Ellesmere Wastewater Treatment Plant – Application for Notice of Requirement

Prepared for Selwyn District Council
Prepared by Beca Limited

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Contents

Appendices

Document Acceptance

Action	Name	Signed	Date
Prepared by	**Hugh Loughnan**		01/05/2020
	Graeme Jenner		01/05/2020
Reviewed by	**Paul Whyte**		01/05/2020
Approved by	**Paul Reed**		01/05/2020
on behalf of	Beca Limited		

1 Introduction

1.1 Overview

Selwyn District Council (SDC) is making application for a Notice of Requirement (NOR) for the Ellesmere Wastewater Treatment Plant (WWTP). The Ellesmere WWTP is located at 40 Station Street, Leeston and receives municipal wastewater from the Doyleston, Leeston, and Southbridge Townships.

The WWTP consists of a series of oxidation and maturation ponds and rapid infiltration basins. The treated wastewater is currently either irrigated to the land on site via three centre pivot irrigators or, during high ground water periods, applied to the rapid infiltration basins and subsequently pump abstracted and delivered to the Tramway Reserve Drain.

The WWTP site in total currently comprises approximately 50ha. Consent CRC 110148 (and several other associated consents), authorises the discharge of wastewater from the base of the ponds and basins to ground; and the discharge by irrigation of wastewater to an area of 41.9ha. However only 6.69ha of the site is designated in the operative Selwyn District Plan (SDP) as 'D129 - Sewage Treatment and Disposal Area". The use of land to treat or dispose of wastewater is not a permitted activity in the SDP.

In addition, SDC applied to Environment Canterbury (ECan) in April 2020 to increase the irrigation area by a further 9.42ha. The resource consent has been lodged with ECan and currently is undergoing processing. The general site including the treatment ponds and infiltration basins is shown in Figure 1-1.

In order to regularise what is largely an existing situation it is proposed to issue a Notice of Requirement (NOR) pursuant to section 168A of the Resource Management Act (RMA) for that part of the existing site not designated and the proposed additional 9.42ha as "Sewage Treatment and Disposal Area". The net result will be that the whole of the Ellesmere WWTP will be designated in the proposed Selwyn District Plan (PSDP) as "Sewage Treatment and Disposal Area" (although this NOR does not apply to existing designation D129).

In addition, the Selwyn District has one of the fastest population growth rates in New Zealand. Growth along with changes in environment, regulatory and cultural drivers mean that parts of the wastewater infrastructure servicing the Ellesmere area (Doyleston, Leeston and Southbridge) may not fully meet the future demands. Council is currently investigating options for the upgrading of the Ellesmere WWTP, which may include changes to the component treatment ponds on site. The designation will enable any such works to be legitimately carried out in terms of SDP requirements.

Figure 1-1 Ellesmere WWTP – general area outlined in red

1.2 Purpose and Structure of the Report

This report has also been prepared to support the proposed Notice of Requirement (NOR) pursuant to section 168A of the Resource Management Act, 1991 (the RMA). It includes an Assessment of Effects (AEE).

The AEE describes the nature of the existing and proposed activities, the environment within which the proposed activities will occur, the alternatives investigated, and an assessment of environmental effects and of relevant statutory documents.

2 Existing Designation and Resource Consents

2.1 Existing Designation

As indicated above, the existing WWTP site is currently designated in Appendix E2 in the Rural Volume of the SDP as follows:

Des No.	Authority Responsible	Site Name	Location	Legal Description and Area	Zone	Comments/ Conditions
D129	Selwyn District Council	Sewage Treatment & Disposal Area	Beethams Road, Leeston	Lots 1 & 2 DP 29488 (6.69 ha)	Outer Plains	

The site is shown on the Planning Maps and reproduced in Figure 2-1 as follows:

The designated area is 6.69ha and essentially covers one of the oxidation ponds and part of the irrigation area. There are no conditions on the designation. As indicated above, the maturation and infiltration ponds and a significant part of the area used for irrigation, are not included in the designation. It appears that subsequent improvements to the WWTP, while authorised by appropriate regional council consents, have not been included in the SDP by way of an enlarged designation.

Figure 2-1 - Designated site in SDP- "SDC 129 - Sewage Treatment and Disposal Area"

2.2 Resource consents

2.2.1 Current regional resource consents

The currently active following regional resource consents for the site held by SDC are shown in Table 2-1.

Table 2-1 Current site resource consents held by SDC

Consent Number	Consent Type
CRC011680.1	To discharge contaminants into land and groundwater from the operation of additional wastewater treatment and disposal.
CRC930165.1	To discharge contaminants to land.
CRC011681.2	To discharge up to 120 litres per second of extracted groundwater into Tramway Reserve Drain.
CRC011679.1	To discharge contaminants into air from construction and operation of additional wastewater treatment and disposal facilities.
CRC941475.1	To discharge contaminants to air.
CRC941476	Discharge Contaminant into Land
CRC950253	To discharge oxidation pond effluent onto land via border dyke irrigation
CRC110148	To discharge contaminants to land, air, and groundwater and surface water.

Accordingly, the resource consents enable the operation of the WWTP in respect of discharge of contaminants to land, groundwater, surface water and air and applies to the treatment plant and the land used for irrigation of the wastewater. The resource consents apply to the area identified in Figure 2-2.

CRC110148 is the most relevant consent and has a significant number of conditions attached to it including:

Discharge Treated Wastewater onto land (Conditions 1-8)

- The area of land available for disposal of treated wastewater is 41.9ha.
- The requirement that when spray irrigation is utilised, treated wastewater is not to be applied within:
    - 20m of a surface waterway;
    - on land within 50m of a boundary with neighbouring properties and sensitive developments (ie housing, gardens, intakes to drinking water supplies and crops for human consumption);
    - onto land within 30m of the site boundary with public roads; and
    - if local windspeed in the direction of neighbouring properties exceeds 15kph.
- Treated wastewater shall not discharge or percolate to a neighbouring property.
- Maximum rates at which wastewater can be discharged in respect of nitrogen.

Discharge Contaminates to Air (Conditions 9- 12)

- Discharge of spray drift and odour shall not be objectionable or offensive beyond the boundary of the property.

- Limits on the concentration of dissolved oxygen.
- No disturbance of the base of the maturation ponds.

Discharges into Land and Water (Conditions 13-22)

- Limits on the rate of discharge from the bases of the oxidation and aeration and infiltration basins.
- Requirements to line the oxidation ponds.
- Limits on the minimum depth groundwater when discharging.
- Discharge shall not result in any surface runoff to a neighbouring property or waterway.

Discharge Extracted Groundwater to surface Water (Conditions 23-29)

- Restrictions on the circumstances when extracted groundwater can be discharged to Tramway Reserve Drain including treatment, rates and concentrations

Monitoring and Reporting (Conditions 30-46)

- Extensive conditions related to monitoring and reporting including sampling and monitoring of contaminants.

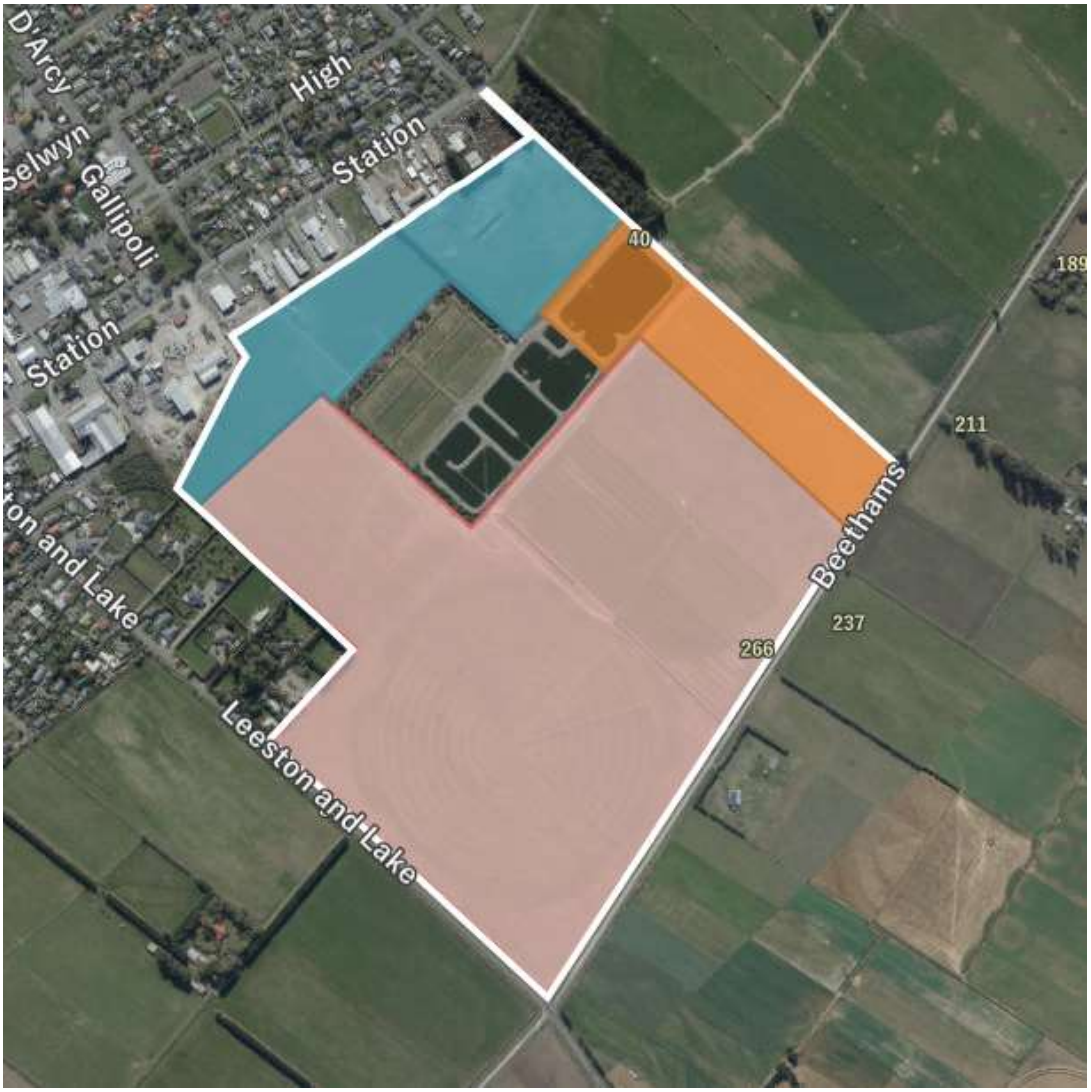


Figure 2-2- Ellesmere WWTP

(i) Existing Designation D129 shown in orange

(ii) Area that CRC 110148 and associated consents apply is shown within white border, minus blue area

(iii) Area available for disposal of treated wastewater to land that CRC 110148 and associated consents applies to shown in pink (41.9ha)

(iv) Additional disposal area subject to the change in condition of CRC 110148 shown in blue

It is noted that during a recent review of these resource consents by Beca on behalf of SDC, it became apparent that CRC110148 covers all the matters of the other listed consents in Table 2.21and consideration is being given to surrendering these other consents in order to avoid confusion and overlap, as well as potential costs/duplication for SDC in compliance monitoring and reporting. The resource consents expire in 2029.

CRC110148 is attached as **Appendix 1**.

2.2.2 Proposed variation to CRC110148

As indicated above, SDC has lodged a resource consent in April 2020 to change Condition 1 of CRC110148 pursuant to section 127 of the RMA so that the area available for the irrigation of wastewater is increased by 9.42ha. This variation application is attached as **Appendix 2** and the proposed additional area, which adjoins the existing WWTP to the north, is shown in blue on Figure 2-2. The additional area adjoins industrial properties to the north and a residential property to the west.

In summary, SDC has submitted that the change of condition to CRC110148 will provide SDC with a greater ability to meet the conditions of CRC110148 and in particular Condition 7 which relates to the nitrogen limits.

The application states:

"An increase in the area of distribution will potentially decrease nutrient loading, by spreading the nutrient load over a wider area. Furthermore, the increased area provides greater flexibility for the management of land to meet condition 7. Given this, we consider the proposed change will result in a potential reduction in adverse effects of the consented activity."

Other than Condition 1, none of the other conditions of CRC110148 are proposed to be changed as a result of the variation.

3 Proposed Notice of Requirement

As indicated above, the existing WWTP site is currently designated in the SDP as “D129-Sewage Treatment & Disposal Area”.

Essentially, SDC is applying to include the additional land by way of a NOR under section 168A of the RMA. While there is an existing designation in place over part of the WWTP, it is unlikely the proposal could be undertaken under section 181 of the Act as an alteration, given that there may be a more than minor change to the effects on the environment associated with the use, or the changes and adjustments to the boundaries of the designation are more than minor.

The proposed NOR is set out below in accordance with the National Planning Standards:

Ellesmere WWTP- Selwyn District Council	
Unique identifier	SDC-65
Purpose	Sewage Treatment and Disposal Area
Site identifier	40 Station Street and 266 Beethams Road, Leeston Lot 1 DP 69263 and Lot 1 DP 70552
Lapse date	5 years
Designation hierarchy under section 177 of the Resource Management Act	Primary
Conditions	Yes – Noise (see section 11 of report)

It is noted that:

- the designation purpose is consistent with D129.
- The area of the NOR is approximately 54.35 ha.
- The lapse date is in accordance with Section 184A of RMA and assumes effect will be given to it within 5 years.
- **The NOR application does not apply to existing designation D129.**

The proposed NOR is shown in the Drawing in **Appendix 3** and generally illustrated in Figure 3-1.

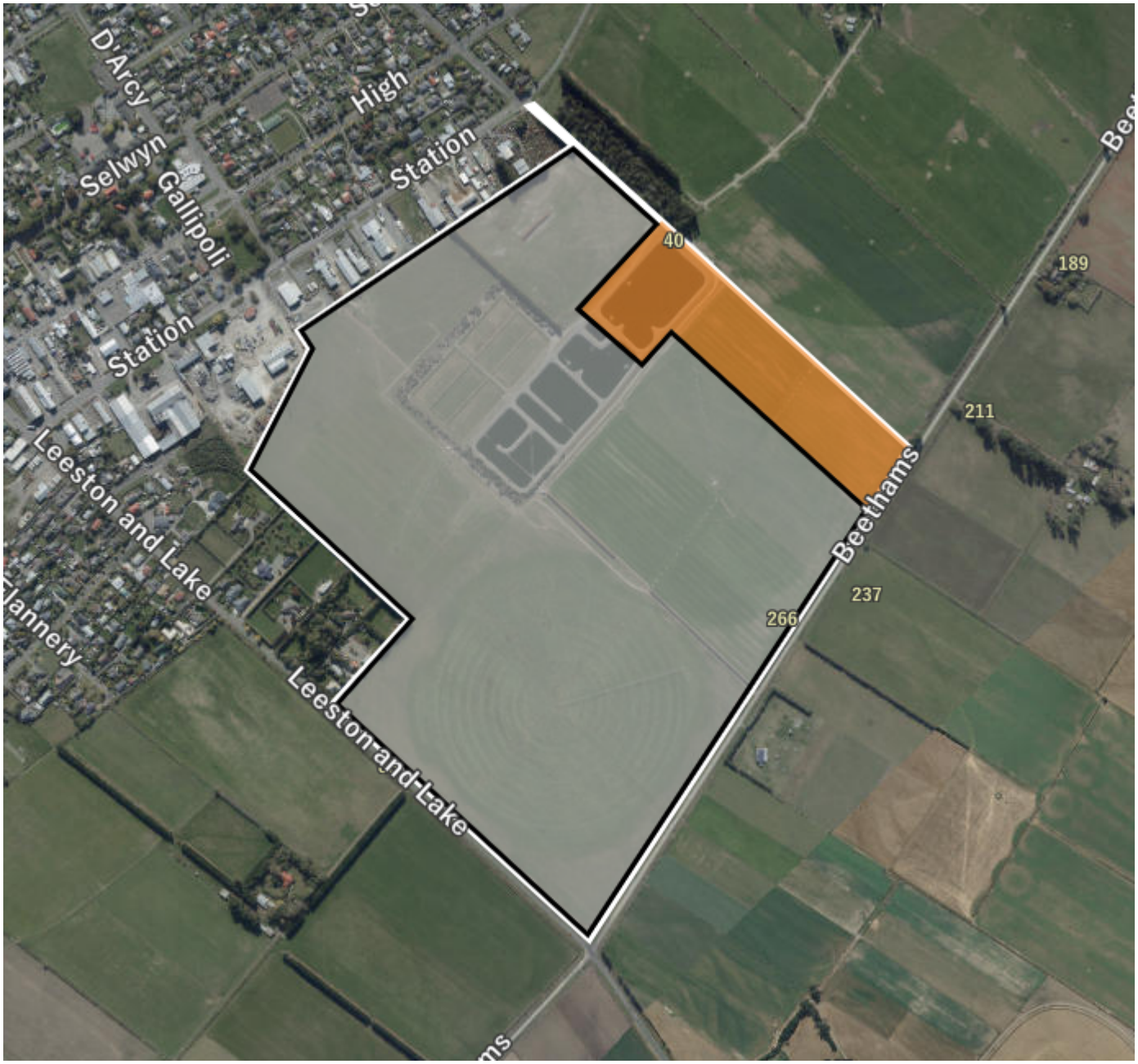


Figure 3-1 – Site to be designated "Sewage Treatment and Disposal Area" (shown in grey)

(Existing SDC 129 shown in orange)

Overall, in respect of section 168A (3), the objective of SDC regarding the proposed designation is to ensure the on-going ability of the Ellesmere WWTP to operate in an environmentally sustainable manner, while meeting future population growth requirements.

In particular, the NOR will regularise an existing situation by reflecting the current use of the site and also designate an additional proposed area for wastewater disposal. The existing designation in the SDP only covers a relatively small part of the WWTP site in use and does not reflect the area authorised by CRC 110148.

The NOR will also enable any upgrading to occur in respect of the treatment ponds currently not included in the designation. Any upgrading will be in accordance with the Outline Plan provisions under section 176A of the RMA.

The additional area in the change of condition to CRC110148 will enable the SDC to reduce the environmental impact of the discharges by spreading wastewater nutrients over a larger area and reducing its loading as well as enabling better management of the disposal area.

The NOR will also:

- Allow the SDC to undertake the project or work in accordance with the designation, notwithstanding anything to the contrary in the PSDP;
- Allow land to be identified in the PSDP which gives the community a clear indication of the intended use of the land and the location of facilities;
- Enable any work to be undertaken in a comprehensive and integrated manner;
- Provide flexibility for the ongoing operational performance of the WWTP as the characteristics of the Leeston catchment and desires of the community change; and
- Be consistent with the planning mechanism utilised for other existing utilities in the Selwyn District.

Given existing nature of the WWTP; the current lack of detail on any upgrading works to the treatment ponds and the absence of infrastructure in the irrigation area except for irrigation pivots, an Outline Plan under section 176 of RMA does not form part of the application. Such an Outline Plan is however not precluded in the future, as indicated above.

4 Site and Locality

4.1 Location and Description of Site

The Ellesmere WWTP (shown on Figure 1-1), is located at 40 Station Street/266 Beethams Road, Leeston, between Beethams Road and Station Street. The site is also adjoined by Leeston and Lake Road to the west. The site is immediately to south and east of the township.

The WWTP comprises the actual treatment plant which as indicated above is a series of treatment ponds located on an east-west alignment on the eastern part of the site. The remaining part of the site is comprised in pasture with post and wire fencing and is not dissimilar to the rural land in the vicinity of the site. The site does not contain any significant vegetation although there are some hedgerows on the road boundaries and an internal shelter belt between the treatment ponds and Station Street on a north south axis and some vegetative screening on the western boundary adjoining residential properties. Access to the treatment ponds is from a gravel driveway along the eastern boundary off Station Street.

The WWTP site is in a predominantly rural setting although the northern boundary is adjoined by light industrial operations on Station Street and residential properties, some of which are large, on the northern part of the western boundary on Leeston and Lake Road. The other boundaries are generally essentially surrounded by pastoral land.

4.2 Legal Description

The site the proposed NOR relates to is legally described as Lot 1 DP 70552 and Lot 1 DP 69263. The existing designation is legally described as Lots 1 & 2 DP 29488. Copies of Certificates of Title (CTs) are included in Appendix 4. In total the existing and proposed designations comprise 60.6104ha.

All of the land subject to the NOR is owned by SDC.

4.3 Zoning

The zoning of the site and adjoining area is shown on Figure 2-1 and generally reflects the land use described above.

The site subject to the NOR is zoned Rural-Outer Plains in the SDP. In this zone the SDP notes the following:

The dominant land use in the Rural zone remains farming. Farming is becoming increasingly diverse in both types of crops grown and livestock reared, and the methods used to undertake the activities. There are many other activities, which also occur in the Rural zone, which need to be recognised and provided for as part of promoting sustainable management of natural and physical resources.

The Rural Area of Selwyn District may be divided into four broad geographic areas:

Port Hills

Canterbury Plains (which applies to the NOR site)

Te Waihora/Lake Ellesmere, and

Hill and High Country

The Plains

The Canterbury Plains are the largest area of flat land in New Zealand. It is an outstanding natural feature. It is also an area with different characteristics, such as the wetter area around Te Waihora/Lake Ellesmere with loam and clay soils, and the drier, stonier area on the Waimakariri river floodplain, west of Christchurch. The different characteristics of the Plains have resulted in different land uses and intensity of subdivision and settlement. These differences are reflected in the division of the Plains into Inner and Outer Plains for the management of subdivision and residential density in the Plan.

In this zone the following is a discretionary activity:

Discretionary Activities — Treatment and Disposal of Liquid Waste

8.2.1 The use of any land or establishing any facilities to treat or dispose of reticulated sewage, biosolids or septic tank sludge shall be a discretionary activity.

Land adjoining the eastern and southern boundaries is zoned Rural-Outer Plains. As indicated above existing Designation 129 adjoins the eastern boundary with an underlying zoning of Rural-Outer Plains.

Land adjoining the northern boundary is zoned Business 2. In this zone, the SDP notes the following:

Business 2 Zones are areas where activities likely to be considered less pleasant by people are located. Aesthetic and amenity standards are less than those in Living or Business 1 Zones. Activities are still managed to protect natural resources and people's health or well-being. Activities likely to cause 'reverse sensitivity' issues are discouraged in Business 2 Zones e.g. residential activities.

Land on the western boundary is zoned Rural- Outer Plains and Living Zone 2A. In this latter zone, the SDP notes

Living 2 Zone: As for Living 1 Zone (Areas that are managed to maintain environments that are most pleasant for residing in. Activities in Living zones have effects which are compatible with residential activities and amenity values) but with lower building density and development reflective of the rural character expected of low density living environments. While generally adjoining existing living zones, in some circumstances, low density Living 2 Zones can be located on the edge of townships. Larger sections, more space between dwellings, panoramic views and rural outlook are characteristic of this zone.

The definition of "utility" in the SDP is as follows:

includes the use of any structure, building or land for any of the following purposes:

(e) The drainage, reticulation or treatment of stormwater, waste water or sewage;

4.4 Soils and Groundwater

The area is underlain by a mixture of river gravels and alluvium. Beneath the WWTP site, permeable gravel and sand layers are separated by less permeable clay and clay-bound gravel layers. A survey of nine boreholes within a 500 m radius of the site, undertaken as part of the 2001 AEE study, found groundwater levels ranged from 0.7 – 2.1 m below ground level. Groundwater flow is in a generally south-easterly direction towards Te Waihora/Lake Ellesmere, although small

seasonal variations in direction can occur in response to changes in aquifer recharge and discharge patterns.

The Ellesmere Gun Club is located on the far side of Beethams Road from the Amyes property; drinking water bores at both of these sites were replaced with a reticulated supply as a requirement of the Leeston WWTP consenting process.

4.5 Surface Water

All drainage within the area is to Te Waihora/Lake Ellesmere, some 4.5 km to the south-east of the WWTP. Two small streams run in a generally north-west to south-east direction on either side of Leeston: Boggy Creek, some 2.5 km to the north and Birdlings Brook, approximately 1.5 km to the south. A drainage channel runs along Beethams Road, less than 20 m from the eastern boundary of the site's border-dyke irrigation area.

Tramway Reserve Drain, the receiving watercourse when the infiltration basins are in use, runs for much of its length alongside Tramway Reserve Road (approximately 500m north west of the site). This drain is a partial diversion of the Leeston Stream, created in 1946, as a flood alleviation measure for the Township. It is a highly modified watercourse with tributaries draining farmland. Flows are monitored by ECan at various points along the drain's length. Typically, flows are in the order of 0.1 m^3/s (100 l/s) or lower.

At the Tramway Reserve Road/Lochheads Road intersection (approximately 1500 m downstream of the WWTP discharge), the majority of records indicate no flow or dry conditions.

When the infiltration basins are in use, extracted groundwater enters the drain via a pipe under the junction of Beethams Road and Tramway Reserve Road. At these times, the control gate damming Leeston Stream is required to be fully closed to provide maximum flow through the drain for dilution of the wastewater (as per Condition 4 of CRC011681.2).

A limited amount of water quality monitoring within the drain has been undertaken, some of which was summarised in Table 2.1 of the 2008 AEE for CRC110148. As part of the 2008 AEE, an ecological survey was undertaken by Golder Associates at two points: one 10 m upstream of the extracted groundwater discharge point and one 10 m downstream. The report concluded that "*at the time of the survey and following WWTP discharge to Tramway Reserve Drain there was no detectable difference in macroinvertebrate communities upstream and downstream of the WWTP discharge point.*"

4.6 Air Quality

No ambient air quality monitoring has been undertaken in the Leeston area, nor any similar sized township in Canterbury. The nearest meteorological station, at Lincoln (approximately 20 km from the WWTP site), shows winds blow predominantly from the north-east quarter with a secondary peak from the south-west. With flat terrain in between, it can be assumed that this wind pattern will be similar at Leeston.

The ambient air quality will be typical of rural areas dominated by mixed arable and pastoral farming with some airborne particulates sourced from domestic heating within the Leeston Township.

4.7 Natural Hazards

The site is not identified on the SDP maps or Canterbury Maps as subject to natural hazards. The latest SDC flood maps https://yoursay.selwyn.govt.nz/dprflooding shows that there is a relatively small portion of the site (between the WWTP treatment ponds and the northern boundary (Station Street) boundary that would flood to about 1m in a 200 year ARI rainfall event. Most other parts of the site would flood from between 0.1 and

0.2m in the same event. A portion of the site (i.e. between the WWTP treatment ponds and Beethams Road) does not have any modelled flood data recorded.

4.8 Natural Values

The site is essentially modified with the WWTP treatment ponds and pasture comprising the site. The site is not identified on the SDP maps or Canterbury Maps as containing any natural values.

4.9 Cultural and Heritage Values

The site is not identified on the SDP maps or Canterbury Maps as containing any cultural or heritage values.

5 Description of Existing Wastewater Scheme

5.1 History of the Scheme

The Ellesmere WWTP has operated for a number of years. The key milestones of the WWTP are as follows:

- **1975:** Sewerage reticulation was installed and an oxidation pond constructed at the site to replace the "night cart" service for the township and sullage that went to Tramway Reserve Drain, from side channels. The original plant comprised a small aeration basin, and a single oxidation pond with treated wastewater discharged to land via a border dyke irrigation system. When the local ground water level was high (less than 900 mm from soil surface), the treated wastewater was discharged directly to the Tramway Reserve Drain, which flows into Lake Ellesmere. Operational problems were experienced mainly due to the seasonally high groundwater table in the area.
- **1993:** Two pump stations were substantially upgraded along with installation of an aeration pond to increase treatment capacity.
- **2003**: The treatment plant was further upgraded to provide additional wastewater treatment. An additional facultative pond was added, and further maturation and wetland ponds were constructed. The existing border dyke system was upgraded for use when groundwater levels were acceptable, and an alternative infiltration basin system, with groundwater wells and pumps, was also constructed. A new pipeline was installed to convey the water pumped from the infiltration basin wells to the Tramway Reserve drain.

Treated wastewater is either irrigated to the land on site or, during high ground water periods, applied to rapid infiltration basins and subsequently pump abstracted and delivered to the Tramway Reserve Drain.

Since 2003, further changes to the disposal system have been put in place by SDC. The border dyke irrigation system has now been replaced with centre pivot spray irrigation system

Treated wastewater is also no longer discharged directly to the Tramway Reserve Drain.

As indicated above, the WWTP is proposing to increase its irrigation disposal areas to meet its nitrogen loading obligations under its existing resource consent. In addition to this, the current catchment of the WWTP has been extended beyond the plant's capacity and long-term planning is underway to consider plant upgrade requirements to meet the future increased demand (see below).

5.2 Current Population and Flows

The estimated current population connected to the sewer network is approximately 3,930 according to the SDC's growth projections. The maximum design population for the WWTP was intended to be 3,600 (nominally 1,300 connections), which was split between Leeston (850 connections), Doyleston (115) and Southbridge (350).

From the SDC population growth data, it is estimated that in the future there will be 1493 full and half rated connections in total; Leeston (1003 connections), Doyleston (127) and Southbridge (363). This will result in an estimated future population of being 6,631[1] contributing to the sewer network by 2047.

The current and estimated future flows to the WWTP are summarised in Table 5-1.

Table 5-1 Current and estimated future flows to WWTP

Parameter	Current (18-19)	Future (2047)
Average Dry Weather Flow (ADWF) (m^3/d)	1161	1888
Average Daily Flow (ADF) (m^3/d)	1391	2262
Peak Dry Weather Flow (PDWF) (m^3/d)	2014	3275
Peak Wet Weather Flow (PWWF) (m^3/d)	3014	4902
Peak Instantaneous Flow (PIF) (L/s)	105	170

5.3 Current Treatment

The WWTP comprises the following treatment stages:

- inlet screening (currently disconnected but may be included in a future upgrade);
- Partially aerated lagoon (basin);
- two primary oxidation ponds of 1.3 and 0.5 ha (Ponds 2A and 2B), which can be operated in parallel or in series;
- two maturation ponds of 0.3 ha and 0.2 ha (Ponds 3 and 4), operating in series and separated by a rock filter; and
- four wetland cells totalling 0.9 ha (Ponds 5 – 8), operating in series and separated by rock filter bunds.

A process flow diagram for the WWTP is shown in Figure 5-1.

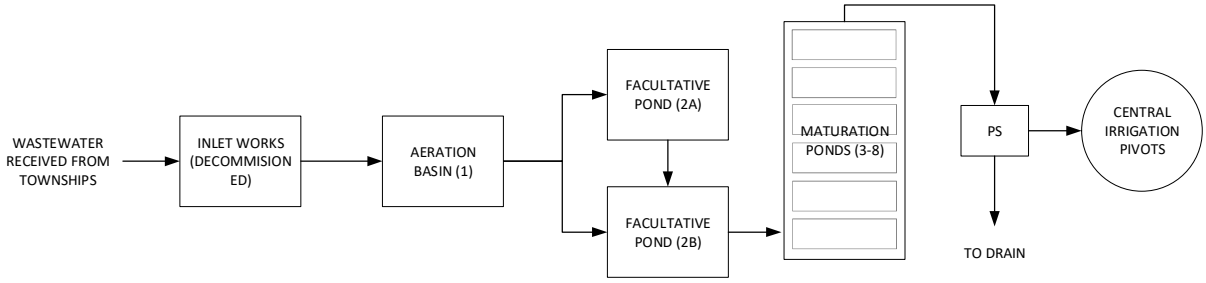


Figure 5-1 Ellesmere WWTP process flow diagram

[1] Figure obtained from the SDC provided *Population Growth Projections LTP 2018-2019 Draft Population Numbers FINAL (xls)*.

5.4 Odour

Well-designed and operated municipal treatment ponds should not be odorous. Maintenance of an adequate concentration of dissolved oxygen at the surface will generally ensure that an adverse odour effect is not experienced at, or beyond the site boundary. The WWTP is in an exposed, open environment which allows for good wind mixing of wastewater in the ponds.

Wastewater treatment ponds require little odour control if they are well-designed and operated properly. The current WWTP includes two partially aerated lagoons (basins). The basins promote the biochemical oxidation of wastewaters prior to discharge to the ponds. Future upgrading of these lagoons would further reduce the likelihood of odour generation at the WWTP.

The WWTP site is in a predominantly rural setting with the closest part of the township comprising light industrial units, at least 200 m from the treatment ponds. This buffer distance meets guideline separation distances for treatment ponds (MWH, 1974).

The WWTP provides a high level of removal of organic contaminants responsible for odour creation before wastewater is applied to land. On this basis, odour effects from the irrigation system are negligible.

5.5 Resource Consents

As indicated in Section 2 of the report there are several consents relating to the operation of the Ellesmere WWTP. Most relevant is CRC1101 which permits the discharge of treated wastewater to land, air, ground and surface water including from the base of the ponds and irrigated wastewater.

As indicated earlier, SDC has recently lodged a resource consent to change Condition 1 of CRC110148. This variation will allow the area available for the irrigation of wastewater to be increased.

5.6 Future WWTP Upgrading Options

A report issued in 2016 by Opus[2] recommended options for upgrading the WWTP. This was based on a relatively simple multi-criteria analysis, which included a clear economic advantage for an 'in-line', fully aerated lagoon, with a separate anoxic zone and a conventional secondary clarifier. This was the preferred option for achieving the required level of future nitrogen removal at the Ellesmere WWTP.

It was also feasible to construct concrete tanks to convert pond systems into activated sludge plants which would have a similar cost to lining the ponds. However, lining the ponds would provide a safety factor for future treatment or allow for the management of wet weather flows as the system would remain functionable even at higher flows.

Given the Ellesmere catchment influent characteristics have not changed significantly since the Opus report was issued, the options proposed are still appropriate for the upgrading the WWTP.

Beca is currently preparing an updated WWTP upgrade options assessment report for consideration by SDC.

[2] Opus (2016) *Leeston WWTP Upgrade Report*

Any upgrading works will be carried out within or in the vicinity of the existing treatment ponds and will be located in the area subject of this NOR. The works will be subject to section 176A of the RMA and any necessary regional resource consents.

6 Section 168A of RMA

As referred to above SDC is issuing a NOR to designate an area adjacent to the existing Ellesmere WWTP as "Sewage Treatment and Disposal Area" (refer Drawing in **Appendix 3**).

Section 168A of the RMA provides for a territorial authority (in this case, SDC), to issue a Notice of Requirement (NoR) for a designation provided that the public work is located within its district and it has financial responsibility for the work, or a restriction is necessary for the safe and efficient functioning or operation of a public work. In this instance, SDC will have financial responsibility for the project and the project is located entirely within Council's jurisdiction.

Section 168A (1A) addresses public notification of a NoR and establishes that the process is generally the same as for applications for resource consent. Similarly, the processes that apply to applications for resource consent in relation to submissions and hearings also apply to an NoR (section 168A(2)).

Section 168A (3) states that when considering a requirement and any submissions received, a territorial authority must, subject to Part 2, consider the effects on the environment of allowing the requirement, having particular regard to—

"*(a) any relevant provisions of-*

(i)A national policy statement:

(ii)A New Zealand coastal policy statement:

(iii)A regional policy statement or proposed regional policy statement:

(iv)A plan or proposed plan; and

(b) whether adequate consideration has been given to alternative sites, routes or methods of undertaking the work if –

(i) the requiring authority does not have an interest in the land sufficient for undertaking the work: or

(ii) It is likely that the work will have significant adverse effects on the environment; and

(c) whether the work and designation are reasonably necessary for achieving the objectives of the requiring authority for which the designation is sought: and

(d) any other matter the territorial authority considers reasonably necessary in order to make a decision on the requirement."

In terms of decision making, under section 168A (5) the territorial authority may decide to confirm the requirement, modify the requirement; impose conditions; or withdraw the requirement.

These matters are addressed in the subsequent sections of the AEE.

7 Assessment of Environmental Effects

7.1 Overview

In accordance with section 168A(3) of the RMA when considering an application for a Notice of Requirement respectively, the Consent Authority must consider the effects on the environment of allowing the requirement, having particular regard to the matters listed in Section 168 (3)-(d)—

In the RMA, unless the context otherwise requires, the term effect includes—

(a) any positive or adverse effect; and

(b) any temporary or permanent effect; and

(c) any past, present, or future effect; and

(d) any cumulative effect which arises over time or in combination with other effects—

regardless of the scale, intensity, duration, or frequency of the effect, and also includes—

(e) any potential effect of high probability; and

(f) any potential effect of low probability which has a high potential impact.

7.2 Effects Recognised by CRC 110148

In terms of the environment, CRC 110148 and associated consent forms part of the existing environment and applies to a significant part of the area that is to be designated. As indicated above, the resource consents authorise the discharge of treated wastewater on the site. The effects on land, air and water have been considered and appropriate conditions put in place. This situation has existed since 2010 when the consent was issued. Accordingly, adverse effects relating to such matters as groundwater and surface water, odour etc have already been addressed but are referred to below for completeness.

The additional area that is the subject to the variation of CRC 110148 will be subject to the existing conditions of the consent including setbacks from adjoining properties.

7.3 Positive Effects

The designation will have the following positive effects:

- Be able to cater for the long-term growth of the Selwyn District.
- Largely regularise an existing situation.
- Allow the SDC to undertake the project or work in accordance with the designation, notwithstanding anything to the contrary in the PSDP; and
- Allows land to be identified in the PSDP which gives the community a clear indication of the intended use of the land.

7.4 Construction Effects

The future upgrading of the Ellesmere WWTP treatment ponds, including any ancillary works, is unlikely to involve significant earthworks.

However, SDC will apply separately to ECan for any consents required to manage construction activities. An Outline Plan may also be required for any construction works under the proposed designation depending on the expected level of activity and effects of the works. Similarly, a contaminated soils disturbance consent under the National Environment Standard Contaminated Soils Regulations may be required. Accordingly construction effects will be addressed at this time.

7.5 Operational Effects

7.5.1 Effects on groundwater

The potential for discharges from the WWTP to cause adverse effects on groundwater quality is addressed by the existing consent CRC110148.

It is also noted that treated wastewater from the WWTP contains relatively small concentrations of contaminants such as nitrate nitrogen and micro-organisms that could cause a public health risk, particularly if the down-gradient groundwater is subsequently used for potable supply. Other substances such as trace metals pose a low risk as they remain mostly within pond sludge or are removed by processes such as adsorption and direct precipitation onto soils.

7.5.2 Effects on surface waters

The potential for discharges from the WWTP to cause adverse effects on surface waters is addressed by the existing consent CRC110148, including a setback of 20m from any waterway during the irrigation of wastewater.

It is also noted that the discharge of an excessive nutrient load (ie containing nitrogen and phosphorus), into surface waters can reduce water quality and increase the risk of nuisance algal growth. Reduced water quality can have an adverse effect on the ecological and recreational values of the waterbody. The nearest surface waters are the Tramway Drain which discharges into Lake Ellesmere.

7.5.3 Effects of discharges to air

The potential for the WWTP to cause adverse effects on air quality is addressed by the existing consent CRC110148. SDC advises that there have been no complaints in respect of odour from the site.

It is also noted that ongoing odours from poorly performing or overloaded WWTPs can adversely affect neighbours and reduce the overall amenity values of an area. Spray type irrigation can create aerosols or fine spray droplets that can be carried beyond site boundaries if not properly managed.

The inclusion of buffers between WWTPs and odour-sensitive land uses is a well - recognised practice in New Zealand and overseas. While buffers are an appropriate planning tool, they should be used in conjunction with best practice odour mitigation measures within the WWTP.

The *Guideline for Design, Construction and Operation of Oxidation Ponds* (MWD, 1974) recommends a 300m buffer between treatment ponds and urban areas and a 150m buffer to isolated dwellings. These buffer (or separation) distances have been shown by monitoring and modelling (eg Christchurch and Blenheim WWTP), to be appropriate for treatment pond systems in New Zealand. The WWTP treatment ponds lies at least 200m from site boundaries.

In terms of the irrigation of wastewater, CRC110148 requires a setback of 50m from neighbouring properties in the discharge of treated wastewater to land and for irrigation to cease if the wind speed exceeds 15kph. This provides protection for existing uses and the new sites to the north which will adjoin the site as a result of the variation to CRC110148. A 30m setback is also required in respect of public roads.

7.6 Effects on Cultural and Heritage Values

The WWTP site is not within an area of identified significant cultural or heritage value and it appears that in the past there have not been any issues in respect of the designated area.

7.7 Effects on Public Access

The proposed designation will cover the expanded area of the WWTP site operation. However, there is no public walking or traffic access within the WWTP.

Overall, the effects of the increased area of designation on public access will be minor or less than minor.

7.8 Traffic Effects

The WWTP generates minimal traffic movements with normally only one or two visits per day by the SDC operator. Access is off Station Street which serves a number of existing industrial activities. Other visits to the site will also occur, if for example, maintenance or repairs are required to be carried out by contractors. Regardless of the access route, the infrequent visits to the WWTP will not significantly increase vehicle numbers entering or leaving the site.

Overall, the effects of vehicles visiting the WWTP will be minor or less than minor.

7.9 Noise Effects

Mechanical equipment such as pumps and aerators can cause low level noise nuisance especially at night. The existing Ellesmere WWTP is mainly a “passive” system with minimal mechanical equipment. As such, there is no appreciable noise from the WWTP beyond background levels (which in this environment are expected to be low). A future upgrading may include some additional mechanical components. However, the level of noise from the operation of the plant will remain low and not noticeable from beyond the site boundary.

The nearest existing house is located over 200m from the WWTP. Although likely to be minimal, any operational noise from the WWTP will be managed to meet the requirements of the relevant zone rules or similar.

The existing buffer to the nearest residences will be sufficient to mitigate any significant noise effects. The existing centre pivot sprayers can be considered typical equipment in semi-rural and rural areas such as occurs at the WWTP site. As such, any noise generated at the site from these sprayers is generally in keeping with typical background rural noise.

Appropriate management techniques can be employed such that the potential for any nuisance noise creation is minimised.

However, it is proposed to include a condition that manages noise on the site, which is understood to be similar to other noise conditions for the operation of SDC utilities. Overall, any effects will be minor or less.

7.10 Visual and Landscape Effects

The existing WWTP is located in a semi-rural environment adjacent to a light industrial area. The ponds are of low profile and can be considered to be “in keeping” with other similar pond structures in the rural environment. The existing centre pivot spray irrigation are a regular sight around rural Canterbury.

Overall, the visual effects of the designation will be minor or less than minor.

7.11 Effects on Amenity Values

The assessment of the effects relating to air and land discharges from the WWTP, noise, visual impact and traffic indicates that, subject to appropriate site management and consent conditions, the WWTP will have a less than minor effect on amenity values. The WWTP has operated at the site for more than 45 years and it “blends” well with the existing environment. The increased area of designation will not alter this perception and while the properties to the north will be closer to the operation of the WWTP than previously a buffer distance of 50m will be retained and the ceasing of spray irrigation if wind thresholds are breached. The activities on these properties are generally less sensitive given their predominantly industrial nature.

Overall, the effects of the designation on amenity values will be minor or less than minor.

7.12 Natural Processes, Hazards and Risks

There is no history of flooding on the site and is not identified on the relevant planning maps. As indicated in Section 4.7, the latest SDC flood maps https://yoursay.selwyn.govt.nz/dprflooding show that there is a relatively small portion of the site that would flood to about 1m in a 200 year ARI rainfall event and that other parts of the site would flood from between 0.1 and 0.2m in the same event. Under such an event, it is likely that groundwater levels would also be high which would trigger a pumped discharge from the infiltration basins to Tramway Reserve Drain as per the operation of the WWTP.

No other stability or seismic issues are noted for the WWTP site.

Overall, the designation will have a minor or less effect on natural processes and hazards.

7.13 Cumulative Effects

The increased area of designation will have a less than minor effect on the surrounding land, air and water environments. Treated wastewater is already discharged to land at the site within a significant part of the proposed additional area. However, there will be no significant overall increase in the hydraulic or contaminant loads discharged to land in the short to medium term.

It is expected that wastewater flows and loads will increase gradually over time as the Ellesmere population grows. However, operational controls, as well as appropriate monitoring, are proposed such that more than minor adverse effects will not occur. It is considered that the existing and potential additional nitrogen loading from the WWTP would be catered for by treatment upgrading and the additional irrigation area authorised by the current consent variation.

Current discharges of odour to air from the WWTP have a less than minor effect and it is expected that this will not change as flows and loads into the plant increase over time. Appropriate management controls (including, for example, adequate separation distance) will ensure that odour nuisance does not occur beyond the SDC site boundary.

Overall, the cumulative effects of the proposed WWTP upgrading on the surrounding land, air and water receiving environments will be minor or less than minor.

8 Consideration of Alternatives

Section 168A(3) of the RMA also states that regard must be had to whether adequate consideration has been given to alternative sites or methods of undertaking the work, if -

i. the requiring authority does not have an interest in the land sufficient for the undertaking; or

ii. it is likely that the work will have a significant adverse effect on the environment

In this respect SDC owns all of the land subject to the NOR and it is not considered likely that there will be significant adverse effects.

However, for completeness it is noted that there are not any meaningful alternatives given that the WWTP has been present for a considerable period of time on the site which is recognised by the existing designation. Relocating the WWTP is not a realistic option for financial reasons. Some consideration is however being given to different options to upgrade the treatment ponds which will be the subject of any necessary RMA processes.

Having had regard to the alternative planning tools available, being resource consent and plan change, SDC considers the NOR to be the most suitable for the following reasons as it will:

- Allow the SDC to undertake work in accordance with the designation, notwithstanding anything to the contrary in the PSDP;
- Allow land to be identified in the District Plan which gives the community a clear indication of the intended use of the land;
- Enable work to be undertaken in a comprehensive and integrated manner;
- Provide land use certainty for a capital works project, and an essential future community infrastructure;
- Provide flexibility in the overall development of the site;
- Provide flexibility for the ongoing operational performance of the WWTP as the characteristics of the catchment and desires of the community change; and
- Be consistent with the planning mechanism utilised for other existing utilities in Selwyn District. In particular, part of the existing WWTP is designated in a similar manner.

As such, SDC considers that designation is the most appropriate method of securing the future establishment and on-going operation of the Ellesmere WWTP for its proposed purpose.

9 Assessment of Part 2 and Planning Documents

9.1 Overview

Section 168(3) states that, subject to Part 2, when considering the effects on the environment of allowing the requirement regard must be had to the provisions of a number of planning documents. The following documents are relevant to this NOR:

- Canterbury Regional Policy Statement (CRPS)
- National Policy Statement- Freshwater Management
- Selwyn District Plan
- Iwi Management Plans

9.2 Part 2 of RMA (Sections 5-8)

Part 2 of the RMA contains the purpose and principles of the legislation. The purpose of the Act, described in section 5, is to "promote the sustainable management of natural and physical resources". "Sustainable management" means managing the use, development and protection of natural and physical resources in a way which enables people and communities to provide for their wellbeing, while managing the environment in a manner which avoids, remedies or mitigates adverse effects.

Section 6 lists a number of matters of national importance that shall be taken into account in the management of the environment, such as preservation of the natural character of rivers and their margins, public access, the protection of outstanding landscapes and features and Maori values.

Section 7 contains other matters that those involved in management of the environment should have regard to, namely amenity values, the efficient use of resources, environmental quality and the values of ecosystems. Section 8, describes the need for consideration of the Treaty of Waitangi.

The proposed WWTP upgrading will achieve the purpose of the RMA, as it will facilitate the management and development of key infrastructure that will provide social, economic, environmental and cultural benefits for Selwyn communities in a manner that will meet the needs of future generations, while safeguarding water and ecosystems and addressing adverse effects in an acceptable manner.

In terms of section 6 matters, it does not appear any of the matters are of particular relevance given the absence of features on the site identified in the section.

In relation to section 7 matters, the designation is an efficient use of resources given the existing WWTP. To relocate the plant would result in considerable expenditure without the guarantee of a better environmental outcome.

The Treaty of Waitangi has been taken into account in respect of the application.

9.3 National Policy Statement – Freshwater Management

9.3.1 Overview

The National Policy Statement for Freshwater Management sets out the objectives and policies for freshwater management in New Zealand under the RMA. The policy statement sets national bottom lines for

two compulsory values – ecosystem health and human health for recreation. The statement acknowledges Iwi and community values and interests in freshwater (including environmental, social, economic and cultural).

9.3.2 Objectives and Policies

The objectives and policies set out in Table 10-1 are considered relevant to this application.

Table 9-1: National Policy Statement – Freshwater Management - Relevant Objectives and Policies

Objective/Policy	Comment
Objective A1 To safeguard: a) the life supporting capacity, ecosystem processes and indigenous species including their associated ecosystems, of fresh water; and b) the health of people and communities, at least as affected by secondary contact with fresh water in sustainably managing the use and development of land, and of discharges of contaminants	The proposed discharge of treated wastewater into land and associated activities will not cause adverse human health or ecological effects on freshwater systems.
Objective A2 The overall quality of fresh water within a region is maintained or improved while; a) protecting the significant values of outstanding freshwater bodies; b) protecting the significant values of wetlands and c) improving the quality of fresh water in bodies that have been degraded by human activities to the point of being over-allocated	The water quality will be maintained or improve given the additional area that is to be used for irrigation of wastewater.
Objective D1 To provide for the involvement of iwi and hapu, and ensure that Tangata Whenua values and interests are identified and reflected in the management of freshwater including associated ecosystems, and decision –making regarding freshwater planning, including on how all other objectives of this national policy statement are given effect to.	Taumutu Rūnanga are being consulted in respect of the NOR.

9.3.3 Summary

Overall, it is considered that the proposal is consistent with the relevant objectives and policies of the National Policy Statement for Freshwater Management.

9.4 Canterbury Regional Policy Statement

9.4.1 Overview

The Canterbury Regional Policy Statement (RPS) sets out the overall resource management policy framework for the Canterbury Region. All other regional and district plans in Canterbury must be consistent with the RPS.

The matters relevant this application are primarily contained in the following chapters:

- Chapter 5 – Landuse and Infrastructure
- Chapter 6 - Provision for the Relationship of Tangata Whenua with Resources
- Chapter 9 - Water
- Chapter 12 - Settlement and the Built Environment

Each chapter identifies issues and sets out how those issues are to be addressed by defining a framework of objectives and policies.

9.4.2 Chapter 5 - Land Use and Infrastructure

Chapter 5 provides for the strategic integration of land use and regionally significant infrastructure in the wider Canterbury region and its importance to a community's economic and social wellbeing and health and safety. Issues addressed in this chapter include the importance of appropriately managing the adverse effects of infrastructure on the environment and ensuring that there is adequate strategic integration of regionally significant infrastructure with land use.

The Ellesmere WWTP is defined as "regionally significant infrastructure" in the RPS and the proposed designation will enable the on-going sustainable growth of Selwyn district communities. Any adverse effects on the environment will be less than minor as a result of the upgrade.

9.4.3 Chapter 6- Provision for the Relationship of Tangata Whenua with Resources

Chapter 6 provides for the relationship of Tangata Whenua with resources and sets out processes to provide for the exercise of rangatiratanga and kaitiakitanga in the management of natural and physical resources. Issues addressed in this chapter include the importance of taking into account the principles of the Treaty of Waitangi, which include partnership and active protection of Maori in the use of land and water. These matters have been taken into account.

9.4.4 Chapter 9 - Water

Chapter 9 establishes a framework for managing the quality and quantity of the region's water resources.

Issue 3 acknowledges the effect land use and discharge activities can have on the quality of water bodies. It is addressed by Objective 3 which aims to safeguard the quality of Canterbury's water bodies. The principal issue stemming from the proposed activity is the potential effect on of the wastewater discharge on water quality, ecological and intrinsic values and the harvesting of kai moana. This objective is supported by policy which directs that resource consent conditions be applied to approvals to protect water and environmental quality, and avoid, remedy or mitigate the adverse effects of point source discharges.

These matters are largely addressed by the ECan consents but overall the NOR proposed will have less than minor effects on the water quality, ecology, intrinsic values and kai moana of the site and surrounding environment.

9.4.5 Chapter 12 - Settlement and the Built Environment

Chapter 12 identifies issues around the strategic importance of maintaining network utilities to enable people to provide for their social, economic and cultural wellbeing, and their health and safety. This is to be achieved while minimising the adverse environmental effects of these utilities.

Objective 1 seeks to enable urban development and expansion through network utilities while avoiding, remedying, or mitigating adverse effects on several aspects. This objective is supported by Policy 2 which states that such urban development and expansion should be discouraged if the network utility would adversely affect the natural character of the coastal environment or ancestral land, water or sites of cultural value.

The Ellesmere WWTP upgrade will enable existing (and future) urban development to be serviced by infrastructure of an appropriate standard that will not adversely affect the matters identified in Policy 2.

9.4.6 Summary

Overall, it is considered that the proposal is consistent with the relevant objectives and policies of the Canterbury RPS.

9.5 Selwyn District Plan

9.5.1 Overview

There are a number of objectives and policies in the SDP which are considered to be of relevance. These generally relate to the Rural objectives and Policies relating to B1 Natural Resources; B2 Physical Resources; and B3 Health Safety Values.

9.5.2 Objectives and Policies

The relevant objectives and policies are set out in Table 10-2.

Table 10-2 : Selwyn District Plan Objectives and Policies

Objective/ Policy	Comment
B1-NATURAL RESOURCES	
LAND AND SOIL Objective B1.1.1 Adverse effects of activities on the District's land and soil resources are avoided, remedied or mitigated.	These effects are appropriately managed by the ECan consents.
Objective B1.1.2 People and their property are not affected by contaminated soil or unstable land and any adverse effects on the environment are avoided, remedied or mitigated.	The site is not unstable and no disturbance of soil is proposed. Any changes to the treatment ponds will be the subject of RMA procedures.
Objective B1.1.3 Promote the sustainable management of the soil resource	The soil resource is manged in accordance with the conditions of CRC110148.
WATER Objective B1.3.1 Contamination of ground water or surface water is avoided and/or mitigated and water quality improved in degraded waterbodies through changes in land management practices and controls on land uses likely to cause waterbody contamination.	In the Explanation the SDP states the following *The Rural Volume of the District Plan uses the following basic strategy to address issues relating to water:* *Ground and Surface Water* *Most of these issues are managed by Environment Canterbury* This is consistent with CRC110148 which manages these types of effects
Objective B1.3.6 Land use activities, and particularly earthworks, forestry, vegetation clearance and modification, and agricultural activities, are managed within catchments and riparian areas to protect water quantity and quality, aquatic habitat, and natural character.	In general these matters are addressed by CRC110148

Objective/ Policy	Comment
Policy B1.3.2 Recognise and provide for the special interest of Tāngata whenua in resource management issues relating to water.	These interests have been taken into account.
Policy B1.3.4 Manage land to protect water resources and avoid, remedy, or mitigate adverse effects on surface water quality and quantity, and aquatic habitat from activities and development, including: Activities locating close to waterbodies; or Activities which may result in surface run-off of contaminants, or leaching of contaminants into groundwater.	The upgrade of the WWTP at the current site has economic benefits for the wider Twizel community. There are few benefits, but significant costs would be associated with any relocation of the WWTP.
B2-PHYSICAL RESOURCES	
UTILITIES Objective B2.2.1 Utilities are recognised as essential tools for people's economic and social well-being, and to mitigate effects of other activities, on the environment.	The WWTP is essential for the heath and well being of Leeston, Southbridge and Doyleston.
Objective B2.2.2 The provision of utilities where any adverse effects on the environment and on people's health, safety and wellbeing is managed having regard to the scale, appearance, location and operational requirements of utilities.	Generally, these effects are managed yy Ecan consents.
Policy B2.2.5(b) Where not practical mitigate any adverse effects of the utility, and of any access road or ancillary features, on the landscape values of the area	Landscape values are not a major consideration in respect of this application
Policy B2.2.8 Ensure utilities located in areas subject to flooding or slips, do not create or exacerbate natural hazards	The site is not subject to natural hazards
Policy B2.2.10 Enable the provision of utility networks that serve extensive areas to be located in rural areas commensurate with operational requirements.	The WWTP is best located in a rural area but in proximity to Leeston township given its area requirements and operating costs.
B3 HEALTH SAFETY VALUES	
QUALITY OF THE ENVIRONMENT Objective B3.4.1 The District's rural area is a pleasant place to live and work in.	The WWTP is operated in a manner which retains the amenities of the rural area.

Objective/ Policy	Comment
Objective B3.4.2 A variety of activities are provided for in the rural area, while maintaining rural character and avoiding reverse sensitivity effects.	The WWTP maintains rural character given its largely pastoral appearance and does not result in reverse sensitivity issues.
Policy B3.4.3 Avoid, remedy or mitigate significant adverse effects of activities on the amenity values of the rural area.	The amenity values of the rural area retained given the conditions of CRC110148 and the rural appearance of much of the site and the low level of activity associated with the site.

9.5.3 Summary

The proposal is considered to be in accordance with the relevant objectives and policies of the SDP.

9.6 Iwi Management Plans

Ngāi Tahu Freshwater Policy Statement 1999 (NTFPS)

The NTFPS is primarily concerned with maintaining the mauri of freshwater, maintaining and enhancing healthy mahinga kai and enabling Ngāi Tahu to participate in freshwater management and to assess effects on freshwater.

Te Whakatau Kaupapa, the Ngāi Tahu Resource Management Strategy for the Canterbury Region

Te Whakatau Kaupapa, the Ngāi Tahu Resource Management Strategy for the Canterbury Region refers to many values of resources including water values held by Ngāi Tahu and the importance of water for life supporting capacity, identity and spirituality. The maintenance and improvement of water quality is identified as part of the paramount resource management issue for Ngāi Tahu.

Mahaanui Iwi Management Plan

The Mahaanui Iwi Management Plan (MIMP) was collectively developed by six Papatipu Rūnanga (including Taumutu Rūnanga who are closest to the site) who hold manawhenua rights over lands and waters within the takiwā from the Hurunui River to the Hakatere River and inland to Kā Tiritiri o Te Moana. The MIMP sets out issues of significance, objectives and policies relating to the protection and enhancement of Ngāi Tahu values and natural resources. It is a document to highlight the worldview of the papatipu rūnanga in the area and their relationship and knowledge of natural resources.

Relevant objectives for this proposal include:

- Water management effectively provides for the taonga status of water, the Treaty partner status of Ngāi Tahu, the importance of water to cultural well-being, and the specific rights and interests of tangata whenua in water.
- Water quality and quantity in groundwater and surface water resources in the takiwā enables customary use mō tātou, ā, mō kā uri ā muri ake nei
- Water and land are managed as interrelated resources embracing the practice of Ki Uta Ki Tai, which recognises the connection between land, groundwater, surface water and coastal waters.

- Mauri and mahinga kai are recognised as key cultural and environmental indicators of the cultural health of waterways and the relationship of Ngāi Tahu to water.
- The practice of using water as a receiving environment for the discharge of contaminants is discontinued, and all existing direct discharges of contaminants to water are eliminated.

Relevant policies which support these objectives relate to the value of water, priorities of use, management of water, water quality and quantity and, discharges.

Generally, the proposal is considered consistent with these plans particularly as there is no direct discharge of wastewater to any surface water (which is the preferred option of Iwi) and the predicted effects of the discharge into land (and to surface waters) will be less than minor.

10 Consultation

No specific consultation has been undertaken in relation to this designation. The Selwyn District Council already holds any necessary interest in the land. No consultation has been identified as necessary in addition to the notification that will occur as part of the District Plan.

11 Conditions

The actual and potential adverse effects relating to odour, groundwater, surface water etc are addressed in the regional council consents. While noise is not considered to be a major issue it is proposed to include the following condition, which is understood to be standard for the operation of SDC utilities.

1. Outdoor sound from the maximum operation of the site shall not exceed whichever is the least restrictive of:

a. LAeq (15min) 35dB when measured at any point 20 metres from the site boundary in accordance with NZS 6801:2008 Acoustics Environmental Noise and assessed iaccordance with NZS 6801:2008 Acoustics Environmental Noise; or

b. The District Plan noise standard for the underlying zone.

The noise limits shall not apply to:

The noise limits shall not apply to:

• Construction sound which shall be assessed in accordance and comply with NZS

6801:2008 Acoustics Environmental Noise.

• The use of an electricity generator for emergency use or testing.

No other conditions are considered necessary.

12 Conclusion

The NOR proposes to designate an area which contains part of the existing treatment ponds and the area on which wastewater is discharged, for the purposes of “Sewage Treatment and Disposal Area”. The NOR adjoins existing Designation D129 which includes part of the existing treatment pond and existing irrigation area. The NOR will be consistent with this designation. A significant part of the designated area is subject to CRC110148 which addresses adverse effects relating to discharges to land, water and air. This situation will not alter as a result of the NOR. In addition, an area of 9.42ha is proposed to be added to the area available for irrigation and which is included in the NOR but will be subject to the same conditions in CRC110148. The NOR largely regularises an existing situation in which the effects are recognised and understood.

Overall, it is also considered that the actual and potential adverse effects are minor or less than minor. In this respect the proposal is generally consistent with the objectives and policies of the relevant planning documents (section 168A(3)(a)). Furthermore, appropriate consideration has been given to alternative sites and methods in terms of upgrading the WWTP (section 168A(3)(b)).

The works are considered reasonably necessary to achieve the overall objective of SDC, which is to ensure the on-going ability of the Ellesmere WWTP to operate in an environmentally sustainable manner, while meeting future population growth requirements (section 168A(3)(c)).

The NOR will enable SDC, as the network utility operator, to manage the WWTP efficiently and effectively, including any upgrade works. It will afford the facility protection as a significant infrastructure asset from any incompatible development in the future and publicly identifies the location of the facility. The designation provides the community with a degree of certainty as to what will be built within the designation area and what environmental effects can be expected.

The proposal is also consistent with Part 2 of RMA and it is considered appropriate to confirm the NOR.

Appendix 1

Copy of CRC110148

RESOURCE CONSENT CRC110148

Pursuant to Section 104 of the Resource Management Act 1991

The Canterbury Regional Council (known as Environment Canterbury)

GRANTS TO:	Selwyn District Council
A DISCHARGE PERMIT:	To discharge contaminants to land, air, and groundwater and surface water.
DATE DECISION:	28 October 2010
EXPIRY DATE:	28 July 2029
LOCATION:	Beethams Road, LEESTON

SUBJECT TO THE FOLLOWING CONDITIONS:

SECTION A - DISCHARGE TREATED WASTEWATER ONTO LAND

1) The discharge shall only be treated wastewater from the Leeston Wastewater Treatment Plant.

2) The area of land available for disposal of treated wastewater shall be 41.9 hectares at all times as shown on Drawing 6511236-120-C200 which forms part of this consent.

3) The treated wastewater shall be applied as far as practicable at a uniform depth over the land disposal area. The treated wastewater application system shall be managed to ensure the return period between applications to any part of the of the land disposal area is maximised.

4) Where treated wastewater is being applied to land via a spray irrigation system, the monthly average hydraulic loading rate shall not exceed eight millimetres per day. No single application of treated wastewater shall exceed 20 millimetres.

5) The treated wastewater application system shall be managed in such a way that ponding of the treated wastewater does not occur. Where spray irrigation is utilised, treated wastewater shall not be applied:
   (a) Onto land within 20 metres of any surface waterway;
   (b) Onto land within 50 metres of the site boundary with neighbouring properties and sensitive developments (i.e. housing, gardens, intakes to drinking water supplies and crops for human consumption);
   (c) Onto land within 30 metres of the site boundary with public roads;
   (d) Onto ground with no vegetative cover;
   (e) Onto ground where surface ponding is occurring;
   (f) If the local wind speed in the direction of neighbouring properties exceeds 15 kilometres per hour (as an average over 15 minutes), as measured by an anemometer suitably installed and maintained at the Control Room of the wastewater treatment plant.

6) The treated wastewater shall not be discharged in any place or in such a manner that wastewater is likely to discharge or percolate into surface water or onto neighbouring property.

7) The rate at which treated wastewater is applied shall not exceed 200 kg of nitrogen per hectare per year onto grazed pasture, or an equivalent application and land management system, that matches the annual nitrogen application with the annual plant uptake.

8) The treated wastewater shall not be applied to the land disposal area when the level of groundwater is higher than 900 mm below the land surface, as measured in monitoring well M36/4803 installed adjacent to the land disposal area, on Beethams Road, at or about map reference NZMS 260 M36:546-156.

SECTION B - DISCHARGE CONTAMINANTS TO AIR

9) Section B of this consent authorises the discharge of odour and aerosols to the air, subject to the following conditions, from:
   (a) one aeration pond (Pond 1) with a surface area of approximately 1,000 square metres, and
   (b) two primary oxidation ponds (Ponds 2A and 2B), with a total surface area of approximately 1.8 hectares, and
   (c) two maturation ponds (Ponds 3 and 4), with a total surface area of approximately 0.5 hectares, and
   (d) four wetland cells (Ponds 5 – 8), with a total surface area of approximately 0.9 hectares,
   (e) the land treatment and disposal areas of approximately 41.9 hectares, and
   (f) six rapid infiltration basins having a total area of approximately two hectares, as shown on Drawing 6511236-120-C200 which forms part of this consent.

10) There shall be no removal of accumulated organic matter, sediment or sludge material from the base of the maturation ponds.

11) The discharge shall not cause any spray drift and odour which is offensive or objectionable beyond the boundary of the property on which the consent is exercised.

12) The concentration of dissolved oxygen measured in wastewater in the maturation ponds and wetlands shall be positive during daylight hours and at least two grams per cubic metre.

SECTION C- DISCHARGES INTO LAND AND GROUNDWATER

13) The seepage discharge from the base of the treatment units shall only be from:
   (a) an aeration pond (Pond 1), with a surface area not greater than 1,000 square metres, and
   (b) two primary oxidation ponds (Ponds 2A and 2B), with a total surface area of approximately 1.8 hectares, and
   (c) two maturation ponds (Ponds 3 and 4), with a total surface area of approximately 0.5 hectares, and
   (d) four wetland cells (Ponds 5 – 8), with a total surface area of approximately 0.9 hectares
   (e) six rapid infiltration basins having a total area of approximately 2 hectares, as shown on Drawing 6511236-120-C200 which forms part of this consent.

14) The rate of discharge shall not exceed 10 litres per day per square metre of pond area from aeration pond 1.

15) Oxidation ponds 2A and 2B, maturation ponds 3 and 4 and wetland cells 5, 6, 7 and 8, shall be lined with low-permeability material forming a layer at least 300 millimetres thick such that the rate of discharge from the base of any single pond or wetland does not exceed 5 litres per day per square metre of base area.

16) If, for any reason, any of the maturation ponds 2B, 3 and 4 and the wetland cells 5, 6, 7 and 8, as described in the application, are emptied of their liquid contents, the rate of water discharge via the base of each pond or cell shall be determined before that unit is refilled with wastewater. The results of these measurements shall be provided to the Canterbury Regional Council before re-commissioning of that pond or cell for wastewater treatment purposes.

17) Treated wastewater shall be applied to the infiltration basins such that, as far as practicable, a uniform depth of wastewater is achieved across the basin area.

18) Treated wastewater shall be intermittently dosed to each infiltration basin such that the return period between applications of wastewater to any one basin is maximised. The return period between applications to any one basin shall be at least three days.

19) Treated wastewater shall not be discharged onto land in a manner that results in surface runoff of wastewater to any surface water body or neighbouring property.

20) Treated wastewater shall only be discharged to the infiltration basins when the level of groundwater is within 900 millimetres of the land surface, as measured in existing monitoring well M36/4803 installed adjacent to the land treatment area near Beethams Road, or when adverse ground conditions prevent discharge of wastewater to the existing border-dyke or spray irrigation areas.

21) At all times when treated wastewater is discharged to the infiltration basins, groundwater beneath the basins shall be taken from bores M36/6961, M36/6962, M36/6963, M36/6964, M36/6965 and M36/6966, at or about map reference NZMS 260 M36:5405-1583, M36:5408-1579, M36:5401-1579, M36:5405-1575, M36:5396-1575, and M36:5401-1571, to ensure the local groundwater level is at least 900 millimetres below the land surface as measured in the four piezometric tubes labelled as MB2, MB3, MB4 and MB5 on the attached Drawing 6511236-120-C200.

22) The consent holder shall provide a water supply which meets the Ministry of Health Drinking Water Standards to those users of drinking water supplied from well M36/0672 (Ellesmere Gun Club) and M36/4566 (Aymes) and to those users of drinking water taken at a depth of less than 20 meters below the ground surface from any wells within 200 metres down-gradient of any part of the treatment plant where the discharge of effluent to land occurs. For the purposes of this condition down-gradient is defined as any direction between east (90 degrees) and south (180 degrees) from the point of discharge.

SECTION D - DISCHARGE EXTRACTED GROUNDWATER TO SURFACE WATER

23) The discharge into Tramway Reserve Drain shall only occur when the level of groundwater is within 900 millimetres of the land surface, as measured in existing monitoring well M36/4803 installed adjacent to the land treatment area near Beethams Road, or when adverse ground conditions prevent the discharge of treated wastewater to the existing border-dyke or spray irrigation areas.

24) The discharge shall be into a culvert under Beethams Road designed to ensure that contaminants are dispersed rapidly, as far as practicable, at a uniform depth throughout the available flow in the drain.

25) The discharge shall only be groundwater containing dilute wastewater that has been treated by passage through:
   (a) Maturation ponds having a total area of approximately one hectare;
   (b) Wetland cells having a total area of approximately 0.9 hectare; and
   (c) Rapid infiltration basins having a total area of approximately two hectares;

26) At all times, whilst this resource consent is being exercised, the control gate on Leeston Stream at the Ramway Reserve Drain – Leeston Stream diversion shall be fully closed to ensure maximum availability of water in the drain for dilution of extracted groundwater containing treated wastewater

27) The rate of discharge shall not exceed 120 litres per second.

28) The concentration of the following parameters measured in extracted groundwater before discharge to the drain, shall not exceed the following values in at least 90 percent of all samples collected within any period of 36 consecutive months:

Parameter	**Maximum Concentration (grams per cubic metre) in at least 90 percent of samples in any 36 months**
Total Nitrogen	7
Ammonia Nitrogen	0.9
Total Phosphorus	0.5
Faecal Coliform Bacteria	30 (number per 100 millimetres)

29) Beyond a distance of 10 metres downstream, of the extracted groundwater outfall structure, the discharge shall not give rise to all or any of the following effects on the drain:
(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, habitats or ecology.

SECTION E - RECORDING AND REPORTING

30) The consent holder shall record the date, duration, and section of the land disposal area used, of each application of treated wastewater. These records shall be forwarded to the Canterbury Regional Council by the last working day of each month or upon request.

31) The consent holder shall produce a written report on the means undertaken and intended to ensure compliance with Condition (7). The report shall cover those actions taken in the previous year and those intended for the year ahead. A copy of this report shall be made available to the Canterbury Regional Council by the last working day in November.

32) The volume and rate at which raw wastewater is pumped to the wastewater treatment plant shall be measured, to within an accuracy of 15%, and recorded daily in a log kept for that purpose. A copy of the log shall be forwarded to the Canterbury Regional Council by the last working day of each month or upon request.

33) A record of any complaints related to odour from the wastewater treatment and disposal facilities shall be maintained, and shall include:
(a) location where the odour was detected by the complainant;
(b) date and time when the odour was detected;
(c) a description of the wind speed and direction when the odour was detected by the complainant;
(d) the most likely cause of the odour detected; and
(e) any corrective action taken by the consent holder to avoid, remedy, or mitigate the odour detected by the complainant.

This record shall be provided to the Canterbury Regional Council before the last working day of November each year, and otherwise on request.

34) The concentration of dissolved oxygen in wastewater shall be measured between 11:00 and 14:00 hours at least once every month at the outlet of cells 2A, 2B, 4 and 8, and shown on Drawing 6511236-120-C200 which forms part of this consent. Results of this monitoring shall be provided to the Canterbury Regional Council before the last working day of November each year, and otherwise on request.

35) A record shall be kept of the volume (in cubic metres) of treated wastewater applied to the infiltration basins each day; the date, time and duration (in hours) of wastewater application; and the location and total area of land (in square metres) where the wastewater is applied to the basins. The volume of treated wastewater discharged to the basins shall be measured to within an accuracy of 10 percent. This record shall be held and provided to the Canterbury Regional Council on request.

36) At least once a month, the concentration of 5-day Biochemical Oxygen Demand (BOD_5), Suspended Solids, Total Nitrogen, Ammonia Nitrogen, Nitrate Nitrogen, Total Phosphorus and Faecal Coliform Bacteria shall be measured in the final wetland cell. The results of these analyses shall be provided to the Canterbury Regional Council on request.

37) On at least three occasions each year, twice during the period June to October and once during the period March to May, conductivity, pH, and the concentration of faecal coliform bacteria, nitrate nitrogen and ammonia nitrogen shall be monitored in the groundwater taken from the following bores:

(a) one bore within 100 metres up-gradient (in terms of direction of groundwater flow) of the infiltration basins;

(b) two bores immediately down-gradient of the maturation ponds and wetlands, but up-gradient of the border-dyke/spray irrigation areas; and

(c) two bores located at the down-gradient border of the border-dyke/spray irrigation areas, adjacent to Beethams Road

The five monitoring bores shall sample shallow groundwater from the first aquifer, taken at a depth of less than 16 metres below the ground surface. The results of these analyses shall be provided to the Canterbury Regional Council on request.

38) The consent holder shall submit a written report to the Canterbury Regional Council before the last working day of November each year. This report shall summarise the results of all monitoring undertaken during the previous 12 months in accordance with Conditions (16), (35), (36) and (37) of this consent. Any non-compliances with consent conditions shall be clearly identified in the report, and a proposed action plan to ensure future compliance shall be specified.

39) The collection and preservation of samples required under this consent shall be in accordance with "Standard Methods for the Examination of Water and Wastewater" (published by the American Public Health Association or an equivalent nationally recognised methodology for the collection and preservation of water samples. The laboratory carrying out the analyses required under this consent shall be accredited to ISO/IEC Guide 25: (1980) or an equivalent defined by an accreditation body recognised as operating to ISO/IEC Guide 58.

40) The date, time and duration of all discharges to Tramway Reserve Drain shall be recorded and provided to the Canterbury Regional Council on request.

41) At least once a month when discharge to Tramway Reserve Drain occurs, the concentration of the parameters specified in Condition (28) shall be measured in the extracted groundwater before discharge to the drain. The results of these analyses shall be provided to the Canterbury Regional Council on request.

42) (a) The Canterbury Regional Council, Attention: RMA Compliance Monitoring and Enforcement shall be notified of the intention to discharge to Tramway Reserve Drain as it is practicable beforehand.

(b) When discharge to the drain occurs, the concentration of 5-day Biochemical Oxygen Demand (BOD_5) Suspended Solids and the parameters listed in Condition (28) shall be measured in the water in Tramway Reserve Drain at a location 10 metres upstream and 10 metres downstream of the extracted groundwater outfall structure.

(c) Sampling in accordance with clause (b) of this Condition shall occur within 72 hours of commencement of the discharge of extracted groundwater, each time a discharge occurs.

(d) The results of these analyses shall be provided to the Canterbury Regional Council on request.

43) An observational ecological assessment shall be undertaken by suitably qualified persons during the months of July to October in the years 2008 and 2018. The survey shall be compared to the ecological survey initially carried out as part of the consent conditions for CRC011681.2 and shall be used determine if any substantive change has occurred to flora and fauna in the drain and adjacent to the discharge. The results shall be provided to the Canterbury Regional Council within one month of completion of that survey

44) Before the last working day of November each year, the consent holder shall submit a written report to the Canterbury Regional Council, Department of Conservation, North Canterbury Fish and Game Council, Te Taumutu Runanga, Te Runanga o Ngai Tahu, and either the Selwyn District Council Sewage Project team of the Leeston Town committee. This report shall summarise the results of all monitoring undertaken during the previous 12 months in accordance with Conditions (41), (42) and (43) of this consent. Any non-compliance with consent conditions shall be clearly identified in the report, and a proposed action plan to ensure future compliance shall be specified.

45) The consent holder may, on any of the last five working days of November each year, apply for a change of the monitoring requirements of Conditions (36), (37), (38) (41), (42) and (43).

46) The Canterbury Regional Council may annually, on any of the last five working days of November each year, serve notice of its intention to review the conditions of this consent for the purpose of:

(a) dealing with any adverse effect on the environment which may arise from the exercise of the consent and which is appropriate to deal with at a later stage;

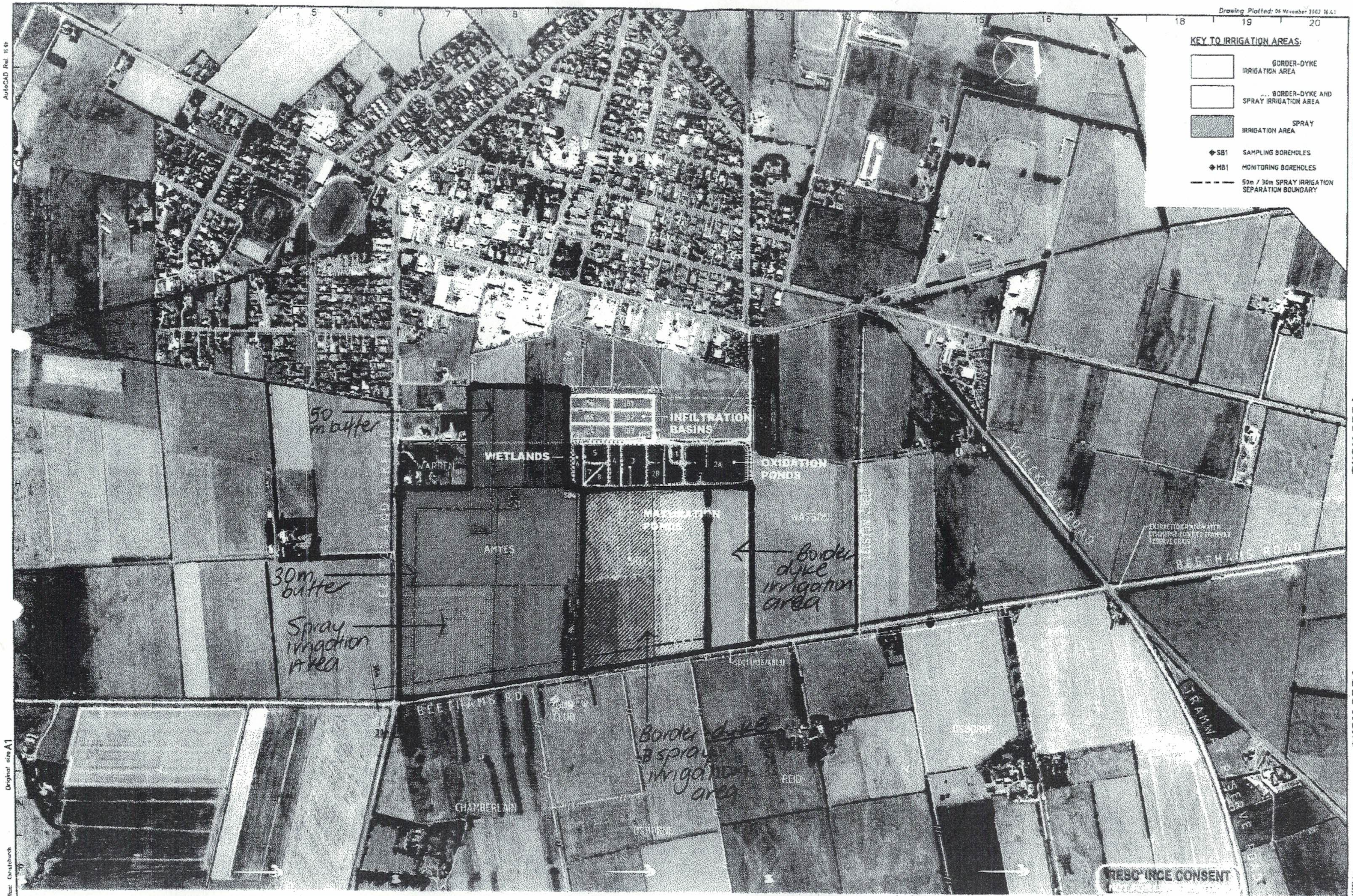
(b) requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment;

(c) complying with the requirements of a regional plan; or

(d) amending the monitoring requirements of Conditions (36), (37), (38) (41), (42) and (43).

Issued at Christchurch on 29 October 2010

Canterbury Regional Council



Drawing Originator	CH2M Beca Ltd, Consulting Engineers
Client	Selwyn District Council
Project	LEESTON WWTP CONSENT REVIEW
Title	PROPOSED IRRIGATION AREA ENLARGEMENT
Discipline	CIVIL
Drawing No.	6511236-120-C200
Rev.	0
Revision 0	FOR RESOURCE CONSENT

Appendix 2

Copy of Change of Condition to CRC110148

APPLICATION FOR RESOURCE CONSENT

BY

SELWYN DISTRICT COUNCIL

TO VARY THE CONDITIONS OF RESOURCE CONSENT CRC110148

TO UINCREASE THE AREA OF DISCHARGE

CLIENT

Client Name:	Selwyn District Council
Contact Person:	David Potts, SDC Water Services
Telephone Number:	(Mob) 027 604 4073 (DDI) 03 347 1843
Email Address:	David.Potts@selwyn.govt.nz
Postal Address:	PO Box 90 Rolleston 7643

CONSULTANT

Consultant:	Environmental Compliance Services Ltd
Contact Person:	Chris Clarke
Phone Number:	021 722 948
Email Address:	chris@enviroco.nz
Postal Address:	Unit 7, 158 Cavendish Road Redwood Christchurch 8051

APPLICATION

Resource Management Act Section(s):	127
Short Description:	A variation to resource consent CRC110148 to increase the area of discharge at the Leeston Wastewater Treatment Plant by 9.42 hectares.
Duration:	Sought as a continuation of CRC110148, expiring on 28 July 2029.
Contact Person:	Chris Clarke
Date:	27 March 2020

This report has been prepared for Environment Canterbury as the regulatory authority for the proposed activities in accordance with Section 88 of the Resource Management Act 1991, by Chris Clarke for EnviroCo (Environmental Compliance Services Limited), on behalf of the Applicant.

1 BACKGROUND

Selwyn District Council (the Applicant) seeks to amend resource consent CRC110148 to increase the area of discharge for the disposal of treated municipal wastewater from the Leeston Wastewater Treatment Plant (Figure 1; Appendix 1). The Leeston Wastewater Treatment Plant services the communities of Leeston, Doyleston and Southbridge. CRC110148 provides for the discharge of contaminants to land, air, groundwater and surface water.

The area consented for discharge under CRC110148 is 41.9 hectares. This application seeks to increase this area by a further 9.42 hectares (51.32 hectares in total). This is an extension of the discharge area located on the same land parcel, Lot 1 DP 70552. Discharge setbacks required by CRC110148 will be maintained. No changes are sought to the volume or rate of discharge.

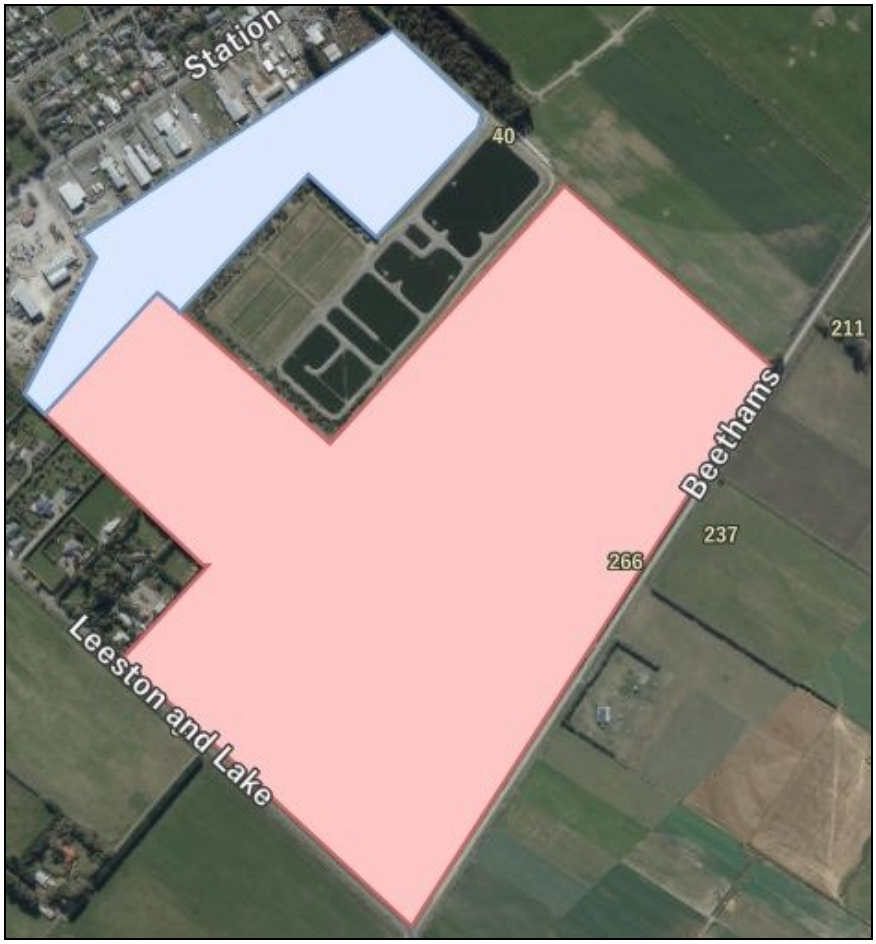


Figure 1: Location of consented discharge area (in red), and proposed addition (in blue). Setbacks not shown.

This application assesses the effects of the proposed change on the environment. A location plan, resource consent CRC110148, and correspondence with ECan are provided in the appendices.

2 DESCRIPTION OF THE PROPOSED ACTIVITIES

The Applicant proposes to modify their existing consent by amending the following:

Condition 1

"The area of land available for disposal of treated wastewater shall be 41.9 hectares at all times as shown on Drawing 6511236-120-C200 which forms part of this consent."

To:

"The area of land available for disposal of treated wastewater shall be **51.32 hectares** at all times as shown on **Plan CRCXXXX** which forms part of this consent.."

Condition 9 e.

"the land treatment and disposal areas of approximately 41.9 hectares, and"

To:

"the land treatment and disposal areas of approximately **51.32 hectares**, and"

The discharge area shown on Drawing 6511236-120-C200 will need to be amended to include the additional area of works.

The Applicant does not seek to change any other condition of resource consent CRC110148.

The Applicant seeks this change of conditions as a continuation of resource consent CRC110148, expiring on 28 July 2029.

3 LEGAL AND PLANNING MATTERS

The Resource Management Act 1991 (RMA)

Section 127 states a change or cancellation of consent condition on application by consent holder:

> *(1) The holder of a resource consent may apply to a consent authority for a change or cancellation of a condition for the consent, subject to the following:*
>
> *(a) the holder of a subdivision consent must apply under this section for a change or cancellation of the consent before the deposit of the survey plan (and must apply under section 221 for a variation or cancellation of a consent notice after the deposit of the survey plan); and*
>
> *(b) no holder of any consent may apply for a change or cancellation of a condition on the duration of the consent.*
>
> *(3) Sections 88 to 121 apply, with all necessary modifications, as if –*
>
> *(c) the application were an application for a resource consent for a discretionary activity; and*
>
> *(d) the references to a resource consent and to the activity were references only to the change or cancellation of a condition and the effects of the change or cancellation respectively.*
>
> *(4) For the purposes of determining who is adversely affected by the change or cancellation, the local authority must consider, in particular, every person who –*
>
> *(a) Made a submission on the original application; and*
>
> *(b) May be affected by the change or cancellation.*

The Applicant has met these criteria and is thus eligible for a variation of CRC110148. Therefore, the proposed change of conditions is a discretionary activity in terms of s127 of the RMA.

4 DESCRIPTION OF THE ENVIRONMENT

- The activity is to increase the area of discharge by 9.42 hectares on land parcel Lot 1 DP 70552, owned and under the control of Selwyn District Council.
- The site is located over the unconfined and semi confined aquifers (ECan GIS).
- The ECan GIS system identifies one bore, M36/8192, is located within the setback area of the proposed discharge area. However, the Applicant has confirmed no bore exists at that location.
- The Papatipu Rūnanga in this area is Taumutu Rūnanga.

5 CONSULTATION

Nadja McClean, ECan Consents Planner, provided pre-application advice on the proposed activity (see email in Appendix 3).

Further consultation was considered unnecessary as no potentially affected parties have been identified.

6 ASSESSMENT OF ENVIRONMENTAL EFFECTS

Resource consent CRC110148 controls the discharge of treated wastewater to mitigate the potential adverse effects of the activity. This application seeks only to increase the discharge area for spray irrigation. No changes are proposed to the method, rate or volume of discharge that have already been assessed and approved by the granting of CRC110148. Therefore, only the effects of increasing the area of discharge need to be assessed.

The following assessment is provided with respect to the increased discharge area:

Adverse effects of proposed change on water quality.

Nutrient management:
Increasing the area of discharge provides the Applicant with a greater ability to meet the conditions of CRC110148. For example, condition 7 states: "*The rate at which treated wastewater is applied shall not exceed 200 kg of nitrogen per hectare per year onto grazed pasture, or an equivalent application and land management system, that matches the annual nitrogen application with the annual plant uptake.* " An increase in the area of distribution will potentially decrease nutrient loading, by spreading the nutrient load over a wider area. Furthermore, the increased area provides greater flexibility for the management of land to meet condition 7.

Given this, we consider the proposed change will result in a potential reduction in adverse effects of the consented activity.

Groundwater:
The conditions of CRC110148 manage the rate and volume of discharge by specifying the means of discharge and limiting application depth, thereby mitigation the potential for contaminants to enter groundwater. Furthermore, condition 8 requires monitoring of groundwater in the area of discharge, and limits the discharge in the event shallow groundwater is observed. No change to the current mitigation is proposed.
One bore has been identified in the proposed area of discharge, M36/8192 (ECan GIS). However, the Applicant considers this bore does not exist at that location. Furthermore, bore the location is within the proposed setback area, approximately 25 metres from the boundary.

Given the present mitigation in CRC110148, and the potential benefits for managing nutrient loading, we consider the proposed increase in discharge area will not result in an increase in the adverse effects on groundwater quality.

Surface water:
No surface water bodies are identified within or adjacent to the proposed discharge area. Furthermore, condition 5(a) requires a discharge setback of 20 metres form any surface waterway. No change is proposed to this condition.

Given the existing mitigation in CRC110148, we consider there is no increase in the potential adverse effects on surface water quality.

No changes are proposed to the conditions of CRC110148 that provide mitigation for potential adverse effects.

Given the information above, we consider the adverse effects of the proposed change on water quality are *less than minor*.

Adverse effects of proposed change on human health.

The proposed activity is located on land parcel, Lot 1 DP 70552, owned and controlled by the Applicant, Selwyn District Council. No change is proposed to public access to the land.

Resource consent CRC110148 contains mitigation to manage the potential discharge of contaminants outside the property boundary. Conditions 5(b) & (c) provide setback limits for the discharge, requiring the activity to occur at least 50 metres from neighbouring properties, and 30 metre setback from public roads. Furthermore, Condition 5(f) requires monitoring of local wind conditions, restricting the potential for discharges to occur beyond the property boundary. These conditions, in addition to limits to discharge rate and volume, provide suitable mitigation to the potential effects on human health. No changes are proposed to these conditions.

Given the information above, we consider the adverse effects of the proposed change on human health are *less than minor*.

Adverse effects of proposed change on potential cumulative effects of the discharge.

Resource consent CRC110148 provides suitable controls over the discharge of treated wastewater. No change is proposed to the volume or rate of discharge. Furthermore, an increase in the area of distribution will potentially decrease nutrient loading, by spreading the nutrient load over a wider area. The increased area allows greater flexibility for the management of land to meet condition 7.

As there is no change to the volume of discharge, there is no change to the potential cumulative effects of the discharge already provided for by CRC110148.

Given the information above, we consider there is no change to the adverse cumulative effects.

Adverse effects of proposed change on Ngāi Tahu values or on sites of significance to Ngāi Tahu, including wāhi tapu and wāhi taonga.

An assessment has been undertaken of the proposed activity against the Iwi Management Plans Te Runanga o Ngai Tahu Freshwater Policy and Te Whakatau Kaupapa.

The issues identified by Te Runanga o Ngai Tahu Freshwater Policy include:

- Integrated Management
- Identification of Ngai Tahu values and uses associated with freshwater resources
- Instream water flows
- Freshwater fisheries habitats
- Participation of Ngai Tahu in freshwater management

    - Relevant Objectives include:
        - Restore, maintain and protect the mauri of freshwater resources.
        - To maintain vital, healthy mahinga kai populations and habitats capable of sustaining harvesting activity.
    - Relevant Policies include:
        - Accord priority to ensuring the availability of sufficient quantities of water of appropriate water quality to maintain and protect the mauri of a waterbody, in particular priority is accorded when developing water allocation regimes.
        - Ensure that activities in the upper catchment have no adverse effect on mahinga kai resources in the lower catchments.

These issues are addressed through objectives and policies relating to Wahi tapu, Mauri, Mahinga Kai, and Kaitiakitanga.

The issues and related policies identified by Te Whakatau Kaupapa include: Maori Land, Mining, Marae, Land Use Changes, Rural Land Use, Forests, Water Values, Spiritual Values, Waterways: Rivers, Tributaries, Lagoons and Lakes.

Relevant Water Policies include:

- That no discharge into any water body should be permitted if it will result in contamination of the receiving water
- That the quality and quantity of water in all waterways be improved to the point where it supports those fish and plant populations that were sourced from them in the past and that these mahinga kai are fit for human consumption.

In consideration of the Issues, Objectives and Policies identified above, we note the following:

- The proposed activity will not adversely affect any instream values, including flows, mahinga kai, wahi tapu, wahi taonga or fisheries or other use, including the Cultural Landscape/Values Management Area.
- Appropriate mitigation has been established through the conditions of CRC110148 to avoid effects on water quality.
- A search of the Canterbury Regional Council online GIS does not reveal any Runanga interests (Statutory Acknowledgement or silent file areas) in the area of discharge.
- Given the proposed change, the discharge described above is unlikely to have any adverse effects on surface water features or on groundwater.

Given the nature and scale of the proposed change, we consider the activity is consistent with the relevant Iwi Management Plans.

We conclude that the adverse effects on Tangata Whenua are *less than minor*

7 POLICY MATTERS

The following Objectives and Policies have been taken from the Regional Policy Statement and the Canterbury Land and Water Regional Plan – where they relate to the proposed activity.

Canterbury Regional Policy Statement (CRPS)

The Regional Policy Statement describes the issues, objectives and policies relevant to the Canterbury region. The following are of relevance to the proposed application:

Chapter 5: Land use and Infrastructure

Policy 5.3.3 – Management of development (Wider Region)

Chapter 7: Fresh Water

Objective 7.2.1 – Sustainable management of fresh water

Policy 7.3.6 Fresh water quality

Policy 7.3.7 Water quality and land uses

Chapter 15: Soils

Objective 15.2.1 Maintenance of soil quality

Canterbury Land and Water Regional Plan, including Plan Change 7

The Canterbury Land and Water Regional Plan (CLWRP) contains the following objectives and policies which are of relevance:

Objectives

Objective 3.1 (Holistic management and Ngāi Tahu)

Objective 3.2 (Ki uta ki tai)

Objective 3.7 (Water management)

Objective 3.8 (Water quality and quantity)

Objective 3.11 (Economic and social wellbeing)

Objective 3.12 (Limits and community outcomes)

Objective 3.13 (Groundwater resources)

Objective 3.24 (Good environmental practice)

Strategic Policies

Policy 4.4 (Groundwater management)

Policy 4.8B (Effects on life supporting capacity of fresh water and ecosystems)

Activity and Resource Policies

Policy 4.13 Effects of discharges of contaminants to surface water or groundwater are minimised.

Policy 4.14 Discharges into ground shall not exceed capacity of soil to treat, or shall minimise plume, not accumulate contaminants, not raise groundwater levels, and not adversely affect drinking water quality.

Policy 4.14B Have regard to Ngai tahu values expressed within an IMP.

Policy 4.23 Protect sources of human drinking water.

Policy 11.4.1 Manage water abstraction and discharges of contaminants within the entire Selwyn Te Waihora sub-region to avoid, remedy or mitigate adverse cumulative effects on the water quality of Te Waihora/Lake Ellesmere, rivers and shallow groundwater; and the flow of water in springs and tributaries flowing into Te Waihora/Lake Ellesmere and achieve, in combination with non-regulatory actions, the freshwater objectives and outcomes for the sub-region.

Policy 11.4.2 In recognition of the importance of the entire catchment to Ngāi Tahu, actively manage the Selwyn Te Waihora sub-region to enable Ngāi Tahu to exercise kaitiakitanga in the management of fresh water.

Policy 11.4.7 Reduce the total nitrogen load entering Te Waihora/Lake Ellesmere by restricting the losses of nitrogen from farming activities, industrial and trade processes and community sewerage systems in accordance with the target (the limit to be met over time) and limits in Tables 11(i) and 11(j).

Policy 11.4.8 Require any person discharging sewage sludge, bio-solids or treated sewage effluent into or onto land from a community wastewater system to adopt the best practicable option to manage the treatment and discharge of contaminants and meet the nitrogen load limit for community sewerage systems in Table 11(i) unless Policy 11.4.9 applies.

Policy 11.4.9 Allow the discharge of sewage sludge, bio-solids and treated sewage effluent into or onto land from a community wastewater system that will cumulatively result in the exceedance of the nitrogen load limit for community sewerage systems in Table 11(i) only if the exceedance is less than the nitrogen load contribution from the aggregation of domestic wastewater treatment systems that would be replaced by the community wastewater system.

Policy 11.4.10 In circumstances where the treatment or discharge of sewage sludge, bio-solids and treated sewage effluent from a community wastewater system is within the Cultural Landscape/Values Management Area there shall be no direct discharge to surface water or groundwater.

We consider the proposed activity is consistent with the objectives and policies of the CRPS and the CLWRP. The proposed mitigation will ensure any effect on the environment is appropriately managed.

NATIONAL ENVIRONMENT STANDARDS AND NATIONAL POLICY STATEMENTS

NPS (Freshwater Management) 2014: We consider the proposed activity meets the NPS, given the proposed mitigation life supporting capacity and ecosystem processes along with the health of people and communities will not be adversely affected.

8 PART 2 MATTERS

Purpose of the RMA (s5)

The purpose of the Act is to promote the sustainable management of natural and physical resources. Based on the available information, and subject to the recommended condition, we consider that the proposed activity is consistent with the purpose of the Act.

Matters of National Importance (s6)

Section 6 of the Act sets out those matters of national importance that are to be recognised and provided for in achieving the purpose of the Act. These matters include, but are not limited to, the preservation of natural character, outstanding landscapes, significant indigenous fauna and the protection of them. Section 6 also addresses the maintenance of values important to Maori. We consider that these matters will not be compromised by the proposed activity.

Other Matters (s7)

Section 7 of the Act sets out those matters that must have particular regard attributed to them in achieving the purpose of the Act. Those matters are as follows:

a) Kaitiakitanga;
b) The efficient use and development of natural and physical resources;
c) The maintenance and enhancement of amenity values
d) Intrinsic values of ecosystems
e) Recognition and protection of heritage values of sites, buildings, places, or areas;
f) Maintenance and enhancement of the quality of the environment;
g) Any finite characteristics of natural and physical resources;
h) The protection of the habitat of trout and salmon.

These matters have been considered in the assessment of the proposed activity. We consider that the proposed activity will not compromise any of the matters contained in section 7.

Principles of the Treaty of Waitangi (s8)

The principles of the Treaty of Waitangi, as identified by the Court of Appeal (New Zealand Maori Council case 54/87), are recognised by Environment Canterbury's Regional Policy Statement, Part 1(2.2), as a basis for developing an ongoing relationship with Tangata Whenua.

I note from Environment Canterbury's GIS database that there are no silent file areas or historic sites within the vicinity of the proposed activity and given that there will be no adverse effects on groundwater or natural surface water bodies, I consider that any potential adverse effects on Tangata Whenua values will be *less than minor*.

9 MITIGATION

An appropriate suite of conditions has been proposed.

10 SUMMARY

The potential adverse effects of the proposed increase in discharge area have been assessed as less than minor. Furthermore, we consider there are potential benefits to the consent holder's ability to manage land use and nutrient management through the granting of this change.

We consider that the proposed change of conditions to resource consent CRC110148 can be granted on a non-notified basis.

	Christopher Clarke	27/03/2020
Environmental Consultant		Date

(Signature)	(printed name)	Date

Selwyn District Council

Appendix 1:

Location of discharge area

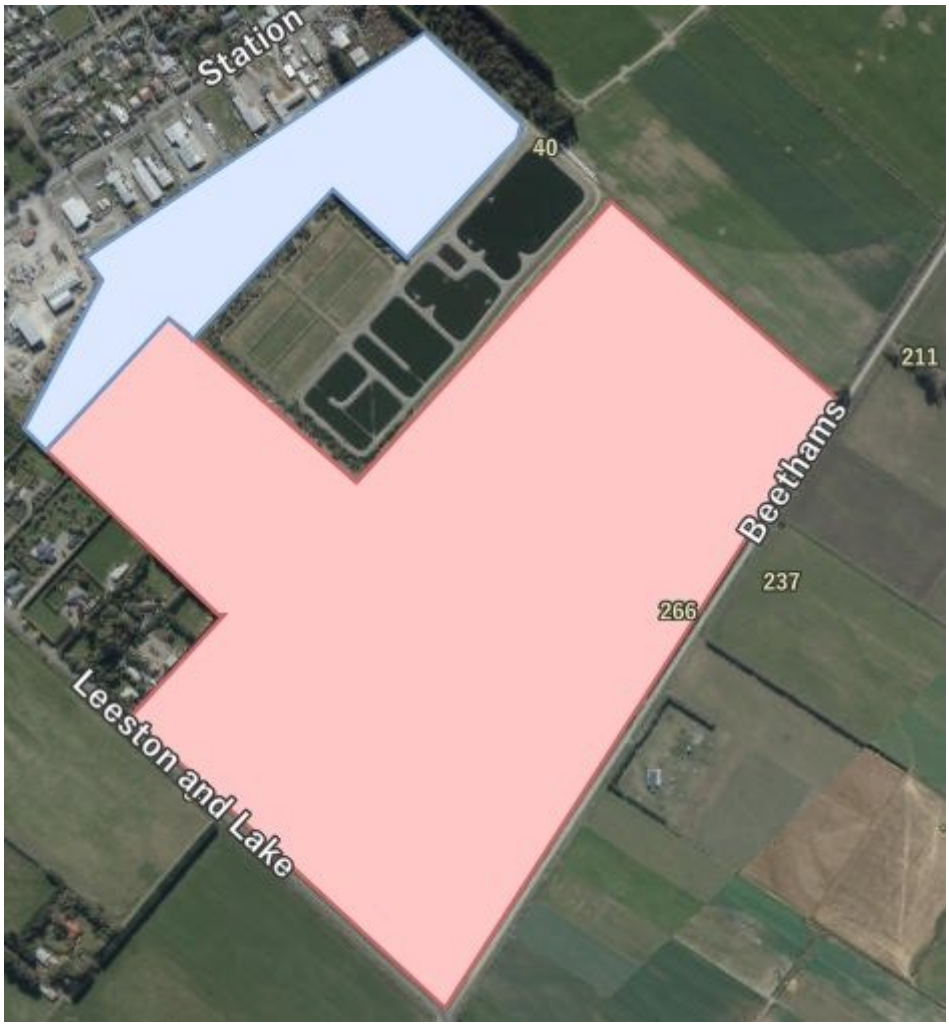


Figure 1: Location of consented discharge area (in red), and proposed addition (in blue). Setbacks not shown.

Appendix 2:

Resource Consent CRC110148

RESOURCE CONSENT CRC110148

Pursuant to Section 104 of the Resource Management Act 1991

The Canterbury Regional Council (known as Environment Canterbury)

GRANTS TO:	Selwyn District Council
A DISCHARGE PERMIT:	To discharge contaminants to land, air, and groundwater and surface water.
DATE DECISION:	28 October 2010
EXPIRY DATE:	28 July 2029
LOCATION:	Beethams Road, LEESTON

SUBJECT TO THE FOLLOWING CONDITIONS:

SECTION A - DISCHARGE TREATED WASTEWATER ONTO LAND

1) The discharge shall only be treated wastewater from the Leeston Wastewater Treatment Plant.

2) The area of land available for disposal of treated wastewater shall be 41.9 hectares at all times as shown on Drawing 6511236-120-C200 which forms part of this consent.

3) The treated wastewater shall be applied as far as practicable at a uniform depth over the land disposal area. The treated wastewater application system shall be managed to ensure the return period between applications to any part of the of the land disposal area is maximised.

4) Where treated wastewater is being applied to land via a spray irrigation system, the monthly average hydraulic loading rate shall not exceed eight millimetres per day. No single application of treated wastewater shall exceed 20 millimetres.

5) The treated wastewater application system shall be managed in such a way that ponding of the treated wastewater does not occur. Where spray irrigation is utilised, treated wastewater shall not be applied:
   (a) Onto land within 20 metres of any surface waterway;
   (b) Onto land within 50 metres of the site boundary with neighbouring properties and sensitive developments (i.e. housing, gardens, intakes to drinking water supplies and crops for human consumption);
   (c) Onto land within 30 metres of the site boundary with public roads;
   (d) Onto ground with no vegetative cover;
   (e) Onto ground where surface ponding is occurring;
   (f) If the local wind speed in the direction of neighbouring properties exceeds 15 kilometres per hour (as an average over 15 minutes), as measured by an anemometer suitably installed and maintained at the Control Room of the wastewater treatment plant.

6) The treated wastewater shall not be discharged in any place or in such a manner that wastewater is likely to discharge or percolate into surface water or onto neighbouring property.

7) The rate at which treated wastewater is applied shall not exceed 200 kg of nitrogen per hectare per year onto grazed pasture, or an equivalent application and land management system, that matches the annual nitrogen application with the annual plant uptake.

8) The treated wastewater shall not be applied to the land disposal area when the level of groundwater is higher than 900 mm below the land surface, as measured in monitoring well M36/4803 installed adjacent to the land disposal area, on Beethams Road, at or about map reference NZMS 260 M36:546-156.

SECTION B - DISCHARGE CONTAMINANTS TO AIR

9) Section B of this consent authorises the discharge of odour and aerosols to the air, subject to the following conditions, from:
   (a) one aeration pond (Pond 1) with a surface area of approximately 1,000 square metres, and
   (b) two primary oxidation ponds (Ponds 2A and 2B), with a total surface area of approximately 1.8 hectares, and
   (c) two maturation ponds (Ponds 3 and 4), with a total surface area of approximately 0.5 hectares, and
   (d) four wetland cells (Ponds 5 – 8), with a total surface area of approximately 0.9 hectares,
   (e) the land treatment and disposal areas of approximately 41.9 hectares, and
   (f) six rapid infiltration basins having a total area of approximately two hectares, as shown on Drawing 6511236-120-C200 which forms part of this consent.

10) There shall be no removal of accumulated organic matter, sediment or sludge material from the base of the maturation ponds.

11) The discharge shall not cause any spray drift and odour which is offensive or objectionable beyond the boundary of the property on which the consent is exercised.

12) The concentration of dissolved oxygen measured in wastewater in the maturation ponds and wetlands shall be positive during daylight hours and at least two grams per cubic metre.

SECTION C- DISCHARGES INTO LAND AND GROUNDWATER

13) The seepage discharge from the base of the treatment units shall only be from:
   (a) an aeration pond (Pond 1), with a surface area not greater than 1,000 square metres, and
   (b) two primary oxidation ponds (Ponds 2A and 2B), with a total surface area of approximately 1.8 hectares, and
   (c) two maturation ponds (Ponds 3 and 4), with a total surface area of approximately 0.5 hectares, and
   (d) four wetland cells (Ponds 5 – 8), with a total surface area of approximately 0.9 hectares
   (e) six rapid infiltration basins having a total area of approximately 2 hectares, as shown on Drawing 6511236-120-C200 which forms part of this consent.

14) The rate of discharge shall not exceed 10 litres per day per square metre of pond area from aeration pond 1.

15) Oxidation ponds 2A and 2B, maturation ponds 3 and 4 and wetland cells 5, 6, 7 and 8, shall be lined with low-permeability material forming a layer at least 300 millimetres thick such that the rate of discharge from the base of any single pond or wetland does not exceed 5 litres per day per square metre of base area.

16) If, for any reason, any of the maturation ponds 2B, 3 and 4 and the wetland cells 5, 6, 7 and 8, as described in the application, are emptied of their liquid contents, the rate of water discharge via the base of each pond or cell shall be determined before that unit is refilled with wastewater. The results of these measurements shall be provided to the Canterbury Regional Council before re-commissioning of that pond or cell for wastewater treatment purposes.

17) Treated wastewater shall be applied to the infiltration basins such that, as far as practicable, a uniform depth of wastewater is achieved across the basin area.

18) Treated wastewater shall be intermittently dosed to each infiltration basin such that the return period between applications of wastewater to any one basin is maximised. The return period between applications to any one basin shall be at least three days.

19) Treated wastewater shall not be discharged onto land in a manner that results in surface runoff of wastewater to any surface water body or neighbouring property.

20) Treated wastewater shall only be discharged to the infiltration basins when the level of groundwater is within 900 millimetres of the land surface, as measured in existing monitoring well M36/4803 installed adjacent to the land treatment area near Beethams Road, or when adverse ground conditions prevent discharge of wastewater to the existing border-dyke or spray irrigation areas.

21) At all times when treated wastewater is discharged to the infiltration basins, groundwater beneath the basins shall be taken from bores M36/6961, M36/6962, M36/6963, M36/6964, M36/6965 and M36/6966, at or about map reference NZMS 260 M36:5405-1583, M36:5408-1579, M36:5401-1579, M36:5405-1575, M36:5396-1575, and M36:5401-1571, to ensure the local groundwater level is at least 900 millimetres below the land surface as measured in the four piezometric tubes labelled as MB2, MB3, MB4 and MB5 on the attached Drawing 6511236-120-C200.

22) The consent holder shall provide a water supply which meets the Ministry of Health Drinking Water Standards to those users of drinking water supplied from well M36/0672 (Ellesmere Gun Club) and M36/4566 (Aymes) and to those users of drinking water taken at a depth of less than 20 meters below the ground surface from any wells within 200 metres down-gradient of any part of the treatment plant where the discharge of effluent to land occurs. For the purposes of this condition down-gradient is defined as any direction between east (90 degrees) and south (180 degrees) from the point of discharge.

SECTION D - DISCHARGE EXTRACTED GROUNDWATER TO SURFACE WATER

23) The discharge into Tramway Reserve Drain shall only occur when the level of groundwater is within 900 millimetres of the land surface, as measured in existing monitoring well M36/4803 installed adjacent to the land treatment area near Beethams Road, or when adverse ground conditions prevent the discharge of treated wastewater to the existing border-dyke or spray irrigation areas.

24) The discharge shall be into a culvert under Beethams Road designed to ensure that contaminants are dispersed rapidly, as far as practicable, at a uniform depth throughout the available flow in the drain.

25) The discharge shall only be groundwater containing dilute wastewater that has been treated by passage through:
(a) Maturation ponds having a total area of approximately one hectare;
(b) Wetland cells having a total area of approximately 0.9 hectare; and
(c) Rapid infiltration basins having a total area of approximately two hectares;

26) At all times, whilst this resource consent is being exercised, the control gate on Leeston Stream at the Ramway Reserve Drain – Leeston Stream diversion shall be fully closed to ensure maximum availability of water in the drain for dilution of extracted groundwater containing treated wastewater

27) The rate of discharge shall not exceed 120 litres per second.

28) The concentration of the following parameters measured in extracted groundwater before discharge to the drain, shall not exceed the following values in at least 90 percent of all samples collected within any period of 36 consecutive months:

Parameter	**Maximum Concentration (grams per cubic metre) in at least 90 percent of samples in any 36 months**
Total Nitrogen	7
Ammonia Nitrogen	0.9
Total Phosphorus	0.5
Faecal Coliform Bacteria	30 (number per 100 millimetres)

29) Beyond a distance of 10 metres downstream, of the extracted groundwater outfall structure, the discharge shall not give rise to all or any of the following effects on the drain:
(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, habitats or ecology.

SECTION E - RECORDING AND REPORTING

30) The consent holder shall record the date, duration, and section of the land disposal area used, of each application of treated wastewater. These records shall be forwarded to the Canterbury Regional Council by the last working day of each month or upon request.

31) The consent holder shall produce a written report on the means undertaken and intended to ensure compliance with Condition (7). The report shall cover those actions taken in the previous year and those intended for the year ahead. A copy of this report shall be made available to the Canterbury Regional Council by the last working day in November.

32) The volume and rate at which raw wastewater is pumped to the wastewater treatment plant shall be measured, to within an accuracy of 15%, and recorded daily in a log kept for that purpose. A copy of the log shall be forwarded to the Canterbury Regional Council by the last working day of each month or upon request.

33) A record of any complaints related to odour from the wastewater treatment and disposal facilities shall be maintained, and shall include:
(a) location where the odour was detected by the complainant;
(b) date and time when the odour was detected;
(c) a description of the wind speed and direction when the odour was detected by the complainant;
(d) the most likely cause of the odour detected; and
(e) any corrective action taken by the consent holder to avoid, remedy, or mitigate the odour detected by the complainant.

This record shall be provided to the Canterbury Regional Council before the last working day of November each year, and otherwise on request.

34) The concentration of dissolved oxygen in wastewater shall be measured between 11:00 and 14:00 hours at least once every month at the outlet of cells 2A, 2B, 4 and 8, and shown on Drawing 6511236-120-C200 which forms part of this consent. Results of this monitoring shall be provided to the Canterbury Regional Council before the last working day of November each year, and otherwise on request.

35) A record shall be kept of the volume (in cubic metres) of treated wastewater applied to the infiltration basins each day; the date, time and duration (in hours) of wastewater application; and the location and total area of land (in square metres) where the wastewater is applied to the basins. The volume of treated wastewater discharged to the basins shall be measured to within an accuracy of 10 percent. This record shall be held and provided to the Canterbury Regional Council on request.

36) At least once a month, the concentration of 5-day Biochemical Oxygen Demand (BOD_5), Suspended Solids, Total Nitrogen, Ammonia Nitrogen, Nitrate Nitrogen, Total Phosphorus and Faecal Coliform Bacteria shall be measured in the final wetland cell. The results of these analyses shall be provided to the Canterbury Regional Council on request.

37) On at least three occasions each year, twice during the period June to October and once during the period March to May, conductivity, pH, and the concentration of faecal coliform bacteria, nitrate nitrogen and ammonia nitrogen shall be monitored in the groundwater taken from the following bores:

(a) one bore within 100 metres up-gradient (in terms of direction of groundwater flow) of the infiltration basins;

(b) two bores immediately down-gradient of the maturation ponds and wetlands, but up-gradient of the border-dyke/spray irrigation areas; and

(c) two bores located at the down-gradient border of the border-dyke/spray irrigation areas, adjacent to Beethams Road

The five monitoring bores shall sample shallow groundwater from the first aquifer, taken at a depth of less than 16 metres below the ground surface. The results of these analyses shall be provided to the Canterbury Regional Council on request.

38) The consent holder shall submit a written report to the Canterbury Regional Council before the last working day of November each year. This report shall summarise the results of all monitoring undertaken during the previous 12 months in accordance with Conditions (16), (35), (36) and (37) of this consent. Any non-compliances with consent conditions shall be clearly identified in the report, and a proposed action plan to ensure future compliance shall be specified.

39) The collection and preservation of samples required under this consent shall be in accordance with "Standard Methods for the Examination of Water and Wastewater" (published by the American Public Health Association or an equivalent nationally recognised methodology for the collection and preservation of water samples. The laboratory carrying out the analyses required under this consent shall be accredited to ISO/IEC Guide 25: (1980) or an equivalent defined by an accreditation body recognised as operating to ISO/IEC Guide 58.

40) The date, time and duration of all discharges to Tramway Reserve Drain shall be recorded and provided to the Canterbury Regional Council on request.

41) At least once a month when discharge to Tramway Reserve Drain occurs, the concentration of the parameters specified in Condition (28) shall be measured in the extracted groundwater before discharge to the drain. The results of these analyses shall be provided to the Canterbury Regional Council on request.

42) (a) The Canterbury Regional Council, Attention: RMA Compliance Monitoring and Enforcement shall be notified of the intention to discharge to Tramway Reserve Drain as it is practicable beforehand.

(b) When discharge to the drain occurs, the concentration of 5-day Biochemical Oxygen Demand (BOD_5) Suspended Solids and the parameters listed in Condition (28) shall be measured in the water in Tramway Reserve Drain at a location 10 metres upstream and 10 metres downstream of the extracted groundwater outfall structure.

(c) Sampling in accordance with clause (b) of this Condition shall occur within 72 hours of commencement of the discharge of extracted groundwater, each time a discharge occurs.

(d) The results of these analyses shall be provided to the Canterbury Regional Council on request.

43) An observational ecological assessment shall be undertaken by suitably qualified persons during the months of July to October in the years 2008 and 2018. The survey shall be compared to the ecological survey initially carried out as part of the consent conditions for CRC011681.2 and shall be used determine if any substantive change has occurred to flora and fauna in the drain and adjacent to the discharge. The results shall be provided to the Canterbury Regional Council within one month of completion of that survey

44) Before the last working day of November each year, the consent holder shall submit a written report to the Canterbury Regional Council, Department of Conservation, North Canterbury Fish and Game Council, Te Taumutu Runanga, Te Runanga o Ngai Tahu, and either the Selwyn District Council Sewage Project team of the Leeston Town committee. This report shall summarise the results of all monitoring undertaken during the previous 12 months in accordance with Conditions (41), (42) and (43) of this consent. Any non-compliance with consent conditions shall be clearly identified in the report, and a proposed action plan to ensure future compliance shall be specified.

45) The consent holder may, on any of the last five working days of November each year, apply for a change of the monitoring requirements of Conditions (36), (37), (38) (41), (42) and (43).

46) The Canterbury Regional Council may annually, on any of the last five working days of November each year, serve notice of its intention to review the conditions of this consent for the purpose of:

(a) dealing with any adverse effect on the environment which may arise from the exercise of the consent and which is appropriate to deal with at a later stage;

(b) requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment;

(c) complying with the requirements of a regional plan; or

(d) amending the monitoring requirements of Conditions (36), (37), (38) (41), (42) and (43).

Issued at Christchurch on 29 October 2010

Canterbury Regional Council

No.	Revision	By	Chk	Appd	Date
0	FOR RESOURCE CONSENT	SVM			22.06.10

Drawing Originator: CH2M Beca Ltd, Consulting Engineers. Auckland, Wellington, Christchurch, Hamilton, New Plymouth, Tauranga, Melbourne, Sydney, Singapore, Port Moresby, Jakarta, Kuala Lumpur

Original Scale (A1) 1:4800; Reduced Scale (A3) 1:9600

Design	1H	21.06.10	Approved For Construction*
Drawn	SVM	22.06.10	
Dsg Check*			
Dwg Check*			Date

* Refer to Revision 1 for Original Signatures

Client: Selwyn District Council

Project: LEESTON WWTP CONSENT REVIEW

Title: PROPOSED IRRIGATION AREA ENLARGEMENT

Discipline: CIVIL

Drawing No.: 6511236-120-C200 Rev. 0

Originating Office: Christchurch

Original size A1

AutoCAD Rel. 15 lth

Document No.1236C003.dwg

Appendix 3:

Correspondence with Nadja McClean, ECan Consents Planner

Nadja McLean <Nadja.McLean@ecan.govt.nz>
Fri 6/03/2020 9:03 AM

Hi Chris,

Apologies for the delayed response, been a crazy week!

As the proposed does not increase the discharge volume, this would come under a change of conditions.

For the change of conditions I would note that the new discharge area complies with all the set backs conditions within CRC110148.

Some of the main issues that we assess in wastewater are effects on groundwater quality, groundwater users, human health (eg contact), and cumulative effects of the discharge.

I would mention that it will result in a decrease in adverse environmental effects and justify why this is.

Let me know if you have any questions ☺

Thanks
Nadja

From: Chris Clarke <Chris@enviroco.nz>
Sent: Thursday, 27 February 2020 4:32 PM
To: Nadja McLean <Nadja.McLean@ecan.govt.nz>
Cc: david.potts@selwyn.govt.nz; Amit Chauhan <Amit.Chauhan@selwyn.govt.nz>; Blair Gray <blair@enviroco.nz>
Subject: Re: Pre application advice SDC Leeston Wastewater Treatment Plant

Hi Nadja,

Selwyn District Council holds resource consent CRC110148 to discharge treated wastewater via spray irrigation adjacent to its treatment plant (consent attached). They wish to increase the discharge area by 9.43 hectares (to a new total of 51.32 ha) on Lot 1 DP 70552 (see Figure 1 below). Spray irrigation by centre pivot and travelling irrigator is proposed. This will result in a decrease in adverse environmental effects, and has been discussed with Trinity White, ECan compliance officer.

SDC do not seek to increase the volume discharged or to change any other condition.

The discharge area will have a 50 metre "no discharge" buffer between the north-west boundary properties (see attached plan). This is consistent with the existing discharge areas that have a 30 metre setback from adjacent roads or 50 metres for other properties.

I would appreciate if you could confirm if the proposed increase in discharge area would be accepted as an application for a change of conditions. Also, I would appreciate if you could identify any issues or "red-flags" with the proposed increase.

Thank you for your timely assistance with this. Do not hesitate to contact me with any questions.

Kind regards,
Chris

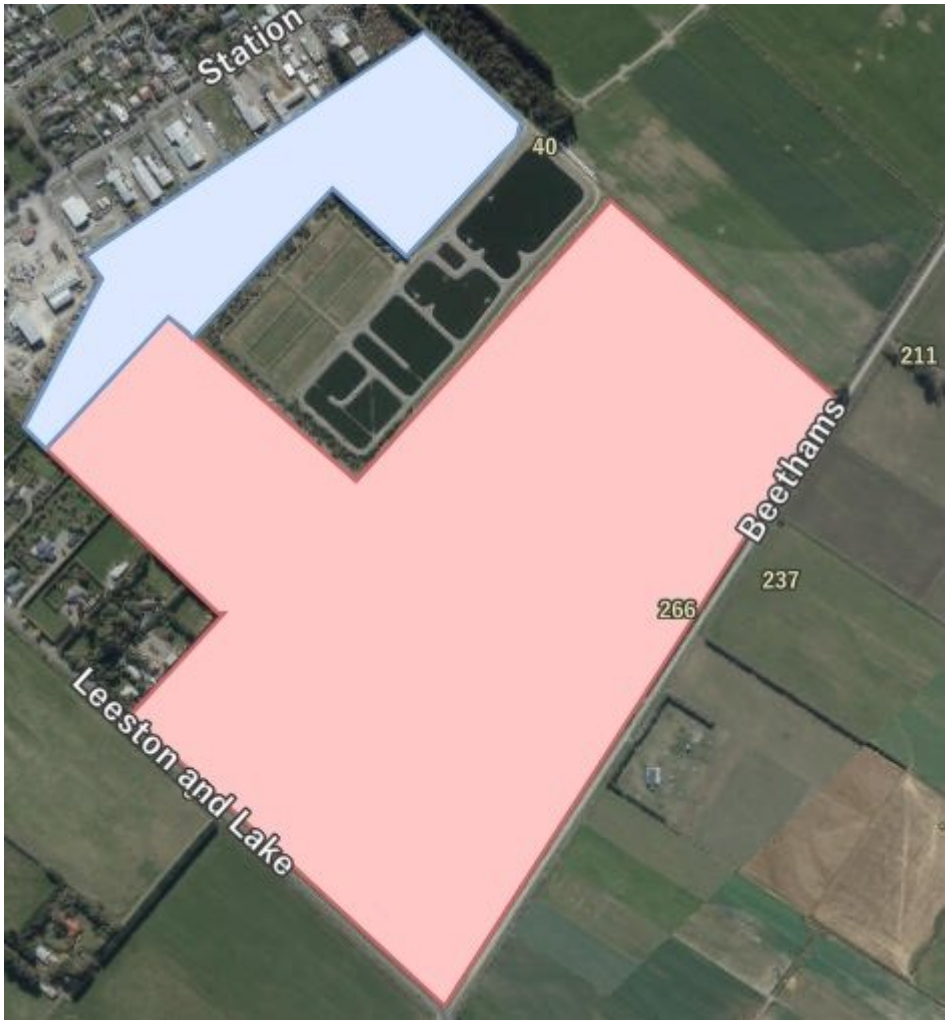


Figure 1: Proposed (blue) and current (red) discharge areas (note the polygons above include the buffer areas)

Chris Clarke
Environmental Consultant
PhD (Biol. Sci.)

Appendix 3

Drawing of proposed NOR

Drawing Plotted: 10 Jun 2020 10:50 am

LEGEND

AREA TO BE DESIGNATED FOR "SEWAGE TREATMENT AND DISPOSAL AREA" (LOT 1 DP 69263, LOT 1 DP 70552)

ORIGINAL DRAWING IN COLOUR

FOR INFORMATION
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	FOR INFORMATION - UPDATED AREA AND NOTES	RAS	PW	PW	10.06.20
A	FOR INFORMATION	RAS	PW	PW	30.04.20

Client: Selwyn District Council

Project: ELLESMERE WWTP

Title: NOTICE OF REQUIREMENT BEETHAMS ROAD & STATION STREET LEESTON

Beca

Scale as drawn (A4) 1:10,000

Designed	P Whyte	APRIL 2020	Dsg Verifier	P Whyte	APRIL 2020
Drawn	R Simpson	APRIL 2020	Dwg Check	P Whyte	APRIL 2020

Approved for Construction *

Date: * Refer to Revision 1 for Original Signatures

Discipline: PLANNING

Drawing No.: 3364542-SK-001

Rev.: B

DO NOT SCALE

IF IN DOUBT ASK.

www.beca.com

Document No. 3364542-SK-001.DWG

Appendix 4

Certificates of Title

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Search Copy

R.W. Muir
Registrar-General
of Land

Identifier **CB40B/748**
Land Registration District **Canterbury**
Date Issued 08 September 1995

Prior References
CB12A/954 CB14A/964

Estate	Fee Simple
Area	6.7715 hectares more or less
Legal Description	Lot 1 Deposited Plan 69263 and Lot 1-2 Deposited Plan 29488

Registered Owners
The Selwyn District Council

Interests

Subject to Section 241 Resource Management Act 1991

Subject to Section 59 Land Act 1948 (affects part formerly contained in CT CB10B/1173)

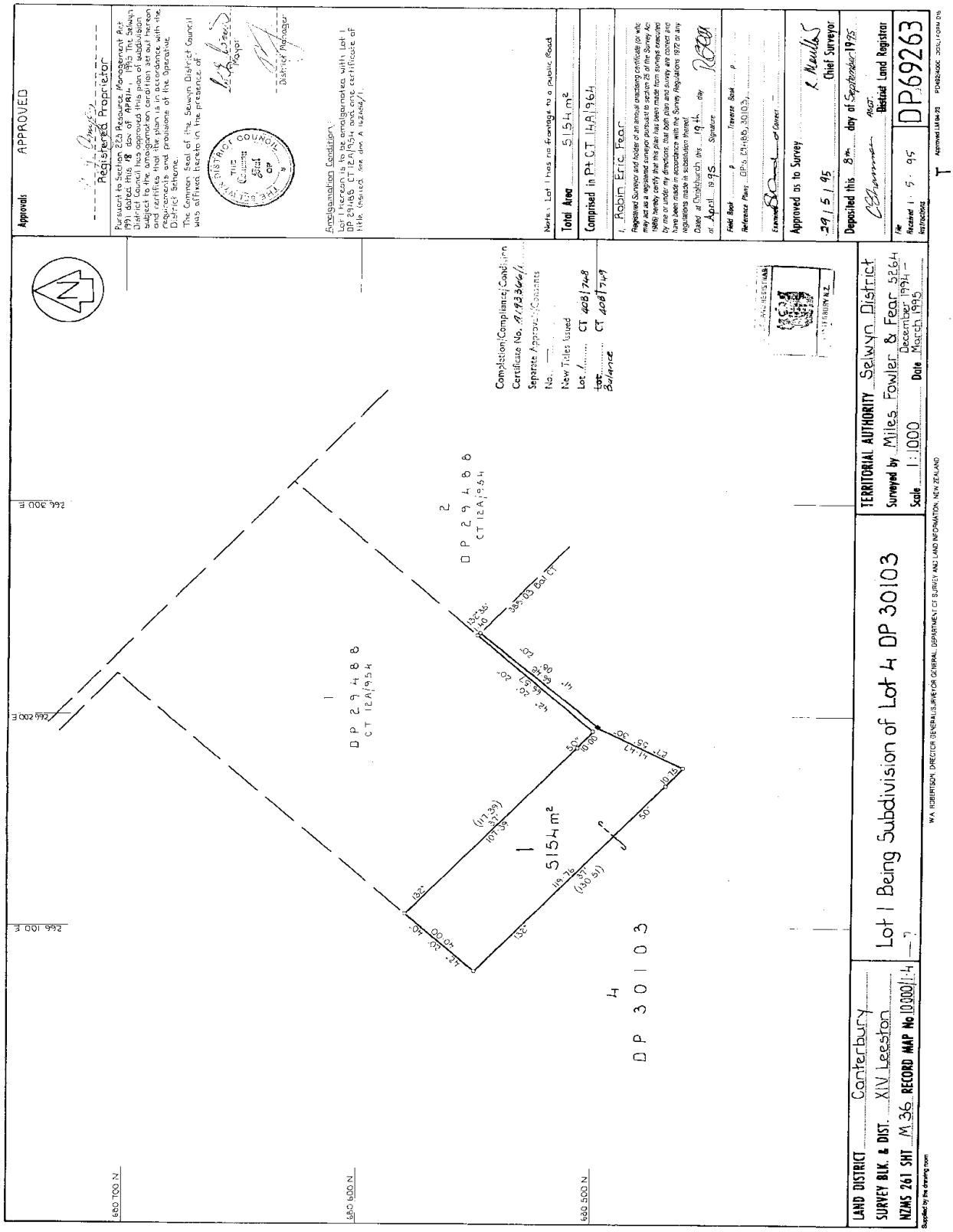
961341 Transfer creating the following easements

Type	Servient Tenement	Easement Area	Dominant Tenement	Statutory Restriction
Rights to park	Lot 2 Deposited Plan 30103	Blue DP 30103	Lot 1 Deposited Plan 69263 - herein	
Rights to park	Lot 5 Deposited Plan 30103	Blue DP 30103	Lot 1 Deposited Plan 69263 - herein	
Right of way	Lot 2 Deposited Plan 30103	Yellow DP 30103	Lot 1 Deposited Plan 69263 - herein	
Right of way	Lot 5 Deposited Plan 30103	Yellow DP 30103	Lot 1 Deposited Plan 69263 - herein	

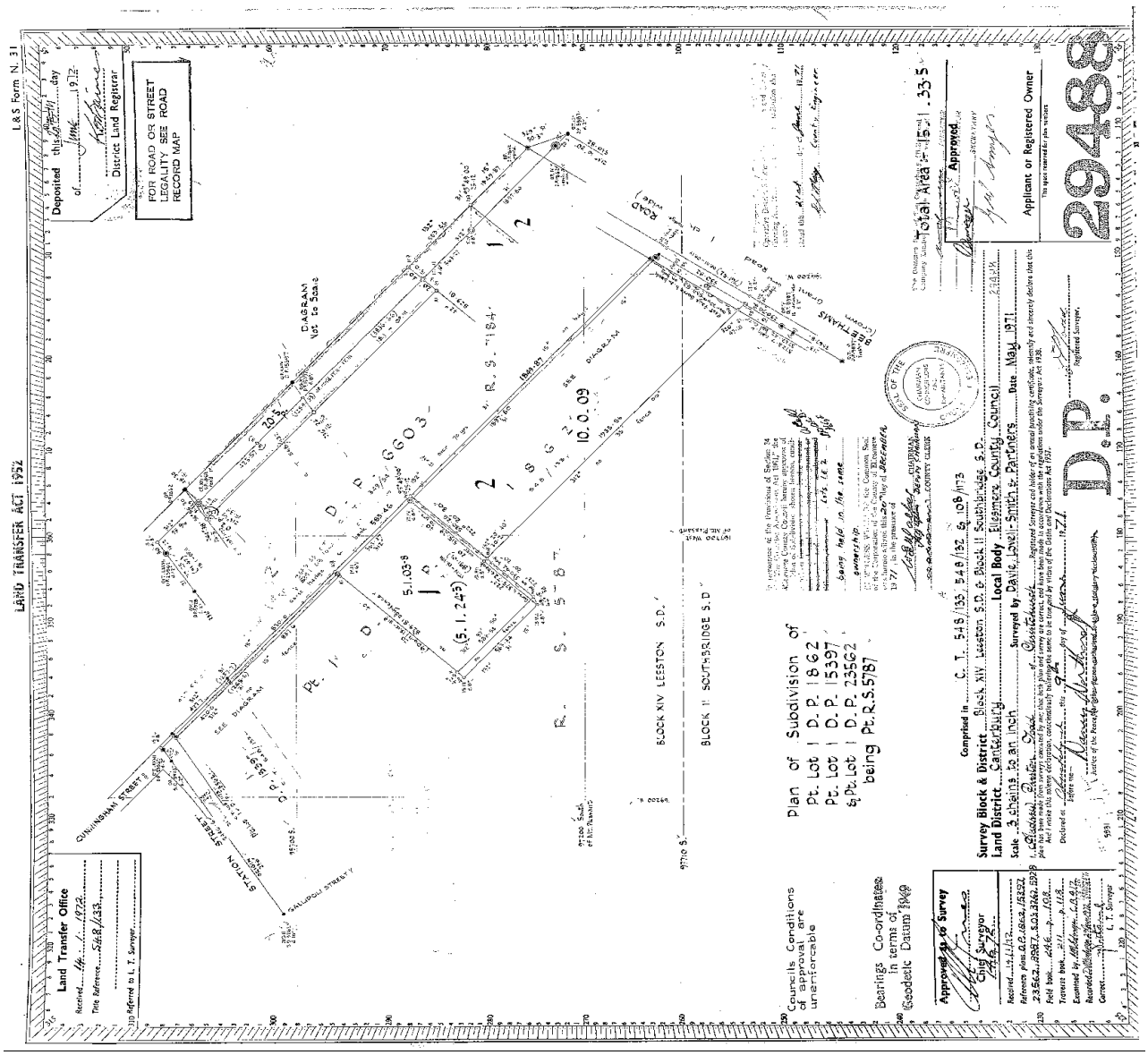
The easements created by Transfer 961341 are subject to Section 243 (a) Resource Management Act 1991

Land Covenant in Covenant Instrument 11634672.4 - 9.12.2019 at 3:01 pm

Identifier **CB40B/748**



Identifier **CB40B/748**



RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Search Copy

R.W. Muir
Registrar-General
of Land

Identifier **CB40B/749**
Land Registration District **Canterbury**
Date Issued 08 September 1995

Prior References
CB14A/964

Estate Fee Simple
Area 53.8389 hectares more or less
Legal Description Lot 1 Deposited Plan 70552

Registered Owners
The Selwyn District Council

Interests

961341 Transfer creating the following easements

Type	Servient Tenement	Easement Area	Dominant Tenement	Statutory Restriction
Right of way	Lot 2 Deposited Plan 30103	Yellow DP 30103	Lot 1 Deposited Plan 70552 - herein	
Right of way	Lot 5 Deposited Plan 30103	Yellow DP 30103	Lot 1 Deposited Plan 70552 - herein	
Rights to park	Lot 2 Deposited Plan 30103	Blue DP 30103	Lot 1 Deposited Plan 70552 - herein	
Rights to park	Lot 5 Deposited Plan 30103	Blue DP 30103	Lot 1 Deposited Plan 70552 - herein	

The easements created by Transfer 961341 are subjects to Section 243 (a) Resource Management Act 1991

Land Covenant in Covenant Instrument 11634672.4 - 9.12.2019 at 3:01 pm

Identifier **CB40B/749**