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TO	**NTP Development Holdings Limited (Ngāi Tahu Property)** 15 Show Place, Addington, Christchurch 8024 **Attention –Dean Christie**
FROM	Victor Mthamo
DATE	4 June 2025
FILE	308-2024 -NTPL
SUBJECT	**Pound Rd Industrial Development - Assessment of the HPL and NPS-HPL and Land Productivity**

1. Introduction

1.1. Applicant's Proposal

NTP Development Holdings Limited (NTP) are seeking approvals through the Fast-track process to use approximately 60.4 ha of land in Templeton (the Site) for industrial purposes. The Site is identified under Schedule 2 of the Fast-track Approvals Act 2024 as the Pound Road Industrial Development.

NTP has engaged Reeftide Environmental & Projects Limited (Reeftide) to carry out a desktop assessment of the actual and potential effects of the proposed industrial use on the productive potential of land and soils.

1.2. Author's Qualifications and Experience

Victor Mthamo the author of this report is a Principal Consultant for the environmental science, engineering and project management consultancy Reeftide. He has been in this role for almost 13 years. Prior to this he was a Senior Associate with the surveying, environmental science and engineering, and resource management consulting firm CPG New Zealand Limited (now rebranded to Calibre Consulting Limited), where he was also the South Island Environmental Sciences Manager. He has worked in the area of environmental science and engineering for over 30 years.

Further details of Victor's qualifications and experience in undertaking similar work are detailed in **Attachment 1**.

2. Executive Summary

This memo has assessed the proposed development against the provisions of the National Policy Statement for Highly Productive Land to determine the Highly Productive Land status of the site. 60.4 ha of the Site has a Land Use Classification (LUC) 2 which under the national policy statement is highly productive land.

The site is zoned Rural Urban Fringe under the Christchurch District Plan. This zone was assessed by Chapman Trip as falling outside the definition of general rural land and making the site not highly productive land under the national policy statement. Regardless, this memo has assessed the proposal against the national policy statement and concludes that:

- There are multiple site constraints (lack of irrigation water, statutory limitations on nutrient applications) which reduces the land's productive potential. These site constraints have potential long-term impacts to the productive capacity of the land which means while some of the site may be LUC2, it will unlikely ever achieve its full productive potential.
- The site is not highly to be productive under Clause 3.4 of the national policy statement because of its isolation from other productive land.
- The area of LUC 2 soils within the site is only 0.006% and 0.54% of the district and regional highly productive soil reserve. This proportions are considered a negligible reduction in the area of highly productive land within the district and the region.

The proposal is considered to have positive environmental and economic benefits to the area. These are:

- A change in the nature of discharges of contaminants to land. Existing onsite wastewater systems will cease and replace by a reticulated wastewater system. This has positive benefits to the groundwater quality.
- Future discharges to land will mainly be stormwater and this will be treated to the Canterbury Land and Water Regional Plan water quality standards prior to discharge to land.
- The proposal will also enhance primary production as the industrial development may be used for processing and storage and may also be a transport/logistic hub.

In summary, the proposed development of the Site is appropriate and will not compromise the use of highly productive land for land-based primary productions, both now and in the future. There are no adverse impacts that reach the threshold of a "sufficiently significant adverse impact" such that they need to be taken into account in terms of an assessment under s 85 of the FTAA2024.

3. Description of the Site

3.1. Site Location and Zoning

The proposed development area encompasses 12 land parcels. The individual land parcels are listed in **Attachment 1**. Figure 1 below shows the location of the proposed industrial development Site. The Site is located on the corner of Pound Road, south of Templeton Golf Course and is opposite (west of) Waterloo Business Park. The location of the site is shown in Figure 1 and Figure 2. The 60.4 ha site is currently zoned Rural Urban Fringe.

Figure 1: Location of the Proposed Pound Rd Development

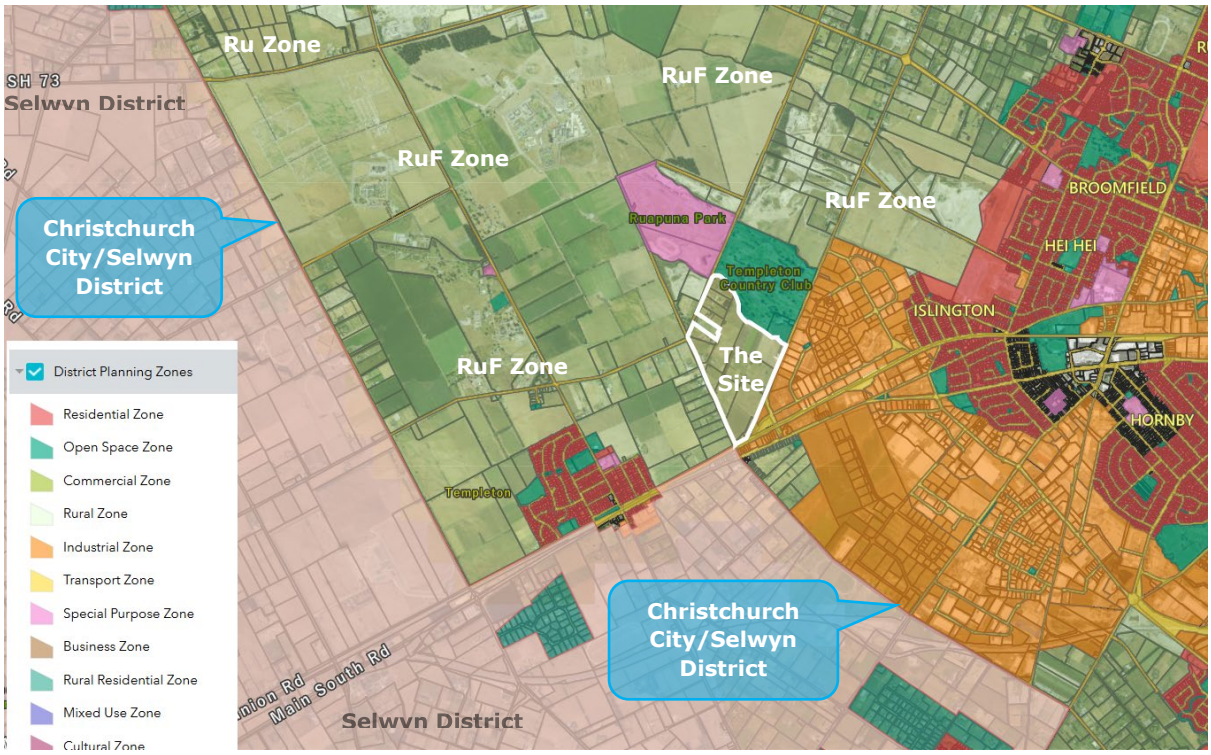

Figure 2: Location of the Site and the Christchurch District Plan Zoning

3.2. Existing Land Use in and Around the Site

Under the Christchurch District Plan, the site is zoned Rural Urban Fringe as shown in Figure 2. The zoning of the surrounding land is as follows:

- Rural Urban Fringe zone to the west and northwest boundaries.
- Open Space community Parks Zone to the northern boundary.
- Industrial General zone to the east, northeast and southern boundaries.

The existing land use within the Site has been lifestyle blocks with primary production being carried out to varying extents ranging from non-productive lifestyle blocks covered mainly in lawns/pasture that are mowed regularly, to vegetable production at 173 Pound Road. Historical maps show that there has been consistent production at 173 Pound Road with arable production at 111 Pound Road appearing to have ceased in the 1990s.

Beyond the site, the land use is mainly:

- Open space with the Templeton Golf Course to the north/north-east of the site.
- Ruapuna Raceway, which is zoned Specific Purpose (Ruapuna Motorsport), to the north.
- Waterloo Business Park to the southeast.
- Industrial zoned long along Main South Road to the southeast and south.
- Rurally zoned land to the west between Barters Road and Templeton suburb and also north-west of the site.

3.3. Surface Waterways and Groundwater

The existing surface waterways are discussed in the ecological memo by Instream Consulting Limited. There are two surface waterways. One water race is mapped within the Site and this is part of the Paparua Race Scheme. It flows along Barters Road, with a short channel entering the Site and terminating within 4 Hasketts Road.

The second is part of an internal drain system and may have historically been part of the water race network. Reeftide understands that internal drain will be filled in as part of the development proposal, and the effects of this have been assessed by Instream Consulting Ltd.

The Canterbury Maps groundwater layers (e.g. the "*Wells & Bores - By Reading Count*") were interrogated and these show that the groundwater is at least 16.5 m below the ground level.

KGA Geotechnical have been engaged by NTP to carry out a geotechnical assessment as part of this application. Groundwater was not encountered during their site testing. The geotech report notes that groundwater generally fluctuates between 13 m to 17 m, with a long-term average between 15m to 16m depth below ground level (bgl).

4. Proposed Industrial Development Site Soils

4.1. Soil Types and Textures

S-Maps[1] provides details of the soils under the proposed industrial development site. The soils are primarily Waimakariri and Selwyn soils. Soil depths are 45-100 cm and >100 cm for some subclasses.

4.2. Soil Drainage

S-Maps shows that the soils are well drained.

5. Land Use Capability (LUC) and Quantifying LUC Classes with the Site

5.1. Land Use Capability

The LUC described by Lynn et al. (2009)[2] is a general purpose, qualitative evaluation system which has been widely applied in New Zealand for planning land use, especially for management and conservation.

LUC classification system defines eight LUC classes of soil "according to its long-term capability to sustain one or more productive uses based on physical limitations and site-specific management needs". Classes 1–4 are classified as arable land, while LUC Classes 5–8 are non-arable. Versatile soils are defined as Class 1, 2, or 3 soils as delineated by the New Zealand Land Resource Inventory (New Zealand Soil Bureau amended 1986).

Figure 3 shows the potential land uses and the relationship between the versatility and LUC classes.

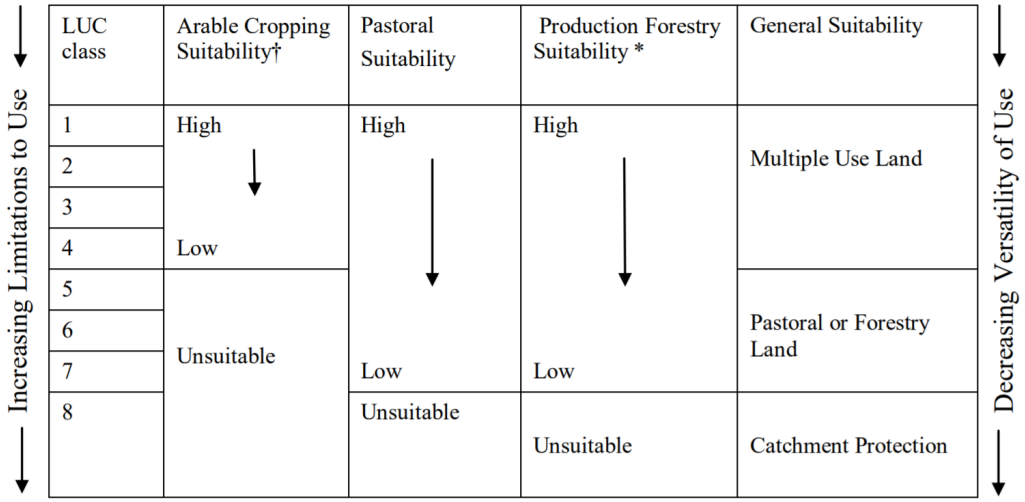

Figure 3: Relationship between the Versatility and LUC Classes (Lynn et al, 2009[3])

5.2. LUC Classes of the Soils within the Site

The LUC Classes of the soils within the site are mapped on Canterbury Maps[4], and Landcare Research soils portal[5]. Figure 4 shows the locations and areas of the LUC Classes in and around the site.

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[1] https://smap.landcareresearch.co.nz/1

[2] *Lynn IH, Manderson AK, Page MJ, Harmsworth GR, Eyles GO, Douglas GB, Mackay AD, Newsome PJF 2009. Land Use Capability survey handbook: a New Zealand handbook for the classification of land, 3 rd ed. Hamilton, AgResearch; Lincoln, Landcare Research; Lower Hutt, GNS Science. 163 p.*

[3] http://envirolink.govt.nz/assets/Envirolink/83-mldc7-MarlboroughSoilsAdvice.pdf

[4] https://mapviewer.canterburymaps.govt.nz

[5] https://ourenvironment.scinfo.org.nz/maps-and-tools/app/Land%20Capability/lri_luc_main

Figure 4: LUC Classes of the Land Within the Proposed Development Area

Table 1 below provides details of the LUC Classification within the proposed industrial development site.

Table 1 – Proportion of the Site's LUC Classifications

LU Class	Area (ha)	Area (%)
LUC2	50.35	84.8%
LUC4	9.0	15.2%
Total	**59.35**	**100**

In summary, 50.35 ha of the Site is LUC Class 2 and the remaining area is LUC Class 4.

5.3. National Policy Statement for Highly Productive Soils

5.3.1. Introduction

The NPS-HPL came into effect on 17 October 2022 and was amended in August 2024. It seeks to protect highly productive land for use in land-based primary production, both now and for future generations. "*Land-based primary production*" encompasses production from agricultural, pastoral, horticultural, or forestry activities that are reliant on the soil resource of the land[6]. To achieve this, the NPS-HPL requires the identification of highly productive land at a regional level, and imposes varying levels of constraint on the subdivision, land use and development of that land.

5.3.2. Highly Productive Land

Until that regional identification (through mapping) occurs, the NPS-HPL (including its various constraining provisions) will only apply to land that, at the commencement date of the NPS-HPL, meets the transitional definition of "highly productive land".[7] The two inclusionary criteria for that definition are that the site is:

[6] *National Policy Statement for Highly Productive Land 2022, clause 2.1.*
[7] *National Policy Statement for Highly Productive Land 2022, Clause 3.5(7).*

a. zoned general rural or rural production; and
b. LUC 1, 2 and 3 land.

"LUC 1, 2 and 3 land" is defined in the NPS-HPL as land identified as Land Use Capability Class 1, 2 or 3, as mapped by the NZLRI or by any more detailed mapping that uses the Land Use Capability classification.

As illustrated above, the NZLRI mapping shows that the land is comprised of 50.35 ha of LUC Class 2 soils and 9 ha of LUC Class 4 soils. Consequently, if the Site meets criteria (a) (and is not otherwise excluded by the remaining criteria)[8], it will meet the definition of "*highly productive land*" in clause 3.5(7).

5.3.3. The HPL Status of the Development Site

As discussed in Section 2.1, the Site is zoned Rural Urban Fringe. We understand, by way of advice provided by NTPL's legal advisors (Chapman Tripp), that the Rural Urban Fringe Zone may not be "highly productive land" under the transitory definition of the NPS-HPL. Nevertheless, this report has been prepared on the (conservative) basis that the LUC 2 land identified on the Site meets the transitional definition of "highly productive land" under clause 3.5(7) of the NPS-HPL.

It is worth noting that, even if the land was in a general rural zone or rural production zone, we consider that the regional council would not map it as HPL in accordance with Clause 3.4 of the NPS-HPL (please refer to Section 5.3.4 of this report). Clause 3.4 relates to the mapping of highly productive soils and provides guidance on what to include as HPL. Clause 3.4(1) states that:

(1) Every regional council must map as highly productive land any land in its region that:

(a) is in a general rural zone or rural production zone; and

(b) is predominantly LUC 1, 2, or 3 land; and

(c) forms a large and geographically cohesive area.

Furthermore, and of particular relevance to the LUC Class 2 soils within the Site is:

- Clause 3.4(5)(b) which states that "*where possible, the boundaries of large and geographically cohesive areas must be identified by reference to natural boundaries (such as the margins of waterbodies), or legal or non-natural boundaries (such as roads, property boundaries, and fence-lines)*";

- Clause 3.4(5)(d) which states that "*small, discrete areas of LUC 1, 2, or 3 land need not be included if they are separated from any large and geographically cohesive area of LUC 1, 2, or 3 land*".

The Site has been described in detail in Section 2 above. In consideration of Clause 3.4(5)(b) it is clear that the Site does not form a cohesive area with the rest of the other LUC 1-3 around the Site because:

- The Site is isolated and is essentially an island being bound by:
  - Barters Road to the east.
  - Pound Road and the Waterloo Business Park to the east and south.
  - Hasketts Road, Ruapuna Raceway to the north.
  - The quarried land at 35 Hasketts Road and 146 Barters Road to the north.
  - Templeton Golf Course and the LUC 4 boundary within the 60.4 ha site to the north and northeast.

When we apply the criteria suggested in Clause 3.4(5)(b) we conclude that the 50.35 ha of urban fringe LUC Class 2 land is "*a small discrete block of land that must not be included in the*

[8] *Land which is identified for future development or subject to a Council initiated, or adopted, notified plan change to rezone it from general rural or rural production to urban or rural lifestyle, is excluded from the transitional definition of highly productive land.*

mapping of HPL because it is separated from any large and geographically cohesive area of" LUC 2 land.

When applying the Clause 3.4 criteria, we consider that the LUC Class 2 land within the Site is a small discrete block that is separated from any large and geographically cohesive area of LUC 1, 2 or 3 land. Based on this assessment, we conclude that the land ought not be included in the mapping of HPL.

5.3.4. Draft Regional Policy Statement

We also note that the Regional Council has produced draft maps of its highly productive land in the region for the purposes of the NPS-HPL as part of its Draft Canterbury Regional Policy Statement 2024. This mapping did not identify the Site as "highly productive land". While the transitional definition of "highly productive land" continues to apply until any such mapping is operative and noting that the Regional Council has placed the development of its new Regional Policy Statement on hold until January 2026, it does indicate that this land may not be "highly productive land" under the NPS-HPL in the future.

6. The Relevant Provisions

As noted in Section 1, NTPL are seeking a land use and subdivision consent for an industrial development. Therefore, the relevant NPS-HPL provisions for consideration are:

- Objective, Policy 7, Policy 8, and Policy 9
- Clause 3.8
- Clause 3.9
- Clause 3.10

To inform an assessment of the proposal against Clause 3.10(1) the NPS-HPL, our report considers:

- Site specific constraints affecting the productive capacity of the site (and therefore the viability of land-based primary production) of the Site (Section 7)
- The potential cumulative loss and availability and productive capacity of highly productive land (Section 8).
- The potential for fragmentation of large geographically cohesive areas of highly productive land (Section 9).
- The potential reverse sensitivity effects of the development on other surrounding land-based primary production (Section 10). The environmental benefits of the proposal (Section 11).

7. Productive Capacity of the Site

7.1. Productive Capacity of the Site

Clause 3.10(1)(a) requires that territorial authorities may only allow highly productive land to be subdivided, used, or developed for activities not otherwise enabled under clauses 3.7, 3.8, or 3.9 if satisfied that there are permanent or long-term constraints on the land that mean the use of the highly productive land for land-based primary production is not able to be economically viable for at least 30 years.

This section looks at site-specific factors to demonstrate the site's productive capacity.

"Productive capacity" is defined in the NPS-HPL as "the ability of the land to support land-based primary production over the long term, based on an assessment of:

a. Physical characteristics (such as soil type, properties, and versatility); and
b. Legal constraints (such as consent notices, local authority covenants, and easements); and
c. The size and shape of existing and proposed land parcels.

Similar guidance has previously been given by the Environment Court[9] on factors which indicate productive capacity (illustrated in Table 2 below).

[9] *Canterbury Regional Council v Selwyn District Council [1997] NZRMA 25, Judge Treadwell presiding.*

Table 2 – List of Factors Determining Versatility (Treadwell, 1997[10])

Soil texture	Soil structure	Soil water holding capacity
Soil organic matter stability	Site's slope	Site drainage
Temperature of the site	Aspect of the site	Stormwater movements
Floodplain matters	Wind exposure	Shelter planted
Availability of irrigation water	Transport, both ease and distance	Effect of the use on neighbours
Access from the road	Proximity to airport	Proximity to port
Supply of labour	Previous cropping history	Soil contamination
Sunlight hours	Electricity supply	District scheme
Economic and resale factors		

While we have concluded that the site is not HPL for completeness we discuss other factors that we consider have adverse impacts on the site's productive capacity.

Based on Reeftide's desktop analysis, a number of these factors are present within the site and it is considered that they significantly constrain the ability to undertake land-based primary production at the Site. These factors are discussed in more detail below.

7.2. Effects of Soil Moisture and Irrigation Water Availability

7.2.1. Moisture Deficits

Christchurch climate can be very hot and dry during spring and summer at a time when most agricultural production needs moisture the most. These weather conditions significantly affect crop production and ultimately compromises the soil's natural capital or productive potential as it will not matter how inherently fertile or productive the soils are as moisture or irrigation is critical to support crop growth.

7.2.2. Irrigation Requirements

Table 3 summarises the monthly irrigation application depths based on long term climatic data and IrriCal[11]. IrriCalc is a tool, approved in the Canterbury Land and Water Regional Plan (CLWRP), for calculating irrigation water demand. It estimates the irrigation requirements in 9 out of 10 years for pasture, assuming an irrigation system with an 80% efficiency.

Table 3 – Irrigation Requirements for Pasture on the Site (mm)

Statistic	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average	137	101	47	22	0	0	0	0	6	57	79	131
90%tile	189	126	63		0	0	0	0	6	126	126	189

Table 3 shows that 137-189 mm of irrigation is required in January to maintain a good pasture system. The water demands for other crops would be more or less those of a pasture crop depending on their crop factors which ranges from 0.9-1.1 for most crops.

IrriCal also shows that the volume of water that would be required to irrigate the 60.4 ha (urban fringe land) is 415,034 m^3.

7.2.3. Availability of Irrigation Water

An interrogation of the Canterbury Maps GIS[12] was carried out to ascertain if there were any irrigation water take consents within the site. There are three consents whose details are summarised in Table 4 below.

Table 4 – Consents With the Site

Consent No	Consented Rate (L/s)	Daily Volume (m^3)[a]	Annual Volume (m^3)[b]

[10] *Canterbury Regional Council v Selwyn District Council [1997] NZRMA 25, Judge Treadwell presiding.*
[11] http://mycatchment.info/
[12] https://canterburymaps.govt.nz/

CRC002038	8	576	86,400
CRC010492	5	74	11,143
CRC010509	4	207	31,050
Total	**17**		**128,593**

a – Estimated from the consented weekly or periodic volumes
b – Estimated by multiplying the daily rate by 150 days of irrigation per year.

The total available volume is 128,593 m^3 which is less than the 415,034 m^3 required. There is a shortfall of 286,441 m^3.

7.2.4. Permanency of the Unavailability of Irrigation Water

The site is within the Christchurch West Melton Groundwater Zone. The zone is fully allocated (i.e. its allocation limit has been reached, meaning no further groundwater can be extracted without causing negative impacts). Consequently, new applications to take groundwater for irrigation are prohibited activities under the CLWRP. In other words, no new consents to take water for irrigation will be granted.

The only other possible option to acquire water for irrigation would be to buy and/or transfer an existing consented allocation for irrigation water to the Site. With regards to the transfer of consents:

- The CLWRP permits transfer under Rule 5.133. There are a number of conditions that have to be complied with for the transfer to proceed as a restricted discretionary activity. If any of these conditions are not able to be met then transfer becomes a non-complying activity. Of particular importance are:
  - Rule 5.133 Condition 4(b) - *the bore interference effects as set out in Schedule 12 are acceptable*. Any new well installed at the development site to provide irrigation water is expected not to interfere with the operation of any neighbouring wells. All the properties within the development area and to the west and north have no town water connections and thus rely on domestic supply bores. The well interference assessment will need to demonstrate that these wells are not impacted by the new take. If they are impacted the transfer becomes a non-complying activity.
- In our experience, irrigation water consent transfers are becoming difficult obtain. We expect this to worsen with time due to:
  - Climate change induced increases in irrigation water demand.
  - Increasing shortages in consents available for transfer due to demand for these consents as there are no new consents for irrigation purposes granted within the zone.

We therefore conclude that:

- Without irrigation, the LUC 2 land within the Site will never achieve its full productive potential.

On this basis the LUC 2 land is not highly productive. This is evidenced by the current low productivity across the Site.

7.3. Effects of Regional Statutory Considerations on Land Productivity

7.3.1. Introduction

The CLWRP seek to manage and require reductions in diffuse discharges of nitrogen, phosphorus, sediment and microbial pathogens from land use activities including commercial vegetable production through rules. For example:

- Policy 4.38 applies to areas that are within the Red Nutrient Allocation Zone. The Site is within the Christchurch West Melton Nutrient Allocation Zone which is red. Policy 4.38 seeks improved water quality outcomes by:
  (a) avoiding the granting of any resource consent that will allow nitrogen losses from a farming activity to exceed the Baseline GMP Loss Rate, except where Policy 4.38C applies; and
  (b) including on any resource consent granted for the use of land for a farming activity, conditions that:

(i) *limit the nitrogen loss calculation for the farming activity to a rate not exceeding the Baseline GMP Loss Rate; and*

(ii) *require farming activities to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate has not been influenced by severe extraordinary events (including but not limited to droughts or floods) and is less than the Baseline GMP Loss Rate; and*

(c) requiring a Farm Environment Plan as part of any application for resource consent to use land for farming activity and requiring that Farm Environment Plan to be prepared in accordance with Schedule 7 of this Plan.

- Policy 4.74 requires resource consents for the use of land for farming activities and the associated discharge of nutrients in catchments that are zoned Red. The proposed industrial development site is within a Red Nutrient Allocation Zone.

The CLWRP requires that baseline nutrient budgets be established based on the farming activities during the period 2009-2013. For the blocks making up the Site productivity has always been historically low. Therefore, the baseline nitrogen leaching rates are also very low.

7.3.2. Permanency of the Nutrient Limit Constraints

Future nitrogen leaching rates are required to not exceed the baseline rates and where they do these need to be reduced. We consider the nutrient limits to be a long-term constraint on the following basis:

- The groundwater nutrient concentrations being observed now within the groundwater catchment are primarily from activities of the past several decades – since the 70s, 80s, 90s and early 2000s. The effects of the more recent (1980s to the present day) intensification in dairying and other farming activities will manifest over the next several decades (20, 30, 40 years). The effects will be considerably worse than what the catchment is experiencing now because of this intensification.
- Mitigation measures being implemented in compliance with the CLWRP will unlikely restore the nutrient levels to the pre-intensification levels. For these reasons, it is unlikely that limits on nutrient use and applications as a permanent constraint.
- It is also not unreasonable to expect further policies and regional rules to be tightened to reduce the use of nutrients.

Therefore, nutrient limiting policies and rules are a permanent and long-term constraint which compromises the productive potential and economic viability of the highly productive soils of the Site.

7.3.3. Impacts of Nitrogen Limits on Productivity and Farm Economics

Any reductions in nitrogen fertilisers or limited use is accompanied by a decrease in yields, revenues and profitability. There is literature that supports this. A few examples of such literature are:

- A Landcare Research study called "*Modelling Economic Impacts of Nutrient Allocation Policies in Canterbury: Hinds Catchment*" in 2013 prepared for the Ministry for the Environment[13] concluded that loss in productivity could result in revenue reductions of up to 41% with an average of 14% across the farming systems studied.
- Reports prepared by the Agribusiness Group (2014)[14,15] on behalf of Ministry for Primary Industry found significant reductions in yield and profitability resulting from nutrient reductions.

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[13] *Landcare Research (2013). Modelling Economic Impacts of Nutrient Allocation Policies in Canterbury: Hinds Catchment. Prepared for the Ministry for the Environment.* https://environment.govt.nz/assets/Publications/Files/modelling-economic-impacts-of-nutrient-allocation-policies-canterbury.pdf

[14] *The Agribusiness Group (2014). Nutrient Performance and Financial Analysis of Lower Waikato Horticulture Growers. Prepared for MPI.* https://www.horizons.govt.nz/HRC/media/Media/One%20Plan%20Documents/Nutrient-Performance-and-Financial-Analysis-of-Horticultural-Systems-in-Horizons-Region-2014.pdf?ext=.pdf.

[15] *The Agribusiness Group (June 2014). Nutrient Performance and Financial Analysis of Horticultural Systems in the Horizons Region. Prepared for MPI.*

The Agribusiness reports also include budgets showing losses for some crops with the conclusion that "*At the 10% reduction in the amount of N applied the Gross Margin result is reduced to approximately one third to a half of that under the Status Quo situation and from there it dips towards a close to breakeven scenario which means that it would not be economic to grow the crop. This reflects the relatively tight margins which these crops are grown under*".

Therefore, any natural capital that the 50.35 ha of urban fringe LUC Class 2 soils on the Site is negated by the statutory constraints relating to nutrient application imposed by the statutory planning rules.

8. Scale of the Proposal and Potential Reduction in HPL

Clause 3.10(1)(b)(i) requires that Territorial authorities may only allow highly productive land to be subdivided, used, or developed for activities not otherwise enabled under clauses 3.7, 3.8, or 3.9 if satisfied that the subdivision, use, or development avoids any significant loss (either individually or cumulatively) of productive capacity of highly productive land in the district.

The estimated quantities of LUC Classes 1-3 based on information from various sources is summarised below:

- Canterbury Region has 293,700[16] ha of Class 1 and 2 soils and 543,000 ha[16] of LUC Class 3 soils giving a total of 836,700 ha of Classes 1, 2 and 3 soils.
- Christchurch District has 9,330 ha of LUC Classes 1-3 (710 ha LUC Class 1 and 5,061 LUC Class 2 and 3,559 ha of LUC Class 3 soils). These figures were derived from the LUC classification layer on Canterbury Maps for the areas zoned Rural Banks Peninsula, Rural Port Hills, Rural Urban Fringe and Rural Waimakariri.

Table 5 below summarises the proportion of site's proportion of highly productive land within the Canterbury Region and Christchurch District under the NPS-HPL.

[16] https://www.tandfonline.com/doi/full/10.1080/00288233.2015.1092996

Table 5: Proportion of the Site's Highly Productive Land Under the NPS-HPL

LU Class	Canterbury Region (ha)	Christchurch District (ha)	Development Area (ha)	Potential Reduction in HPL Due to the Development	
				Canterbury Region	Chch District
LUC1	23,200	710	0	**0.006%**	**0.540%**
LUC2	270,500	5,061	50.35		
LUC3	543,000	3,559	0		
Total	**836,700**	**9,330**	**50.35**		

Table 5 shows that the potential reduction of highly productive land in the region and the district as a result of the proposed development under the NPS-HPL to be 0.006% and 0.54% respectively. Therefore, the reduction in highly productive land as a result of the proposal would be insignificant.

9. Fragmentation of Large Geographically Cohesive Areas

Clause 3.10(1)(b)(ii) requires that Territorial authorities may only allow highly productive land to be subdivided, used, or developed for activities not otherwise enabled under clauses 3.7, 3.8, or 3.9 if satisfied that the subdivision, use, or development avoids the fragmentation of large and geographically cohesive areas of highly productive land.

The proposal does not seek to fragment the land. In fact, it does the opposite as noted in Section 3, the proposed development area encompasses 12 land parcels. As noted in previous sections, the land parcels individually or combined are not HPL. Therefore, the integration of the lots has no land based productive use benefits as the land is not HPL.

In summary, the proposed development is not contrary Clause 3.10(1)(b)(ii) of the NPS-HPL.

10. Potential Reverse Sensitivity Effects

Clause 3.10(1)(b)(iii) requires that Territorial authorities may only allow highly productive land to be subdivided, used, or developed for activities not otherwise enabled under clauses 3.7, 3.8, or 3.9 if satisfied that the subdivision, use, or development avoids if possible, or otherwise mitigates, any potential reverse sensitivity effects on surrounding land-based primary production from the subdivision, use, or development.

The use of the Site for industrial activities is not anticipated to have any impact on the surrounding land-based primary production activities. This is because:

- The land in close proximity to the Site being Rural Urban Fringe Zoned may not constitute as highly productive land for the purposes of the NPS-HPL.
- The proposal will not impact neighbouring properties or activities because the Site is isolated and is essentially an island being bound by:
  - Barters Road to the east.
  - Pound Road and the Waterloo Business Park to the east and south.
  - Hasketts Road, Ruapuna Raceway to the north.
  - The quarried land at 35 Hasketts Road and 146 Barters Road to the north.
  - Templeton Golf Course and the LUC 4 boundary within the 60.4 ha site to the north and northeast.

In summary, given the site's isolation and the nature of the proposed development, it is unlikely that any future development in around the site will result in reverse sensitivity issues.

We expect the proposal will also enhance primary production as the industrial development may be used for processing and storage and may also be a transport/logistic hub. The development adds to the list of factors identified in Table 2 as enhancing the primary productive activities.

11. Positive Environmental Benefits of the Proposal

Clause 3.10(1)(c) requires that Territorial authorities may only allow highly productive land to be subdivided, used, or developed for activities not otherwise enabled under clauses 3.7, 3.8, or 3.9 if satisfied that the environmental, social, cultural and economic benefits of the subdivision, use, or development outweigh the long-term environmental, social, cultural and economic costs associated with the loss of highly productive land for land-based primary production, taking into account both tangible and intangible values.

The proposal seeks to convert rural urban fringe to industrial land. This means the current nutrient leaching into groundwater from farming activities would cease and onsite wastewater systems on each of the 12 lots making up the site. As a result, we would expect improvements in groundwater and surface water quality.

The proposal will change the nature and character of the discharges from the Site as follows:

- Wastewater would be reticulated and pumped to the Council's wastewater treatment system which means the septic tank discharges to ground from existing dwellings will cease.
- Stormwater will be the main source of discharges. Typical contaminants associated with stormwater are sediment, heavy metals and hydrocarbons. Nutrients (nitrates and phosphorus) and pathogens will also be likely contaminants. However, these will be at levels significantly less than those discharged from horticultural farming activities.
- Stormwater from the development will be treated via a treatment train that will ensure removal of various contaminants to levels below the limits in the CLWRP so that discharges to land will have no more than minor or less than minor effects on the receiving environments.
- The nitrate discharges under the Site will cease and this will help reduce the nitrate load within the Red Zone Nutrient Allocation Area.

For completeness, I note that further analysis of clause 3.10(1)(c) is provided in other expert reports and the AEE submitted with the substantive application.

12.Summary and Conclusions

In summary, Reeftide supports NTPL's proposal to use the Site for industrial development in terms of the directions of the NPS-HPL on the basis that:

a. The site is zoned Rural Urban Fringe. Legal advice from Chapman Tripp confirms that the site is not HPL.
b. The site is not considered under HPL under Clause 3.4 of the NPS-HPL due to its location.
c. The provisional mapping by Canterbury Regional Council as part of the draft RPS does not identify the site as HPL.
d. There are multiple long-term constraints on the capacity of that site to support primary production activities, including lack of water for irrigation.
e. The proposed development has positive benefits to the environment as discharges of contaminants and potential adverse impacts on groundwater are minimised.

In light of the above assessment, the proposed development of the Site is appropriate and will not compromise the use of highly productive land for land-based primary productions, both now and in the future. There are no adverse impacts that reach the threshold of a "sufficiently significant adverse impact" such that they need to be taken into account in terms of an assessment under s 85 of the FTAA2024.

ATTACHMENT 1 – VICTOR MTHAMO'S QUALIFICATION AND EXPERIENCE

Victor report holds:

- A Bachelor of Agricultural Engineering (Honours) with a major in Soil Science and Water Resources (University of Zimbabwe).
- Master of Engineering Science in Water Resources (University of Melbourne in Victoria, Australia).
- Master of Business Administration (University of Zimbabwe).
- An Advanced Certificate in Overseer Nutrient Management modelling qualification.

Victor is a member of Engineering New Zealand (MEngNZ), a Chartered Professional Engineer (CPEng) and an International Professional Engineer (IntPE). He was a past National Technical Committee Member of (i) Water New Zealand and (ii) New Zealand Land Treatment Collective (NZLTC).

Victor Mthamo's specific experience relevant to this report includes:

- Stormwater planning, catchment hydraulic and hydrological modelling and design.
- Presenting evidence at a regional council hearing on catchment wide modelling that he carried out to assess the effects of flooding in the lower reaches of the Waitaki catchment in South Canterbury.
- Regular engagement by Christchurch City Council (CCC) as a Three Waters Planning Engineer. In this role as a stormwater planning engineer, he reviews stormwater designs and modelling by various engineers from consulting firms. This work requires a good understanding of soils and water movement in soils.
- Designing and implementing numerous on-farm irrigation schemes, soil investigations and land use assessments. Examples of projects include Hunter Downs Irrigation Scheme, North Bank Hydro Project, Mararoa-Waiau Rivers Irrigation Feasibility Study and the North Canterbury Lower Waiau Irrigation Feasibility Assessment.
- Assessing large subdivisions in relation to stormwater management, earthworks and the associated actual and potential impacts on soils, groundwater and surface waterways and how to effectively use erosion and management control plans to mitigate the potential impacts that may occur during the construction works.
- Assessing effects on soils and groundwater associated with onsite and community wastewater discharge systems such as the Wainui Community wastewater discharge consent.
- Assessing actual and potential effects on groundwater and surface water associated with groundwater and surface water takes.
- Providing quarry soils and rehabilitation expert evidence for new quarries and extensions to existing quarries. Examples of these are:
  - The Road Metals Quarry on West Coast Road in Templeton in 2018.
  - Fulton Hogan Roydon Quarry.
  - Fulton Hogan's Miners Road Quarry.
  - Fulton Hogan's Rolleston Quarry Extension.
  - Road Metals' Rolleston Quarry extension.
- More recently, he has been involved with a number of Plan Changes across Canterbury. These include:
  - Plan Change 66 (PC66) in Rolleston.
  - Plan Change 67 (PC67) in West Melton.
  - Plan Change 68 (PC68) in Prebbleton.
  - Plan Change 69 (PC69) in Lincoln.
  - Plan Change 71 (PC71) in Rolleston.
  - Plan Change 74 (PC74) in Rolleston.
  - Plan Change 75 (PC75) in Rolleston.
  - Plan Change 79 (PC79) in Prebbleton.
  - Plan Change 80 (PC80) in Rolleston.
  - Plan Change 81 (PC81) in Rolleston.
  - Plan Change 82 (PC82) in Rolleston.
  - Plan Change 31 (PC31) in Ohoka.

ATTACHMENT 2 – LAND PARCELS MAKING UP THE PROPOSED INDUSTRIAL DEVELOPMENT SITE

No	Valuation No	Street Address	Legal Descriptions	Area (Ha)
1	2351230100	570 Waterloo Road	Lot 1 DP 33334	9.61
2	2351230101	111 Pound Road	Lot 2 DP 33334	10.00
3	2351230102	173 Pound Road	Lot 3 DP 33334	9.69
4	2351230000	38 Barters Road	Lot 10 DP 23834	4.78
5	2351229900	64 Barters Road	Lot 2 DP 38418	2.16
6	2351229800	86 Barters Road	Lot 1 DP 38418	9.59
7	2351229700	94 Barters Road	Lot 7 DP 23834	2.91
8	2351229600	4 Hasketts Road	Lot 6 DP 23834	2.02
`10	2351229300	30 Hasketts Road	Lot 1 DP 24156	2.06
11	2351229400	22 Hasketts Road	Lot 2 DP 24156	2.03
12	2351229200	40 Hasketts Road	Lot 2 DP 23834	2.02
13	2351229100	48 Hasketts Road	Lot 1 DP 23834	2.49