

Productivity Assessment of Land at 707 Wanaka Luggate Road.

Prepared for SIO No 12 Ltd

Prepared by The AgriBusiness Group

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1 Background

SIO No 12 Ltd (SIO) intend to make a Private Plan Change request to change from the existing zoning of Rural to a new Corbridge Resort Zone of land which they own at 707 Wanaka Luggate Highway which is known as the Corbridge Estate, as shown in **Figure 1** (the Site).

SIO have engaged Stuart Ford of The AgriBusiness Group (TAG) to prepare a productive land assessment to accompany their application. The Productive Land Assessment addresses issues detailed in the Otago Regional Council's Regional Policy Statement 2021(ORC RPS21), which concentrates on the protection of high value soils, and retaining the capacity to undertake rural production activities that provide for the social and economic wellbeing of rural communities.

This assessment also addresses issues raised in the Queenstown Lakes Proposed District Plan (PDP) regarding:

- development and land uses that sustain or enhance the life-supporting capacity of air, water, soil and ecosystems, and maintain indigenous biodiversity; and
- protection of the life supporting capacity of the soil resource: and
- protecting, maintaining and enhancing landscape values, ecosystem services, nature conservation values, the soil and water resource and rural amenity.



Figure 1: The area of the site.

The site, which is approximately 323 ha, is nestled between State Highway 6 on its Southern boundary and the Clutha / Mata-Au River to the North. The land around the site is a rich mosaic of land uses encompassing lifestyle blocks, extensive pastoral grazing, arable, intensive irrigated pastoral grazing and Horticulture of various forms. The Wanaka Airport is to the Southeast of the site.

The site currently has two consents to take and use groundwater for the purposes of irrigation from two separate abstraction points. Consent No RM10.388.01.V2 allows for a maximum rate take of 50 l/s with a maximum annual volume of 652,320 m³ and Consent No 2003.271 allows for a maximum rate take of 16 l/s with a maximum annual volume of 304,080.

There is no development on Corbridge Estate to utilise either of these consents. To do so would require the provision of power to the site of abstraction as well as establishment of a water distribution and application system to allow the Estate to irrigate.

1.1 The Proposal

The purpose of the Corbridge Resort Zone is to enable high quality on-site visitor activities and resort facilities, within a golf course setting and with a predominance of open space. The Zone provides for golf courses, including two 18-hole courses and a 9-hole short course, related golf industry activities (including driving range, maintenance facilities and clubhouse facilities), visitor industry activities including visitor accommodation, residential activities (including staff accommodation), walkways and cycleways, ecological protection and enhancement areas and landscape protection areas.

In addition to the golf and related activities the Indicative Masterplan suggests that there will be freehold apartments and approximately 99 2,000m² lots, 55 1,000m² lots and 3 4-5,000m² lots plus a Hotel and a private stand alone restaurant. This will all be included in a relatively low density pastoral character setting which includes a lake centrally located within the site, two large areas of ecological and landscape protection and with a pastoral edge to the site.

The continuation of farming activities in the parts of the Zone not used for golf or other development is also provided for, to maintain the open pastoral character within the periphery of the Zone and while the golf courses are being developed.

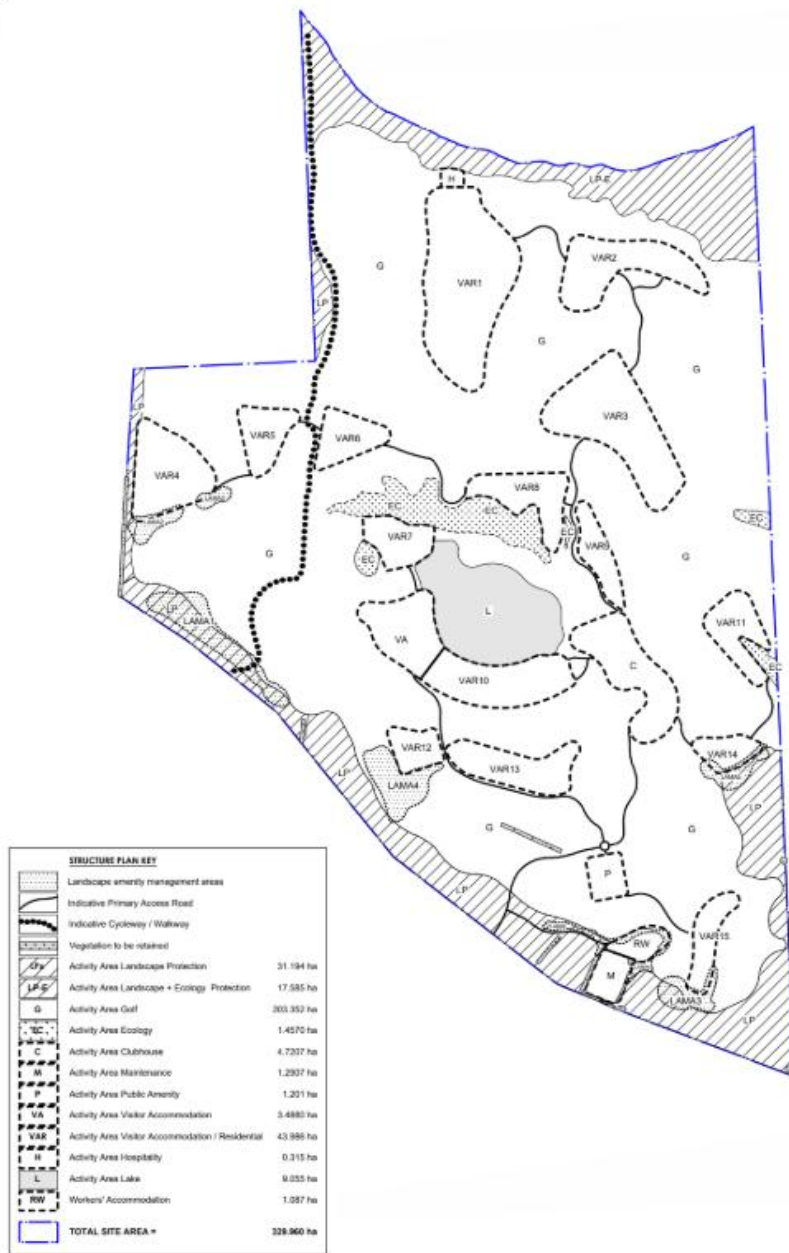


Figure 2: Structure Plan – Corbridge Resort

2 Soils

2.1 Description

Error! Reference source not found. is a screenshot of the data held in the Manaaki Whenua Landcare Research's online portal of soils in New Zealand called SMap¹ of the approximate area of the site.

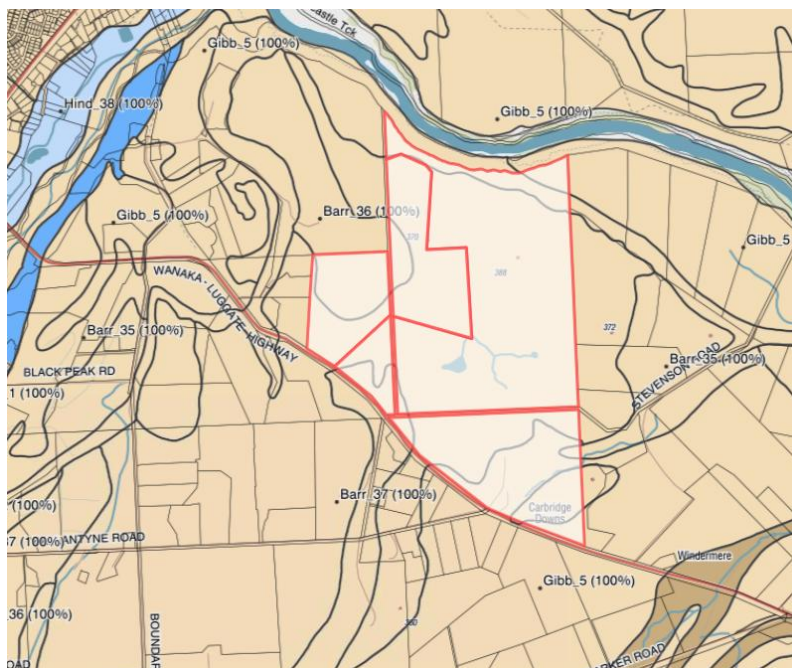


Figure 3: Soils on the Site as mapped in SMAP

Table 1 lists the soils on the Site which are shown in **Figure 3** by sibling description, area and proportion.

Table 1: Soils on the site by sibling description, area and proportion

Sibling	Area (ha)	Proportion (%)
Barr_37a.1	244	76
Gibb_5a.1	41	13
Barr_36a.1	24	7
Tuck_2a.1	14	4

Definitions of the key soils physical properties that are listed in the SMAP fact sheets² for the soils that are present on the Site are shown in **Table 2**.

¹<https://smap.landcareresearch.co.nz/maps-and-tools/app/>

² <https://smap.landcareresearch.co.nz/maps-and-tools/factsheets>

Table 2: Description of soils on site

Soil Name	Barrhill	Gibbston	Barrhill	Tucker
SMap Name	Barrhill_37a.1	Gibbston_5a.1	Barhill_36a.1	Tucker_2a.1
Depth Class	Moderately Deep (80 – 100 cm)	Shallow (25 - 40 cm)	Deep (>1m)	Very shallow
Rooting Depth	Unlimited	Unlimited	Unlimited	Unlimited
Depth to stony layer	Moderately deep	Shallow	No significant stony layer within 1m.	Shallow
Texture Profile	Silt	Loam	Silt	Sand
Topsoil Stoniness	Stoneless	Slightly Stony	Stoneless	Moderately stony
Drainage Class	Well drained	Well drained	Well drained	Well drained
Profile Available Water (0 to 100cm)	High (218 mm)	Moderate (100 mm)	High (196 mm)	Moderate to low (78 mm)

The two Barrhill soils which make up the majority of the area (83%) are moderately deep to deep silts with unlimited rooting depth, they are stoneless, well drained and possess a high Profile Available Water (PAW).

The Gibbston and Tucker soils (17% of the area) are shallow to very shallow loams and sands with unlimited rooting depth, shallow depth to a stony layer and are well drained with a moderate to low Water Holding Capacity.

These soils are all theoretically suitable for horticulture if they have access to sufficient irrigation water and if not, they are only suitable for arable and pastoral land uses.

The soil order which the Barrhill soils belong to is the Pallic soil order in the New Zealand Soils Classification.

There are reported³ to be 801,630 ha of pallic soils within the ORC area. These soils are abundant on the river flats below Lakes Wanaka and Hawea. They have historically been popular for horticultural development because of their free draining nature which means that with the addition of irrigation capability and fertiliser they are able to be managed to achieve horticultural production. Without irrigation, these soils are suited to arable and pastoral land uses because of their high PAW which means that they have some resistance to drought impacts which are predominant in this locality over the summer months.

These soils are all theoretically suitable for horticulture if they have access to sufficient irrigation water and if not, they are only suitable for arable and pastoral land uses.

2.2 Land Use Capability

The Land Use Capability (LUC) Classification is defined as a systematic arrangement of different kinds of land according to those properties that determine its capacity for long-term sustained

³ Landcare Research : Regional analysis of the Fundamental Soil Layer.

production. Capability is used in the sense of suitability for productive use or uses after taking into account the physical limitations of the land.

The LUC Classification has three components – LUC Class, LUC Subclass, and LUC Unit – each of which is represented by a number or symbol.

The LUC Class is the broadest grouping of the capability classification. It is an assessment of the land's capability for use, while taking into account its physical limitations and its versatility for sustained production. There are eight classes, denoted by Arabic numerals, with limitations to use increasing, and versatility of use decreasing, from LUC Class 1 to LUC Class 8. LUC Classes 1 to 4 are suitable for arable cropping (including vegetable cropping), horticultural (including vineyards and berry fields), pastoral grazing, tree crop or production forestry use.⁴

Approximately 80% of the area (260 ha) is classified as LUC 3 and the remaining 20% (63 ha) is unclassified / other. (see **Error! Reference source not found.**).

I note that AgFirst⁵ has reported that of the available farmland within the Otago Region that there is 335,364 ha of LUC 3 land.

The data which is available on Land Use Capability (LUC) in the New Zealand Land Resources Inventory Series (LRIS) Portal⁶ is shown in **Error! Reference source not found.**.

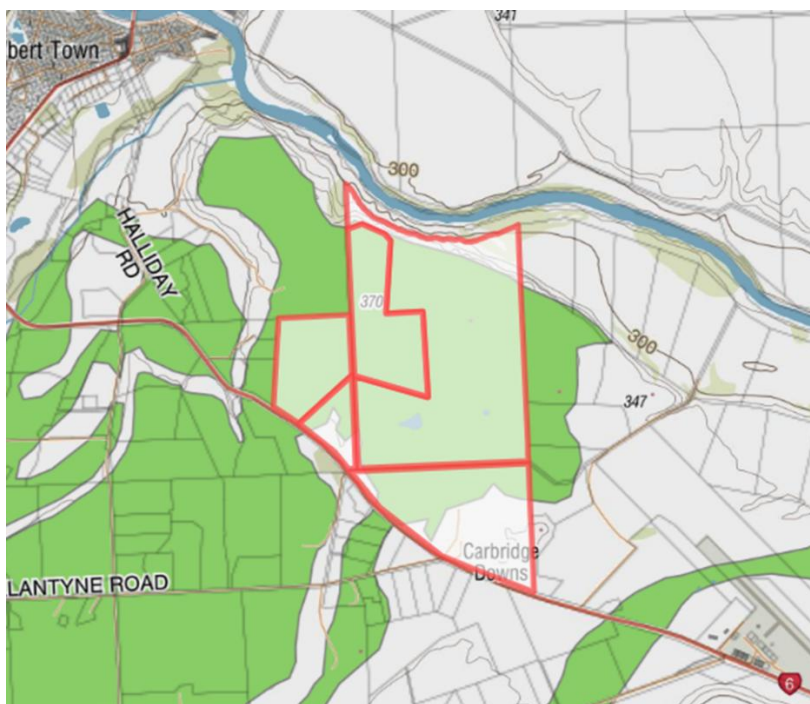


Figure 4: Land Use Capability (Light green is LUC 3)

⁴ 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 3rd ed. Hamilton, AgResearch; Lincoln, Landcare Research; Lower Hutt, GNS Science. 163p.

⁵ AgFirst (2017): Analysis Of Drivers And Barriers To Land Use Change. A Report prepared for the Ministry for Primary Industries

⁶⁶ https://ourenvironment.scinfo.org.nz/maps-and-tools/app/Land%20Capability/lri_luc_hpl

2.3 The National Policy Statement for Highly Productive Land (NPS-HPL)

The NPS-HPL defines (in clause 1.3) *highly productive land* as land that is mapped in accordance with clause 3.4 and included in an operative regional policy statement in accordance with clause 3.5. Until these maps are included in an operative regional policy statement, clause 3.5(7) identifies land that is to be treated as highly productive land.

As the ORC hasn't mapped the land in accordance with clause 3.4 the definition reverts to the definition in clause 3.5(7) which states that:

7. Until a regional policy statement containing maps of highly productive land in the region is operative, each relevant territorial authority and consent authority must apply this National Policy Statement as if references to highly productive land were references to land that:

a. is:

- i. zoned general rural or rural production at the commencement date; and*
- ii. LUC 1, 2 or 3; but*

b. is not:

- i. identified for future urban development at the commencement date; or*
- ii. subject to a council initiated, or an adopted, notified plan change to rezone it from general rural or rural production to urban or rural lifestyle at the commencement date; or*
- iii. subject to a resource consent application for subdivision, use or development on LUC 3 land for any activity other than rural lifestyle, where that consent has been lodged at or after the commencement date.*

As explained in 2.2 above, approximately 260 ha of the Site is classified as LUC 3 land and therefore under the NPS-HPL is considered to be Highly Productive Land.

Clause 3.6(6) of the NPS-HPL provides an avenue for urban rezoning of LUC3 land. That is because, urban, as a description of a zone, means any of the following zone:

- (a) low density residential, general residential, medium density residential, large lot residential, and high density residential:
- (b) settlement, neighbourhood centre, local centre, town centre, metropolitan centre, and city centre:
- (c) commercial, large format retail, and mixed use:
- (d) light industrial, heavy industrial, and general industrial:
- (e) any special purpose zone, other than a Māori Purpose zone:
- (f) any open space zone, other than a Natural Open Space zone:
- (g) sport and active recreation.

The proposed Corbridge Resort Zone qualifies as a special purpose zone under this definition in the NPS-HPL.

The NPS-HPL is addressed further within the plan change documents prepared by Brown & Company Planning Group.

3 Planning Issues Addressed

To inform this assessment, I have considered the relevant planning framework, as contained in the ORC RPS21, and PDP. The planning issues which this productive land report responds to are grouped into three themes:

- Soils; and
- Contribution to the Social, Economic and Cultural Wellbeing of the community; and
- Protection of landscape and natural resource values and maintaining the character of rural landscapes.

The relevant planning issues addressed are shown in **Table 3**.

Table 3: Planning Issues Addressed in this Productivity Assessment.

Authority	Reference	Nature
Soils		
ORC RPS21	Objective: LF-LS-O11 – Land and soil	The availability and productive capacity of highly productive land for primary production is protected from inappropriate use and development now and for future generations.
	Policy: LF-LS-P17	Soil Values: Maintain the health and productive potential of soils, to the extent reasonably practicable, by managing the use and development of land in a way that is suited to the soil characteristics and that sustains mauri through healthy: (1) soil biological activity and biodiversity, (2) soil structure, and (3) soil fertility.
PDP	Objective 21.2.2 – The life supporting capacity of soils is sustained.	Allow for the establishment of a range of activities that utilise the soil resource in a sustainable manner.
		Maintain the productive potential and soil resource of Rural Zoned land and encourage land management practices and activities that benefit soil and vegetation cover.
Contribution to the Social, Economic and Cultural Wellbeing of the community.		
ORC RPS21	SRMR-14 – Poorly managed urban and residential growth affects productive land, treasured natural assets, rural industry, infrastructure and community well-being	Economic: While potentially providing short term commercial returns, poorly managed urban growth and development may result in long term impacts including: • the loss of land for primary production activities (either directly though building on it, or indirectly though reverse sensitivity effects);....
	Objective: LF-LS-O12 – Use, development, and protection	The use, development, and protection of land and soil: (3) recognises the role of these resources in providing for the social, economic, and cultural well-being of Otago's people and communities.

	Objective UFD-O4 - Use and development in Otago's rural areas occurs in a way that:	(4A) does not compromise the long term viability of primary production and rural communities,
	Policy: UFD-P7 - Rural Areas: The management of use and development in rural areas:	(2) maintains rural areas as places where people live, work and recreate and where a range of activities and services are required to support these rural functions, and provide for social and economic wellbeing within rural communities and the wider region, (4) provides for primary production, rural industry, and supporting activities, and recognises: (a) the importance of these activities to the social and economic wellbeing of Otago's communities,
PDP	Objective 3.2.1: The development of a prosperous, resilient and equitable economy in the District.	The significant socioeconomic benefits of well-designed and appropriately located visitor industry places, facilities and services are realised across the district.
Protection of landscape and natural resource values and maintaining the character of rural landscapes.		
	Strategic Objectives 3.2.1.8	Diversification of land use in rural areas beyond traditional activities, including farming, provided that: a. the landscape values of Outstanding Natural Features and Outstanding Natural Landscapes are protected; b. the landscape character of Rural Character Landscapes is maintained and their visual amenity values are maintained or enhanced; and c. significant nature conservation values and Ngāi Tahu values, interests and customary resources, are maintained.
	Zone Purpose	The purpose of the Rural Zone is to enable farming activities and provide for appropriate other activities that rely on rural resources while protecting, maintaining and enhancing landscape values, ecosystem services, nature conservation values, the soil and water resource and rural amenity.
	Objective 21.2.1 A range of land uses, including farming are enabled while:	a. Protecting the landscape values of Outstanding Natural Features and Outstanding Natural Landscapes; b. Maintaining the landscape character of Rural Character Landscapes and maintaining or enhancing their visual amenity values; c. Maintaining or enhancing amenity values within the rural environment; and d. Maintaining or enhancing nature conservation values
	Objective 21.2.9: Provision for diversification of farming and other rural activities that protect landscape and natural resource values and maintains the character of rural landscapes.	Recognise that the diversification of farming and other traditional rural activities, including for tourism, commercial recreation and visitor accommodation, may provide for landscape values, indigenous biodiversity, and water quality to be sustained or enhanced in the longer term.

We can summarise the Soils planning issues into the following topics:

- Safeguarding and managing the potential loss of soils while recognising that the loss of these soils may occur with appropriate future development.
- Allow for the establishment of a range of activities that utilise the soil resource in a sustainable manner.

We can summarise the Contribution to the Social, Economic and Cultural Wellbeing of the community into the following topics:

- Sufficient land is managed and protected for economic production.
- Recognising the role of the land in providing for the social, economic and cultural wellbeing of the District and the Region.

We can summarise the Protection of landscape and natural resource values and maintaining the character of rural landscapes into the following topics:

- Diversification of land uses beyond traditional farming are allowed for.
- Protecting, maintaining and enhancing landscape values, ecosystem services, nature conservation values, the soil and water resource and rural amenity.

I note that the ORC RPS21 definition of *highly productive land* is the same as the definition contained in the NPS-HPL clause 1.3, which is addressed above. For the same reasons as addressed above in relation to the NPS-HPL definition, the site contains highly productive land.

3.1 Assessment of the proposed use against the Planning framework.

3.1.1 Soils Issues

Safeguarding and managing the potential loss of soils while recognising that the loss of these soils may occur with appropriate future development.

I am of the opinion that the majority of the soils on the site will be maintained but the loss of the soils under built development and roading is insignificant when compared against the quantity of this soil type both by soil classification, being 800,630 ha, and LUC classification, being 335,364 ha.

I do not have the expertise to comment on the appropriateness of the proposed future development more generally, this is addressed through other technical assessments provided.

Allow for the establishment of a range of activities that utilise the soil resource in a sustainable manner.

The proposed use of the site predominantly relies on the maintenance of the soil resource (to grow grass for golf course purposes) so I am of the opinion that it substantially meets this requirement.

3.1.2 Contribution to the Social, Economic and Cultural Wellbeing.

I am of the opinion that the productivity of the land is the key component in considering whether it makes a significant contribution to the social, economic and cultural wellbeing of the community. This is in terms of the output of product both in terms of volume and financial value, the amount of expenditure which occurs, the amount of employment it generates, its contribution to the social fabric and its cultural contribution.

In this section I examine the contribution that would be made by the irrigated horticultural land uses of Summerfruit, Pipfruit and Grape growing and dryland pastoral land uses. These land uses have been selected for assessment because they are the most prominent land uses that are undertaken in this climate and on these soils.

Horticultural land uses.

The three possible horticultural land uses of the site are a mixed Summerfruit orchard, a Pipfruit orchard or a grape growing property.

The financial data which I have used was all gained in some work which I carried out for HortNZ⁷ and the Central Otago Winegrowers⁸ in 2023 which was used by the ORC to inform their planning for their new Land and Water Regional Plan. The data gathering involved interviewing a cross section of growers across each land use and then creation of representative models for each of the land uses from the data gained in the interviews.

A summary of the financial performance of each representative model and the expected return is shown in

Table 4.

Table 4: Financial performance of other horticultural land uses (\$/HA).

	Summerfruit	Pipfruit	Vineyard
Gross Orchard Revenue	61,390	58,024	24,265
Orchard Working Expenses			
Labour	22,641	21,130	12,984
Post-harvest costs	13,186	25,580	
Operating costs	9,550	6,384	5,330
Administration and property expenses	3,139	1,430	1,514
Total Orchard Operating Expenses	48,516	54,523	19,828
Earnings Before Interest and Tax	12,875	3,501	4,436
Development Cost	120,000	150,000	75,000
Return On Capital	11%	2%	6%

The information presented in

Table 4 is representative of each model using average production and market returns. Given the high degree of variability in climatic conditions experienced in Central Otago and the variability in product returns experienced for each of the land use options I am of the opinion that none of the alternative land uses is able to offer sufficient return on capital to encourage a prudent investor to invest the required capital to develop those land uses.

I note that there are no extensive Horticultural developments in the Upper Clutha Valley.

This means that irrigated horticulture cannot be considered as the highest and best land use for the site.

⁷ The AgriBusiness Group (2023): Phase 2 modelling for Otago Regional Council Proposed Land and Water Regional Plan for HortNZ.

⁸ The AgriBusiness Group (2023): Phase 2 modelling for Otago Regional Council Proposed Land and Water Regional Plan for Central Otago Winegrowers

Pastoral land uses.

The land is currently Dryland but it is possible to irrigate the land once the capability to utilise the two consents is developed and there may be the requirement to gain additional consent to take and ally water for irrigation. With that being possible I consider that irrigated Dairy farming is the highest and best pastoral land use.

I have assumed that approximately 300 ha of the 323 ha site could be used as the effective farmed area and that the farm would operate at the average performance of dairy farms as reported by LIC⁹ in the Central Otago / Lakes district being 2.5 cows / ha at 411 kg MS / cow producing 1,028 kg MS / ha. I have modeled those production statistics in a Dairy NZ System 3 system and the results are reported in **Table 5**. I have adopted a milk price of \$9.20 which is the average of the last three years' actual price and the prediction of the price for the next three seasons that is taken from MPI's SOPI report¹⁰.

I would note that the cost of conversion would be between \$6 and \$9 million with an additional \$1.875 million for livestock. If we were to assume that the cost of development was \$9.5m then the Return on Capital for an irrigated dairy farm would be 8.45%.

Table 5: Financial performance of the site as irrigated dairy farm (\$).

	\$ / ha	Whole site.
Gross Revenue	9,557	2,866,971
Cash Farm Expenditure	6,881	2,064,362
Earnings Before Interest and Tax	2,675	802,610

Traditionally I use the financial performance of a land use to give an idea of the social and cultural contribution to the wellbeing of the community. The land use of dairy farming does not require many jobs (possibly 7) which are both important contributors to the social fabric of a community. It also does not offer a lot in terms of the flow on impact of its expenditure in the local community in terms of secondary industry employment. It therefore follows that this land use does not offer much in terms of cultural contribution.

I am of the opinion that the loss of revenue and employment are not significant when compared to the potential for revenue and employment that will be gained by the proposed development (as discussed in the Economic Assessment prepared by Savvy Consulting).

Sufficient land is managed and protected for economic production.

The loss of approximately 323 ha of land from a pool of approximately 815,000 ha of LUC 1 to 4 land in the region is insignificant.

Recognising the role of the land in providing for the social, economic and cultural wellbeing of the District and the Region.

I am of the opinion that the loss of the site from productive farming will have no impact on the social, economic and cultural wellbeing of the community given that the highest and best land use

⁹ LIC (2025): New Zealand Dairy Statistics 2023 - 24

¹⁰ MPI (2025): Situation and Outlook for Primary Industries.

is dairy farming especially when considered against the potential which will be gained from the proposed development.

3.1.3 Protection of landscape and resource values and maintenance of the character of rural landscapes.

I note that in the PDP diversification of land uses beyond traditional farming are provided for.

I am of the opinion that the proposal which neatly combines two and a half golf courses and the associated accommodation into the current landscape and enhances the allowance for ecosystem services and nature conservation through the provision of a fully grassed area within the golf courses and the specific allowance for lakes and two large ecological and various landscape protection areas means that it meets the requirement of enhancing the resource values, soil and water values and the general rural amenity.