determined four times per year in February, April, June, and December to allow the nutrient loadings to be calculated.

Stabilised sludge from ponds is also applied to Stages 2 to 4 at the plant site. Records are kept of the volume of material spread to land, and the total nitrogen and dry matter of the material is determined.

Soil analysis

Soil of the irrigated areas is tested biennially to determine top-dressing requirements for pasture nutrients and maintenance of soil structure. Under the new requirements of Consent 2260-3.2 this will occur annually. Samples are analysed for pH, Olsen phosphate, potassium, sulphate sulphur, calcium, magnesium, sodium, total nitrogen, phosphorus, ammoniacal nitrogen and nitrate nitrogen. The most recent round of sampling occurred in October 2024. The report is available from the Council upon request.

Te Kiri O Rauru Spring

When consent was sought from STDC in the 2011/12 monitoring year to provide for extension to the irrigation area on Longview Farm, consultation with tangata whenua, Ngaa Rauru Kiitahi, raised a concern about potential effect of the irrigation on a sacred spring, Te Kiri o Rauru, that is situated at the coast approximately 1,350m from the nearest part of the wastewater application area.

In response, the Company undertook to monitor the quality of water from the spring. Three monthly sampling, for turbidity, total coliforms and total nitrogen analysis, was initiated at the site identified by Te Kaahui o Rauru representative (Site Code GND2531). The spring seeps out at the base of an 8-10m high shell-rock face over a distance of about 100m at the shore.

To provide comprehensive background information, a sample of the spring taken by the Company on 24 September 2012 was analysed by the Council for a wide range of physicochemical parameters. Another sample, taken on 16 December 2012 about 30m west of the first sampling site, which had been covered by sand, was analysed by Council for microbiological quality. The results of this comprehensive background information is given in the 2012/13 Annual Report.

1.4.3 Monitoring by the Council

The consent monitoring programme for the Company's site undertaken by the Council consists of four primary components as described below.

Programme liaison and management

There is generally a significant investment of time and resources by the Council in:

- ongoing liaison with resource consent holders over consent conditions and their interpretation and application;
- discussion over monitoring requirements;
- preparation for any consent reviews, renewals or new consent applications;
- advice on the Council's environmental management strategies and content of regional plans and;
- consultation on associated matters.

Review of the Company's monitoring data

Monitoring data gathered by the Company are reviewed to determine compliance with resource consent conditions and to assess trends in water usage, groundwater levels, and in wastewater volumes and land application. During the year under review, the Company and the Council were working towards ensuring that 15 minute abstraction and water level data are reliably transmitted electronically to the Council daily. The remaining data is to be forwarded to the Council on or before 30 November each year, as per the ILMP.

Site inspections

An officer of the Council visits the Waitōtara plant site at quarterly intervals. The following areas are inspected:

- water supply and abstraction (bores and spring)
- wastewater treatment system
- land irrigation system
- by-product load-out and truck-wash areas
- stockyards
- processing facilities
- chemical and fuel/oil storage areas
- stormwater/road drains
- domestic sewage disposal

An off-site odour assessment is conducted in the vicinity of the plant and irrigation areas. Monitoring results, irrigation records and activities which may influence plant wastewater quality are discussed. The site neighbourhood is surveyed for environmental effects.

Hydrological inspections are conducted every two months to check accuracy and calibration of groundwater level sensors, to download level data from the Council's HOBOs which are installed within monitoring bores GND0686 and GND3071 and to assess the telemetry of water level and abstraction data. During the year under review, five hydrological site inspections were undertaken.

Chemical sampling

The composition of wastewater irrigated and groundwater around irrigation areas is monitored quarterly. The wastewater is analysed to determine its organic and mineral strength, particularly for calculation of nitrogen loading on irrigation areas. Wastewater samples are collected from a tap (IND003001) installed on the irrigation line in the pump shed adjacent to Pond 2. The wastewater is analysed from this pond rather than Pond 1 as it is used as the main holding pond. Pond 1 is used during an emergency i.e., when an issue with the irrigators or plant arises which necessitates the additional storage of wastewater for a period of time).

The site has eight groundwater monitoring bores one of which is dry (Figure 1 and Figure 2). The four monitoring bores near the plant are positioned approximately in a straight line running southward from the Waitōtara River towards the wetland which used to receive overflow from the wastewater holding ponds (pre 1999). The remaining points are downslope of the Longview Farm irrigation area. MP1(GND1124) is the spring from which water is drawn for stock and yard washing. The other five monitoring points (MP2-MP6) are piezometer bores which are located at the periphery of irrigation areas. MP7 and MP8 were installed in November 2019 to assess the risk to the Waiinu Beach municipal water supply. The locations of the bores are recorded in Table 2.

Table 2 Location of monitoring bores

Name	Site Code	Location	Bore depth (mbgl)	Grid reference, NZTM	
MP1	GND1124	Spring N (downgradient) of Stage 1 irrigation area, adjacent to Waitōtara River	-	1747905	55892552
MP2	GND000097	Piezometer, N (downgradient) corner of Stage 2 irrigation area	5.0	1748176	5588876
MP3	GND000098	Piezometer, S (upgradient) corner of Stage 2 irrigation area	5.8	1748231	5588618

Name	Site Code	Location	Bore depth (mbgl)	Grid reference, NZTM	
MP4	GND000099	Piezometer, NE (downgradient) of Stage 3/4 irrigation area, adjacent to wetland	11.6	1748351	5588498
MP5	GND0686	Piezometer, W (downgradient) of Longview irrigation area	6.0	1749098	5586785
MP6	GND2510	Piezometer, SE (downgradient) of Longview irrigation area	9.0	1750792	5586905
MP7	GND3070	Piezometer, W (downgradient) of Longview irrigation area	8.8	1748863	5587001
MP8	GND3071	Piezometer, W (downgradient) of Longview irrigation area and MP5. 180 m upslope of the Waiinu Beach municipal water supply bore.	12.0	1748921	5586644

Water samples are collected from the monitoring bores during the quarterly inspections to determine if irrigation of wastewater to land is having a significant effect on the chemistry of the underlying aquifer. As an extension to this monitoring, the Council where possible, collects an annual sample from Te Kiri o Rauru Spring. The results provide a comparison against the samples collected quarterly by Silver Fern Farms.

The Company's production site holds Consent 5027-2 to discharge stormwater, defrost water and evaporative cooling water into an unnamed tributary of the Waitōtara River. The pipe is scheduled to discharge at set intervals throughout the day. Discharge samples are obtained quarterly at a roadside drain adjacent to the site. Samples are collected from a location that will incorporate contributions from the discharge pipe and any stormwater the from carpark and the delivery area which feed into the roadside drain via two separate culverts.

2. Results

2.1 Water

2.1.1 Inspections

Four scheduled compliance inspections occurred during the 2023/24 monitoring period. A Company employee was in attendance during each inspection and water samples were obtained at each visit. One advice and information session was also recorded.

No significant environmental issues were noted during the four inspections. At the time of the December 2023 inspection, the plant was operating five days per week. The travelling irrigator was running and there was no evidence of ponded wastewater. Monitoring bore MP7 was inspected and was dry, therefore no samples were obtained from this bore. The discharge of defrost and evaporative cooling water to the roadside drain appeared clear and uncoloured. No odour was noted.

During the April 2024 inspection, the plant was processing 1,300 to 2,000 lambs daily. A crust was noted over wastewater pond 1, the second was close to capacity with limited freeboard and required emptying. The first of the travelling irrigators had completed its run and no ponding was evident. No objectionable odour was noted.

No odour was noted during the June 2024 inspection. The second wastewater pond required emptying. Neither of the travelling irrigators was operating. At the July inspection, both MP7 and MP8 were dry, therefore groundwater samples could not be collected from these bores. No odour was noted around the site. No irrigation occurred during the June and July 2024 inspections.

Advice & information

On the 5 June 2024, the Council received an email from the Company to advise that due to a break in communication between Bore 3a (GND0585) and the SCADA system, the Company was unable to comply with special condition 3 of Consent 2261-3.1 which states that *"Records of the date, the time and the rate and volume of water taken at intervals not exceeding 15 minutes shall be made available to the Chief Executive, Taranaki Regional Council at all reasonable times"*. Data between the dates of 29/05/2024 and 05/06/2024 were lost and were not recoverable. Communication between Bore 3a and SCADA was subsequently re-established.

2.1.2 Results of water abstraction monitoring

2.1.2.1 Flow meter verification

The Company installed new meters for each of the water abstraction pumps with data being telemetered to the Council from 24 September 2014. Previously, weekly records had been kept. The meters are calibrated every five years by a suitably qualified independent person. The certification status of the flowmeters for the 2023/24 monitoring year is recorded in Table 3.

Table 3 Abstraction flowmeter calibration history

Site ID		Date Certified	Result	Next certification due
Bore 1	GND1195	7 November 2024	PASS	7 November 2029
Bore 2	GND0230	7 November 2024	PASS	7 November 2029
Bore 3a	GND0585	7 November 2024	PASS	7 November 2029
Spring	GND1124	7 November 2024	PASS	7 November 2029

2.1.2.2 Groundwater abstraction

Total daily abstraction volumes for the 2023/24 monitoring period are shown in Figure 4 (production bores) and Figure 8 (spring). The Company notified the Council that there was a disruption to the SCADA system, therefore data was not recoverable for GND0585 (Bore 3a) for the period 29/05/2024 to 5/06/2024. The combined data represented for the bores in the Figures below will not incorporate the contribution of GND0585 for this period.

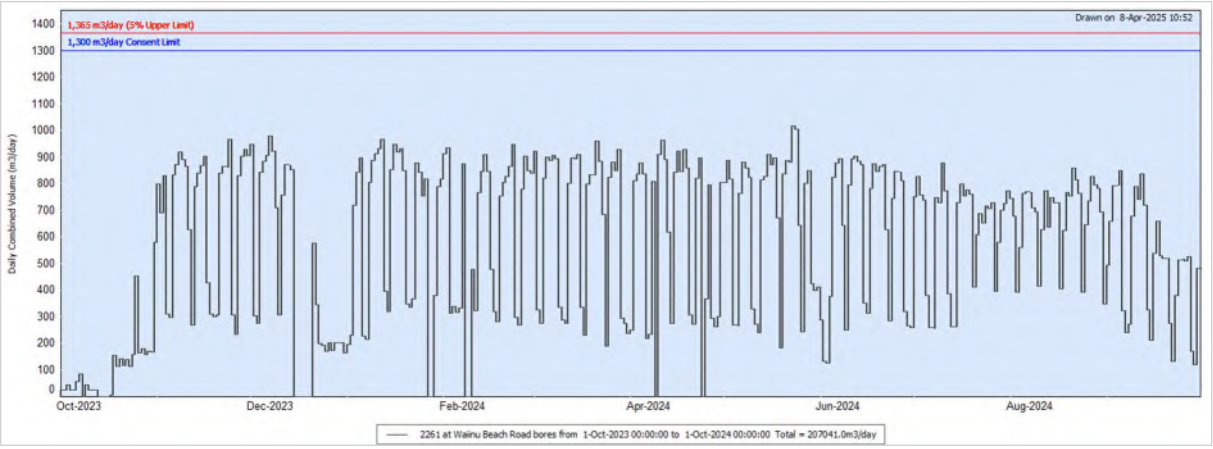

Figure 4 Daily abstraction volume for production bores (Consent 2261-3), 1 October 2023 to 30 September 2024

Throughout the monitoring period, the daily abstraction volume from the production bores was within the designated limit of 1,300m³/d as required by condition 1 of Consent 2261-3.1. The maximum daily abstraction volume of 1,018.00m³ was recorded on 24 May 2024.

The total volume abstracted from the production bores and the spring from 1 October 2023 to 30 September 2024 was approximately 241,018.0m³. 207,041.0m³ was taken from the deep aquifers (Consent 2261-3) and 33,977m³ from the spring beside the Waitōtara River (Consent 10256-1).

Monthly maximum total instantaneous abstraction rates (L/s) for the production bores are presented in Table 4, with the average daily values per month shown for comparison. The instantaneous abstraction data is presented graphically in Figure 5, the frequency of instantaneous exceedances is presented in Figure 6.

Table 4 Monthly average and maximum 15minute average groundwater abstraction rates for production bores 2023/24, 2261-3.1

Month	Average daily abstraction (L/s)	Maximum combined 15 minute data abstraction (L/s)	Number of days per month total 15 minute abstraction limit exceeded	
			Over limit (20.0L/s)	Over limit+9% (21.8L/s)
October 2023	1.25	22.4	3	3
November 2023	7.79	21.8	27	0
December 2023	4.86	21.5	19	0
January 2024	7.22	21.9	21	1
February 2024	7.55	21.6	21	0
March 2024	7.60	21.4	20	0
April 2024	7.56	21.5	17	0
May 2024	7.63	21.3	17	0
June 2024	7.13	21.3	13	0
July 2024	7.28	21.6	21	0
August 2024	7.72	21.2	24	0

Month	Average daily abstraction (L/s)	Maximum combined 15 minute data abstraction (L/s)	Number of days per month total 15 minute abstraction limit exceeded	
			Over limit (20.0L/s)	Over limit+9% (21.8L/s)
September 2024	5.75	21.6	13	0

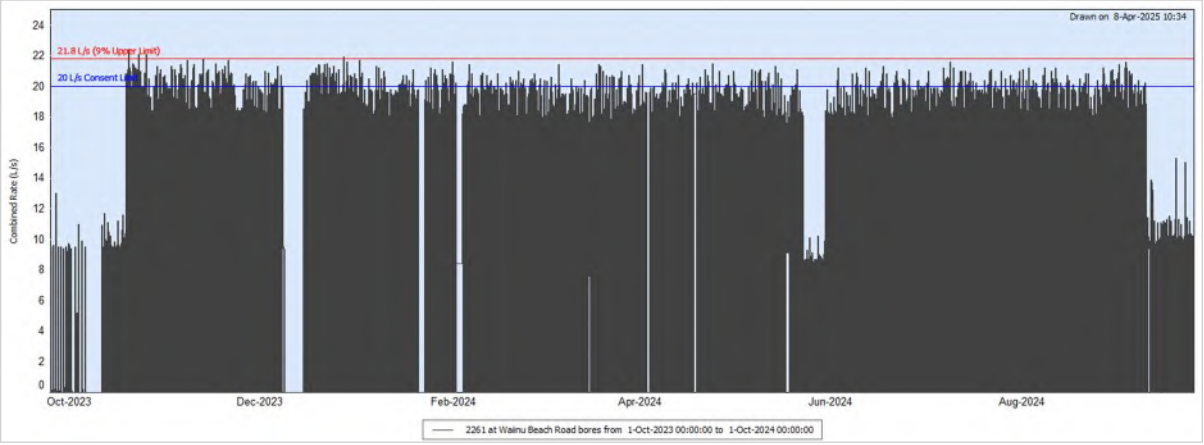

Figure 5 Instantaneous 15minute abstraction rate for production bores (Consent 2261-3), October 2023 to September 2024

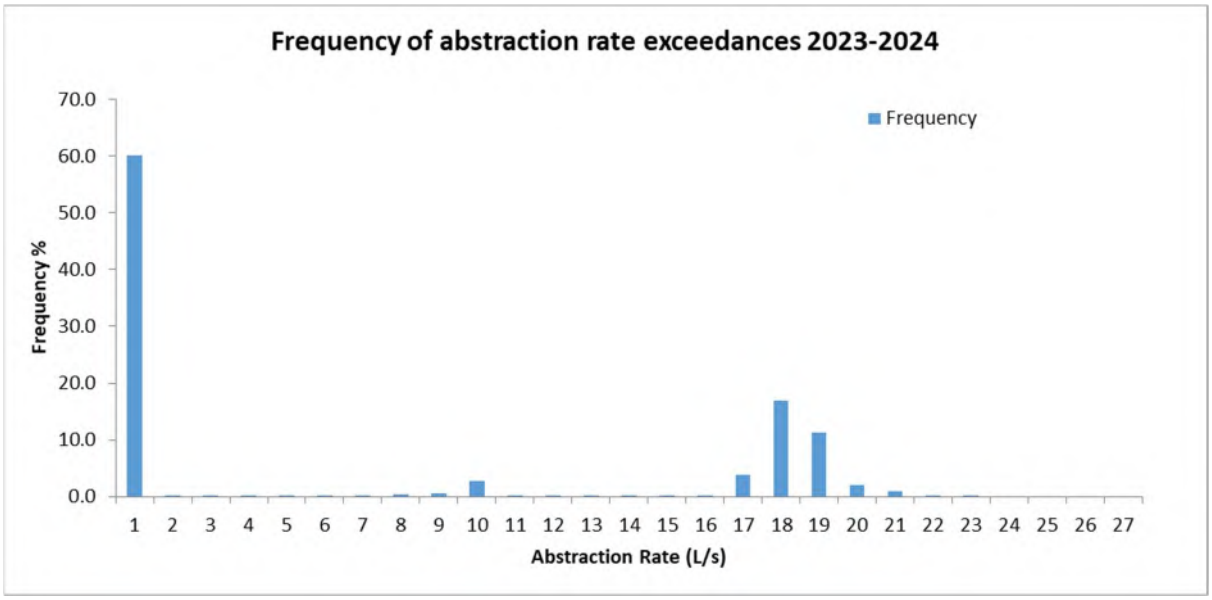

Figure 6 Frequency of abstraction rate exceedances for 2023/24

During the 2023/24 monitoring year, the maximum instantaneous abstraction limit of 20L/s was exceeded on 216 days and the 21.8L/s limit which accounts for a 9% combined propagation error for the three flowmeters was exceeded on four days. Although there were several days during which the combined abstraction rate exceeded the 20L/s and 21.8L/s limits, the frequency of the instantaneous exceedances for the monitoring year was low. The 20L/s limit was exceeded 1.26% of the year and the 21.8L/s limit was exceeded 0.23 % of the year.

2.1.2.3 Groundwater level monitoring

In the 2023/24 year, there were numerous issues relating to the capture and provision of water level monitoring data to the Council. Data recorded at GND1195 flatlined for the majority of the period from February 2024 until the remainder of the monitoring year. The level for GND0230 flatlined for the entire monitoring year. Although GND0230 is ear marked as a backup bore and levels are not expected to

fluctuate as significantly as those in actively used bores, some variation may be reflected in response to the draw down effect produced by other production bores in the near vicinity. In the previous annual report it was noted that no level data had been provided since March 2022 for the monitoring bore (GND2593). This remained the case for the 2023/24 monitoring year.

The quality check (manual dip) water levels recorded at two of the eight monitoring bores (GND0686 and GND3071) during the hydrological inspections aligned well with the Council's HOBO level data. Figure 7 demonstrates a short hiatus in the data record. This occurred because the logger was temporarily removed to replace the battery. Overall, the levels in the two bores reflect the same fluctuation trend over the monitoring year.

The Council continues to work with the Company to ensure that all issues relating to the reliable and accurate recording of data and its provision to the Council are resolved.

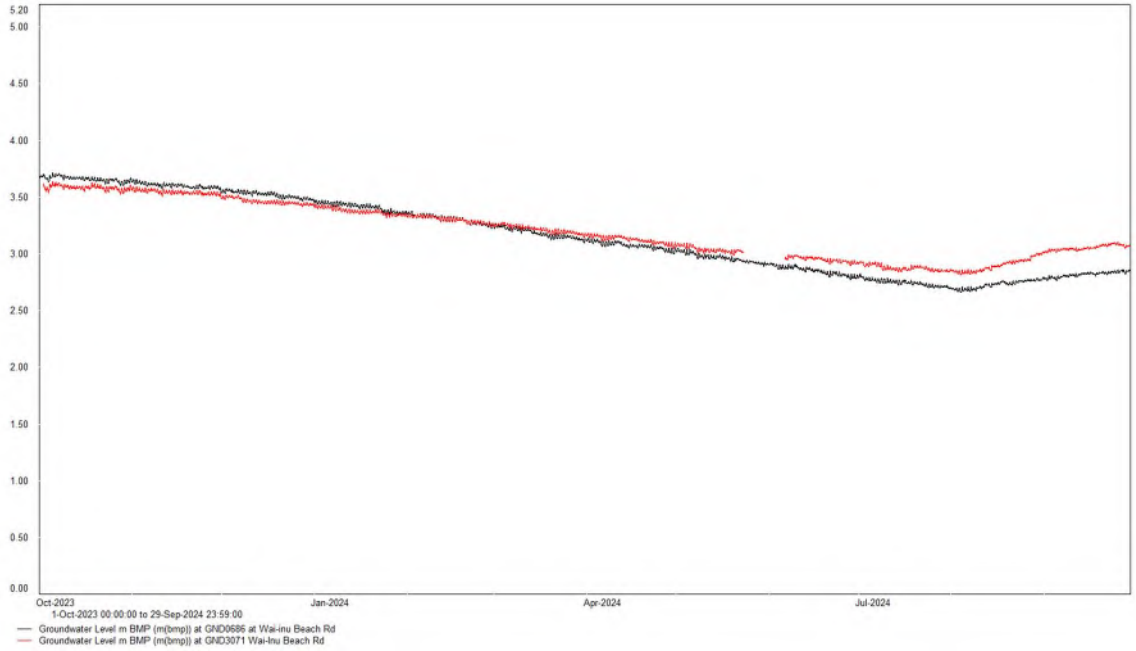

Figure 7 Water level at water quality monitoring bores GND0686 and GND3071

2.1.2.4 Spring (GND1124)

Figure 8 and Figure 9 present the daily abstraction volume and the abstraction rate for the 2023/24 monitoring year.

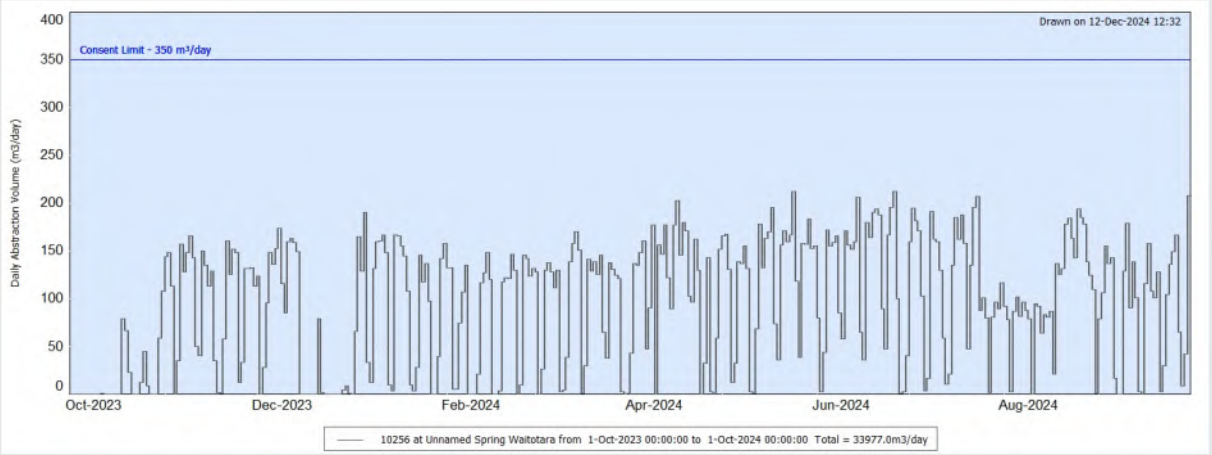

Figure 8 Daily abstraction volume from the spring (Consent 10256-1), October 2023 to 30 September 2024

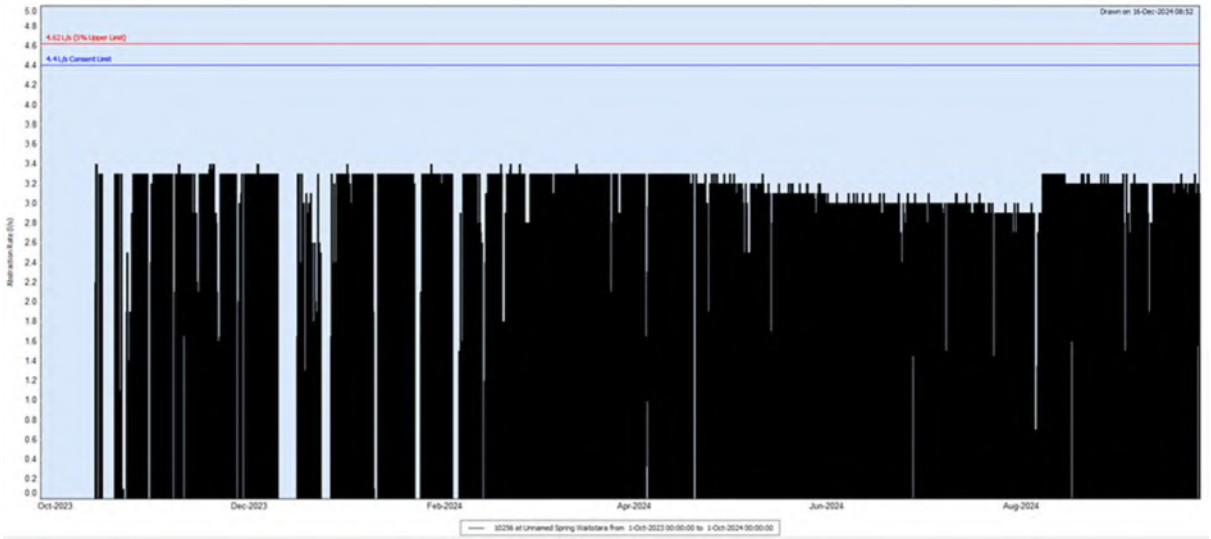

Figure 9 Spring abstraction rate data, 1 October 2023 to 30 September 2024

The maximum abstraction volume recorded on the 25 May 2024 was 212m^3 over a 24-hour period. This value falls well within the consented limit of 350m^3/day. The abstraction rate was within consented limits for the duration of the monitoring year (Figure 9).

2.1.3 Results of discharge monitoring

2.1.3.1 Wastewater monitoring

Irrigation volumes

Records of the volume of wastewater irrigated at the Company's site have been supplied by the Company in accordance with the Wastewater Management Plan. The reported total volume irrigated for the 12month period ending 30 September 2024 was approximately 170,329.2m^3. This is greater than the 124,894m^3 which was discharged in the 2022/23 monitoring year. The increase was due to the site having a shorter maintenance shutdown period as another site was required to redirect their stock to Waitōtara following operational constraints.

As in previous years, there is a reduced amount of wastewater irrigated when this is compared to the volume abstracted. In the year under review there was 80,175.80m^3 of water abstracted that was not irrigated onto land. Some of the reasons put forward by the Company for the difference in the volumes abstracted and discharged are:

- Not all waste streams are directed to wastewater for disposal, for example domestic sewage;
- Loss of boiler-generated steam to atmosphere;
- Discharged as defrost or cooling water;
- Residual water held within storage tanks.

Wastewater composition

The results from the Council's chemical monitoring of irrigation wastewater are presented in Table 5.

Table 5 Chemical monitoring results for the irrigation pond (IND003001) 1 October 2023 to 30 September 2024

Parameter	Units	18 Dec 2023	30 Apr 2024	7 Jun-2024	3 Jul 2024
Time	NZST	10:20	10:57	11:08	11:39
Temperature	°C	22.6-	21.0	16.7	8.7
Electrical Conductivity	µS/cm	1,478	1,514	1,625	1,597
pH	pH units	7.8	7.1	7.4	7.1
Suspended solids	g/m^3	152	390	44	18
COD	g/m^3	250	390	220	230
Total nitrogen	g/m^3N	99	97	102	95
Ammoniacal nitrogen	g/m^3N	85	90	89	89
Total Kjeldahl nitrogen	g/m3	99	97	102	95
Nitrate + Nitrite	g/m^3N	<0.02	0.09	0.06	<0.02
Chloride	g/m^3	72	77	79	76
Total phosphorus	g/m^3P	17.7	17.8	18.5	16.7
Total sodium	g/m^3	108	109	118	117
Total potassium	g/m^3	88	101	121	131
Total calcium	g/m^3	26	31	24	24
Total magnesium	g/m^3	5.2	6.7	6.1	5.8
SAR	-	5.1	4.6	5.5	5.5
KAR	-	2	3	3	4
E. coli	MPN/100mL	173,300	231,000	275,000	2,910,000

Key: – not recorded

In general, the strength of the irrigated wastewater, in terms of mineral and nitrogen content (conductivity and total nitrogen), was similar to that of the previous monitoring year. The organic strength of the wastewater represented by Chemical Oxygen Demand (COD) was also similar to the previous monitoring year.

The annual total nitrogen average of the 12 lab samples collected by the Company that are used to calculate the irrigation loadings was 84.95g/m^3 N. An average value of 98.25g/$m^3$was recorded for the four compliance monitoring samples collected by the Council over the same period. The samples were collected at different times and are processed by different laboratories. The range of results obtained is reasonably similar. To obtain more meaningful comparisons, it is desirable that the Council and the Company synchronise some of the sampling runs to create an Interlaboratory (Interlab) comparison.

The Sodium Adsorption Ratio (SAR) was generally below six according to the Council's monitoring results and below 5 according to the Company's monitoring results. On one occasion, the SAR level was recorded as 14.64, which almost equalled the consented limit of 15.

Nitrogen loading

Nitrogen loading on the irrigation areas is expressed as kilograms of nitrogen per hectare per year (kgN/ha/y). Based on the reported irrigation volumes and wastewater total nitrogen concentrations provided by the Company, the nitrogen loading for the fields on Longview Farm in 2023/24 ranged from 9.2 to 285.3kgN/ha/y. No wastewater irrigation occurred on 4 of the irrigation runs.

Adjacent to the plant (Waitōtara) nitrogen loading ranged from 23.6 to 200.7kg/ha/y, which was all from the discharge of stockyard solids. There were no discharges of wastewater or stockyard solids to Stages 1 and 3

The loadings did not exceed the operational target of 300kgN/ha/y on any field during the period under review.

2.1.3.2 Groundwater monitoring

The results of the physicochemical analysis of the quarterly samples obtained from the eight groundwater monitoring points is presented in Table 6 and Table 7. No samples were obtained from MP7 during the 2023/24 monitoring period as the bore was dry on all sampling occasions.

Table 6 Water quality results for monitoring bores Waitōtara area, 1 October 2023 to 30 September 2024

Date	Site	Water level	Temperature	Conductivity 25°C	pH	COD	Ammoniacal nitrogen	Nitrate + Nitrite	Chloride	Calcium	Magnesium	Potassium	KAR	Sodium	SAR	*E. coli*
		m	°C	µS/cm		g/m³	g/m³N	g/m³N	g/m³	g/m³	g/m³	g/m³	mmol/L	g/m³		MPN/100 mL
18 Dec 2023	MP1	-	15.7	722	8.0	8	7.5	4.0	47	71	8.8	31	0.5	42	1.2	34
	MP2	2.64	17.1	567	8.0	16	< 0.010	4.3	12.9	81	7.1	32	0.5	13.9	0.4	1
	MP3	2.56	16.0	483	7.9	10	0.032	2.6	24	72	5.5	13.0	0.2	13.6	0.4	<1
	MP4	5.25	16.2	488	7.9	8.0	<0.010	2.9	29.0	74	4.7	7.5	<0.2	15.2	0.5	<1
30 Apr 2024	MP1	-	15.7	663	8.0	20	6.0	4.0	51	71	8.9	30	0.5	39	1.1	70
	MP2	3.012	16.5	597	8.1	12	<0.010	4.0	16.4	92	8.2	34	0.5	15.8	0.4	<1
	MP3	3.01	16.1	600	8.0	8.0	0.174	1.52	46	91	6.5	16.5	0.3	23	0.6	<1
	MP4	5.8	15.7	630	8.1	10	0.021	1.76	42.0	93	6.9	10.9	<0.2	34.0	0.9	<1
7 Jun 2024	MP1	-	15.5	725	7.6	22	7.8	3.2	52	69	9.0	31	0.5	43	1.3	61
	MP2	3.02	15.3	625	8.0	18.0	<0.010	4.5	18.1	87	8.1	34	0.5	14.3	0.4	<1
	MP3	3.02	15.4	468	8.1	9.0	0.013	2.5	22	72	5.0	13.2	0.2	13.8	0.4	<1
	MP4	5.99	15.2	604	8.0	15	<0.010	3.2	48.0	88	6.0	9.5	<0.2	29.0	0.8	<1
3 Jul 2024	MP1	-	15	718	7.6	<6	7.6	3.5	51	72	9.5	33	0.6	44	1.3	131
	MP2	3.03	11.4	605	7.6	10	<0.010	3.7	20.0	94	8.8	35	0.5	15.3	0.4	<1
	MP3	3.03	14.5	533	7.8	10	0.039	2.5	34	86	6.0	15.8	0.2	19.7	0.4	<1
	MP4	6.00	14.9	603	7.7	16.0	<0.010	3.0	47	90	6.4	8.9	<0.2	32.0	0.9	<1

Key: – not recorded

Table 7 Water quality results for monitoring bores on the Longview irrigation area from 1 October 2023 to 30 September 2024

Date	Site	Water level	Temperature	Conductivity 25°C	pH	COD	Ammoniacal nitrogen	Nitrate + Nitrite	Chloride	Calcium	Magnesium	Potassium	KAR	Sodium	SAR	*E. coli*
		m	°C	µS/cm		g/m³	g/m³N	g/m³N	g/m³	g/m³	g/m³	g/m³	mmol/L	g/m³		MPN /100 mL
18 Dec 2023	MP5	4.47	15.5	679	7.9	6	<0.010	11.7	26	97	10.6	1.79	<0.2	29	0.7	<1
	MP6	5.77	15.2	913	7.8	<6	<0.010	5.2	107	132	11.2	3.0	<0.2	41	0.9	1
	MP8	4.66	15.5	746	7.9	<6	<0.010	7.9	41	100	12.3	2.6	<0.2	42	1.1	6
30 Apr 2024	MP5	4.99	15.7	674	8.1	<6	<0.010	7.9	26	108	11.7	1.66	<0.2	31	0.8	<1
	MP6	6.03	15.4	972	7.9	<6	<0.010	5.2	132	164	12.9	3.2	<0.2	46	0.9	<1
	MP8	5.00	15.7	736	7.6	<6	<0.010	8.1	45	106	13.1	2.6	<0.2	45	1.1	<1
7 Jun 2024	MP5	5.01	15.5	695	7.9	<6	<0.010	9.0	28	103	11.2	1.85	<0.2	29	0.7	<1
	MP6	6.04	15.3	1012	7.8	15	<0.010	5.0	135	146	12.6	3.2	<0.2	48	1.0	<1
	MP8	5.03	15.2	747	7.9	<6	<0.010	7.8	45	101	12.3	2.5	<0.2	45	1.1	<1
3 Jul 2024	MP5	5.02	14.5	679	7.6	<6	<0.010	7.0	27	108	11.8	1.90	<0.2	30	0.7	<1
	MP6	6.48	14.1	1028	7.5	<6	<0.010	4.8	136	168	14.4	3.3	<0.2	52	1.0	<1
	MP8	5.17	15.1	745	7.5	<6	<0.010	7.9	47	100	11.9	2.3	<0.2	45	1.1	<1

Key: Red numbers indicate an exceedance of the 11.3mg/L nitrate limit in the Drinking Water Standards (DWS)

The parameters of most interest regarding the wastewater disposal system and its effects on the surrounding environment are the nitrogen species (nitrate and ammonia), the organic strength (COD), and the conductivity. The new requirements for Consent 2260-3.2 specify trigger levels for Nitrate-N (11.3mg/L), COD (400g/m^3), Total-N (20g/m^3), Ammoniacal-N (15g/m^3), Sodium (200g/m^3) and Phosphorus 50g/m^3. It must be noted that the chemical composition of the spring water (MP1) is likely to be affected by surface activities including farming.

In 2023/24, the nitrate concentration did not show significant seasonal variation. For all sites, Council sampling results show that levels ranged between 1.52 and 11.7g/m^{3}N (Figure 13). This range was wider than that of the previous monitoring year (2.9 and 4.8g/m^{3}N). The nitrate-nitrite value recorded on 18 December 2023 for MP5 was 11.7g/m^3 which exceeded the 11.3mg/L DWS limit. The Company's self-monitoring results ranged between 1.53 to 12.6g/m^3. The nitrite-nitrate values for MP5 were 12/gm^3 or above on three sampling occasions (15/08/2024; 27/08/2024 and 10/09/2024).

The ammoniacal nitrogen concentration ranged from <0.010 to 7.8g/m^3; the Company's self-monitoring results ranged from <0.010 to 15.8g/m^3. The ammoniacal concentration in the spring water (MP1) samples decreased from the levels recorded in the previous monitoring year but overall showed an increasing trend when appended to a longer-term dataset (Figure 11).

The Council's COD results ranged from <6 to 747g/m^{3}O^2. The Company's results showed a smaller variation in range from <20 to 161g/m^{3}O^2. The annual results for conductivity, ammoniacal nitrogen and nitrate-nitrite nitrogen have been appended to the results of previous monitoring years to extend the dataset and reveal longer term trends (Figure 10, Figure 11 and Figure 12).

The *E. coli* results for the Council's four sampling rounds were generally recorded as <1MPN/100ml, except for the spring (MP1) which recorded values of 34 to 131MPN/100ml. The Company's self-monitoring results for MP1 showed that the *E. coli* levels were between 32 to >200cfu/100ml, Faecal coliform levels were

generally greater than 70cfu/100ml and total coliforms were greater than 200cfu/100ml on all sampling occasions.

According to the Company's self-monitoring results, the trigger level for Sodium was exceeded on one occasion during the monitoring period under review.

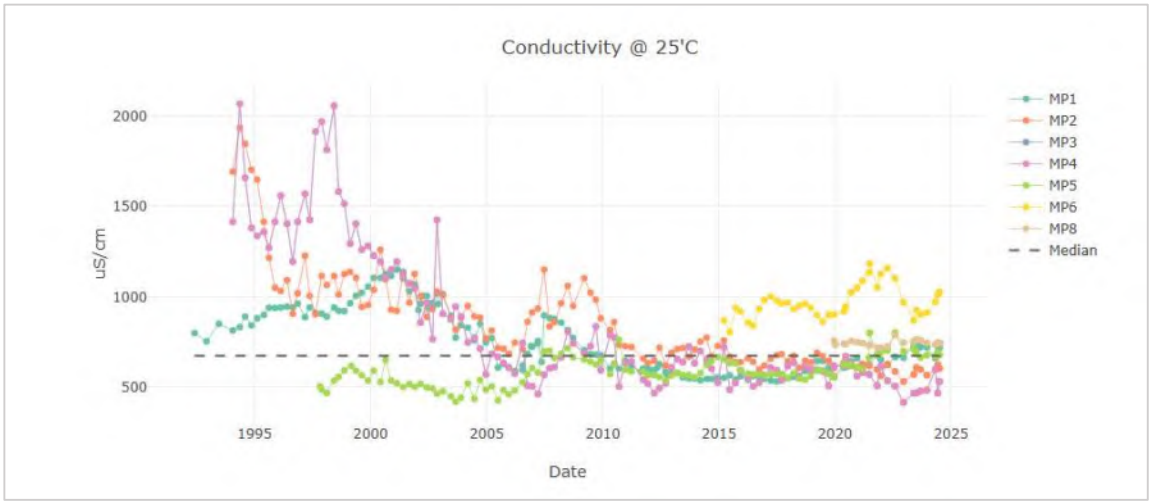

Figure 10 Conductivity at groundwater monitoring points, 1994-2024

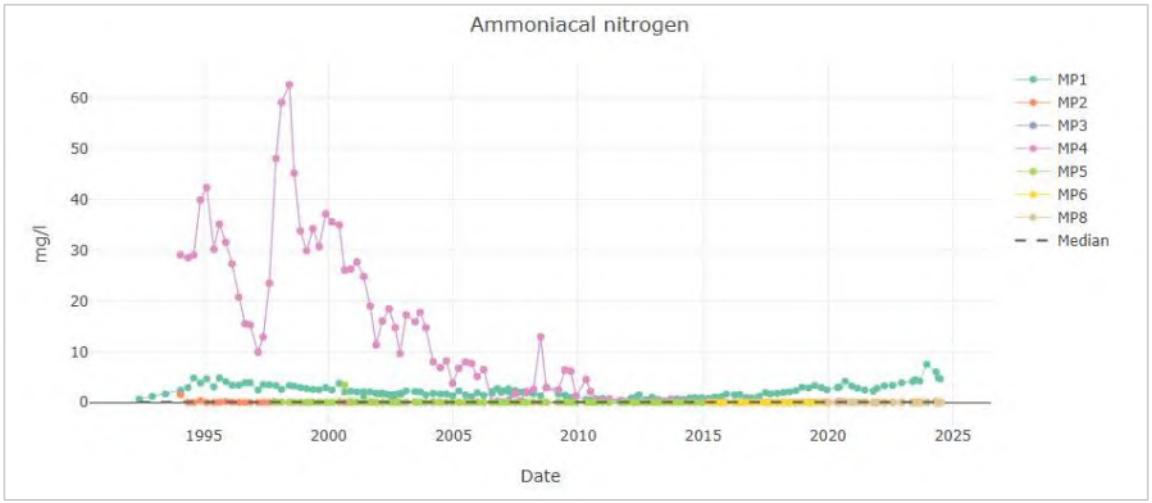

Figure 11 Ammonia at groundwater monitoring points, 1994-2024

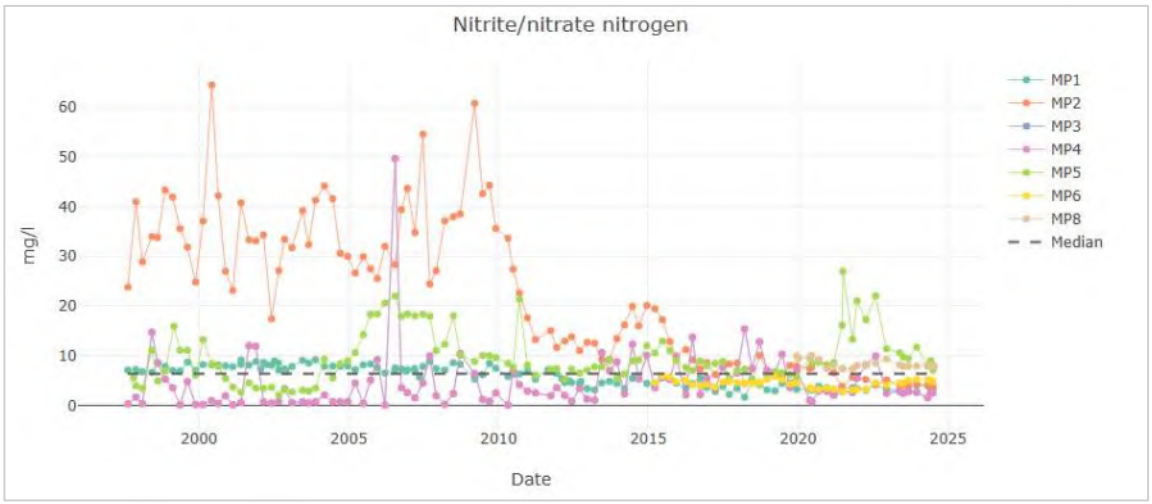

Figure 12 Nitrate at groundwater monitoring points, 1994-2024

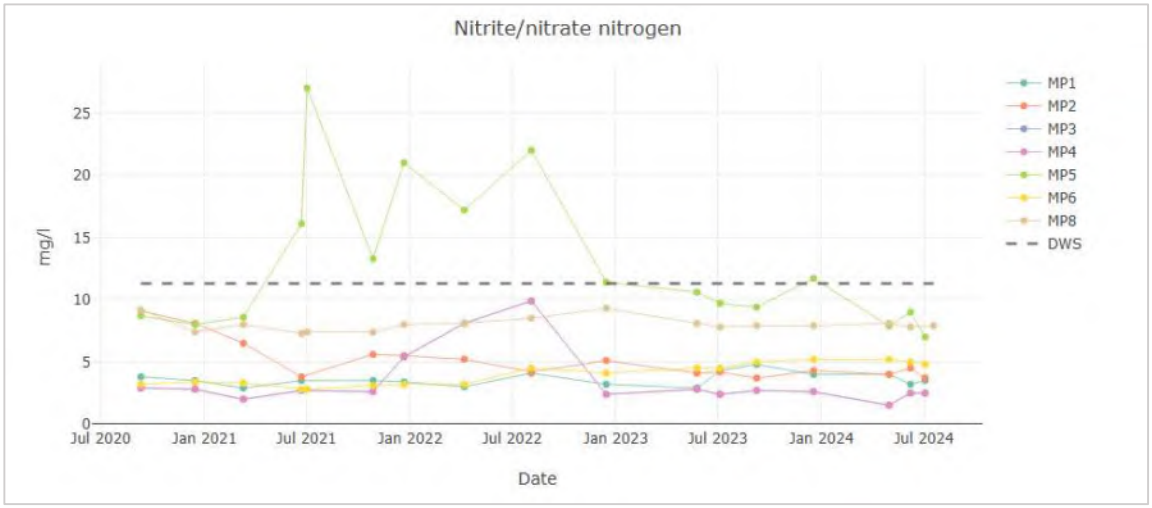

Figure 13 Nitrate at groundwater monitoring points in the 2019-2024 monitoring years. The black line represents the drinking water standard for nitrate

Waitōtara bores (MP2, MP3, MP4)

Historically, the groundwater quality at MP2 appeared to respond relatively quickly to changes in wastewater loading on the Stage 2 irrigation area. This is consistent with rapid infiltration of wastewater infiltration through approximately 2 m of sandy soil to the underlying water table. The significant fall in nitrate concentration during the 2010/11 monitoring period in MP2 (Figure 11), occurred in response to reduced irrigation volumes. During the period of reduced irrigation on the paddocks in the vicinity of the factory site (2011-2019 years), the nitrate concentration ranged between about 10 and 20g/m^{3}N. The nitrate nitrogen concentration in this bore reduced again following the cessation of wastewater irrigation on the paddocks at the factory site at the end of the 2018/19 season. No wastewater irrigation has occurred on the paddocks at the factory site from the 2019/20 season onwards. During the current monitoring period, levels in MP2 were below 5g/m^{3}N (Figure 13). The results of the self-monitoring undertaken by the Company have found a similar nitrate concentration to be present in the groundwater collected from this bore. The levels of ammonia present have continued to be very low.

At MP3, up-gradient of stage 2 area and down gradient of Stage 4, the effects of wastewater disposal via the old soakage trench and wetland have been apparent in the historical results. The improvement in water quality is attributed to the soakage trench and wetland no longer being used for discharge. The reduction is also consistent with the movement of wastewater through saturated soil, such as would occur below a soakage trench or wetland. After development of Stage 4 irrigation area in January 2013, nitrate concentration had lifted, with seasonal variation from 2 to 15g/m^{3}N, and generally peaking in winter. The results of the Council's monitoring during the 2023/24 year showed that the nitrate concentration was relatively stable, with a peak value of 2.6g/m^{3}N recorded in December 2023 and 1.52g/m^{3}N being the lowest value recorded in April 2024. This was a similar trend to the 2022/23 year when the nitrate concentration at MP3 over the monitoring period was below 3g/m^{3}N. The maximum nitrate nitrogen found in this bore during the monthly sampling undertaken by the Company was 3.53g/m^{3}N. Although the nitrate concentrations have decreased substantially in MP3 since the early 1990s, there had been occasions in the 2017-2019 years when the drinking water standard was exceeded. This was a cause for concern as it represented an adverse impact on the groundwater quality in the vicinity of the plant. In the 2019-2023 monitoring years, there was only one breach of the NZ drinking water standard in bores near the factory site (MP4 on 15 December 2020). Although wastewater has not been applied to these areas since 2019, stockyard solids and stabilised sludge are still applied to this area.

Historically, the effects of wastewater disposal have been recorded at MP4, the site closest to the wetland. The concentrations of several groundwater parameters (sodium, potassium, alkalinity and chloride) were similar to those in the wastewater itself, until after disposal of wastewater to the area ceased in 1999. Subsequently, nitrate concentrations were generally low, with a gradual increase after the development of Stage 4 irrigation area in January 2013. The results of the Council's and the Company's nitrate monitoring during the period under review complied with the NZ drinking water standard. The nitrate nitrogen results obtained by the Council were in the range of 1.76 to 3.2g/m^3N, with the Company recording results in the range 1.53 to 3.9g/m^3N.

Longview Farm bores (MP5 to MP8)

Groundwater quality at MP5, downslope of the western side of Longview Farm irrigation area, was monitored for two years before irrigation commenced there in January 1999 and showed considerable variation in nitrate concentration (4 to 16 g/m^3N) during that period. During the period under review, the nitrate nitrogen concentration generally continued to decline following the large spike recorded in July 2021 (Figure 13). However, the Council's monitoring identified an exceedance of the DWS (11.7g/m^3N) in December 2023. Of the 23 samples collected by the Company at this site, levels above 12g/m^3N were detected on three consecutive sampling rounds. These results exceeded the DWSNZ. Overall, the frequency of exceedances has reduced from nine out of 24 recorded in the previous monitoring year.

MP6 was established on 1 February 2015 in the new irrigation area on the south-eastern side of Longview Farm, where irrigation commenced in September 2012. Conductivity was higher than at the other groundwater monitoring sites and this has remained the case during the current monitoring year. According to the Council's sampling results, the nitrate concentration has generally remained between 2.8 to 6.0g/m^3N since monitoring commenced. During the year under review, the Council and the Company's combined results ranged from 4.8 to 9.8g/m^3N.

Bore MP7 did not intercept water when it was drilled in 2019 and has remained dry or with insufficient water to collect a sample during the period under review. Monitoring of this bore will continue to determine whether seasonal fluctuations in water level occur.

Bore MP8 has been sampled approximately quarterly by the Council and approximately monthly by the Company, since the 2019/20 year. In the 2020/21 year the Company recorded nitrate concentrations of up to 11.4g/m^3N, in exceedance of the DWSNZ. As a result, the Company increased the sampling frequency for this bore to approximately fortnightly, with 23 samples collected during the year under review. Data provided to the Council for the 2023/24 monitoring year indicated that the nitrate nitrogen concentration recorded by the Company was in the range of 5.1 to 11g/m^3N. Values for the Council's monitoring ranged from 7.8 to 8.1g/m^3N during the same timeframe.

2.1.3.3 Te Kiri o Rauru spring

During the period under review the Company collected samples approximately quarterly intervals. Due to naturally low flow conditions, the samples could not be collected aseptically as they had to be obtained from pooling water below the spring outlet. A summary of results is presented in Table 8 and Table 9.

Table 8 Chemical composition of Te Kiri o Rauru Spring (SFF self-monitoring)

Parameter		Range 2023/24	Range 2022/23	Range 2021/22
Total nitrogen	g/m^3	<2.5-<4	1.0 <2.5 – (1.2)	<2.5 – (<3)
Total coliforms	Cfu/100ml	19->200	9 – 65 (31)	<1- >200
Turbidity	NTU	0.8-1.7 (1.5)	2.8 – 4 (3.4)	0.35 – 1.6 (0.95)

Average of all samples is shown in brackets.

Table 9 Chemical composition of Te Kiri o Rauru Spring (TRC monitoring)

Parameter		18/07/2024
Chloride	g/m^3	57
Faecal coliforms	MPN/100ml	<2
Escherichia coli	MPN/100ml	<2
Turbidity	FNU	1.06
pH	pH Units	7.6
Nitrate-N + Nitrite-N	g/m3	1.98
Electrical conductivity	uS/cm	65.5

The Company's sample results showed no indication that the spring had been influenced by the wastewater irrigation, with generally low total nitrogen values in all samples. Water quality was generally similar to 2021/22. The Council's annual sample result showed a low value of Faecal coliforms and *E. coli* which specifically inhabit the gut of warm-blooded species and therefore serve as indicators of potential faecal contamination of groundwater arising from the irrigation of wastewater to land. The nitrate-nitrogen value was below the DWS.

2.1.3.4 Stormwater, defrost water and evaporative cooling water

The results of the chemical sampling for the discharge of stormwater, defrost water and evaporative cooling water are presented in Table 10.

Table 10 Stormwater, defrost water and evaporative cooling water chemical analysis 1 October 2023 to 30 September 2024 (WTT00437)

Parameter	Units	18 Dec 2023	30 Apr 2024	7 Jun-2024	3 Jul 2024
Time	NZST	11:35	12:25	12:31	11:13
Temperature	°C	26.9	19.7	36.6	14.9
Electrical Conductivity	µS/cm	391	331	337	245
Oil & Grease	g/m^3	<4	<4	5	<4
pH	pH units	8.4	8.3	8.3	7.9
Suspended solids	g/m^3	3	21	<3	4
Turbidity	NTU	1.85	6.3	1.24	7.3

On all sampling occasions, chemical analysis showed that samples collected at WTT00437 were compliant with consented limits.

2.2 Air

2.2.1 Inspections

The sources of aerial emission from the plant are a boiler for hot water production, the stockyards, the wastewater ponds, the wastewater irrigation system, and miscellaneous plant processes. Routine inspections of the site were conducted on four occasions, as described in Section 2.1.1.

The site and irrigation activities were found to be well managed with regard to odours. Odours were not noticeable beyond the site boundary during any of the inspections.

2.3 Investigations, interventions, and incidents

The monitoring programme for the year was based on what was considered to be an appropriate level of monitoring, review of data, and liaison with the Company. During the year matters may arise which require additional activity by the Council, for example provision of advice and information, or investigation of potential or actual causes of non-compliance or failure to maintain good practices. A pro-active approach that in the first instance avoids issues occurring is favoured.

The Council operates and maintains a register of all complaints or reported and discovered excursions from acceptable limits and practices, including non-compliance with consents, which may damage the environment. The incident register includes events where the individual concerned has itself notified the Council. The register contains details of any investigation and corrective action taken.

Complaints may be alleged to be associated with a particular site. If there is potentially an issue of legal liability, the Council must be able to prove by investigation that the identified company is indeed the source of the incident (or that the allegation cannot be proven).

Table 11 sets out details of any incidents recorded, additional investigations, or interventions required by the Council in relation to the Company activities during the 2023/24 period. The table presents details of all events logged on the Council's incident register that required further investigation or intervention regardless of whether these were found to be compliant or not.

Table 11 Incidents, investigations and interventions summary table

Date	Details	Compliant (Y/N)	Enforcement Action Taken?	Outcome
5 June 2024	A notification from the Company was received by the Council regarding a communication break between Bore 3a (GND0585) and the SCADA system. Data between 29/05/2024 to 05/06/2024 was lost and was not recoverable.	N	N	A letter requesting an explanation of the resource consent breach was sent to the Company. A response was received and was accepted. No enforcement action was pursued.

3. Discussion

3.1 Discussion of site performance

Inspections of the Company's site during the 2023/24 review period revealed that the site was generally tidy and no odour was detected or reported beyond the boundary. When irrigation was noted to be occurring, no ponding of water was observed.

Regarding Consent 2261-3.1 which relates to the combined abstraction from the three production bores, the daily abstraction volume limit of 1,300m3 was adhered to throughout the monitoring period (Figure 4). With respect to the instantaneous abstraction rate, exceedances above the 20L/s and the 21.8L/s (9%) propagation error limit were recorded on occasion. Exceedances for these values occurred on 216 days and four days respectively (Figure 5). Although there were numerous exceedances, the proportion of the instantaneous exceedances for the monitoring year was low and the majority of the exceedances were below the margin of error limit. The 20L/s limit was exceeded 1.26% of the year and the 21.8L/s limit was exceeded 0.23 % of the year. On 5 June 2024, the Company notified the Council that due to a disruption to their onsite data acquisition system, abstraction data for Bore 3a (GND0585) for the period 29/05/2024 to 05/06/2024 was lost and was not recoverable. The Council sent a letter to the Company requesting an explanation. A timely response was received and no enforcement action was pursued. The Company complied with both the daily abstraction volume limit (Figure 8) and the abstraction rate limit (Figure 9) for the spring (Consent 10256-1).

There were multiple issues relating to the capture of and the subsequent transmission of bore level data to the Council. The Company generally operates Bores 1 (GND1195) and 3a (GND0585) in tandem, while Bore 2 (GND0230) serves as a backup bore. For a large portion of the period from February 2024 until the end of the monitoring year, the level data for Bore 1 flatlined, and the level data for Bore 2 flatlined for the duration of the monitoring year. Bore 3a appeared to be the exception as data was transmitted reliably. As at May 2024, new level sensors were installed in Bores 2 and 3a, however, a level sensor could not be inserted into Bore 1. While Bore 2 is generally not used, it is expected that there will be some variation in water level in response to the drawdown effect produced by the activity at the nearby Bores 1 and 3a. All abstraction data is recorded by flowmeters installed at the monitoring bores and Spring. Consent 2261-3.1 states that water measuring equipment must be calibrated no less frequently than once every five years. Council records demonstrated that the production bore and spring flowmeters were recalibrated in November 2024.

No level data had been received for the monitoring bore GND2593 since March 2022. This remained the case during the 2023/24 monitoring year. The level data obtained from the Council's two HOBO loggers which are installed in monitoring bores MP5 (GND0686) and MP8 (GND3071) aligned well with the manual dip readings obtained during hydrological inspections. The data show similar trends in water level fluctuations (Figure 7). The Council continues to work with the Company to achieve compliance in relation to data provision for all the bores, in particular the monitoring bore as the information derived from this location is essential for informing the three yearly aquifer sustainability report.

The Company informed the Council that the following work was scheduled for the October/November 2024 shutdown period-Bore 1 would be lifted and repositioned, a new level sensor would be installed. All flowmeters and level sensors would be recalibrated and recertified. Work to reestablish data transmission from the monitoring bore to the Council would recommence, this would involve replacing equipment which was stolen and the dipping tube in Bore 3a would be aligned with the opening of the bore to enable Council Officers to take manual dip readings to calibrate HOBO levels.

The 2023/24 monitoring year saw 36.4% more wastewater being irrigated to land than during the previous monitoring year. Chemical analysis of wastewater samples showed that the strength of the wastewater (i.e., its mineral and nitrogen content) and its organic strength (represented by Chemical Oxygen Demand (COD))

was similar to that which was recorded in 2022/23. The annual total nitrogen average of the 12 lab samples collected by the Company that are used to calculate the irrigation loadings was 84.95g/m^3 N. An average value of 98.25g/m^3 was recorded for the four compliance monitoring samples collected by the Council over the same period. While the range of results obtained is reasonably similar, the Council's value of 98.25g/m^3 aligns more closely with the Company's 2022/23 value of 97.5g/m^3. The samples were collected at different times and are processed by different laboratories. To obtain more meaningful comparisons, it is desirable that the Council and the Company synchronise a portion of the sampling runs to create an Interlaboratory (Interlab) comparison. The nitrogen loadings on both the Waitōtara and Longview sites did not exceed the operational limit of 300kg/ha/y.

Water samples were collected from seven out of the eight monitoring bores to ascertain the effects of spreading stockyard solids and irrigating wastewater to land. Water was not collected from MP7 as this bore has been dry since its installation. It is still inspected by a Council Officer to determine if there has been any change in its water content. The nitrate-nitrite concentrations in most bores were below the DWS with the exception of MP5, which according to the Council and Company's combined data, returned exceedances on four sampling occasions. Results demonstrate that there has been a reduction in exceedances at this site since the previous monitoring year. Although below the DWS, nitrate levels tended to be on the higher end of the spectrum at MP8 which is downgradient of MP5 and close to the Waiinu Water Supply and at MP6 which is upgradient of Te Kiri O Rauru Spring. More careful site management and monitoring is required to prevent exceedances altogether and to ensure that activity at the site does not have adverse impacts. *E. coli* levels for all sites, except MP1(spring) were generally <1cfu/100ml. Results for MP1 ranged from <1 to >200cfu/100ml, with most of the results >70cfu/100ml. This trend likely reflects the influence of the surrounding agricultural landuse upon the spring. The trigger level for sodium which is referred to in the new monitoring requirements of Consent 2260-3.2 was recorded to have been exceeded on one occasion in MP8.

In June 2022 the Council notified the Company of its intent to review the conditions relating to the Consent 2260-3.1 which authorises the Company to discharge wastewater, stockyard solid wastes and stabilised sludge to land. This process was initiated to address adverse environmental effects, particularly elevated groundwater nitrate nitrogen levels which were detected during sampling. The review process was completed during the current monitoring year and Consent 2260-3.2 was granted on the 21 May 2024. Additions or amendments (see section 1.3 Resource Consents) centred on the prevention of wastewater ponding, the requirement for a Groundwater and Soil Management Plan (GSMP) for the purposes of maintaining the long-term suitability of groundwater (due before 30 September 2025), a requirement which specifically addresses notification, reporting requirements and remediation measures in the event of exceedances and the appointment of a suitably qualified and trained officer to oversee the irrigation system and implement the ILMP and the GSMP.

The sampling results for Te Kiri O Rauru Spring indicate that it is unlikely that the irrigation of wastewater to land is adversely affecting the water quality at the site. The Company's sample results showed generally low total nitrogen values in all samples. The Council's annual sample results showed a low value of Faecal coliforms and *E. coli* which specifically inhabit the gut of warm-blooded species and therefore serve as indicators of potential faecal contamination of groundwater. The nitrate-nitrogen value was below the DWS. To provide a more meaningful measure of the potential contamination of spring water by wastewater irrigation, it is recommended that the Company introduces testing for gut specific coliforms (*E. coli* and Faecal coliforms). The Total coliform measure is likely to incorporate bacteria occurring naturally in the soil or on vegetation (Dufour, 1977 & Mack, 1977) and is therefore not an accurate indication of contamination of the site by wastewater irrigation.

Chemical analysis of the stormwater, defrost water and evaporative cooling water samples showed that on all sampling occasions, the discharge complied with consented limits. No adverse effects were observed in the receiving environment during the inspections.

3.2 Environmental effects of exercise of consents

Effects on the aquifer from the abstraction of groundwater have been difficult to assess due the difficulties that have arisen in relation to reliable monitoring, recording and transmission of data required by the abstraction consent. The Council is continuing to work with the Company to ensure that these issues are resolved.

Out of 27 sampling rounds, four exceedances of the Nitrate nitrite values in the DWS were recorded at MP5 which is upgradient of MP8. MP8 is located in close proximity to the Waiinu supply bore. While nitrate nitrite values at both MP8 and MP6 were below the DWS, they trended on the higher side, therefore adjustments need to be made to ensure that no exceedances occur in the future.

E. coli levels were generally low across all monitoring bores with the exception of MP1 (spring). This location also recorded the highest ammoniacal nitrogen values and is likely to be more noticeably impacted by landuse as it is a surface water feature. MP8 recorded *E. coli* values above the DWS threshold of <1cfu/100ml on three out of 27 sampling occasions.

Based on the results obtained and supplied for the 2023/24 monitoring year, the irrigation of wastewater to land did not adversely impact Te Kiri O Rauru Spring. The discharge of stormwater, defrost water and evaporative cooling water were compliant with consented limits. No odour was detected beyond the site boundary during the compliance monitoring inspections and no odour complaints were received by the Company.

3.3 Evaluation of performance

A tabular summary of the consent holder's compliance record for the year under review is set out in Tables12-17.

Table 12 Summary of performance for Consent 2260-3.1 (1 October 2023 to 21 May 2024)

Purpose: To discharge to land wastewater by spray irrigation, stockyard solid wastes and stabilised sludge by spreading, from meat processing operations in the vicinity of the Waitōtara River, including associated discharges to air		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Stockyards solid waste discharge rate not to exceed 28m^3/7 days, wastewater not to exceed 1,700m^3/day	Site inspections and data provided	Yes
2. Discharge to occur in agreed disposal areas	Site inspections and information provided	Yes
3. No offensive or objectionable odour beyond the boundary of the property	Site inspections and complaints register	Yes
4. Discharge not to result in spray drift beyond the boundary of the property	Site inspections and complaints register	Yes
5. Preparation of Integrated Management Plan (IMP)	Plan received with consent application 26/12/2015	Yes
6. IMP to be reviewed annually by 31 December; or upon two months' notice by either party	Liaison with consent holder	Yes

Purpose: To discharge to land wastewater by spray irrigation, stockyard solid wastes and stabilised sludge by spreading, from meat processing operations in the vicinity of the Waitōtara River, including associated discharges to air		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
7. Designated officer to manage spray irrigation system according to IMP	Liaison with consent holder	Yes
8. Consent holder to undertake a monitoring programme to monitor risk to Waiinu Beach municipal water supply	Received	Yes
9. Adopt best practicable option to prevent or minimise adverse environmental effects	Site inspections and sampling	No. Ongoing impact on groundwater.
10. Sodium adsorption ratio not to exceed 15	Sampling	Yes
11. Discharge not to result in wastewater reaching surface water	Site inspections and sampling	Yes
12. Contaminants not to be discharged within certain areas	Inspections	Yes
13. Discharge not to occur within 20m of new roads	No new roads in area	N/A
14. Consent holder to keep records of rate and volume of discharge	Records provided	Yes
15. Council and STDC to be notified if an event occurs that may have adverse effect on Waiinu Beach municipal water supply	No events reported to have occurred	N/A
16. Review of consent	June 2025	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		**Improvement required** **High**

N/A = not applicable

Table 13 Summary of performance for Consent 2260-3.2 (from 21 May 2024)

Purpose: To discharge to land wastewater by spray irrigation, stockyard solid wastes and stabilised sludge by spreading, from meat processing operations in the vicinity of the Waitōtara River, including associated discharges to air		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Stockyards solid waste discharge rate not to exceed 28m3/7 days, wastewater not to exceed 1,700m3/day	Site inspections and data provided	Yes
2. Discharge to occur in agreed disposal areas	Site inspections and information provided	Yes
3. No offensive or objectionable odour beyond the boundary of the property	Site inspections and complaints register	Yes
4. Discharge not to result in spray drift beyond the boundary of the property	Site inspections and complaints register	Yes
5. Preparation of Integrated Management Plan (IMP)	Plan received	Yes
6. No ponding of wastewater over a contiguous area of 0.04m2 for more than 30mins	Visual inspections	Yes

Purpose: To discharge to land wastewater by spray irrigation, stockyard solid wastes and stabilised sludge by spreading, from meat processing operations in the vicinity of the Waitōtara River, including associated discharges to air		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
7. Groundwater Soil and Management Plan (GSMP) to be submitted to the Council for certification before 30 September 2025	Desk assessment	N/A
8. Assessment, notification and remediation requirements if trigger levels in GSMP are exceeded for the first time	Desk assessment	N/A site still operating under requirements of ILMP until certification of GSMP.
9. Implementation of remediation measures described in report written for (8)	Desk assessment	N/A as per c8.
10. 1Provision of report once results of monthly monitoring indicate that parameters have reduced to below trigger levels	Desk assessment	N/A as per c8
11. Prior to certification of GSMP, monitoring of risk to Waiinu Water Supply according to ILMP	Desk assessment	Yes
12. Designate officer with necessary qualifications and/or experience to manage spray irrigation system and implement IMP and GSMP	Liaison with consent holder	Yes
13. Undertake monitoring programme which monitors risk to Waiinu Water supply	Received	Yes
14. At all times adopt Best Practical Option (BOP)	Site inspections, sampling, self-monitoring	No. Ongoing impact on groundwater.
15. Sodium Adsorption Ratio (SAR) of the wastewater shall not exceed 15.	Sampling	Yes
16. The discharge shall not result in any wastewater reaching surface water, any subsurface drainage system or any adjacent property	Inspections and sampling	Yes
17. Contaminants not to be discharged within certain areas	Inspection	Yes
18. Discharge not to occur within 20m of new roads	No new roads in area	Yes
19. 19. Consent holder to keep records of rate and volume of discharge	Records provided	Yes
20. 20. Council and STDC to be notified if an event occurs that may have a significant adverse effect on Waiinu Beach municipal water supply	No events reported to have occurred	N/A
21. 21 Review of consent	June 2025	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		**Improvement required** **High**

N/A = not applicable

Table 14 Summary of performance for Consent 2261-3.1

Purpose: To take ground water from three groundwater bores in the vicinity of the Waitōtara River for meat processing purposes		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Limit on maximum abstraction rate	Metering by consent holder and review of records by Council	Yes
2. Labelling of bores	Site inspection by Council	Yes
3. Installation and operation of monitoring equipment	Site inspection and receipt of monitoring records.	No. Data lost and irrecoverable
4. Keeping and provision of monitoring records	Receipt of records by Council	No. Missing data
5. Certification of monitoring equipment	Receipt of certificates dated May 2019 and January 2023	Yes
6. Actions upon breakdown of monitoring equipment	Review of Council's records	Yes
7. Continuous record of groundwater level monitoring to be maintained in a monitoring bore, to an accuracy of ±10mm, from 31 August 2017	Inspection by Council. Extension granted until 31 October 2017	No. Level data not provided since March 2022
8. Continuous record of groundwater level monitoring to be maintained in all abstraction bores, to an accuracy of ±10mm, from 31 August 2017	Inspection by Council. Measurement by consent holder and review of records by Council	No. Continuous record not available for some bores. Data accuracy could not be confirmed as recertification of loggers was required.
9. Access to monitoring equipment	Site inspection	Yes
10. Adoption of best practicable option and efficient use	Site inspections and liaison with consent holder	Yes
11. Backflow protection	Records provided and site inspection	Yes
12. Provisions of triennial report on sustainability of aquifer	Report due by 30 September 2023 received on 30 November 2023. Concluded that activity was sustainable. Made recommendations for improvement in data gathering	N/A. Next report due 2026.
13. Optional review provision re environmental effects	Next option for review within 3 months of report required by condition 12 and/or June 2028	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		**Improvement required**
Overall assessment of administrative performance in respect of this consent		**Improvement required**

N/A = not applicable

Table 15 Summary of performance for Consent 4629-3.1

Purpose: To discharge emissions into the air from various activities associated with meat processing operations		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Emissions to be generally of the nature and scale described in the application	Site inspections	Yes
2. Best practicable option to prevent or minimise adverse effects	Site inspections	Yes
3. Discharge not to give rise to offensive or objectionable odour at or beyond the site boundary	Site inspections, complaints register	Yes
4. Discharge to be smoke free	Site inspections	Yes

Purpose: To discharge emissions into the air from various activities associated with meat processing operations		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
5. Review of consent conditions	Next optional review June 2028	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		**High**
Overall assessment of administrative performance in respect of this consent		**High**

N/A = not applicable

Table 16 Summary of performance for Consent 5027-2

Purpose: To discharge stormwater, defrost water and evaporative cooling water from a meat processing plant site into an unnamed tributary of the Waitōtara River		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Best practicable option	Site inspections and chemical sampling	Yes
2. Limits on catchment area of site	Site inspections, desk assessment	Yes
3. Containment of hazards	Site inspections	Yes
4. Limits on pH, oil and grease and suspended solids	Site inspections and chemical sampling	Yes
5. Discharge shall not give rise to effects on stream beyond mixing zone	Site inspections and chemical sampling	Yes
6. Provide, maintain and adhere to a contingency plan	Council records and site inspections.	Yes
7. Provide, maintain and adhere to stormwater management plan	Council records and site inspections.	Yes
8. Notification on changes on site	Not required during monitoring period	N/A
9. Review of consent conditions	Not scheduled for consideration during year under review. No further review opportunities for review prior to expiry unless notification received under condition 8.	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		**High**
Overall assessment of administrative performance in respect of this consent		**High**

N/A = not applicable

Table 17 Summary of performance for Consent 10256-1.0

Purpose: To take and use water from a spring for non-potable plant purposes		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Limit on maximum abstraction rate (L/s) and volume (m^3/day)	Metering by consent holder and review of records by Council	Yes
2. Installation and operation of monitoring equipment	Site inspection and receipt of monitoring records	Yes
3. Certification of monitoring equipment	Provision of report by Company	Yes
4. Actions upon breakdown of monitoring equipment	Notifications received	N/A
5. Access to monitoring equipment	Site inspection	Yes
6. Keeping and transmission of 'real time' monitoring records	Receipt of records by Council	Yes
7. Lapse of consent	Consent exercised	N/A
8. Optional review provision re environmental effects	Not scheduled for consideration during year under review. Next optional review June 2025	N/A

Purpose: To take and use water from a spring for non-potable plant purposes		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		**High** **High**

N/A = not applicable

Table 18 Evaluation of environmental performance over time

Year	Consent numbers	High	Good	Improvement req	Poor
2019-2020	2260-3, 2261-3, 4629-3, 5027-2, 10256-1	3	1	1	-
2020-2021	2260-3, 2261-3, 4629-3, 5027-2, 10256-1	2	3	-	-
2021-2022	2260-3, 2261-3, 4629-3, 5027-2, 10256-1	1	4	-	-
2022-2023	2260-3, 2261-3, 4629-3, 5027-2, 10256-1	2	3	-	-
2023-2024	2260-3.1, 2260-3.2; 2261-3, 4629-3, 5027-2, 10256-1	3	-	3	x

During the year, the Company demonstrated a level of environmental and administrative performance that required improvement with respect to the resource consents as defined in Appendix II. The Council is continuing to work with the Company to ensure that abstraction records and level data are accurately and consistently recorded and provided to Council. The GSMP, trigger levels, reporting and remediation requirements for Consent 2260-3.1 were introduced to ensure that site management and monitoring is iterative and prevents any adverse effects, in particular elevated nitrogen concentrations which may impact the receiving environment. While improvement has been noted during the year under review further improvement is required to prevent exceedances altogether.

3.4 Recommendations from the 2022/23 Annual Report

In the 2022/23 Annual Report, it was recommended:

1. THAT in the first instance, monitoring of consented activities at Silver Fern Farms Ltd in the 2023/24 year continue at the same level as in 2022/23.
2. THAT should there be issues with environmental or administrative performance in 2023/24, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.
3. THAT the annually reviewed integrated land management plan (ILMP) considers how to further prevent increases to nitrate in groundwater and that it be noted that the plan will receive a thorough review following the granting of the reviewed consent.
4. THAT the new bore MP7 should continue to be monitored to detect whether water is present in this bore seasonally and that should water be present, physicochemical monitoring should be undertaken.
5. THAT Council continues to work with the Company to install and develop appropriate systems to ensure that the abstraction and water level data complies with the conditions of the consent.

Recommendations 1, 2, 4 and 5 were implemented.

Recommendation 3 was not fully addressed by the review of the ILMP undertaken by the Company, however, additional requirements have now been set out in Consent 2260-3.2. The updated ILMP is scheduled to be submitted to the Council before September 2025 for certification.

3.5 Alterations to monitoring programmes for 2024/25

In designing and implementing the monitoring programmes for air/water discharges in the region, the Council has taken into account:

- the extent of information already made available through monitoring or other means to date;
- its relevance under the RMA;
- the Council's obligations to monitor consented activities and their effects under the RMA;
- the record of administrative and environmental performances of the consent holder; and
- reporting to the regional community.

The Council also takes into account the scope of assessments required at the time of renewal of permits, and the need to maintain a sound understanding of industrial processes within Taranaki exercising resource consents.

It is proposed for 2024/25 that the monitoring programme for the Company remains largely unchanged from that which was outlined for 2023/24. Continued surveillance of bore MP7 will determine whether water is present in this bore seasonally; and should water be present in this bore then monitoring will be undertaken. In line with the new requirements for Consent 2260-3.2, trigger level parameters have been incorporated to chemical testing and more rigorous monitoring, notification and reporting requirements will be undertaken to prevent or remediate as soon as possible any adverse effects. It is desirable that the Company and Council coordinate the collection of samples for a minimum of two sampling rounds each year to conduct an Interlaboratory comparison of results. It is recommended that Company adds more specific coliform testing to the quote for Te Kiri O Rauru Spring to more accurately ascertain whether any contamination can be definitively linked to the application of wastewater to land.

It should be noted that the proposed programme represents a reasonable and risk-based level of monitoring for the site in question. The Council reserves the right to adjust this baseline programme should the need arise if potential or actual non-compliance is determined at any time during 2024/25.

3.6 Exercise of optional review of consent

Resource Consents 2260-3.2 and 10256-1.0 provide for the optional review of the consents in June 2025. Conditions 21 and 8 respectively allow the Council to review the consents, to ensure that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of the resource consents, which were not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Consent 2260-3.2 was granted in May 2024 following a review of Consent 2260-3.1. Based on the results of monitoring in the year under review, and in previous years as set out in earlier annual compliance monitoring reports, it is considered that there are no grounds that require a review to be pursued or grounds to exercise the review option for Consent 10256-1.0.

4. Recommendations

1. THAT in the first instance, monitoring of consented activities at Silver Fern Farms Ltd in the 2024/25 year continue at the same level as in 2023/24.
2. THAT should there be issues with environmental or administrative performance in 2024/25, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.
3. THAT the annually reviewed integrated land management plan (ILMP) incorporates the additional requirements of Consent 2260-3.2 to further prevent increases to nitrate in groundwater and that this plan is submitted in a timely manner for thorough review and certification by the Council.
4. THAT site management and monitoring is carefully undertaken and adjusted accordingly to prevent adverse effects upon the receiving environment
5. THAT bore MP7 should continue to be monitored to detect whether water is present in this bore seasonally. Should water be present, physicochemical monitoring should be undertaken.
6. THAT the Company ensures that the requirements for the accurate recording of transmission of abstraction and water level data are met to comply with the conditions of the consent.
7. THAT the Company incorporates more specific coliform testing to the quote for Te Kiri O Rauru Spring to more accurately ascertain whether any contamination can be definitively linked to the application of wastewater to land.

Glossary of common terms and abbreviations

The following abbreviations and terms may be used within this report:

BOD	Biochemical oxygen demand. A measure of the presence of degradable organic matter, taking into account the biological conversion of ammonia to nitrate.
COD	Chemical oxygen demand. A measure of the oxygen required to oxidise all matter in a sample by chemical reaction.
Conductivity	Conductivity, an indication of the level of dissolved salts in a sample, usually measured at 25°C and expressed in µS/cm.
DWSNZ	Drinking water standards for New Zealand.
FNU	Formazin nephelometric units, a measure of the turbidity of water.
Fresh	Elevated flow in a stream, such as after heavy rainfall.
$g/m^2/day$	grams/metre^2/day.
g/m^3	Grams per cubic metre, and equivalent to milligrams per litre (mg/L). In water, this is also equivalent to parts per million (ppm), but the same does not apply to gaseous mixtures.
Incident	An event that is alleged or is found to have occurred that may have actual or potential environmental consequences or may involve non-compliance with a consent or rule in a regional plan. Registration of an incident by the Council does not automatically mean such an outcome had actually occurred.
Intervention	Action/s taken by Council to instruct or direct actions be taken to avoid or reduce the likelihood of an incident occurring.
Investigation	Action taken by Council to establish what were the circumstances/events surrounding an incident including any allegations of an incident.
Incident register	The incident register contains a list of events recorded by the Council on the basis that they may have the potential or actual environmental consequences that may represent a breach of a consent or provision in a Regional Plan.
KAR	Potassium adsorption ratio. A measure of the suitability of water use in agricultural irrigation, as determined by the concentrations of solids dissolved in the water.
L/s	Litres per second.
mbgl	Metres below ground level.
m^2	Square Metres.
mS/m	MilliSiemens per metre.
µS/cm	MicroSiemens per centimetre.
NH_4	Ammonium, normally expressed in terms of the mass of nitrogen (N).
NH_3	Unionised ammonia, normally expressed in terms of the mass of nitrogen (N).
NO_3	Nitrate, normally expressed in terms of the mass of nitrogen (N).
NTU	Nephelometric Turbidity Unit, a measure of the turbidity of water.
pH	A numerical system for measuring acidity in solutions, with 7 as neutral. Numbers lower than 7 are increasingly acidic and higher than 7 are increasingly alkaline. The scale is logarithmic i.e. a change of 1 represents a ten-fold change in strength. For example, a pH of 4 is ten times more acidic than a pH of 5.

Physicochemical	Measurement of both physical properties (e.g. temperature, clarity, density) and chemical determinants (e.g. metals and nutrients) to characterise the state of an environment.
PT	Pressure transducer,
Resource consent	Refer Section 87 of the RMA. Resource consents include land use consents (refer Sections 9 and 13 of the RMA), coastal permits (Sections 12, 14 and 15), water permits (Section 14) and discharge permits (Section 15).
RMA	*Resource Management Act 1991* and including all subsequent amendments.
SAR	Sodium adsorption ratio. A measure of the suitability of water use in agricultural irrigation, as determined by the concentrations of solids dissolved in the water.
SS	Suspended solids.
STDC	South Taranaki District Council.
Temp	Temperature, measured in °C (degrees Celsius).

For further information on analytical methods, contact a manager within the Environment Quality Department.

Bibliography and references

Dufour, A.P. (1997). Escherischia coli, the Faecal Coliform. In Hoadley A.W and B.J. Dutka (Eds). *Bacterial indictors/health hazards associated with water.* American Society. for testing and materials. pp48-58

Geosearch (2023). Assessment of environmental effects three-yearly report to 30 June 2023; Silver Fern Farms, Waitōtara – Sustainability of groundwater abstractions. November 2023.

Mack, W.N. (1997). Total coliform bacteria. In Hoadley A.W and B.J. Dutka (Eds). *Bacterial indictors/health hazards associated with water.* American Society for testing and materials. STP.pp55-64

Taranaki Regional Council (2024): Silver Fern Farms (Waitōtara) Resource Consents Monitoring Programme Annual Report 2022-2023, Technical Report 2023-51.

Taranaki Regional Council (2023): Silver Fern Farms (Waitōtara) Resource Consents Monitoring Programme Annual Report 2021-2022, Technical Report 2022-47.

Taranaki Regional Council (2022): Silver Fern Farms (Waitōtara) Resource Consents Monitoring Programme Annual Report 2020-2021, Technical Report 2021-61.

Taranaki Regional Council (2021): Silver Fern Farms (Waitōtara) Resource Consents Monitoring Programme Annual Report 2019-2020, Technical Report 2020-96.

Taranaki Regional Council (2020): Silver Fern Farms (Waitōtara) Resource Consents Monitoring Programme Annual Report 2018-2019, Technical Report 2019-90.

Taranaki Regional Council (2019): Silver Fern Farms (Waitōtara) Resource Consents Monitoring Programme Annual Report 2017-2018, Technical Report 2018-66.

Taranaki Regional Council (2018): Silver Fern Farms (Waitōtara) Resource Consents Monitoring Programme Annual Report 2016-2017, Technical Report 2017-107.

Taranaki Regional Council (2017): Silver Fern Farms (Waitōtara) Resource Consents Monitoring Programme Annual Report 2015-2016, Technical Report 2016-54.

Taranaki Regional Council (2015): Silver Fern Farms (Waitōtara) Resource Consents Monitoring Programme Annual Report 2014-2015, Technical Report 2015-93.

Taranaki Regional Council (2014): Silver Fern Farms (Waitōtara) Resource Consents Monitoring Programme Biennial Report 2012-2014, Technical Report 2014-87.

Taranaki Regional Council (2012): Silver Fern Farms (Waitōtara) Resource Consents Monitoring Programme Annual Report 2011-2012, Technical Report 2012-82.

Taranaki Regional Council (2011): Silver Fern Farms (Waitōtara) Resource Consents Monitoring Programme Annual Report 2010-2011, Technical Report 2011-95.

Taranaki Regional Council (2010): Silver Fern Farms (Waitōtara) Resource Consents Monitoring Programme Annual Report 2009-2010, Technical Report 2010-100.

Taranaki Regional Council (2009): Silver Fern Farms (Waitōtara) Resource Consents Monitoring Programme Annual Report 2008-2009, Technical Report 2009-106.

Taranaki Regional Council (2008): Silver Fern Farms (Waitōtara) Resource Consents Monitoring Programme Annual Report 2007-2008, Technical Report 2008-69.

Taranaki Regional Council (2007): PPCS Ltd (Waitōtara) Resource Consents Monitoring Programme Annual Report 2005-2007, Technical Report 2007-117.

Taranaki Regional Council (2005): Richmond Ltd (Waitōtara) Resource Consents Monitoring Programme Annual Report 2004-2005, Technical Report 2005-114.

Taranaki Regional Council (2004): Richmond Ltd (Waitōtara) Resource Consents Monitoring Programme Annual Report 2003-2004, Technical Report 2004-107.

Taranaki Regional Council (2003): Richmond Ltd (Waitōtara) Resource Consents Monitoring Programme Annual Report 2002-2003, Technical Report 2003-94.

Taranaki Regional Council (2002): Richmond Ltd (Waitōtara) Resource Consents Monitoring Programme Annual Report 2001-2002, Technical Report 2002-86.

Taranaki Regional Council (2001): Richmond Ltd (Waitōtara) Resource Consents Monitoring Programme Annual Report 2000-2001, Technical Report 2001-73.

Taranaki Regional Council (2000): Richmond Ltd (Waitōtara) Resource Consents Monitoring Programme Annual Report 1999-2000, Technical Report 2000-91.

Taranaki Regional Council (1999): Waitōtara Meat Company Resource Consent Monitoring Programme 1997-99 Report, Technical Report 99-101.

Taranaki Regional Council (1997): Waitōtara Meat Company Resource Consent Monitoring Programme 1996-97 Annual Report, Technical Report 97-103.

Taranaki Regional Council (1996): Waitōtara Meat Company Resource Consent Monitoring Programme Annual Report 1995/96, Technical Report 96-72.

Taranaki Regional Council (1995): Waitōtara Meat Company Resource Consent Monitoring Programme Annual Report 1994/95, Technical Report 95-63.

Taranaki Regional Council (1994): Waitōtara Meat Company Resource Consent Monitoring Programme Annual Report 1993/94, Technical Report 94-42.

Taranaki Regional Council (1993): Waitōtara Meat Company Resource Consent Monitoring Programme Annual Report 1992-93, Technical Report 93-67.

Taranaki Regional Council (1992): Waitōtara Meat Company Resource Consent Monitoring Programme Annual Report 1991/92, Technical Report 92-33.

Taranaki Regional Council (1991): Waitōtara Meat Company Resource Consent Monitoring Programme Annual Report for 1990/91, Technical Report 91-23.

Taranaki Regional Council (1990): Waitōtara Meat Company Monitoring Programme-Annual Report for 1989/90, Technical Report 90-44.

Appendix I

Resource consents held by Silver Fern Farms Ltd (Waitōtara)

(For a copy of the signed resource consent
please contact the TRC Consents department)

Water abstraction permits

Section 14 of the RMA stipulates that no person may take, use, dam or divert any water, unless the activity is expressly allowed for by a resource consent or a rule in a regional plan, or it falls within some particular categories set out in Section 14. Permits authorising the abstraction of water are issued by the Council under Section 87(d) of the RMA.

Water discharge permits

Section 15(1)(a) of the RMA stipulates that no person may discharge any contaminant into water, unless the activity is expressly allowed for by a resource consent or a rule in a regional plan, or by national regulations. Permits authorising discharges to water are issued by the Council under Section 87(e) of the RMA.

Air discharge permits

Section 15(1)(c) of the RMA stipulates that no person may discharge any contaminant from any industrial or trade premises into air, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Permits authorising discharges to air are issued by the Council under Section 87(e) of the RMA.

Discharges of wastes to land

Sections 15(1)(b) and (d) of the RMA stipulate that no person may discharge any contaminant onto land if it may then enter water, or from any industrial or trade premises onto land under any circumstances, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Permits authorising the discharge of wastes to land are issued by the Council under Section 87(e) of the RMA.

Land use permits

Section 13(1)(a) of the RMA stipulates that no person may in relation to the bed of any lake or river use, erect, reconstruct, place, alter, extend, remove, or demolish any structure or part of any structure in, on, under, or over the bed, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Land use permits are issued by the Council under Section 87(a) of the RMA.

Coastal permits

Section 12(1)(b) of the RMA stipulates that no person may erect, reconstruct, place, alter, extend, remove, or demolish any structure that is fixed in, on, under, or over any foreshore or seabed, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Coastal permits are issued by the Council under Section 87(c) of the RMA.

Discharge Permit

Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of Consent Holder:	Silver Fern Farms Limited PO Box 941 Dunedin 9054
Decision Date:	13 September 2017
Commencement Date:	13 September 2017

Conditions of Consent

Consent Granted:	To discharge to land wastewater by spray irrigation, stockyard solid wastes and stabilised sludge by spreading, from meat processing operations in the vicinity of the Waitotara River, including associated discharges to air
Expiry Date:	1 June 2034
Review Date(s):	June 2022 and at 3-yearly intervals thereafter
Site Location:	Waiinu Beach Road, Waitotara
Grid Reference (NZTM)	1747946E-5588813N (Pond 1) 1747993E-5588722N (Pond 2) 1748071E-5588544N (Area 1) 1749151E-5586993N (Area 2)
Catchment:	Waitotara

For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document

General condition

a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. The discharge of stockyards solid waste shall occur by spreading at a rate not exceeding 28 cubic metres over any 7-day period, and the discharge of wastewater shall occur by spray irrigation at a rate not exceeding 1700 cubic metres/day.

2. The discharges authorised by this consent shall only occur on the 'disposal areas' shown in Figure 1 attached.

3. The discharge shall not result in odour that is offensive or objectionable beyond the boundary of the disposal areas shown in Figure 1 attached.

4. The discharge shall not result in spray drift beyond the boundary of the disposal areas.

5. The consent holder shall manage the site in accordance with an 'Integrated Management Plan' (IMP) prepared by the consent holder and approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The IMP shall detail the management of the spray irrigation and solid waste management system at the site to achieve compliance with the conditions of this consent. An objective of the IMP shall be to keep the annual nitrogen loading from wastewater, stockyards solids and solid organic waste material discharged on the 'disposal areas' to 300 kg/ha or less. The IMP shall address the following matters, as a minimum:

    a) designated disposal areas;
    b) selection of appropriate irrigation and spreading methods for different types of terrain;
    c) application rate and duration;
    d) application frequency;
    e) farm management and operator training;
    f) soil and herbage management;
    g) prevention of ponding, runoff and spray drift;
    h) minimisation and control of odour effects offsite;
    i) operational control and maintenance of the spray irrigation system;
    j) monitoring of the wastewater (physicochemical);
    k) monitoring of soils and herbage (physicochemical);
    l) monitoring of groundwater beneath the irrigated area (physicochemical);
    m) remediation measures;
    n) contingency events;
    o) reporting monitoring data;
    p) procedures for responding to complaints; and
    q) notification to the Council of non-compliance with the conditions of this consent.

6. The *IMP* described in special condition 5 of this consent shall be subject to review upon two months notice by either the consent holder or the Taranaki Regional Council. Further, the consent holder shall review the *IMP* annually and shall provide the reviewed plan to the Chief Executive, Taranaki Regional Council, by 31 December.

7. The consent holder shall designate an officer with the necessary qualifications and/or experience to manage the spray irrigation system. The officer shall be regularly trained on the content and implementation of the *IMP* and shall be advised immediately of any revision or additions to the *IMP*.

8. The consent holder shall undertake a monitoring programme that identifies and monitors the risk to the Waiinu Water Supply provided by the bore located at approximate grid reference 1748791E-5586518 (NZTM) resulting from the exercise of this consent. The programme of monitoring shall be submitted to the Chief Executive, Taranaki Regional Council for certification before 31 December 2017 and shall include as a minimum, the drilling and monitoring of bores down gradient of the MP5 (GND0686) monitoring bore at locations and depths determined after consultation with the Chief Executive, Taranaki Regional Council.

9. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects of the discharge on the environment.

10. The sodium adsorption ratio (SAR) of the wastewater shall not exceed 15.

11. The discharge shall not result in any wastewater reaching surface water, any subsurface drainage system or any adjacent property.

12. No contaminants shall be discharged within:

    (a) 25 metres of any surface water body; or
    (b) 25 metres of any fenced urupa (burial ground) without the written approval of the relevant Iwi; or
    (c) subject to condition 13 below, 20 metres from any public road;
    (d) 50 metres of any bore, well or spring used for water supply purposes; or
    (e) 150 metres of any dwelling that is not owned by the consent holder, or any marae, unless the written approval of the owner and occupier has been obtained to allow the discharge at a closer distance.

13. Where any new public road is established that shares a boundary with a disposal area, there shall be no discharge to land within 20 metres of the road surface until the shelter vegetation on that boundary is at least two metres high. Once the shelter vegetation exceeds two metres in height, the discharge may occur no less 10 metres from the road surface.

14. The consent holder shall keep records of the rate and volume of wastewater and stockyards solid waste discharged to an accuracy of ±5%, including, but not limited to the:

    (a) effluent type (e.g. liquid, slurry, solid);
    (b) source of any solid waste;
    (c) location and area (ha) of application of wastewater and/or solid waste; and
    (d) date each site location received the wastewater and/or solid waste application.

15. If, as a consequence of the activity authorised by this consent, an event occurs that may have a significant adverse effect on water quality at the registered drinking-water supply abstraction point for Waiinu Beach [Map Ref: 1748791E-5586518 (NZTM)] the consent holder shall, as soon as reasonably practicable, telephone the Taranaki Regional Council and South Taranaki District Council and notify them of the event.

16. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2022 and at 3-yearly intervals thereafter, for the purposes of:

    (a) ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time; and/or

    (b) setting limits for any contaminant if the concentration of that contaminant in groundwater at a disposal area is increasing at a rate that could make it unsuitable for any existing potential use; and/or

    (c) requiring any data collected in accordance with the conditions of this consent to be transmitted directly to the Taranaki Regional Council's computer system, in a format suitable for providing a 'real time' record over the internet.

Transferred at Stratford on 26 November 2018

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Advice Note (included at the request of DITAG)
The consent holder's attention is drawn to MPI's "New Zealand Code of Practice for the Design and Operation of Farm Dairies (NZCP1) which restricts:

- *The discharge of specified wastes to land used for grazing of milking animals; and*
- *The use of feed from land which has had specified wastes applied to it.*

Should you require further information, please contact a Dairy Industry Technical Advisory Group (DITAG) representative ***or*** *visit http://www.foodsafety.govt.nz/elibrary/industry/dairy-nzcp1-design-code-of-practice/amdt-2.pdf (specifically section 4.4 Disposal of effluent and other wastes and section 5.8 Purchased Stock Food) or contact an operation dairy processing company regarding conditions of supply.*

Figure 1: Approximate locations of 'Disposal Areas for the stockyards solid waste and wastwater spray irrigation

Discharge Permit

Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of Consent Holder:	Silver Fern Farms Limited	
Decision Date (Review):	21 May 2024	
Commencement Date (Review):	21 May 2024	(Granted Date: 13 September 2017)

Conditions of Consent

Consent Granted:	To discharge to land wastewater by spray irrigation, stockyard solid wastes and stabilised sludge by spreading, from meat processing operations in the vicinity of the Waitotara River, including associated discharges to air
Expiry Date:	1 June 2034
Review Date(s):	June 2022 and at 3-yearly intervals thereafter
Site Location:	Waiinu Beach Road, Waitotara
Grid Reference (NZTM)	1747946E-5588813N (Pond 1) 1747993E-5588722N (Pond 2) 1748071E-5588544N (Area 1) 1749151E-5586993N (Area 2)
Catchment:	Waitotara

For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document

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www.facebook.com/TaranakiRegionalCouncil twitter.com/TaranakiRC
Please quote our document number in your reply

General condition

a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. The discharge of stockyards solid waste shall occur by spreading at a rate not exceeding 28 cubic metres over any 7-day period, and the discharge of wastewater shall occur by spray irrigation at a rate not exceeding 1700 cubic metres/day.

2. The discharges authorised by this consent shall only occur on the 'disposal areas' shown in Figure 1 attached.

3. The discharge shall not result in odour that is offensive or objectionable beyond the boundary of the disposal areas shown in Figure 1 attached.

4. The discharge shall not result in spray drift beyond the boundary of the disposal areas.

Integrated Management Plan (IMP)

5. The consent holder shall manage the site in accordance with an 'Integrated Management Plan' (IMP) prepared by the consent holder and approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The IMP shall detail the management of the spray irrigation and solid waste management system at the site to achieve compliance with the conditions of this consent. An objective of the IMP shall be to keep the annual nitrogen loading from wastewater, stockyards solids and solid organic waste material discharged on the 'disposal areas' to 300 kg/ha or less. The IMP shall address the following matters, as a minimum:

    a) Designated disposal areas;
    b) Selection of appropriate irrigation and spreading methods for different types of terrain;
    c) Application rate and duration;
    d) Application frequency;
    e) Farm management and operator training;
    f) Soil and herbage management;
    g) Prevention of ponding, runoff and spray drift;
    h) Minimisation and control of odour effects offsite;
    i) Operational control and maintenance of the spray irrigation system;
    j) Monitoring of the wastewater (physicochemical);
    k) Monitoring of soils and herbage (physicochemical);
    l) Monitoring of groundwater beneath the irrigated area (physicochemical);
    m) Remediation measures;
    n) Contingency events;
    o) Reporting monitoring data;
    p) Procedures for responding to complaints; and
    q) Notification to the Taranaki Regional Council of non-compliance with the conditions of this consent.

Ponding of wastewater

6. The discharge shall not result in ponding of wastewater on the ground surface for more than 30 minutes after the discharge has ceased. Ponding means that wastewater is visibly pooled on the surface over a contiguous area of greater than 0.04 m².

Groundwater and Soil Management Plan (GSMP)

7. The consent holder shall prepare a Groundwater and Soil Management Plan (GSMP) for the purposes of maintaining the long-term suitability of groundwater and soils for future uses, including rural use of the soils and groundwater, and use of the Waiinu Water Supply provided by the bore located at approximate grid reference 1748791E-5586518 (NZTM). The GSMP shall be prepared by an appropriately qualified and experienced professional and submitted to the Taranaki Regional Council for certification that it meets the requirements of this condition before 30 September 2025.

   The GSMP shall include a monitoring programme that requires:

   a) Groundwater monitoring to occur monthly and include monitoring of COD, total-N, nitrate-N, ammoniacal-N, sodium and phosphorus.
   b) Soil monitoring to occur annually and include monitoring of pH, sodium, and phosphorus.
   c) Identification of locations for groundwater and soil monitoring that will provide representative data of groundwater and soil quality upstream and downstream of the discharge, and at a location suitable to monitor the risk to the Waiinu Water Supply, together with information to support the appropriateness of these locations.
   d) Specification of trigger levels for the parameters in (a) and (b) above to retain the suitability of the groundwater and soil for the uses prescribed in condition (7), and information to support the appropriateness of these trigger levels. The following shall apply to groundwater:
      i) The trigger level for Nitrate-N shall be equal to the New Zealand drinking water standard; and
      ii) Unless monitoring of background concentrations undertaken prior to submission of the GSMP demonstrates that amendment is appropriate, the trigger levels shall be in accordance with the provisional trigger levels set out below:

Parameter	**Provisional trigger level**
COD	400 g/m^3 O_2
Total-N	20 g/m^3
Ammoniacal-N	15 g/m^3
Sodium	200 g/m^3
Phosphorus	50 g/m^3

Advice Note: Requirements of the GSMP
The requirements of the GSMP are additional to those already implemented under the current irrigation management plan and groundwater monitoring programme and do not replace the requirements of either document. The new requirements of the GSMP can, however be merged with the current GWMP and/or IMP for simplicity and if the requirements of any document are similar the most stringent will apply.

Advice Note: Certification of Management Plans
Certification of the GSMP by the Taranaki Regional Council relates only to those aspects of the management plan that are relevant under the Resource Management Act 1991. The certification does not amount to an approval or acceptance of suitability by the council of any elements of the management plan that relate to other legislation, for example, but not limited to, the Building Act 2004, the Heritage New Zealand Pouhere Taonga Act 2014, or the Health and Safety in Employment Act 1992.

8. If any one or more of the trigger levels prescribed in the certified GSMP is exceeded (for the first time, or where the monitoring result immediately prior was below the trigger level), the consent holder shall notify the Taranaki Regional Council within 5 working days and engage a suitably qualified and experienced professional to provide a report that:

    a) Assesses the likely cause of the exceedance(s), including whether this is likely to be caused by recent or more historic discharges, or by activities other than the wastewater discharge;
    b) Recommends reasonably practicable remediation measures to amend practices that have been identified as a likely cause of the exceedance(s) of the trigger levels, or to mitigate the effect of discharges, including by way of changes to wastewater treatment, wastewater discharge management or land use management within the discharge area; and
    c) Assesses the risk to the Waiinu Water Supply, and make recommendations for any further monitoring or assessment to better understand that risk.

    The report shall be provided to Taranaki Regional Council for certification within three months of the exceedance of the trigger level(s) being recorded or, in cases where monitoring is undertaken by Taranaki Regional Council, from notification of the exceedance.

9. The consent holder shall implement remediation measures prescribed in the report provided in accordance with condition (8) and report quarterly to the Taranaki Regional Council on:

    a) How the remediation measures have been implemented;
    b) Monitoring results and trends;
    c) Whether trends indicate that parameters will reduce below trigger levels and the anticipated timeframe for this to occur;
    d) Whether, as a result of the assessment in (c) above, further remediation measures are required to achieve parameters below the trigger levels; and
    e) Where further monitoring or assessment of risks to the Waiinu Water Supply were recommended, any revision to the assessment of that risk as a result of the further monitoring or assessment.

10. When the results of monthly monitoring in accordance with the GSMP demonstrates that all parameters are below the trigger levels, the requirements of condition (9) shall cease to apply. The consent holder shall provide a report addressing:

    a) Trends for the parameters identified in the GSMP and whether these are anticipated to remain below trigger levels; and
    b) Any continuing wastewater discharge and land use management measures to be applied for the purpose of achieving ongoing groundwater and soil quality below the trigger levels.

11. Prior to the certification of the GSMP required by condition (7), the consent holder shall continue to undertake monitoring of the risk to the Waiinu Water Supply as set out in clause 10.2 of the certified Integrated Land Management Plan dated 30 November 2022.

12. The consent holder shall designate an officer with the necessary qualifications and/or experience to manage the spray irrigation system. The officer shall be regularly trained on the content and implementation of the *IMP* and *GSMP* and shall be advised immediately of any revision or additions to the *IMP* and *GSMP*.

13. The consent holder shall undertake a monitoring programme that identifies and monitors the risk to the Waiinu Water Supply provided by the bore located at approximate grid reference 1748791E-5586518 (NZTM) resulting from the exercise of this consent. The programme of monitoring shall be submitted to the Chief Executive, Taranaki Regional Council for certification before 31 December 2017 and shall include as a minimum, the drilling and monitoring of bores down gradient of the MP5 (GND0686) monitoring bore at locations and depths determined after consultation with the Chief Executive, Taranaki Regional Council.

14. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects of the discharge on the environment.

15. The sodium adsorption ratio (SAR) of the wastewater shall not exceed 15.

16. The discharge shall not result in any wastewater reaching surface water, any subsurface drainage system or any adjacent property.

17. No contaminants shall be discharged within:

    a) 25 metres of any surface water body; or
    b) 25 metres of any fenced urupa (burial ground) without the written approval of the relevant Iwi; or
    c) Subject to condition 18 below, 20 metres from any public road;
    d) 50 metres of any bore, well or spring used for water supply purposes; or
    e) 150 metres of any dwelling that is not owned by the consent holder, or any marae, unless the written approval of the owner and occupier has been obtained to allow the discharge at a closer distance.

18. Where any new public road is established that shares a boundary with a disposal area, there shall be no discharge to land within 20 metres of the road surface until the shelter vegetation on that boundary is at least two metres high. Once the shelter vegetation exceeds two metres in height, the discharge may occur no less 10 metres from the road surface.

19. The consent holder shall keep records of the rate and volume of wastewater and stockyards solid waste discharged to an accuracy of ±5%, including, but not limited to the:

    a) Effluent type (e.g. liquid, slurry, solid);
    b) Source of any solid waste;
    c) Location and area (ha) of application of wastewater and/or solid waste; and
    d) Date each site location received the wastewater and/or solid waste application.

    From 1 November 2024, daily wastewater discharge volumes shall be provided to Taranaki Regional Council electronically in a format suitable to provide 'real time' daily records.

20. The consent holder shall provide the following notifications and information to the South Taranaki District Council and Taranaki Regional Council:

    a) If, as a consequence of the activity authorised by this consent, an event occurs that may have a significant adverse effect on water quality at the registered drinking-water supply abstraction point for Waiinu Beach [Map Ref: 1748791E-5586518 (NZTM)] the consent holder shall, as soon as reasonably practicable, telephone the South Taranaki District Council and Taranaki Regional Council and notify them of the event.
    b) The consent holder shall provide to the South Taranaki District Council and Taranaki Regional Council copies of all groundwater quality monitoring undertaken in accordance with the IMP required by condition (5), or the GSMP required by condition (7) quarterly and upon request.
    c) The consent holder shall provide to the South Taranaki District Council and Taranaki Regional Council any assessment of risk to, or recommendations for further monitoring and assessment of effect on, the Waiinu Water Supply prepared in accordance with conditions (8) or (9).

21. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2022 and at 3-yearly intervals thereafter, for the purposes of:

    a) Ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time; and/or
    b) Setting limits for any contaminant if the concentration of that contaminant in groundwater at a disposal area is increasing at a rate that could make it unsuitable for any existing potential use; and/or
    c) Requiring any data collected in accordance with the conditions of this consent to be transmitted directly to the Taranaki Regional Council's computer system, in a format suitable for providing a 'real time' record over the internet.

Signed at Stratford on 21 May 2024

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Figure 1: **Approximate locations of disposal areas for the stockyards solid waste and wastewater spray irrigation**

Water Permit

Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the

Name of Consent Holder:	Silver Fern Farms Limited PO Box 941 Dunedin 9054
Decision Date:	23 August 2016
Commencement Date:	23 August 2016

Conditions of Consent

Consent Granted:	To take groundwater from three bores in the vicinity of the Waitotara River for meat processing purposes
Expiry Date:	1 June 2040
Review Date(s):	June 2022 and every six years thereafter and in accordance with special condition 13
Site Location:	Waiinu Beach Road, Waitotara
Grid Reference (NZTM)	1747961E-5588986N 1748173E-5588850N 1748280E-5588815N
Catchment:	Waitotara

For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document

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General condition

a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. The total rate of taking shall not exceed 20 litres per second and the total volume taken in any 24 hour period ending at midnight (New Zealand Standard Time) shall not exceed 1,300 cubic metres.

2. All bores shall be easily identifiable by permanent labels, which may be welded or engraved on the casing, or on the equivalent fixed part of the well construction or associated building. The numbering on the label shall be the bore number assigned by the Taranaki Regional Council.

3. The consent holder shall install, and thereafter maintain a water meter and a datalogger at the site of taking (or a nearby site in accordance with Regulation 10 of the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010). The water meter and datalogger shall be tamper-proof and shall measure and record the rate and volume of water taken to an accuracy of ± 5%. Records of the date, the time and the rate and volume of water taken at intervals not exceeding 15 minutes, shall be made available to the Chief Executive, Taranaki Regional Council at all reasonable times.

   Note: Water meters must be installed, and regularly maintained, in accordance with manufacturer's specifications in order to ensure that they meet the required accuracy. Even with proper maintenance water meters have a limited lifespan.

4. The records of water taken shall:

   a) be in a format that, in the opinion of the Chief Executive, Taranaki Regional Council, is suitable for auditing;
   b) specifically record the water taken as 'zero' when no water is taken; and
   c) for each 12-month period ending on 30 June, be provided to the Chief Executive, Taranaki Regional Council within one month after end of that period.

5. The consent holder shall provide the Chief Executive, Taranaki Regional Council with a document from a suitably qualified person certifying that water measuring equipment required by the conditions of this consent ('the equipment'):

   a) has been installed and/or maintained in accordance with the manufacturer's specifications; and/or
   b) has been tested and shown to be operating to an accuracy of ± 5%.

   the documentation shall be provided:

   i) within 30 days of the installation of a water meter;
   ii) at other times when reasonable notice is given and the Chief Executive, Taranaki Regional Council has reasonable evidence that the equipment may not be functioning as required by this consent; and
   iii) no less frequently than once every five years.

6. If any measuring or recording equipment breaks down, or for any reason is not operational, the consent holder shall advise the Chief Executive, Taranaki Regional Council immediately. Any repairs or maintenance to this equipment must be undertaken by a suitably qualified person.

7. Before 31 August 2017 the consent holder shall ensure that a continuous record of groundwater level data is maintained by installing an automatic groundwater level recording device in to a dedicated monitoring bore. The device shall measure and record the water level at intervals not exceeding 15 minutes to an accuracy of ± 10 mm and be tamper-proof.

8. Before 30 August 2017 the consent holder shall, unless it is not practically achievable in a particular case, ensure that a continuous record of groundwater level data is maintained by installing an automatic groundwater level recording device into any operational groundwater abstracting bore. The device shall measure and record the water level at intervals not exceeding 15 minutes to an accuracy of ± 10 mm and be tamper-proof.

9. The water meters and data loggers shall be accessible to Taranaki Regional Council officers at all reasonable times for inspection and/or data retrieval.

10. At all times the consent holder shall take all practicable steps to take and use water efficiently and generally prevent or minimise any adverse effects on the environment including as minimum, by ensuring that the minimum amount of water necessary for the purpose is taken.

11. The consent holder shall ensure that the bores and associated pipework are designed and configured in such a way that no water from any source can re-enter any bore.

12. Before 30 September 2020 and every three years thereafter an assessment of the sustainability of the aquifer shall be undertaken and be provided in the form of a report to the Chief Executive, Taranaki Regional Council. The report shall include as a minimum:

    i) A borefield description;
    ii) A description of the on site water use, water sources and discharges;
    iii) All groundwater level data, abstraction data and groundwater quality data collected to 30 June of that year (*Monitoring data is to be presented in tables and graphical format, raw data in appendix, summary data in text);*
    iv) A discussion on groundwater levels, observed trends and the aquifers response to abstraction;
    v) A discussion on groundwater quality and the results of any groundwater quality analysis;
    vi) An assessment of the impacts; including the capacity of the aquifer to sustain the demands on it.

    Note: This assessment may be undertaken by the Taranaki Regional Council or a suitably qualified and experienced groundwater professional on behalf of the consent holder.

13. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review:

    a. during the month of June 2022 and every six years thereafter; and/or
    b. within 3 months of the submittal of a report required under special condition 12 above;

    for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 26 November 2018

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Discharge Permit

Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of Consent Holder:	Silver Fern Farms Limited PO Box 941 Dunedin 9054
Decision Date:	13 September 2017
Commencement Date:	13 September 2017

Conditions of Consent

Consent Granted:	To discharge emissions into the air from various activities associated with meat processing operations
Expiry Date:	1 June 2034
Review Date(s):	June 2022, June 2028
Site Location:	Waiinu Beach Road, Waitotara
Grid Reference (NZTM)	1748090E-5588905N (approximate centre of site)

For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document

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General condition

a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. This consent authorises emissions to air from activities on the site (as shown in Appendix One) generally of the nature and scale described in the application for this consent.

2. The consent holder shall adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this resource consent.

3. The discharges authorised by this consent shall not give rise to any odour at or beyond the site boundary (as shown in Appendix One) of the site that is offensive or objectionable.

4. Any discharge from the factory site shall be free of smoke.

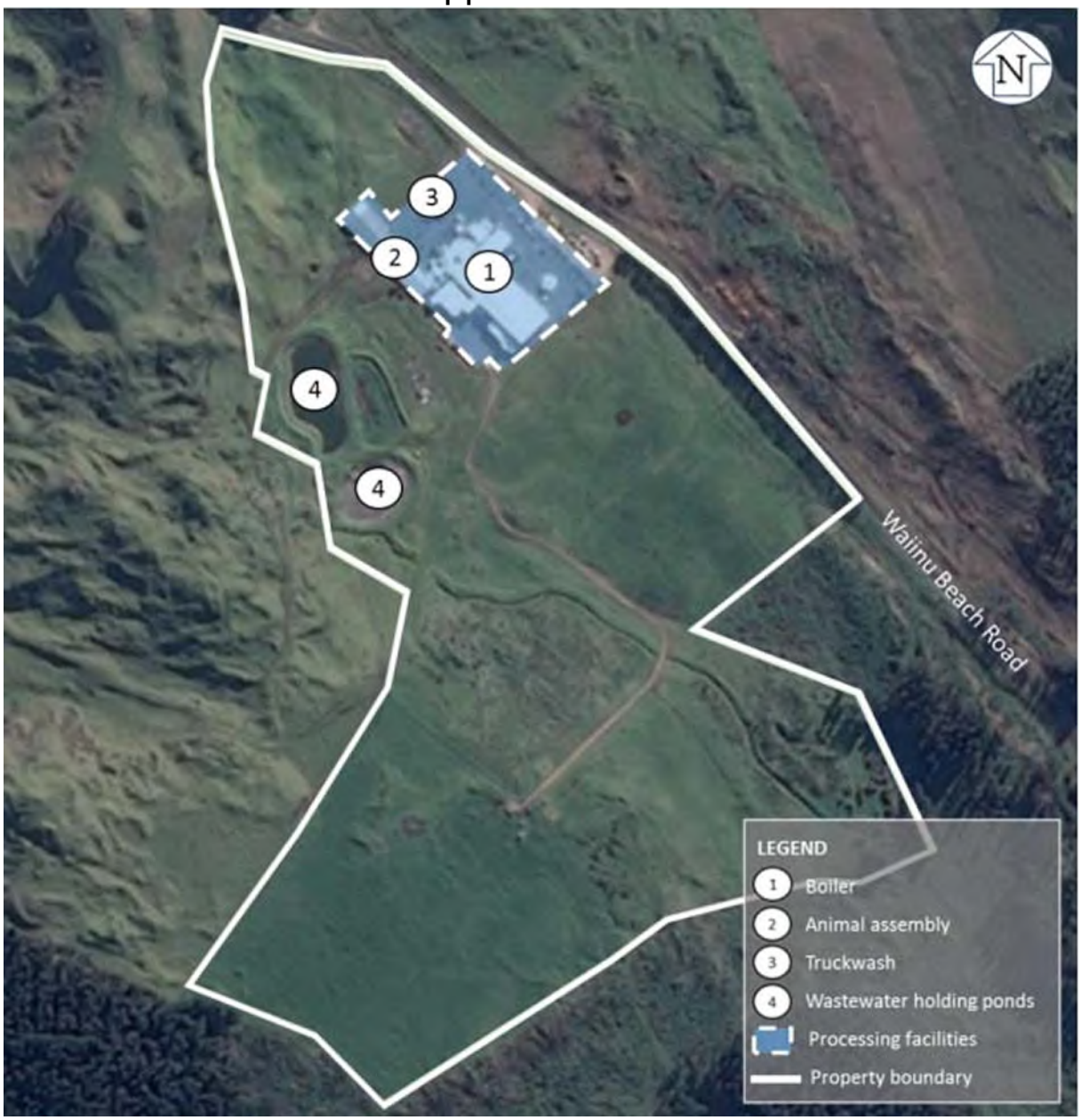
5. The Taranaki Regional Council may review any or all of the conditions of this consent by giving notice of review during the month of June 2022 and/or June 2028, for the purpose of ensuring that that conditions are adequate to deal with any adverse effects of the abstraction on the environment arising from the exercise of this consent, which were not foreseen at the time the application was considered and which it was not appropriate to deal with at that time.

Transferred at Stratford on 26 November 2018

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Appendix One



Area of discharge bounded by the white line

Discharge Permit

Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of Consent Holder:	Silver Fern Farms Limited PO Box 941 Dunedin 9054
Decision Date:	8 November 2010
Commencement Date:	8 November 2010

Conditions of Consent

Consent Granted:	To discharge stormwater, defrost water and evaporative cooling water from a meat processing plant site into an unnamed tributary of the Waitotara River
Expiry Date:	1 June 2028
Review Date(s):	June 2022
Site Location:	Waiinu Beach Road, Waitotara
Grid Reference (NZTM)	1748084E-5589290N
Catchment:	Waitotara

For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document

General condition

a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.

2. The stormwater discharge shall be from a catchment area on the site not exceeding 2.3 hectares.

3. Any significant volumes of hazardous substances (e.g. diesel fuel, hydrochloric acid and sulphuric acid) on site shall be:

   a) contained in a double skinned tank, or
   b) stored in a dedicated bunded area with drainage to sumps, or to other appropriate recovery systems, and not directly to the site stormwater system.

4. Constituents of the discharge shall meet the standards shown in the following table.

Constituent	Standard
pH	Within the range 6.0 to 9.0
suspended solids	Concentration not greater than 100 gm^{-3}
oil and grease	Concentration not greater than 15 gm^{-3}

   This condition shall apply before entry of the treated stormwater into the receiving waters at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

5. After allowing for reasonable mixing, within a mixing zone extending 30 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the receiving water:

   a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
   b) any conspicuous change in the colour or visual clarity;
   c) any emission of objectionable odour;
   d) the rendering of fresh water unsuitable for consumption by farm animals;
   e) any significant adverse effects on aquatic life.

6. The consent holder shall maintain a contingency plan. The contingency plan shall be adhered to in the event of a spill or emergency and shall, to the satisfaction of the Chief Executive, Taranaki Regional Council, detail measures and procedures to be undertaken to prevent spillage or accidental discharge of contaminants not authorised by this consent and measures to avoid, remedy or mitigate the environmental effects of such a spillage or discharge.

7. The consent holder shall maintain a stormwater management plan. This plan shall be adhered to at all times and shall, to the satisfaction of the Chief Executive, Taranaki Regional Council document how the site is to be managed in order to minimise the contaminants that become entrained in the stormwater. The plan shall include but not necessarily be limited to:

   a) the loading and unloading of materials;
   b) maintenance of conveyance systems;
   c) general housekeeping; and
   d) management of the interceptor system.

   A Stormwater Management Plan template is available in the Environment section of the Taranaki Regional Council's web site www.trc.govt.nz.

8. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site, that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to worknotification@trc.govt.nz.

9. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review:

   a) during the month of June 2016 and/or June 2022; and/or
   b) within 3 months of receiving a notification under special condition 8 above;

   for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 26 November 2018

For and on behalf of
Taranaki Regional Council

_____

A D McLay
Director - Resource Management

Water Permit

Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of Consent Holder:	Silver Fern Farms Limited PO Box 941 Dunedin 9054
Decision Date:	14 December 2016
Commencement Date:	14 December 2016

Conditions of Consent

Consent Granted:	To take and use water from a spring for non-potable plant purposes
Expiry Date:	1 June 2040
Review Date(s):	June 2022 and at 3-yearly intervals thereafter
Site Location:	Waiinu Beach Road, Waitotara
Grid Reference (NZTM)	1747918E-5589220N
Catchment:	Waitotara

For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document

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General condition

a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. The rate of taking shall not exceed 4.4 litres per second, and the volume taken in any 24 hour period ending at midnight (New Zealand Standard Time) shall not exceed 350 cubic metres.

2. Before exercising this consent the consent holder shall install, and thereafter maintain a water meter and a datalogger at the site of taking (or a nearby site in accordance with Regulation 10 of the *Resource Management (Measurement and Reporting of Water Takes) Regulations 2010*. The water meter and datalogger shall be tamper-proof and shall measure and record the rate and volume of water taken to an accuracy of ± 5%. Records of the date, the time and the rate and volume of water taken at intervals not exceeding 15 minutes, shall be made available to the Chief Executive, Taranaki Regional Council at all reasonable times.

   Note: Water meters and dataloggers must be installed, and regularly maintained, in accordance with manufacturer's specifications in order to ensure that they meet the required accuracy. Even with proper maintenance water meters and dataloggers have a limited lifespan.

3. The consent holder shall provide the Chief Executive, Taranaki Regional Council with a document from a suitably qualified person certifying that water measuring and recording equipment required by the conditions of this consent ('the equipment'):

   (a) has been installed and/or maintained in accordance with the manufacturer's specifications; and/or

   (b) has been tested and shown to be operating to an accuracy of ± 5%.

   The documentation shall be provided:

   (i) within 30 days of the installation of a water meter or datalogger;

   (ii) at other times when reasonable notice is given and the Chief Executive, Taranaki Regional Council has reasonable evidence that the equipment may not be functioning as required by this consent; and

   (iii) no less frequently than once every five years.

4. If any measuring or recording equipment breaks down, or for any reason is not operational, the consent holder shall advise the Chief Executive, Taranaki Regional Council immediately. Any repairs or maintenance to this equipment must be undertaken by a suitably qualified person and a maintenance report provided to the Chief Executive, Taranaki Regional Council within 30 days of the work occurring.

5. Any water meter or datalogger shall be accessible to Taranaki Regional Council officers at all reasonable times for inspection and/or data retrieval. In addition the data logger shall be designed and installed so that Taranaki Regional Council officers can readily verify that it is accurately recording the required information.

6. The records of water taken:

   (a) be in a format that, in the opinion of the Chief Executive, Taranaki Regional Council, is suitable for auditing;

   (b) specifically record the water taken as 'zero' when no water is taken; and

   (c) be transmitted directly to the Taranaki Regional Council's computer system, in a format suitable for providing a 'real time' record over the internet.

7. This consent shall lapse on 31 December 2021, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.

8. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2022 and at 3 yearly intervals thereafter for the purposes of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 26 November 2018

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Appendix II

Categories used to evaluate environmental and administrative performance

Categories used to evaluate environmental and administrative performance

Environmental performance is concerned with actual or likely effects on the receiving environment from the activities during the monitoring year. Administrative performance is concerned with the Company's approach to demonstrating consent compliance in site operations and management including the timely provision of information to Council (such as contingency plans and water take data) in accordance with consent conditions.

Events that were beyond the control of the consent holder and unforeseeable (that is a defence under the provisions of the RMA can be established) may be excluded with regard to the performance rating applied. For example loss of data due to a flood destroying deployed field equipment.

The categories used by the Council for this monitoring period, and their interpretation, are as follows:

Environmental Performance

High: No or inconsequential (short-term duration, less than minor in severity) breaches of consent or regional plan parameters resulting from the activity; no adverse effects of significance noted or likely in the receiving environment. The Council did not record any verified unauthorised incidents involving environmental impacts and was not obliged to issue any abatement notices or infringement notices in relation to such impacts.

Good: Likely or actual adverse effects of activities on the receiving environment were negligible or minor at most. There were some such issues noted during monitoring, from self-reports, or during investigations of incidents reported to the Council by a third party but these items were not critical, and follow-up inspections showed they have been dealt with. These minor issues were resolved positively, co-operatively, and quickly. The Council was not obliged to issue any abatement notices or infringement notices in relation to the minor non-compliant effects; however abatement notices may have been issued to mitigate an identified potential for an environmental effect to occur.

For example:

- High suspended solid values recorded in discharge samples, however the discharge was to land or to receiving waters that were in high flow at the time;
- Strong odour beyond boundary but no residential properties or other recipient nearby.

Improvement required: Likely or actual adverse effects of activities on the receiving environment were more than minor, but not substantial. There were some issues noted during monitoring, from self-reports, or during investigations of incidents reported to the Council by a third party. Cumulative adverse effects of a persistent minor non-compliant activity could elevate a minor issue to this level. Abatement notices and infringement notices may have been issued in respect of effects.

Poor: Likely or actual adverse effects of activities on the receiving environment were significant. There were some items noted during monitoring, from self-reports, or during investigations of incidents reported to the Council by a third party. Cumulative adverse effects of a persistent moderate non-compliant activity could elevate an 'improvement required' issue to this level. Typically there were grounds for either a prosecution or an infringement notice in respect of effects.

Administrative performance

High: The administrative requirements of the resource consents were met, or any failure to do this had trivial consequences and were addressed promptly and co-operatively.

Good: Perhaps some administrative requirements of the resource consents were not met at a particular time, however this was addressed without repeated interventions from the Council staff. Alternatively adequate reason was provided for matters such as the no or late provision of information, interpretation of 'best practical option' for avoiding potential effects, etc.

Improvement required: Repeated interventions to meet the administrative requirements of the resource consents were made by Council staff. These matters took some time to resolve, or remained unresolved at the end of the period under review. The Council may have issued an abatement notice to attain compliance.

Poor: Material failings to meet the administrative requirements of the resource consents. Significant intervention by the Council was required. Typically there were grounds for an infringement notice.