Land Assessment

Prepared for:

Southern Link Property Limited

By:

AbacusBio Limited

Executive Summary

The site of the proposed Southern Link Inland Port (SLIP) is located on LUC 1 land, within the Taieri Plains Rural Zone in the Dunedin City 2nd Generation District Plan (District Plan) maps. It is therefore defined as Highly Productive Land (HPL) under the National Policy Statement for Highly Productive Land 2022 (Amended 2025) (NPS-HPL).

An assessment of the permanent and long-term constraints of the site is provided and the analysis concludes that clause 3.10(1)(a) of the NPS-HLP is satisfied, due to long term constraints that render land based primary production uses economically unviable for 30+ years.

The establishment of the SLIP will avoid significant loss of productive capacity HPL, fragmentation of large cohesive areas of HPL, and mitigate potential reverse sensitivity effects, including noise and dust, on surrounding land-based primary production as required by clause 3.10(1)(b).

The existing value of the site for use as HPL and any alternative land-based primary production use is assessed as being low. As such the environmental, social, cultural and economic benefits of developing the SLIP are likely to outweigh the long-term environmental, social, cultural and economic costs associated with the loss of the site for primary production purposes, as required by clause 3.10(1)(c).

The analysis, which follows the NPS-HPL process for exemption under clause 3.10(1), finds alternative forms of land-based primary production failed to meet the economic viability threshold under clause 3.10(2). Improved land-management strategies, boundary adjustments and alternative production strategies were also considered as required by clause 3.10(2). High land value at the site means that any potential return on capital for livestock enterprises will be well under the NZ Treasury published discount rates representing risk free cost of capital. Inundation risk on parts of the land as well as lack of local support (expertise, experience, packing or processing) weighed against the considered horticultural options. Arable options are discounted because of fragmentation and location, and failure to be economically viable with land holding costs taken into account. The evaluation undertaken under clause 3.10(2) follows the requirements in relation to clauses 3.10(3) and (4).

The assessment concludes that the establishment of the SLIP on the site meets the exemption criteria under clause 3.10 of the NPS-HPL.

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Code of Conduct

The author of this report is Simon Glennie. I am a Farm systems consultant based in Dunedin. I hold a BSc from the University of Otago. A brief CV is included in Appendix A.

I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court Practice Note 2023. This report has been prepared in compliance with that Code, as if it was expert evidence presented in proceedings before the Environment Court. Unless I state otherwise, this report is within my area of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in this report.

Site Description

The proposed site for the Inland Port is located at 270 – 292 Dukes Road North, North Taieri as outlined in yellow in Figure 1, including a small residential property located at 274 Dukes Road North. The rectangular site accounts for a combined area of approximately 40 Ha. Ancillary activities associated with the proposal are also proposed within the adjacent KiwiRail corridor to the west (outlined in blue in Figure 1), however these ancillary activities do not impact on the content of this report and therefore are not discussed further.

Figure 1: Site Location and Current Land Use

The site is bounded by Dukes Road North on the northern boundary, Stedman Road and the Railway on the western boundary and the Silver Stream on the southern boundary (see Figure 1). The eastern boundary abuts lifestyle blocks of 21.2 and 9.4 Ha respectively. The site is zoned Taieri Plains Rural Zone in the District Plan and the neighbouring blocks are generally a mix of livestock and industrial properties.

The land is sectioned by permanent fencing and sheep are grazed on the area. Basic infrastructure exists for sheep and cattle handling and there is evidence of baled silage having been made and stored on the site. Neighbouring infrastructure supports race horse training and neighbouring farmlets undertake sheep and cattle farming.

The District Plan maps show that the site is subject to Hazard 1 (Flood) Overlay Zone (High Risk Flood Hazard Area 14B) and Hazard 2 (Flood) Overlay Zone (Moderate Risk Flood Hazard Area 14D) (refer Figure 2). Both of these overlays identify areas at risk from flooding.

Figure 2: Flood Hazard Overlay map of SLIP (in red) and KiwiRail Corridor (Yellow)

The land contour is flat and the Stormwater Assessment[1] undertaken by Stantec notes that there is a risk of out of bank flow from the Mill Stream catchment overtopping Dukes Road North and then being conveyed through the site towards Silver Stream in flood events greater than 2 % Annual Exceedance Probability (AEP).

The Land Resource Information System Portal and S-maps show the predominant soil type to be Dukes 2a 1, a mottled immature Pallic soil with drainage constraints. As a result of the proximity of the site to Silver Stream, some of the area could comprise recent soils formed as a result of sediment deposition.

[1] Stormwater Assessment, Stantec, 18 December 2025

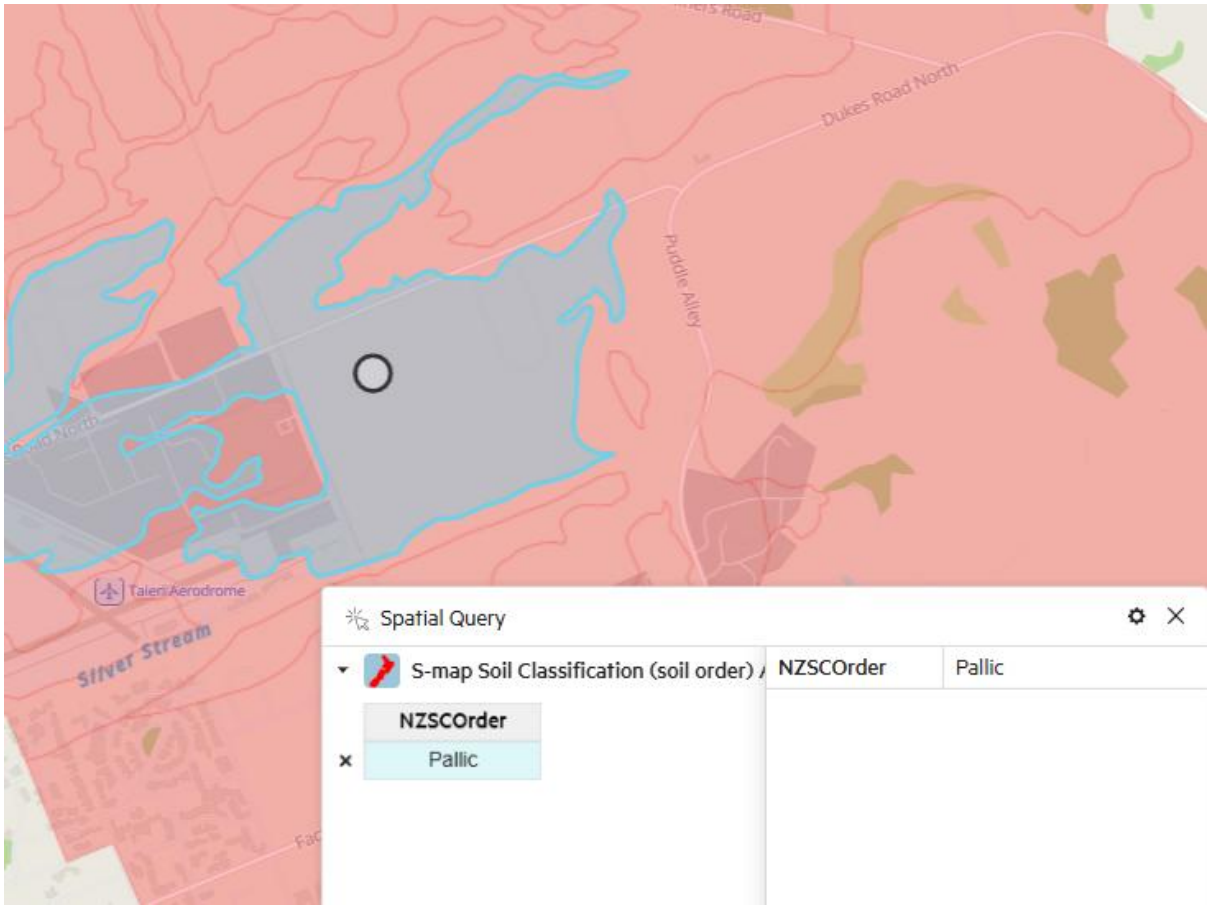

Figure 3: Snip of S-map Soil Classification (Soil Order) Aug 2025 (Source LRISPortal)

Highly Productive Land Status

The site is defined as highly productive land (HPL) under clause 1.3 of the NPS-HPL as it meets the requirements under clause 3.5(7) of the NPS-HPL. This is because the site:

- Includes land that is mapped as LUC 1 land in Our Environment Maps[2];
- Is zoned as Taieri Plains Rural in the District Plan maps; and
- Is not identified for future urban development or subject to a plan change to rezone to urban or rural lifestyle.

Clause 3.10(1) of the NPS-HPL provides circumstances under which land classified as HPL can be subdivided, used, or developed, thus being exempt from clauses 3.7, 3.8 and 3.9.

This report applied the requirements in clauses 3.10(2) and 3.10(3) that set out how a clause 3.10(1)(a) evaluation must be carried out. In reviewing the site, both the reasonable primary production uses and the constraints that threaten economic viability have been identified.

Clause 3.10(1)(a) - Constraints

Clause 3.10(1)(a) states that:

[2] Administered by Manaaki Whenua Landcare Research.

(1) 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:

(a) 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; and […]

Constraints relating to the use of the land for productive purposes were identified in terms of the site being utilised for permanent and / or long term activities (a period of at least 30 years). Where mitigation options are available to reduce the impact of the constraint, they are specified. The identified key constraints are location, soil drainage, and flood risk.

Location

Access to the land is a minor constraint to use. Dukes Road North boundaries the land to the North and traffic levels are high due to proximity to Dunedin, Mosgiel and the developing industrial area on Dukes Road. While there is approximately 40 Ha of adjacent land on the eastern boundary of the site, this land is subdivided into separate titles with residential properties.
Due to the site's proximity to Mosgiel, there is a pressure on subdivision and growth for both industrial and residential use.

Soil Drainage

In an Otago context, Pallic soils are the second most common soils behind brown soils. Due to drainage characteristics Pallic soils tend to be summer dry and winter wet. Within the Pallic soil order, the recent Pallic soils are most common accounting for 34% of all Pallic soils in Otago. The drainage factors favour the typical use of pastoral grazing, however, act as a constraint for other land based primary production. The imperfect drainage of Pallic soils affect the use options of the soil by being too wet (saturated) due to slow drainage post significant rainfall events. Pastoral grazing is then the favoured use but even this use is constrained relative to a free draining soil. Livestock tend to pug the soil when wet which damages pasture affecting regrowth and stocking rate.

In District terms, the loss of the site for primary production purposes is negligible due to the significant area of recent Pallic soils in the wider area.

Flood Risk

Given the District Plan flood overlays and the potential for flows to be conveyed through the site in flood events greater than 2 % AEP, as noted in Stantec's Stormwater Report (2025), the risk of periodic inundation and flood related damage presents as a potential production constraint.

Clause 3.10(1)(b) - Productive Capacity, Fragmentation and Reverse Sensitivity

Clause 3.10(1)(b) states that:

> *(1) 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:*
>
> *(b) the subdivision, use, or development:*
> *i. avoids any significant loss (either individually or cumulatively) of productive capacity of highly productive land in the district; and*
> *ii. avoids the fragmentation of large and geographically cohesive areas of highly productive land; and*
> *iii. avoids if possible, or otherwise mitigates, any potential reverse sensitivity effects on surrounding land-based primary production from the subdivision, use, or development; and […]*

The following subsections set out how the development of the SLIP avoids the significant loss of productive capacity of HPL, the fragmentation of large cohesive areas of HPL, and mitigates potential reverse sensitively effects.

Avoidance of Loss of Productive Capacity

The site has constraints in terms of location, soil drainage and flood risks that limit productivity from land-based primary production. Winter wet and summer dry conditions reduce pasture production and as a result, stock carrying capacity is also lower. Farms on similar soils in Otago would typically carry a stocking rate of under 10 stock units / Hectare (su/Ha) with moderate production levels. Given the flat contour and low altitude of the site, the upper limit of expected stocking rate would be 12 su/Ha. Small holdings in the area running on the same soil types typically run fewer ewes due to the high cost to optimise feed availability through winter feed crops and supplements typically provided at scale. These operations carry around 7 breeding ewes per Ha and rely heavily on grass rotations in winter.

There is no evidence of livestock farming being undertaken with the upper limit of su/Ha on the site, however, this may be possible with good management. Periodic inundation occurs adjacent to the Taieri Gorge railway and while effects can be mitigated by shifting livestock, higher value crops and horticulture are not considered as viable on the 20 Ha section located adjacent to the railway.

Fragmentation Avoidance

The land area in the wider context is both small and not part of a cohesive area of farmland.

In addition, the site and neighbouring parcels are already subject to significant fragmentation and are located directly adjacent to industrial, rail, and road boundaries on three sides. Therefore, the development of the SLIP will not fragment surrounding land-based primary production.

Avoidance/Mitigation of Reverse Sensitivity

A change of land use can in some cases give rise to issues where an existing land user is adversely affected by a new neighbouring use. The proposed SLIP has the potential to produce noise, dust and fumes with may have reverse sensitivity effects on surrounding land-based primary production. Potentially affected areas would likely be to the East of the site.

Noise

Marshall Day Acoustics has undertaken a Noise Assessment[3] for the SLIP. Noise monitoring of the existing environment includes contributions from light aircraft and helicopter movements to/from Taieri Aerodrome, rail movements from the Fonterra Mosgiel site, plant noise from the industrial area, rural noise generation, and traffic movements.

The operation noise expected as a result of the SLIP includes container operations, onsite traffic and ancillary sounds (such as truck exchanges, side loaders, straddle carriers, forklifts and high stacking activities), outdoor workshops and container washes.

To mitigate operational noise effects, the Project has been designed with warehousing near boundaries, enclosed loading areas and noise barriers where appropriate. Marshall Day (2026) predicts that with these measures in place, the operational noise from the SLIP will comply with daytime and nighttime District Plan noise limits, and the character of the noise will be similar to that already present in the area.

In addition, Marshall Day (2026) predicts that construction noise and vibration will comply with the District Plan limits and increased road noise and construction vibration would be "just perceptible" to the nearest receivers. Increased rail noise impact on receivers is also expected to be negligible.

Various research has been conducted on noise impacts on animals (Arehart et al, 1972) Livestock become habituated to regular noises and performance is largely unaffected at the lower end levels likely to be heard beyond attenuation structures.

The staging of the development of the SLIP is such that initial work will be at a distance from boundaries with neighbours and the final layout includes covered warehousing adjacent to current lifestyle block users. Any outdoor / open-air loading in the longer term is planned to be undertaken behind covered warehousing and bunding at some distance from livestock, further reducing potential noise impact.

[3] Southern Link Inland Port Noise Assessment Rp 001 20240460, Marchall Day, 26 February 2026

Dust

There is potential for dust to be generated during bulk earthworks activities due to the nature and scale of the activities proposed. Standard dust suppression and management practices will be implemented for the proposed earthworks and provided in the Construction Management Plan. Once construction is completed, the significant paved area will lead to minimal dust being generated from vehicle movement and activity.

With the proposed dust mitigation measures, no reverse sensitivity effects are anticipated on land-based primary production as a result of the proposed SLIP.

Clause 3.10(1)(c) - Environmental, Social and Economic Value of the Highly Productive Land

Clause 3.10(1)(c) states that:

> *(1) 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:*
>
> (c) *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.*

As sheep farming is the current land use at the site, the existing environmental, social and economic value of the HPL is generally known and set out in the below subsections. In summary, the value of the site for use as HPL is not considered significant. Therefore, the environmental, social, cultural and economic benefits of developing the SLIP are likely to outweigh the long-term environmental, social, cultural and economic costs associated with the loss of highly productive land for land-based primary production.

Environmental Values

Water quality in Silver Stream is likely to be affected in a minor way through current farming activities undertaken. Fertiliser applications and livestock farming activities impact water quality through nutrient loss (nitrogen and phosphorous) and also greenhouse gas production. The relatively flat aspect of the site and impeded nature of drainage reduce potential of nitrogen leaching but can lead to slight increases in phosphorous loss. Typical loss rates for nitrogen on this type of farm would be 10 Kg of nitrogen per Ha and phosphorous loss rates would be expected to be under 1 Kg/Ha and potentially as low as 0.1 Kg P/Ha. However, the protection of the water quality leaving the land environment is important as it contributes to the overall health of the Taieri River. While topsoil performs

an important role in buffering rainfall runoff entering the river, where soils reach saturation, overland flow occurs and contaminants such as e-coli from livestock can enter the waterway. With good planning, rainfall attenuation can be achieved as topsoil areas are reduced.

Agricultural production including pastoral ruminant systems generate approximately half of New Zealand's Greenhouse gas production. Greenhouse gas production is likely through enteric fermentation in ruminant animals and dung deposition. At the expected stocking rates, GHG production of between 3000 and 3500 Kg CO_2e /Ha would be anticipated on an annual basis.

Social Values

Social values are not expected to be significant at this site. Very little by way of employment is anticipated with current and other pastoral uses. Recreational values are minor and limited to owners or residents at present.

Economic Values

Sheep farming is the current land use type. Current livestock pricing is at historical highs and while these prices are used to establish a theoretical financial picture, the outcome is at the high end of expectations.

Based on expected stocking rates and high reproductive potential that is possible on intensively managed properties, the annual revenue able to be generated from high production sheep is in the order of $95,000 ($231/su). In order to achieve this production level, a reasonable investment in labour and maintenance of the land is required. It is above the regional average production for intensive lambing systems which are $188.80/Su (B+LNZ economic farm survey – Otago Southland class 7).

Benchmarks across similar systems are useful as a guide to determine likely costs but there are increased costs at lower scales. Animal health products such as drench or vaccines are more expensive per head in smaller lots and costs such as fertiliser cartage and application is more expensive due to inefficiencies of smaller loads and small paddocks. Overhead costs such as rates and insurance also tend to be high where land value is high due to other factors such as proximity to a township. Local body rates are levied on capital value of land and the improvements. Using a land value of $4.6M for the combined area (sum of recent rating values for 270, 274, 292 and 292a Dukes Road = $4.625M) at the DCC standard charge of 0.2733 % of capital value on $4.6 M is $312/Ha or $31/su at 10 su/Ha excluding regional council rates. Class 7 estimation for total rates is $5.67/su which includes Regional Council rates.

The Otago Southland class 7 benchmark for farm costs indicate an average cash expenditure of $138.68/su. Within these costs, labour is included at $3.48/su. At 12 su/ha this would be approximately $1670/yr or 56hrs per year at a casual rate of $30/Hr. Once again, the inefficiency of a smaller unit is exposed as much more time would be required to undertake the feeding, shifting and animal health tasks as well as the administration and maintenance

of the unit. It could be reasonably expected that proper oversight of livestock and undertaking of required tasks would be much greater per stock unit at this scale. Even 1 day per week completing tasks equates to $30/su for labour. Adjusting the Class 7 costs to accommodate extra labour and rates alone would shift costs by around $50/su

Class 7 (nearest Benchmark):

400su (10su/Ha) at $38.20/su = $15,280
480su(12su/Ha) at $38.20/su = $18,336

Adjusted for improved revenue but also added cost through poor economy of scale:

Gross revenue $231/su (high performance, high price) at 10 su/Ha = $92,400
Farm related expenses adjusted for increased labour and rates cost =$188/su
Likely revenue = $43/su or $17,200/yr from sheep farming activities.

The approximate rating value of land is $4.6 M. $17,200 represents a 0.37 % return on capital invested. The land value is inflated above what could reasonably be expected to be paid for land for sheep production. The return on capital invested is well below the NZ Treasury published discount rate for risk free investment of 2.8 %.

The lack of easy connectivity to adjacent landholdings of scale makes the proposition of farming this land in conjunction with adjoining land impractical. Stock and feed would need to be trucked to and from the land creating a financially unviable situation, particularly when labour costs are considered.

Clause 3.10(2) - Assessment of alternative potential use options

Clause 3.10(2) states:

(2) In order to satisfy a territorial authority as required by subclause (1)(a), an applicant must demonstrate that the permanent or long-term constraints on economic viability cannot be addressed through any reasonably practicable options that would retain the productive capacity of the highly productive land, by evaluating options such as (without limitation):

- *(a) alternate forms of land-based primary production:*
- *(b) improved land-management strategies:*
- *(c) alternative production strategies:*
- *(d) water efficiency or storage methods:*
- *(e) reallocation or transfer of water and nutrient allocations:*
- *(f) boundary adjustments (including amalgamations):*
- *(g) lease arrangements.*

The reasonably practicable options to retain the productive capacity of the HPL are considered in the following subsections. In summary, the permanent or long-term

constraints at this site will meet the threshold for not being economically viable for primary production, as set out in clause 3.10(1)(a) of the NPS-HPL.

Alternate Forms of Land-Based Primary Production

Location, soil drainage and climate risk factors such as frost free periods, number of growing degree days are constraints for land-based primary production at this site. A range of potentially viable primary production alternatives have been considered and the most likely use case is the current drystock system. In every drystock case considered, the high capital value of the land means the net returns are well below an acceptable return on capital. Due to the location and proximity to Mosgiel and Dunedin, the high capital value of the land is likely to continue to be a constraint to economic viability over and beyond the next 30 years.

Vegetable and market production

While market gardens have existed in the wider Taieri area, production over time has moved to more suitable areas such as Kakanui. The risk of flooding has the potential to limit economic returns and increase economic risk, and could make the enterprise uneconomic on a commercial basis. Drivers for market garden consolidation include buying power pressure from supermarkets and ease of freight. As a result of these factors, growers in more marginal areas in North Taieri have changed land use.

The risk of inundation and flooding at the site as well as its location from a freight perspective, lower the economic viability of intense market gardening and preclude this option from further consideration.

Cereal and crop production

Arable production is a specialist activity requiring significant investment in gear that has trended towards being larger and more efficient. Small areas require gear to be transported in and out for each process including cultivation spraying and harvesting.

Soil type, drainage/flood risk and location were identified as significant constraints and combined with the variable summer moisture, cereal crop options were not seen as a highly likely option. The most likely basis for cereal production would be to lease to a cereal farmer of which there are few locally and none at scale or with the intention of leasing to expand area. Arable farmers often lease neighbouring land or land that is reasonably close so they can gain economies of scale (more arable area for the same investment in machinery and plant). A typical basis (according to an arable farmer with this arrangement in place at the time of writing) for lease of area to grow cereals is 35% of the gross revenue. Given the isolation from existing areas, the rate of discounting could be such that 25% to 30% of gross revenue would be considered. Based on a long term Field Barley price of $450/t and yield expectation of 8t/Ha the lease revenue per Ha would be $1080/Ha. Crops are not able to be grown on the same area for extended periods and are regularly part of rotations of approximately 7 years to break disease cycles. In this situation, crops could

reasonably be harvested from 30 Ha allowing for unproductive area and break periods. A revenue projection for this land use would be $32,400 per annum before landholding costs. Rates would still be paid on the land at approximately $312/Ha or $9360 for the 30 Ha area further reducing revenue to $23,040 before land holding cost. $23,040 represents a return of 0.5% on capital and makes this venture uneconomic.

Berry crop – Example Blueberries

Longer term crops such as blueberries could be grown at the location although there are few producers in the area. Typically, these types of crops are high cost to establish, and additional infrastructure is needed to protect the berries as the crop nears commercial harvest. Detailed breakdown of typical set up costs are provided for Australian conditions with similar requirements for site prep at $96-$104K/Ha. Major cost items are bird protection (approx. $50K/Ha) and the cost of plants ($30K/Ha). Irrigation is a key requirement and would require resource consent to be granted with some ponding also likely to be required as flow restrictions would most likely apply to takes.

Beyond land preparation, further considerations of packing and cool storage require consideration along with worker facilities. Depending on scale, a further $25-$50 K would be allocated to this infrastructure. If other growers were able to share some parts of the packing line, processing and storage facilities the cost could be lower. Unlike favoured areas such as Bay of Plenty, the lack of similar ventures locally is problematic.

NZ estimates for establishment (Perrin Ag Blueberries report) come in at $185K/Ha with higher estimates for bird protection at $67,000/Ha. For outdoor set ups, a minimum of 6 Ha is suggested in order to justify the packing and storage infrastructure. Based on this level of up front expenditure, the breakeven period is 16 years on a net cashflow basis. Long investment horizons are required to return on the initial outlay. IRR (Internal rate of return) over a 30 year term at a 6% discount rate was 6.2%.

Full production is not expected until year 5 and good production is expected years 6-10. The area currently planted in blueberries in New Zealand is already sufficient to meet demand of the domestic market , therefore export market is required.

Assumptions:

Yield estimation Range 2000-8000 trays per ha (1800 bushes at 4.5 kg/Bush = 8.1t/Ha or 5400 Trays/Ha). North island production system estimate was for 8.2 tons per Ha in a known production area.

Income $17.53/Kg (weighted average price based on 80 % fresh @ $20/Kg) = $142K/Ha

Operating expenditure

Variable cost estimate for Blueberry production ranged between $230K/Ha ($170K/Ha in harvesting and packing costs at year 4) in the detailed Australian

analysis to $120K per Ha (Perrin Ag Blueberries report). However, only $103/Ha was allocated to frost protection in the North Island example. If running costs can be contained at $120K/ha, a net surplus of $22K/Ha is expected from year 6.

From years 1-4 costs are incurred in the orchard and yields are low leading to negative cashflows to be considered along with the establishment costs.

Blueberry production in NZ is primarily concentrated around Waikato and the Bay of Plenty and as a result, expertise, experienced labour and general horticultural support, logistics and packaging are also concentrated there. The recent trend to covered growing increases the up front cost but does support a higher per Ha yield.

There is a potential risk of flooding and site inundation to crops which are planted on the site. Availability of water, unknown frost and yield risk, significant investment and time lag until full production also weigh against this option. Given the lack of similar ventures and high risk, the use of this land for blueberry production is possible but not likely to be undertaken.

Covering of horticultural crops is a potential management strategy that has improved yields and provides more secure returns. The high level of up front investment usually means ventures of this nature are likely to be undertaken where both climate and industry support are located.

While the horticultural option has potential to employ more people and generate more revenue, the costs and risks are also significant. If horticultural land use came with less risk and more local support, there would likely be more growers present in the district. Lack of local uptake is indicative of the economic realities of this use type in the area.

Livestock

Cattle

Cattle are heavier animals than sheep and as such have a greater impact in wet periods. Damage to soil structure and similar requirements to feed over winter are significant impediments for a cattle system. Breeding cows would not be viable due to scale and wetness of soils. Similarly dairy cattle are not considered due to wet soils and difficulty in supplementing over winter. Periodic inundation risk would reduce crop area available and proximity to houses would be seen as a negative factor. Trading beef options require exit strategies to be available in the case of climate variability including summer dry conditions or very wet periods. Trading cattle systems are often incorporated with class 7 operations and have similar financial outcomes as sheep operations.

Because of the soil type and climate constraints, all cattle options were not considered further. Some trading cattle could be undertaken but are not considered to be significantly different from the sheep option outlined above.

Horses

Horse systems have been undertaken in the area including breeding and training type facilities. Horse ownership and participation in the racing or sport horse industries take on many forms. The land site is within close proximity of Mosgiel and reasonable proximity of racing facilities and a larger metropolitan area (Dunedin). The most likely use is the agistment of animals with options ranging from low input self managed agistment at the lower end of pricing ($30/head per week) up to specialist training for the racing industry ($5,000/month). The market is limited and variable so the approach has been taken to target a fair mid range agistment with the expectation that facilities provided are commensurate with the fee. Basic stabling, tack room, feed and hay storage is provided along with washdown facilities and access to a training arena. Various pricing models are operated including base fee and option extra cost where hay is provided and fed or arena and track training are provided. Due to the flood limitation on the site, the number of horses able to be run has been reduced and the lower stocking rate allows hay to be provided and included in the weekly fee of $70/week.

Gross revenue:

75 horses at $70/week for 52 weeks =	$273K

Expenditure:

Feed including hay making	$40K
Labour – basic duties	$60K
R&M buildings, fences	$25K
Interest on new infrastructure	$60K
Rates and insurance	$25K
Land maintenance	$20K
Total	$230K
Profit before interest on land value	$43K

$43K represents less than 1% return on capital value of land. Once the holding cost or opportunity cost of land is considered, the pastoral based options favoured by the constraints present are below the NZ Treasury risk free discount rate of 2.8%.

Forestry

Production forestry options were not considered due to the high land value.

Improved Land Management Strategies

Drainage options for this site are complicated by the railway and natural tendency for ponding in high rainfall events. While tile drains could be considered for short term wet

periods, inundation risk still remains and there is not likely to be a return from investment in drainage infrastructure.

Boundary Adjustments (Including Amalgamations)

Boundary adjustments, amalgamation or leasing at this site are possible but less practical due to fragmented local land holdings. Amalgamation and leasing have the potential to increase financial viability for the lessee through economies of scale. An example of achieving an economy of scale would be lease of the site by a local sheep farmer where no or little added labour was required to operate the site in conjunction with a nearby operation. Existing plant and machinery could also be utilised. Due to fragmentation and therefore need to transport to and from the site, this option is impractical. The physical fragmentation and lack of significant boundary landholdings mean stock shifts require carting by truck and make grazing logistics more challenging and as a result, lease price would be heavily discounted. While leasing would reduce some overhead costs, the burden of rates and land value remain, particularly where lease price is likely to be heavily discounted due to fragmentation issues already identified.

Alternative Production Strategies

Given the significant challenges associated with this site, there are limited alternative production strategies that could allow for primary production.

Clause 3.10(3) - Impact on Landholding and Future Production Potential

Clause 3.10(3) states that:

> *(3) Any evaluation under subclause (2) of reasonably practicable options:*
>
> *(a) must not take into account the potential economic benefit of using the highly productive land for purposes other than land-based primary production; and*
> *(b) must consider the impact that the loss of the highly productive land would have on the landholding in which the highly productive land occurs; and*
> *(c) must consider the future productive potential of land-based primary production on the highly productive land, not limited by its past or present uses.*

The evaluation under subclause (2) does not take into account the economic benefit of using HPL for purposes other than land-based primary production.

The remaining land holdings and lifestyle blocks in the immediate 80 Ha neighbouring area are already subject to significant fragmentation. A change in use on this site is not expected to change outcomes for the remainder of the immediate neighbours.

The consideration of future productive potential of land-based primary production on HPL is not limited by its past or present uses.

Clause 3.10(4) - Size of Landholding

Clause 3.10(4) states that:

> *(4) The size of a landholding in which the highly productive land occurs is not of itself a determinant of a permanent or long-term constraint.*

The size of the landholding has not been considered as a determinant of a permanent or long-term constraint.

Conclusion

This assessment has applied the requirements of the NPS-HPL to evaluate whether the SLIP site meets the exemption pathway for permanent or long-term constraints set out in clause 3.10.

The evaluation demonstrates that permanent and long-term constraints relating to location, soil drainage and flooding risk mean that land-based primary production cannot be viably sustained on the site for the next 30 years, consistent with clause 3.10(1)(a).

Further analysis shows that development of the SLIP would avoid significant loss of productive capacity, avoids fragmentation of large cohesive HPL, and mitigates reverse sensitivity effects on surrounding land-based primary production in accordance with clause 3.10(1)(b).

The existing environmental, social, and economic values of the site as HPL are limited, and when weighed against the wider benefits of the proposed development, the overall balance favours the SLIP, satisfying clause 3.10(1)(c).

In accordance with clause 3.10(2), a full evaluation of reasonably practicable alternative land-based primary production, land-management improvements, boundary adjustments, and alternative production strategies has been undertaken and cannot address the permanent or long-term constraints on economic viability. Consideration of future productive potential and landholding impacts under clause 3.10(3), and the size of the land holding under clause 3.10(4) further supports this conclusion.

Overall, the proposed development of the SLIP meets the exemption criteria under clause 3.10 of the NPS-HPL.

Curriculum Vitae -Simon Glennie January 2025

Personal details			
Title (optional)			
First Name	Simon		
Second Name	Fleming		
Family Name	Glennie		
Iwi Affiliation, Pacific identity and/or any other as applicable			
Present position	Consultant, Partner		
Organisation/Employer	AbacusBio Limited		
Contact Address	Level %		
	Cargill House		
	333 Princess Street		
	Dunedin	**Post code**	9016
Work telephone		**Mobile**	[redacted]
Email	[redacted]		
Personal website (if applicable)			
Research identifier (if applicable)			

Most recent/relevant significant qualifications, and/or recognition or merit-based roles, awards, and memberships	
1.	*2007 -Current Farm Systems consultant , AbacusBio Limited*
2.	2013 Farmax consultant of the year – South Island

Most recent/relevant professional positions and/or community roles held	
1.	2003-Current – Salvation Army Jeff Farm Management Board

Most recent/relevant areas of expertise (up to five)	
1.	Farm systems modelling from biophysical, economic and social perspectives both in NZ and overseas contexts.
2.	Environmental modelling and system change projection and analysis
3.	National level, novel farm system evaluation and management experience with providers, funders farmers and farmer groups
4.	Extensive farmer group and field event facilitation across sheep beef and deer industries

Most recent/relevant publications to the proposal (up to five)	
1.	P.F .Fennessy, S.F Glennie, A.B. McCorkindale. Innovations behind the farm gate that will influence performance of hill country farms, New Zealand Grassland Association, Hill country symposium, 2016

2.	J.Sise, J Kerslake, M. Oliver, S Glennie, A Campbell, Development of a software model to estimate daily greenhouse gas emissions of pasture fed ruminant farming systems. Animal Production Science, January 2011

Total years of relevant experience	Total years
Please provide your answer here	*30*

Your role as part of the project you are applying to (mandatory)
Application of deep knowledge and understanding of New Zealand farmers and farm systems to aid in determining the likely uptake and impact of GE if applied in a NZ context. Agricultural system impact assessment at farm level and on different farm systems typically operated in New Zealand.

Career break events
I have had no career break events

PART 2

How have you contributed to broader societal engagement and/or knowledge exchange?
• Facilitation of multiple farmer groups over a 20 year period including economic, social and environmental areas. • Work with Regional Councils to inform policy direction related to freshwater quality and allocation. • Expert speaker on farm systems at farmer initiated events • Co Authored paper on the role of innovations on hill country farms presented at the 2016 Hill country symposium • Initiated and managed farmer led projects in the fields of irrigation, pest management and freshwater quality including the 2004 NOSIR project funded through the Sustainable Farming Fund

How have you contributed to the generation, revitalisation, preservation, and dissemination of knowledge?
• The Pestweb project (Sustainable Farming Fund) has led to the development of the Agpest portal where farmers and industry stakeholders can identify and manage a range of pests present in NZ farming systems. The genesis of the project came from a farmer group seeking practical pest identification and control information. AbacusBio worked with the farmer group to develop the initial portal framework which is still used in the final product.

How have you contributed to the development of individuals, collectives, iwi/hapū?
• Mentoring of junior staff in farm systems analysis and group facilitation • Contributions to innovative farming practices through the B+LNZ innovation farm program which was managed by AbacusBio over its 6 year duration

- Undertook hundreds of Salvation Army, Jeff farm scholarship interviews for provision of support to young people attending tertiary training in agriculture. Institutions included Telford Rural Polytech, Lincoln University and Taratahi .

How have you contributed to the wider research or professional community?

- Management board chair – Salvation Army Jeff Farm
- Director and Chairman of Next Farm Ltd (Irrigation technology)

How have you contributed nationally or internationally to the development of research and technology impact?

- Impact ease assessment of Methane mitigation investment in global farmed ruminant populations. Contribution to developing framework for assessing research prioritisation in farmed ruminants.

Personal statement

- A strong practical farming knowledge is required to ensure modelled outcomes are practical and practicable in an agricultural context. Direct connections with a wide array of farming families and enterprises across New Zealand ensure that the needs of this sector are well represented as GE options are evaluated.