AGENDA

Hearings Panel Meeting
Tuesday, 14 October 2025

Date: Tuesday, 14 October 2025

Time: 9.30 am

Location: Ngā Hau e Whā, William Fraser Building, 1 Dunorling Street, Alexandra

Notice is hereby given that a Hearings Panel Meeting will be held in Ngā Hau e Whā, William Fraser Building, 1 Dunorling Street, Alexandra on Tuesday, 14 October 2025 at 9.30 am.

Order Of Business

1 Apologies 5

2 Reports 6

25.12.1 MINUTES TO BE CONFIRMED 6

25.12.2 RC240323 - NOEL & MARGARET TREVATHAN 15

25.12.3 RC250169 & RC220396V4 - NEW ZEALAND CHERRY CORP (LEYSER) LP 261

Members Independent Commissioner N Gillespie (Chairperson), Independent Commissioner M McPherson, Independent Commissioner I Cooney, Independent Commissioner T Paterson

In Attendance K Smith (Minute Secretary), A Rodgers (Panel Advisory)

1 APOLOGIES

2 REPORTS

25.12.1 MINUTES TO BE CONFIRMED

Doc ID: 2588654

1. Attachments

Appendix 1 - Minutes - 8 April 2025 ⇩
Appendix 2 - Minutes - 10 June 2025 ⇩

MINUTES OF CENTRAL OTAGO DISTRICT COUNCIL
HEARINGS PANEL MEETING
HELD IN NGĀ HAU E WHĀ, WILLIAM FRASER BUILDING, 1 DUNORLING STREET, ALEXANDRA
ON TUESDAY, 8 APRIL 2025 AT 9.30 AM

PRESENT: Cr N Gillespie (Chairperson), Cr I Cooney

IN ATTENDANCE: K Smith (Minute Secretary), A Rodgers (Panel Advisory)

1 APOLOGIES

Recommendations

That the apology received from Cr M McPherson and Cr T Paterson be accepted.

N Gillespie / I Cooney

2 CONFIRMATION OF MINUTES

Recommendations

That the public minutes of the Hearings Panel Meeting held on 10 December 2024 be confirmed as a true and correct record.

N Gillespie / I Cooney

3 REPORTS

25.4.2 RC230328 - CLUTHA PLAINS TRUST

A report to consider a 17-lot subdivision at 5 Maori Point Road, Tarras.

Also circulated was the report of the Planning Consultant in relation to the application.

Report of the Planning Consultant has been read N Gillespie / I Cooney.

Hearing opened at 9.36am.

In attendance:

Kirstyn Royce – Planning Consultant

Rachael Annan – Landscape Architect – Council Expert – via Microsoft Teams

Bridget Irving – Legal Counsel for Applicant

Maddy Albertson – Applicant Planner

Jonny Trevathan – Applicant

Julie Greenslade – Landscape Architect – Applicant Expert

Linda Hamilton & Jakub Kaminski – 07 Submission

Wayne & Billee Marsh – 11 Submission

Lloyd Morris – 17 Submission

Paula Macfie – 05 Submission

Noel (Beau) Trevathan – 18 Submission

Note: Bridget Irving spoke to their evidence at 9.40am.

Note: Panel directed questions to Bridget Irving at 10.23am

Note: Bridget Irving continued to speak to their evidence at 10.24am.

Note: Panel directed questions to Bridget Irving at 10.27am.

Note: Jonny Trevathan spoke to their evidence at 10.29am.

Note: Panel directed questions to Jonny Trevathan at 10.42am.

Note: Julie Greenslade spoke to their evidence at 10.47am.

Note: Panel directed questions to Julie Greenslade at 10.52am.

Note: Maddy Albertson spoke to their evidence at 10.56am.

Note: Panel directed questions to Maddy Albertson at 11.06am.

Note: Kirstyn Royce requested clarification from Maddy Albertson at 11.10am.

Note: Hearing adjourned at 11.11am.

Note: Hearing reconvened at 11.29am.

Note: Linda Hamilton spoke to their submission at 11.30am.

Note: Panel provided clarifications and directed questions to Linda Hamilton at 11.45am.

Note: Billee Marsh spoke to their submission at 11.48am.

Note: Panel directed questions to Billee Marsh at 11.50am.

Note: Billee Marsh continued to speak to their submission at 11.51am.

Note: Wayne Marsh spoke to their submission at 12.05pm.

Note: Panel directed questions to Billee and Wayne Marsh at 12.08pm.

Note: Wayne Marsh continued to speak to their submission at 12.08pm.

Note: Panel directed questions to Billee and Wayne Marsh at 12.12pm.

Note: Wayne Marsh continued to speak to their submission at 12.13pm.

Note: Panel directed questions to Billee and Wayne Marsh at 12.17pm.

Note: Lloyd Morris spoke to their submission at 12.20pm.

Note: Panel directed questions to Lloyd Morris at 12.40pm.

Note: Hearing adjourned at 12.46pm.

Note: Hearing reconvened at 1.20pm.

Note: Rachael Annan spoke to their evidence at 1.20pm.

Note: Panel directed questions to Rachael Annan at 1.29pm.

Note: Kirstyn Royce spoke to their evidence at 1.32pm.

Note: Panel directed questions to Kirstyn Royce at 1.42pm.

Note: Bridget Irving gave the Applicant's right of reply at 1.44pm.

Note: Hearing adjourned at 1.58pm.

Note: All parties left the meeting at 2.00pm.

THE PANEL IN CLOSED MEETING

RESOLVED that the public be excluded from the following parts of the proceedings of the meeting, namely items 25.4.2

The general subject of each matter to be considered while the public is excluded, the reason for passing this resolution in relation to each matter, and the specific grounds under section 48(1) of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution are as follows:

	General subject of each matter to be considered.	Reason for passing this resolution in relation to each matter.	Ground(s) under section 48(1) for the passing of this resolution.
25.4.2	**Application for Resource Consent – RC230328 – Clutha Plains Trust, 5 Maori Point Road, Tarras (2841109604)**	An application for subdivision consent for a 17-Lot subdivision in a rural resource area.	Section 48(1)(a)

This resolution is made in reliance on section 48(1)(a) of the Local Government Official Information and Meetings Act 1987 and the particular interest or interests protected by section 6 or section 7 of that Act or section 6 or section 7 or section 9 of the Official

Information Act 1982, as the case may require, which would be prejudiced by the holding of the whole or the relevant part of the proceedings of the meeting in public are as shown above (in brackets) with respect to each item.

NOTE:

Section 48(4) of the Local Government Official Information and Meetings Act 1987 provides as follows:

"(4) Every recommendation to exclude the public shall be put at a time when the meeting is open to the public, and the text of that resolution (or copies thereof) -

"(a) Shall be available to any member of the public who is present.

and

Shall form part of the minutes of the local authority."

RESOLVED that Kirstyn Royce (Planning Consultant) and Ann Rodgers (Panel Advisory) be permitted to remain during the closed session because of their knowledge that would be of assistance to the Panel in its deliberations.

N Gillespie / I Cooney

The Meeting closed at 2.30pm.

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CHAIR / /

ITEMS TO BE CONSIDERED WHILST THE PUBLIC IS EXCLUDED

25.4.2 Application for Resource Consent – RC230328 – Clutha Plains Trust, 5 Maori Point Road, Tarras (2841109604)

RESOLVED that pursuant to sections 104, 104B and 104D of the Resource Management Act 1991, the application be granted for the reasons appended hereto.

N Gillespie / I Cooney

MINUTES OF CENTRAL OTAGO DISTRICT COUNCIL
HEARINGS PANEL MEETING
HELD IN NGĀ HAU E WHĀ, WILLIAM FRASER BUILDING, 1 DUNORLING STREET, ALEXANDRA
ON TUESDAY, 10 JUNE 2025 AT 9.30 AM

PRESENT: Cr N Gillespie (Chairperson), Cr M McPherson, Cr I Cooney

IN ATTENDANCE: K Smith (Minute Secretary), A Rodgers (Panel Advisory)

1 APOLOGIES – N/A

2 CONFIRMATION OF MINUTES

Recommendations

That the public minutes of the Hearings Panel Meeting held on 11 February 2025 be confirmed as a true and correct record.

N Gillespie / M McPherson

3 REPORTS

25.5.2 RC250060 - NORTHBURN LIMITED

A report to consider a series of boundary realignments at 44 Northburn Station Road and 70 Middleton Road, consolidating two previously approved consents – RC230212 and RC230216 into a single overarching consent to facilitate a unified process for certification.

Also circulated was the report of the Planning Consultant in relation to the application.

Report of the Planning Consultant has been read N Gillespie / M McPherson.

Hearing opened at 9.32am.

In attendance:

Oli McIntosh – Planning Consultant (via Microsoft Teams)

Jake Woodward – Applicant Planner (via Microsoft Teams)

Tom Pinckney – Applicant (via Microsoft Teams)

Note: Jake Woodward spoke to their evidence at 9.35am.

Note: Panel directed questions to Jake Woodward at 9.38am.

Note: Tom Pinckney spoke to their evidence at 9.49am.

Note: Oli McIntosh spoke to their evidence at 9.50am.

Note: Panel directed questions to Oli McIntosh at 9.52am.

Note: Jake Woodward gave their right of reply at 9.54am.

Note: Panel directed questions to Jake Woodward at 9.59am.

Note: Hearing adjourned at 10.01am.

Note: Jake Woodward, Tom Pinckney and Oli McIntosh left the meeting at 10.02am.

25.5.3 RC250055 - GLENOIR LP

A report to consider subdivision consent to create five residential allotments and one balance lot in two stages at 155 Dunstan Road and 157 Dunstan Road.

Also circulated was the report of the Planning Consultant in relation to the application.

Report of the Planning Consultant has been read N Gillespie / M McPherson.

Hearing re-convened at 10.07am.

In attendance:

Oli McIntosh – Planning Consultant (via Microsoft Teams)

Craig Barr – Applicant Planner

Shaun O'Docherty – Applicant

Shanon Garden – Applicant (via Microsoft Teams)

Note: Craig Barr spoke to their evidence at 10.09am.

Note: Panel directed questions to Craig Barr at 10.13am.

Note: Oli McIntosh provided clarification to the Panel at 10.14am.

Note: Panel directed questions to Craig Barr at 10.15am.

Note: Shanon Garden provided clarification to the Panel at 10.26am.

Note: Panel directed questions to Craig Barr at 10.27am.

Note: Oli McIntosh spoke to their evidence at 10.28am.

Note: Panel directed questions to Oli McIntosh and Craig Barr at 10.31am.

Note: Craig Barr gave their right of reply at 10.33am.

Note: Shanon Garden provided points of clarification to the Panel at 10.35am.

Note: Craig Barr continued to give their right of reply at 10.35am.

Note: Hearing adjourned at 10.36am.

Note: Craig Barr, Shaun O'Docherty, Shanon Garden left the meeting at 10.39am.

THE PANEL IN CLOSED MEETING

RESOLVED that the public be excluded from the following parts of the proceedings of the meeting, namely items 25.5.2 and 25.5.3.

The general subject of each matter to be considered while the public is excluded, the reason for passing this resolution in relation to each matter, and the specific grounds under section 48(1) of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution are as follows:

	General subject of each matter to be considered.	Reason for passing this resolution in relation to each matter.	Ground(s) under section 48(1) for the passing of this resolution.
25.5.2	**Application for Resource Consent – RC250060 – Northburn Limited, 44 Northburn Station Road and 70 Middleton Road, Tarras (2841116453)**	An application for a series of boundary realignments, consolidating two previously approved consents at 44 Northburn Station Road and 70 Middleton Road.	Section 48(1)(a)
25.5.3	**Application for Resource Consent – RC250055 – Glenoir LP, 155 and 157 Dunstan Road, Alexandra (2853159702)**	An application for subdivision consent to create five residential allotments and one balance lot in two stages at 155 and 157 Dunstan Road.	Section 48(1)(a)

This resolution is made in reliance on section 48(1)(a) of the Local Government Official Information and Meetings Act 1987 and the particular interest or interests protected by section 6 or section 7 of that Act or section 6 or section 7 or section 9 of the Official Information Act 1982, as the case may require, which would be prejudiced by the holding of the whole or the relevant part of the proceedings of the meeting in public are as shown above (in brackets) with respect to each item.

NOTE:

Section 48(4) of the Local Government Official Information and Meetings Act 1987 provides as follows:

"(4) Every recommendation to exclude the public shall be put at a time when the meeting is open to the public, and the text of that resolution (or copies thereof) -

"(a) Shall be available to any member of the public who is present.

and

Shall form part of the minutes of the local authority."

RESOLVED that Oli McIntosh (Planning Consultant) and Ann Rodgers (Panel Advisory) be permitted to remain during the closed session because of their knowledge that would be of assistance to the Panel in its deliberations.

N Gillespie / M McPherson

The Meeting closed at 11.20am.

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CHAIR / /

ITEMS TO BE CONSIDERED WHILST THE PUBLIC IS EXCLUDED

25.5.2 Application for Resource Consent – RC250060 – Northburn Limited, 44 Northburn Station Road and 70 Middleton Road, Tarras (2841116453)

RESOLVED that pursuant to sections 104, 104B and 104D of the Resource Management Act 1991, the application be granted for the reasons appended hereto.

M McPherson / I Cooney

25.5.3 Application for Resource Consent – RC250055 – Glenoir LP, 155 and 157 Dunstan Road, Alexandra (2853159702)

RESOLVED that pursuant to sections 104, 104B and 104D of the Resource Management Act 1991, the application be granted for the reasons appended hereto.

N Gillespie / M McPherson

25.12.2 RC240323 - NOEL & MARGARET TREVATHAN

Doc ID: 2588679

1. Purpose

A report to consider a subdivision consent to subdivide four existing titles into six, resulting in two additional titles and establish two residential building platforms at 360 Ardgour Road, Tarras is attached.

2. Attachments

Appendix 1 - s42A Planners Report ⇩
Appendix 2 - s95 Notification Report ⇩
Appendix 3 - Application ⇩
Appendix 4 - Request for Further Information 3 February 2025 ⇩
Appendix 5 - Response to Request for Further Information 22 May 2025 ⇩
Appendix 6 - Amended Proposal 22 August 2025 ⇩
Appendix 7 - Revised Plan of Subdivision 22 August 2025 ⇩

CENTRAL OTAGO DISTRICT COUNCIL
REPORT OF PLANNING CONSULTANT

APPLICATION	**RC 240323**
APPLICANT	**NOEL TREVATHAN & MARGARET TREVATHAN**
ADDRESS	**360 ARDGOUR ROAD, TARRAS**
LEGAL DESCRIPTION	**SECTION 23 BLOCK XVI TARRAS SD, PART SECTION 25 BLOCK XVI TARRAS SD, PART SECTION 31 BLOCK XVI TARRAS SD, LOT 1 DP 25202, SECTION 50 BLOCK XVI TARRAS SD AND SECTION 24 BLOCK XVI TARRAS SD (HELD IN RECORD OF TITLE OT14B/606, OT17B/63, OT17B/64 & OT14B/580).**
ACTIVITY DESCRIPTION	**SUBDIVISION CONSENT TO SUBDIVIDE FOUR EXISTING TITLES INTO SIX, RESULTING IN TWO ADDITIONAL TITLES AND ESTABLISH TWO RESIDENTIAL BUILDING PLATFORMS**
ACTIVITY STATUS	**NON-COMPLYING**

BACKGROUND/REVISED PROPOSAL

Council accepted the processing planner's recommendation to publicly notify this application on 30 May 2025. Following that decision, the applicant placed the application on hold while reconsidering the proposed layout. During this period, the processing planner met with the applicant on-site (28 June 2025) to discuss potential variations. The applicant subsequently redesigned the subdivision in a manner that reflects the advice provided.

Key changes in the revised scheme include:

1. **Inclusion of Additional Title**
   The site now includes Section 24 Block XVI Taras Survey District, which sits between Section 23 and Part Section 25 but was previously excluded from the application. This increases the number of existing titles from three to four.
2. **Reduction in Proposed Lots**
   The number of proposed allotments has reduced from nine to six, achieved through deletion of a small lifestyle lot and amalgamation of the larger farming parcels into two consolidated titles located either side of Dry Creek.
3. **Change in Activity Status**
   The revised layout results in a lower average lot size of 7.38ha (as calculated under Rule 4.7.4(iii), which caps averaging at 16ha per lot), triggering non-complying activity status. By contrast, the original proposal achieved an average lot size of 8.52ha and was a discretionary activity.

While this change in activity status may appear counter-intuitive on the surface, the revised proposal is considered to have significantly improved planning outcomes. In particular, it reduces fragmentation of productive land by consolidating the balance of the working farm into just two large titles, rather than five. This provides better alignment with the intent of the NPS-HPL and Rural Resource Area policies.

Importantly, the applicant could have retained a three-title farm layout (thereby preserving a compliant average lot size) with no change to the revised residential layout. However, they

elected to forego this option in favour of a more integrated and less fragmented rural landholding, in response to Council's feedback.

In addition to changes to the subdivision layout, the applicant has now provided preliminary design for the access track serving proposed Lot 5. Areas of cut will be replanted to prevent land scarring, and a bund is proposed north of the building platform to be planted as a visual buffer and to further mitigate potential effects from the proposed dwelling.

Following receipt of the revised application, another section 95 decision was made and the application has been processed non-notified.

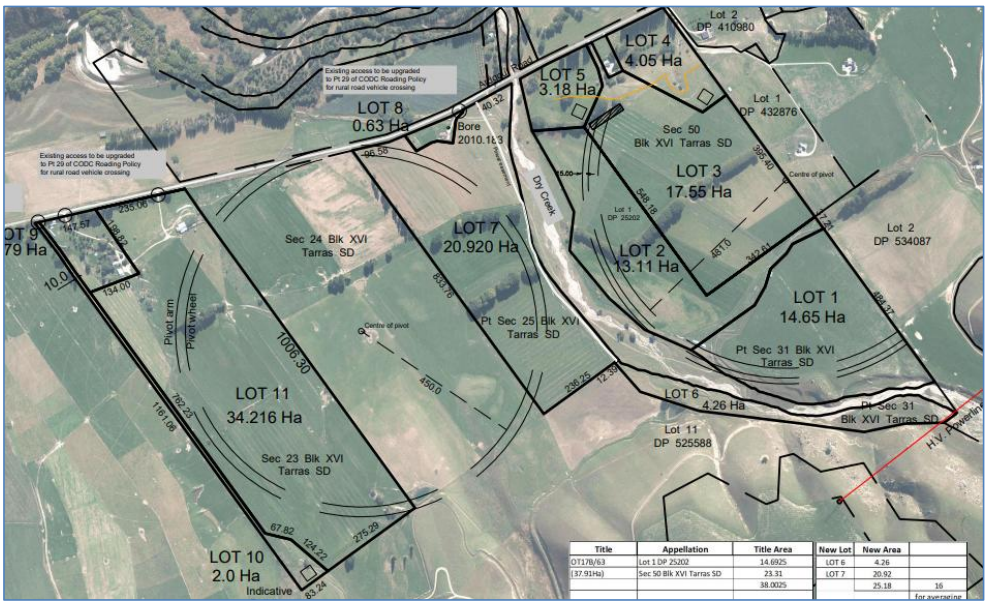


Figure 1: Original subdivision scheme

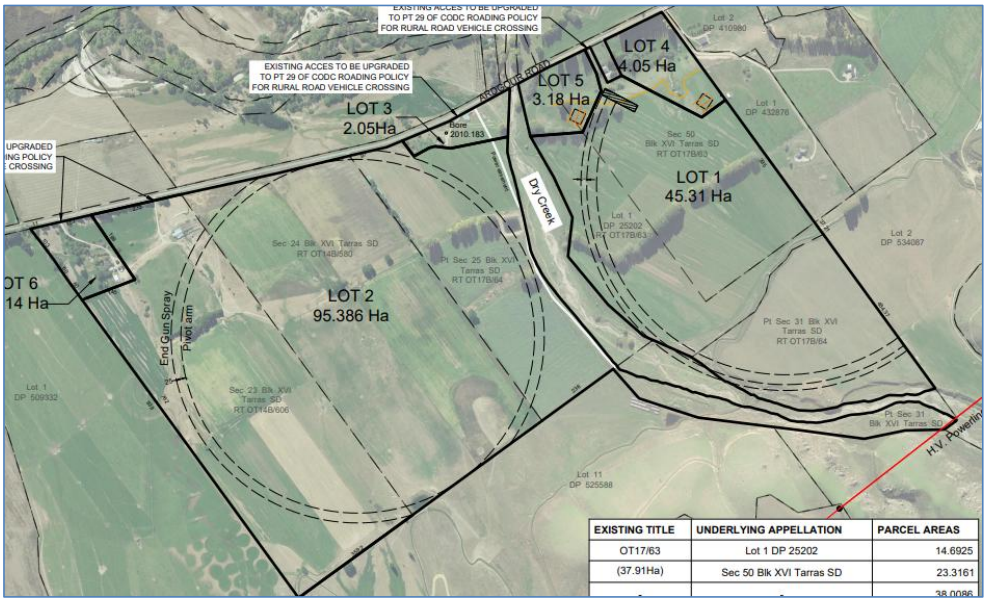


Figure 2: Revised scheme.

SITE DESCRIPTION

The subject site is thoroughly described in Sections 2 and 3 of the application. The applicant's site description is adopted for the purposes of this report with key aspects summarised as follows;

- **Location & Legal Description:**
  The site is located at 458 Ardgour Road, Tarras, Cromwell and comprises 155 hectares across six allotments (four titles). The site is predominantly used for dryland farming, with a mix of irrigated and non-irrigated pasture.

Legal Description	Record of Title	General Site Information
Section 23 Block XVI Tarras SD	OT14B/606	Contains an existing dwelling and shearing shed; used for dryland farming. Bisected by a water race with no current physical use and the Lindis River Irrigation Race exists at its southern tip.
Part Section 25 Block XVI Tarras SD	OT17B/64	Contains an existing dwelling. Split by Dry Creek. Historically relied on flood irrigation but transitioning to pivot.
Part Section 31 Block XVI Tarras SD	OT17B/64	Includes land transitioning to terraced pasture; affected by the active alluvial fan.
Lot 1 DP 25202	OT17B/63	Predominantly flat terrain; planned for pivot irrigation.
Section 50 Block XVI Tarras SD	OT17B/63	Forms part of the productive farming land; includes irrigation infrastructure.
Section 24 Block XVI Tarras SD	OT14B/580	Forms part of the productive farming land; includes irrigation infrastructure – originally excluded from original application.

Table 1: Existing site details.

- **Current Use & Built Development:**
  - The site is predominantly used for dryland farming, with a mix of irrigated and non-irrigated pasture.
  - Two existing dwellings are located on the site, along with a shearing shed and various farm infrastructure.
  - The property has historically been held and farmed by the Trevathan family since 1914.
- **Topography & Landscape Character:**
  - The site consists of flat to gently sloping land near Ardgour Road, transitioning to terraced pasture to the north and south.
  - Dry Creek runs through part of the site, acting as a natural separation of land parcels.
  - Vegetation consists mainly of pasture and scattered shelter belts, with limited native vegetation.
- **Surrounding Environment & Land Use:**
  - The surrounding area is rural-productive in character, featuring a mix of productive farming land, associated residential activity and a mixture of lots sizes, but with large

lots balancing smaller lots such that a very low density, open rural landscape is maintained. curtilages.

- The wider area is semi-arid, with annual rainfall between 325mm and 400mm, resulting in significant reliance on irrigation for productive land use.
- The Lindis Irrigation Scheme is being phased out and will be replaced by bore supplies to enable more residual flow to be retained in the Lindis River.
- A water race bisects Sections 23 and 24, and a request has been lodged with LINZ to incorporate the race into the adjacent two titles. This request is currently under consideration but will not affect the proposed subdivision.

- **Zoning & Planning Overlays:**
  - The site is zoned Rural Resource Area under the Central Otago District Plan (CODP).
  - There are no District Plan overlays affecting the site, although an active floodwater-dominant alluvial fan is identified in the Otago Regional Council hazard database.
  - The majority of the site is identified as Land Use Capability Class 3 soils (LUC 3). Some LUC 4 exists over LOT 1 DP 25202, while a significant portion of PT SEC 31 BLK XVI TARRAS SD and a very small portion of SEC 23 BLK XVI TARRAS SD are identified as LUC 7.

- **Infrastructure & Services:**
  - Vehicle access is via multiple entrances off Ardgour Road.
  - Water supply is currently provided by bores and irrigation infrastructure, with future domestic bores proposed for new allotments.
  - Wastewater disposal is via existing on-site systems, with additional systems proposed for new residential lots.

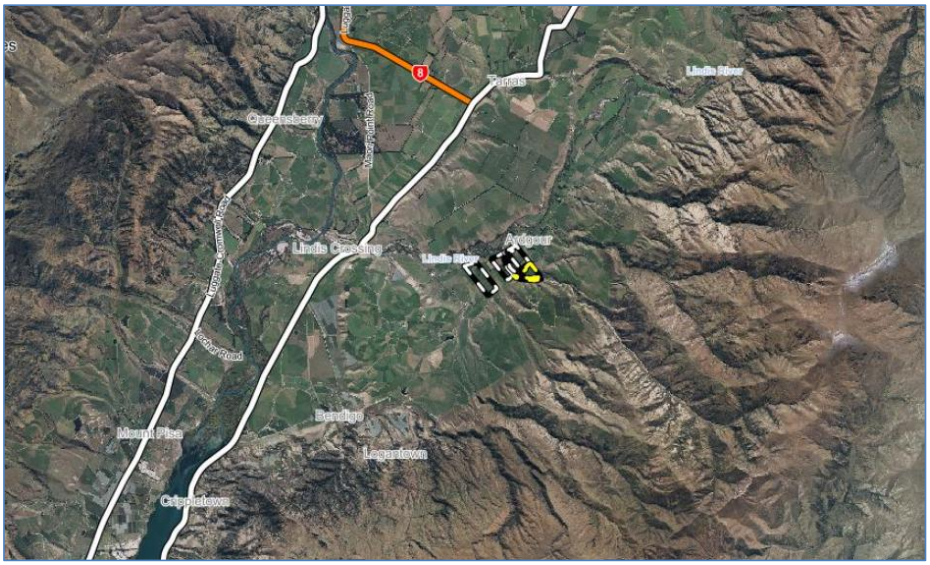


Figure 3: Location Plan

Figure 4: District Plan Aerial Site Overlay.

Figure 5: Land Use Capability overlay

DESCRIPTION OF ACTIVITY

The application, as revised, seeks subdivision and land use consent to subdivide four existing titles into six, resulting in two additional titles. The proposal includes the identification of residential building platforms on two of the new lots and associated servicing, access and infrastructure provisions. The following description incorporates amendments and clarifications made in the applicant's further information responses, and ultimately the revised proposal received on 22 August 2025.:

- **Subdivision Layout:**
  - The proposed subdivision will create six allotments/titles from six existing allotments held across four titles, resulting in two additional titles.
  - The proposed titles range in size from 2.05 hectares to 95.386 hectares.
  - Revised scheme plans include coordinates and surveyed reduced level (RL) data for each identified building platform.

NEW LOT	AREAS (Ha)	AREAS FOR AVERAGING RULE (Ha)
1	45.31	16
2	95.386	16
3	2.05	2.05
4	4.05	4.05
5	3.18	3.18
6	3.014	3.014
	TOTAL	44.294
	AVERAGE	7.3823

Table 2: Proposed lot details.

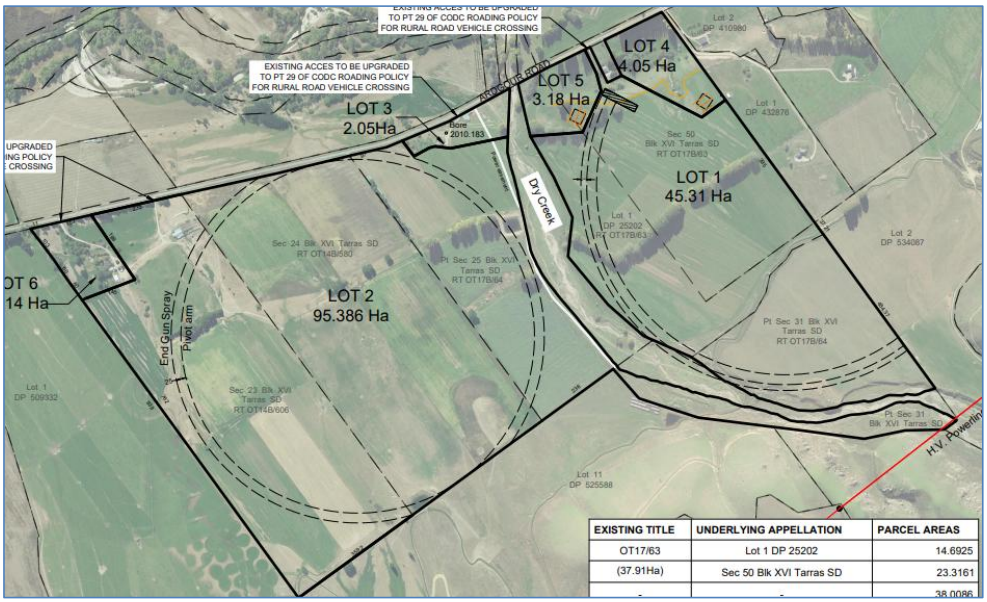


Figure 6: Extract of proposed scheme plan.

- **Access & Roading:**
    - Proposed Lot 1, 2, 3 and 6 will be accessed via existing vehicle crossings that are to be upgraded, as necessary, to meet Council's Roading Policies.
    - New access points from Ardgour Road are proposed for Lots 4 and 5.
- **Servicing & Infrastructure:**
    - Water supply for proposed Lots 4 and 5 is to be provided by new domestic bores, subject to regional consenting requirements.
    - Existing bores will continue to service the existing dwellings on Lots 3 and 6.
    - Wastewater disposal will be provided via onsite wastewater treatment systems, with site suitability assessed in the supporting wastewater report.
    - Stormwater from future dwellings is proposed to be discharged to land, with final design details to be determined at the building consent stage.
    - Power and telecommunications will be made available to the boundaries of the new lots, with satellite-based telecommunications anticipated.
    - Firefighting water supply is proposed to be addressed via a consent notice requiring onsite storage at the time of residential development.
- **Earthworks & Natural Hazards:**
    - Earthworks will be required for access upgrades and minor works associated with the subdivision. In particular, the new driveway to Lot 4 will follow a small gully up to the top of the terrace riser and will require some benching
    - Proposed building platforms are on flat to shallow sloping areas and no significant earthworks are proposed or anticipated to prepare them.
    - A geotechnical review confirms that the site is generally suitable for development; some parts of the site are within an active floodwater-dominant alluvial fan, however, the proposed building platforms are clear of these.
- **Land Use:**
    - Proposed Lots 4 and 5 are identified for residential development and are located outside the planned pivot irrigation area. Both have proposed building platforms with the following parameters;
        - 30m x 30m (900m^2) building platforms.
        - Max overall building footprint of future built form within each building platform will not exceed 450m^2.
        - 7.5m height limit above existing ground level.
        - Exterior colours shall have a maximum light reflectivity value (LRV) of 20% in the range of browns, greens and greys; and Natural timbers shall be left to weather, or stain colours shall be of a natural hue or black, rather than other colours; and Roof cladding shall have a maximum LRV of 20% or less and shall be dark recessive colours in the range of browns and greys and finished with a matte surface

- An earthen bund is proposed to be constructed at the top of the terrace riser to the immediate north of the proposed platform on Lot 4, and planted out to provide additional visual mitigation of future buildings located on the platform.

REASONS FOR APPLICATION

Central Otago District Plan
The subject site is located within the Rural Resource Area of the Central Otago District Plan (the District Plan). There are no other annotations for the site, however, the site is identified as being within an active floodwater dominated alluvial fan on the ORC Natural Hazards Database.

Rule 4.7.4.iii of the Plan provides for subdivision in the Rural Resource Area as a discretionary activity under certain circumstances, including that it creates allotments with an average allotment area of no less than 8 hectares and a minimum allotment area of no less than 2 hectares states and where it involves land that is or is likely to be subject to material damage by erosion, falling debris, subsidence, slippage, or inundation from any source. As outlined under the 'Background/Revised Proposal' section, the amended application does not comply with the 8 Ha minimum average standard and is therefore a **non-complying activity** pursuant to Rule 4.7.5.iii.

Rule 4.7.3(vii) of the Central Otago District Plan provides for residential building platforms as a **discretionary (restricted) activity** providing the performance standards set out in Rule 4.7.3(vii) (a-d) are met. In this instance, there will be no more than one platform per lot, no new access to a State Highway is sought and a separation distance of 50m between platforms is achieved, however, the proposed platforms breach internal yard standards and it is anticipated that future dwellings on the platforms on Lots 4 and 5 will breach the skyline.

Rule 4.7.6A(a) stipulates minimum side and rear yards of 25m for residential buildings. The Platform on Lot 4 comes to within 8.3m of the internal boundary with Lot 3, and the platform on Lot 5 comes to within 12.4m of its boundary with Lot 3. Breaches of this standard are a **discretionary (restricted) activity** pursuant to Rule 4.7.3(i).

Rule 4.7.6D(b) stipulates that no buildings shall protrude onto a skyline or above a terrace edge when viewed from a public place. It is anticipated that buildings up to 7.5m in height on the platforms on Lots 4 and 5 are likely to breach the skyline when viewed from Ardgour Road. Breaches of this standard are a **discretionary (restricted) activity** pursuant to Rule 4.7.3(iii).

National Environmental Standards

The Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES-CS) came into effect on 1 January 2012. The NES-CS applies to any piece of land on which an activity or industry described in the Hazardous Activities and Industries List (HAIL) is being undertaken, has been undertaken, or is more likely than not to have been undertaken.

The applicant, whose family has farmed the land for over a century, has provided information about the nature and location of current and historical farming practices. This includes details about the storage of chemicals, waste disposal, and sheep dipping areas. Based on this information, I am satisfied that the majority of the site, and in particular, Lots 4 and 5. are not pieces of land for the purposes of the NES-CS.

A combined Preliminary and Detailed Site Investigation (PSI/DSI) has been provided, focused solely on the known former diesel storage area on Lot 6 (previously Lot 9). The investigation

identified localised petroleum hydrocarbon contamination exceeding human health screening criteria for residential use, which is limited in scale and depth and can be addressed through removal or relocation.

Notwithstanding the above, the PSI/DSI does not assess any other areas of the site potentially associated with HAIL activities, nor has a site-wide HAIL screening assessment or walkover been provided. In the absence of this broader information, and given that the existing PSI/DSI is limited in scope, I consider the proposal to be a discretionary activity under Regulation 11 of the NES-CS.

There are no other National Environmental Standards relevant to this application.

Overall Status

Where an activity requires resource consent under more than one rule, and the effects of the activity are inextricably linked, the general principle from case law is that the different components should be bundled and the most restrictive activity classification applied to the whole proposal.

In this case, there is more than one rule involved, and the effects are linked. As such, I consider it appropriate that the bundling principle established in *Locke v Avon Motor Lodge* (1973) is applied, and that the application be considered, in the round, as a non-complying activity activity pursuant to sections 104,104B and 104D of the Resource Management Act 1991 ('the Act').

EFFECTS ASSESSMENT

Affected Persons

None provided.

Permitted Baseline

Under sections 95D(b) and 104(2) of the Resource Management Act 1991, the Council may disregard an adverse effect of an activity on the environment may be disregarded if the plan permits an activity with that effect. That is, an application can be assessed by comparing it to the existing environment and development that could take place on the site as of right, without a resource consent, but excluding development that is fanciful.

There are no permitted subdivisions in the Central Otago District Plan. There is no permitted baseline to be applied.

Receiving Environment

The existing and reasonably foreseeable receiving environment is made up of:

- The existing environment and associated effects from lawfully established activities;
- Effects from any consents on the subject site (not impacted by proposal) that are likely to be implemented;
- The existing environment as modified by any resource consents granted and likely to be implemented; and
- The environment as likely to be modified by activities permitted in the district plan.

For the subject site, the existing and reasonably foreseeable receiving environment comprises:

- A large rural landholding used for a combination of irrigated and dryland pasture;

- Two existing residential dwellings, farm buildings, fencing, and shelterbelt planting;
- Access from Ardgour Road via multiple existing crossings;
- A water race bisecting Sections 23 and 24, which is currently in the process of being decommissioned.

For adjacent land, the existing and reasonably foreseeable receiving environment comprises:

- Predominantly rural landholdings used for farming, generally of larger lot sizes;
- A mix of irrigated and non-irrigated productive land;
- Scattered rural dwellings associated with farming operations;
- A semi-arid landscape with open views and limited topographic screening in places;
- A road network dominated by rural arterial roads and local accessways (e.g. Ardgour Road), with modest traffic volumes and limited pedestrian infrastructure.

Assessment Matters

1. Rural Character, Landscape and Visual Effects

The revised proposal consolidates productive land into larger standalone holdings while separating existing dwellings onto smaller titles. Although two new titles are created, the farming land is being consolidated into two large, logical parcels which, in my opinion, lessens the potential for cumulative rural character and visual effects, and I am generally comfortable that the revised layout maintains the rural character of the area.

The remaining landscape considerations primarily relate to the building platforms on Lots 4 and 5, both of which are located near the terrace edge. The applicant acknowledges that minor skyline breaches are anticipated, particularly when viewed from Ardgour Road. They state that the platform locations were selected to avoid natural depressions and ensure suitable building sites with stable foundations and adequate wastewater disposal. They further submit that views of the platforms will be filtered or backdropped by vegetation and that traffic volumes on Ardgour Road are low, limiting exposure.

In terms of mitigation, the applicant has:

- Proposed a maximum building height of 7.5m above existing ground level (with RLs confirmed);
- Volunteered design controls requiring:
    - External cladding colours with a Light Reflectance Value (LRV) of ≤20%, limited to browns, greens, or greys;
    - Natural timbers to be uncoated or stained in natural hues or black;
    - Matte-finish roofing in recessive colours, also with LRV ≤20%.

I consider these controls to be generally appropriate and recommend that they be imposed as consent conditions, noting that the reference to “black” hues may need to be excluded to ensure consistency with Standard 4.7.6D of the District Plan.

For Lot 4, newly submitted driveway plans show that access will follow a natural gully that already cuts into the terrace riser. This alignment will help contain much of the driveway visually and reduce the extent of required earthworks. While the platform remains in a relatively prominent position, it is appropriately set back from the terrace edge and is now to be screened by a planted earth bund located along the top of the riser. In my view, this bund will significantly reduce visibility from Ardgour Road and mitigate the skyline breach to a level that is no more than minor.

For Lot 5, the platform is located in a less elevated area of the site where the terrace landform flattens and is backed by existing shelter planting along the Lot 1 boundary. These features provide natural containment and visual buffering. I consider that development on this platform will also result in no more than minor visual effects.

Although the applicant has indicated that existing vegetation along Ardgour Road and between Lots 5 and 1 is to be retained, it is not entirely clear from the submitted plans which lot this vegetation falls within. In my view, vegetation relied on for mitigation should be wholly contained within the lot it is intended to screen and I anticipate the applicant will provide clarification of this matter to the Panel and an appropriate condition of consent dealing with the ongoing retention and maintenance of the screen breaks can be finalised at that stage. In the meantime I have included a placeholder condition at the end of this report.

Although the site is not located within an Outstanding Natural Landscape or Significant Amenity Landscape, the wider rural environment retains a high degree of openness and visual coherence. Additional dwellings in elevated or prominent positions have the potential to degrade this character if poorly integrated. In this case, I consider the proposed development will result in a moderate increase in the visibility of residential activity within the receiving environment. However, subject to the recommended consent conditions addressing design controls, exterior lighting, bunding, and planting, I consider the rural character and landscape effects to be minor and acceptable overall.

2. Amenity Effects

Amenity in the rural environment typically includes privacy, low noise levels, limited artificial lighting, and a sense of openness. All proposed building platforms are located more than 100 metres from the nearest dwelling on an adjoining site, and no intensive activities or clustering are proposed that would likely result in amenity effects beyond those reasonably anticipated in a rural area.

While the platforms on Lots 4 and 5 breach internal yard standards relative to Lot 1, these relate to internal boundaries. Given the level of separation and the nature of the proposed activity, I consider any non-visual amenity effects are likely to be less than minor.

3. Servicing, Access and Infrastructure

The proposed subdivision includes a mix of residential and productive rural allotments, each with varying servicing requirements. The applicant proposes to service residential Lots 4, and 5 with new on-site bores and on-site wastewater and stormwater disposal. Existing dwellings on Lots 3 and 6 are serviced by existing infrastructure. Productive titles (Lots 1 & 2) are intended to remain unserviced.

I have reviewed the Engineering Advice prepared by Council's Environmental Engineer (dated 26 February 2025), and I generally agree with and adopt the recommendations provided. Key matters are summarised below.

Water Supply
While test results for the proposed bores on Lots 4, 5 have not been provided at this stage, there are no known constraints or limitations in this locality that would indicate potable water supply is unlikely to be achieved. The surrounding area is well serviced by similar domestic bores, and I am satisfied that the proposal can reasonably rely on the future establishment of compliant supplies, subject to confirmation.

I recommend that a condition be imposed requiring confirmation, prior to the issue of section 224(c) certification, that a compliant potable water supply has been established on each of Lots 4, and 5.

Lots 3 and 6 are already serviced by existing bores. The bore on Lot 8 has a recorded daily capacity of 86,400L. The bore on Lot 9 is not formally recorded, but based on local conditions, it is likely to have more than adequate supply.

Firefighting Water Supply
Standard static tank-based solutions are proposed. Consent notices are recommended for all residential lots requiring tanks and connections as per Council's standard conditions. :

- 30,000L total tank storage, with at least 20,000L reserved for firefighting; or
- An 11,000L reserve paired with an approved domestic sprinkler system;
- Fittings to comply with NZS 4505 and meet FENZ compatibility requirements.

Wastewater and Stormwater
On-site wastewater disposal for Lots 4, and 5 is supported by a Geodrill assessment, confirming site suitability. Existing systems on Lots 8 and 9 are to be inspected for condition and adequacy prior to 224c, with upgrades required if necessary.

Stormwater disposal is to be achieved via on-site soakage.

Access and Roading
Each proposed lot will be served by either existing access points or new vehicle crossings from Ardgour Road. Upgrades or new construction will be required for some access points to meet Council's 2015 Roading Policy standards. The revised proposal no longer necessitates any new right of ways.

I have recommended a condition regarding the driveway formation for Lot 4. As this is not a right of way, the conditions is primarily intended to ensure the visual effects of the driveway are minimised and mitigated appropriately.

Power and Telecommunications
All lots are to be supplied with underground power connections. Wireless telecommunications are acceptable and may be formalised by way of consent notice. I agree that this is a suitable and flexible solution for rural sites of this nature.

Conclusion:
Subject to the implementation of the above recommendations, the proposed subdivision can be appropriately serviced and infrastructure effects will be appropriately managed and less than minor.

4. Earthworks

The proposal will involve earthworks to establish building platforms, driveways, and servicing infrastructure. The applicant's AEE notes that the platforms on Lots 4 and 5 are sited above existing depressions to provide more stable, well-drained building areas. While the scale of earthworks has not been quantified in detail, no bulk earthworks are proposed at subdivision stage, and works associated with future dwellings are expected to be localised to each site.

The site is not subject to any mapped erosion or slope instability overlays and has no known history of instability. However, it lies within an active floodwater-dominated alluvial fan, and earthworks will require appropriate management to avoid sediment generation and off-site effects.

In my opinion, the most significant potential adverse effects will arise from driveway construction on Lots 4 and 5, particularly where access will require cutting into small terrace risers. This concern is especially relevant for Lot 4, where the proposed platform is elevated

well above the road. Google Street View imagery from 2009 illustrates the visual impact of a similar driveway cut into the terrace face on the adjacent site to the north.

Figure 7: Google Streetview Image Captured Nov 2009 of the (then) recently constructed benched driveway on the neighbouring property to the north (522 Ardgour Road)

The applicant has advised that cut batters resulting from driveway construction will be planted to assist with both stabilisation and visual integration. While the platform on Lot 4 remains relatively elevated, it is now proposed to be accessed via a driveway that follows a small gully, reducing the extent of cut required and improving integration with the natural landform. Lot 5 has less pronounced elevation, and although localised earthworks will still be required, the overall modification is expected to remain relatively modest. With appropriate erosion and sediment controls in place, I consider the adverse effects of earthworks and associated site development will be no more than minor.

5. Natural Hazards and Site Suitability

The site is identified on the Otago Regional Council's Natural Hazards Database as being within an active floodwater-dominated alluvial fan. No additional mapped hazards apply, and there is no known history of instability or localised erosion risk. The application includes a geotechnical assessment prepared by Geosolve (dated 14 February 2024), which concludes that the proposed building platforms are geotechnically suitable for residential development.

Figure 8: ORC Natural Hazards Portal Extract of the site and surrounds. Pink = 'Active Floodwater Dominated' & Aqua = 'Inactive floodwater-dominated' alluvial fans (Regional Scale).

The Geosolve report recommends that standard good practice earthworks controls be applied during site development and that site-specific soil testing be undertaken at the time of dwelling construction to confirm bearing capacity and inform foundation design. It also notes the presence of a band of soft topsoil that will require undercutting and re-compaction or bridging during construction, but no fatal flaws were identified. I consider the recommendations set out in the Geosolve report are reasonable and that any residual risk can be appropriately managed at the time of building consent.

The presence of the floodwater-dominated fan indicates a residual natural hazard risk that cannot be entirely discounted. However, the proposal does not involve intensive development, nor does it place building platforms in low-lying or obviously flood-prone parts of the site. The elevated location of the proposed platforms provides passive mitigation against overland flow or inundation. In my opinion, the proposal will not result in any notable increase in risk arising from these hazards.

6. Ecological and Biodiversity Effects

The subject site comprises a mix of exotic pasture and shelter belt vegetation and does not contain any scheduled or mapped areas of ecological significance under the District Plan or regional overlays. The site has been historically developed for pastoral use, with no evidence of indigenous vegetation or habitats likely to support threatened or at-risk species.

While the application is silent on biodiversity matters, the nature of the site is that it is comprised of highly modified environments with limited ecological value. As such, I do not consider that the proposal will result in any notable ecological effects.

7. Cultural and Heritage Values

The subject site is not identified as containing any scheduled wāhi tūpuna, archaeological sites, or heritage features. Given the modified nature of the site, its historic use for pastoral activities, and the absence of any known recorded features, I do not consider that the proposed subdivision and future residential development are likely to give rise to adverse effects on cultural or heritage values.

Nonetheless, I recommend that an advice note be included on the consent advising the consent holder of their obligations under the Heritage New Zealand Pouhere Taonga Act 2014 in the event of accidental discovery of artefacts or human remains during earthworks. This is a standard precautionary approach adopted for rural development sites where the likelihood of encountering such values is low but not entirely negligible.

8. Public Access and Esplanade Provisions

The site is bisected by Dry Creek, which is contained within an existing public hydro parcel. This parcel already provides for public access along the length of the waterway through the site.

Given this existing arrangement, no additional esplanade reserve or esplanade strip is required to maintain or enhance public access, and no new access routes are proposed or necessitated by the subdivision. The proposal will not affect the existing legal access or obstruct public enjoyment of Dry Creek.

9. Design and Functionality of Lots

The revised proposal results in a notably improved outcome in terms of lot design and functionality, particularly when viewed through the lens of productive land use and alignment with the National Policy Statement for Highly Productive Land (NPS-HPL).

Lots 1 and 2 have been completely redefined as two large, consolidated land parcels, encompassing several existing titles and absorbing the fragmented areas previously associated with Lots 1, 2, 6 and 7. This represents a significant improvement over the status quo, where several titles were split by Dry Creek or constrained by legacy configurations. The resulting lots are more coherent, contiguous, and better aligned with the site's natural boundaries and productive land units. This is a positive outcome in terms of land management, future versatility, and protection of productive capacity, particularly given the NPS-HPL direction to avoid unnecessary fragmentation (Policy 7).

During the site inspection, it was evident that the pivot irrigator cannot practically extend to the terrace riser area where the building platform is proposed on Lot 4. Accessing this area would require substantial earthworks to reshape the terrace edge and fill a small gully, which explains its exclusion from the current proposed irrigation infrastructure layout. In this context, the placement of the building platform on the upper slope is considered a pragmatic outcome that maintains the relatively productive, low-lying paddock for keeping several horses or a small scale productive use by the future lot owner. The revised design, which includes a planted bund and realigned driveway, provides a reasonable degree of mitigation, and on balance, I am satisfied that the outcome will be functional and is unlikely to result in more than minor adverse effects.

Lot 5 presents a more neutral scenario. Site inspection confirmed that the terrace riser flattens appreciably within this lot, and there is no clear visual or topographical break between the upper and lower landforms. As such, the proposed building platform location appears well integrated and is not anticipated to compromise the site's productive potential or contribute to adverse visual effects.

Taken as a whole, the revised layout reflects a material improvement over the original application, particularly in terms of rural land consolidation and the containment of residential activity. While some residual reservations remain around the integration of built form within Lots 4 and 5, these are now relatively limited in scope and, in my view, do not undermine the overall functionality or appropriateness of the proposed lot design.

10. Productivity and Fragmentation of Highly Productive Land

The maintenance of productive rural land in efficient, logically configured allotments is critical for supporting the long-term viability of land-based primary production in the District. The subdivision of land in a manner that introduces additional rural-residential titles can lead to fragmentation, which in turn reduces the flexibility, scale, and integration potential of land-based operations. Fragmentation can also contribute to increased land values that place productive land out of reach for genuine agricultural use, as well as introduce reverse sensitivity effects where rural-residential expectations conflict with primary production activities.

The subject site is located on land predominantly classified as Land Use Capability (LUC) Class 3, which qualifies as Highly Productive Land (HPL) under the National Policy Statement for Highly Productive Land 2022 (NPS-HPL). The site is also identified in Section 2.3.3 of the Central Otago District Plan as being located within an area with 'special qualities' due to its soils, favourable climate and high Growing Degree Days (over 800 GDD), along with access to irrigation. These characteristics collectively reinforce the site's suitability for land-based primary production. Section 2.3.3 notes:

"The potential of this resource to meet the reasonably foreseeable needs of future generations should be sustained. This potential is capable of being compromised by activities which have the effects of reducing the life-supporting capacity of these soils."

The revised proposal increases the total number of titles from four to six. While this still represents a net increase, the subdivision facilitates meaningful consolidation of production land into two large, coherent lots (Lots 1 and 2), each of which contains its own pivot irrigator. Although it would have been technically possible for the applicant to amalgamate the two larger lots into a single parcel and thereby avoid any net title increase, and increase their average lot size to over 8 Ha, I consider this would have been an artificial outcome given the physical separation imposed by Dry Creek. Under the circumstances, the proposed configuration strikes a practical balance between physical constraints and maintaining productive land in large, consolidated holdings.

Lots 3–6 occupy elevated land that is beyond the reach of pivot irrigation and also contain existing dwellings and/or topography that is not conducive to pivot irrigation. Site inspection confirmed that the proposed building platforms have been located appropriately to avoid productive, irrigable land. While the creation of additional rural-residential lots on HPL is not ideal in principle, the revised layout achieves a more favourable fragmentation outcome than the status quo and ultimately maintains the integrity of the site's productive potential.

On balance, I consider the proposal to represent an improved and largely pragmatic response to the site's productive values. It will result in some residual fragmentation by small 'lifestyle character' lots, but this is outweighed by the benefits of consolidating irrigable land into larger, better-defined parcels that can be more effectively managed for primary production. Accordingly, I consider the adverse effects on productive values to be nil overall.

11. Contaminated Land and NES-CS Compliance

The Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES-CS) apply where subdivision involves a change in land use from production land to a more sensitive use such as residential.

The applicant has provided a combined Preliminary and Detailed Site Investigation (PSI/DSI) undertaken by Patersons [March 2025], which focused on the known location of a former above-ground diesel tank (now within Lot 6). Five test pits were excavated, with sampling and laboratory analysis undertaken for contaminants consistent with the identified HAIL activity. The results confirmed that contamination is limited to a small circular area beneath the tank, with exceedances confined to shallow soils directly below the tank footprint. No contamination exceeding guideline values was detected at the perimeter test pits, and the spatial extent of contamination is therefore very limited

The DSI recommends removal of approximately 2 m^3 of contaminated soil to a depth of 600 mm, with disposal at an appropriate facility outside of the subdivision. This is considered sufficient to remediate the site. These recommendations should be adopted as conditions of consent.

In addition, the landowner has provided further correspondence and mapping identifying historic and current farming practices, including the locations of bale stacks, offal pits, duck ponds, bulk fuel storage (including a decommissioned underground petrol tank), chemical storage beside the woolshed, gravel extraction and burning, and a communal sheep dip in the wider area

Based on this information, I am satisfied that the areas proposed as Lots 4 and 5 have not been subject to HAIL activities. These lots are therefore not pieces of land for the purposes of the NES-CS.

For the balance of the site, the subdivision does not alter the use or sensitivity of the land, which will remain in productive farming. As such, no new NES-CS trigger arises for those areas.

On this basis, I am satisfied that the scope of the PSI/DSI is adequate, that Lots 4 and 5 are not HAIL land, and that the only remediation required relates to the limited diesel contamination on Lot 6. Subject to adoption of the DSI recommendations as consent conditions, I consider that the proposal appropriately addresses NES-CS compliance and that adverse effects on human health will be avoided.

12. Financial Contributions

The following development and financial contributions have been calculated by Council's Environmental Engineer for this site:

Activity	Payment
Water Supply	$Nil
Wastewater	$Nil
Reserves	$2,523.48 +GST
Roading	$3,600.00 +GST
Total	**$6,123.48 +GST**

13. Other Matters Pursuant to Sections 106 and 220 of the RMA

Section 104(1)(c) of the Resource Management Act 1991 requires the Council to have regard to any other matters considered relevant and reasonably necessary to determine the application.

In this case, the matters of precedent and plan integrity are relevant. The proposal is non-complying because the revised subdivision results in an average lot size of 7.38 ha, which falls below the 16 ha minimum required under Rule 4.7.4(iii). While this results in a change in activity status compared to the original proposal, the non-compliance arises largely from the reduction in the number of larger balancing lots into just two consolidated parcels on either side of Dry Creek.

While the subdivision does result in a net increase in titles, the revised layout meaningfully reduces the overall degree of fragmentation across the property. The consolidation of the working farm into two large titles provides for a more logical and enduring landholding structure than the three-title configuration that could otherwise have been retained to achieve compliance with the averaging rule. In practice, the applicant could have manipulated the subdivision to comply with the discretionary standard — for example, by enlarging the lifestyle lots or by holding Lots 1 and 2 under a single title, or breaking them into more, >8ha titles. However, such measures would have resulted in poorer planning outcomes just to distort the averaging calculation.

It is also relevant that Lots 1 and 2 are very large, and but for the District Plan provision that caps lots over 16 ha at 16 ha for averaging purposes, the true average lot size across the subdivision is 25.5 ha. This reinforces the point that the breach is technical rather than substantive and, because of the productive nature of Lots 1 and 2 there will be a relatively high bar for any future further subdivision of these Lots, whether or not the NPS-HPL remains in effect.

Accordingly, I do not consider that granting consent would undermine the integrity of the District Plan or establish an undesirable precedent. The revised design achieves a more rational lot layout, reduces fragmentation, and provides an improved outcome for the ongoing productive use of the land.

No other matters are considered relevant.

14. Positive Effects

The proposal is anticipated to generate a range of positive effects, including:

- **Landholding Rationalisation:** The amalgamation of existing fragmented productive landholdings, will result in a more efficient alignment of titles relative to the site's natural features, particularly Dry Creek and the terrace edge. This rationalisation supports improved management of pivot-irrigated land and reduces existing inefficiencies created by fragmented tenure across the creek corridor.
- **Irrigation Upgrade Investment*:** The applicant has indicated that the subdivision is required to release capital needed to fund investment in new irrigation infrastructure. Specifically, the farm is undergoing a transition from flood irrigation to more efficient and productive centre-pivot systems. While this benefit is difficult to quantify and is not contingent on the subdivision proceeding in its current form, the proposal may support improved water efficiency and land productivity outcomes in this regard.
- **Rural Housing Supply and Lifestyle Opportunity:** The creation of new rural residential lots may contribute to the diversity of rural housing options within the wider Tarras area. While not specifically anticipated in this location, such opportunities may respond to local demand for rural living, particularly for workers engaged in the local rural economy.
- **Short-Term Economic Stimulus:** The subdivision and subsequent development will generate construction activity and associated economic benefits during implementation, supporting contractors and suppliers within the region.

*The applicant has opined that the subdivision is required to free the capital required to invest in the new irrigation infrastructure required to transition the farm away from outdated and inefficient flood irrigation to the more efficient and productive centre pivot arrangement. While this intention is noted, it is ultimately a financial motive rather than an environmental effect per se. Such intentions may be relevant as contextual background, but they are not considered to represent a positive effect on the environment unless the improvements are secured and result in demonstrable environmental benefits. No such certainty exists in this case, and while relevant for context, no weight should be given to this 'positive effect'.

SUBSTANTIVE DECISION ASSESSMENT

Effects

In accordance with sections 95D and 104(1)(a) of the Resource Management Act 1991, the actual and potential adverse effects associated with the proposed activity have been assessed and outlined above. It is considered that the adverse effects on the environment arising from the proposal are no more than minor and able to be absorbed within the receiving environment.

Offsetting or Compensation Measures

In accordance with section 104(1)(ab) of the Resource Management Act 1991, there are no offsetting or compensation measures proposed or agreed to by the applicant that need consideration.

Objectives and Policies

In accordance with section 104(1)(b) of the Resource Management Act 1991, the objectives and policies of the Central Otago District Plan have been taken into account in this assessment. The applicant has provided an assessment of the relevant provisions in their application. While that assessment related to the original proposal, which has since been revised, I consider the applicant's analysis remains broadly applicable. Although I did not initially concur with their conclusions in relation to the earlier proposal, I am now generally satisfied that the revised proposal is consistent with the relevant objectives and policies of the District Plan and adopt the applicant's assessment to this end.

Operative and Proposed Regional Policy Statements

After taking into consideration the operative and proposed Regional Policy Statements for Otago, I consider that the policy direction given by the District Plan is certain and complete as it relates to this application and, as such, there is no need to revert to higher order planning instruments.

National Policy Statement for Highly Productive Land 2022

Most of the site is mapped as LUC Class 3, which qualifies as HPL under the NPS-HPL. The subdivision therefore engages both the general direction to avoid inappropriate use and development (clause 3.9) and the specific requirements for subdivision (clause 3.8).

Objective

The NPS-HPL objective is to ensure HPL is protected for land-based primary production now and for future generations. The revised scheme consolidates irrigable land into two large, coherent farming titles (Lots 1 and 2), each aligned with centre-pivot irrigation. Residential activity is confined to areas where pivot irrigation is impracticable. This responds to the regulatory shifts with respect to irrigation water and the need to phase-out historic flood irrigation and transition to more efficient systems.

Policies

- **Policies 1–3:** The proposal recognises the finite and strategic value of HPL and realigns titles to reflect natural boundaries (Dry Creek, terrace edges), supporting integrated management with freshwater and irrigation.
- **Policy 4:** The use of HPL for land-based primary production is prioritised. Productive paddocks remain intact, with pivots protected from encroachment by new boundaries.
- **Policies 5–7:** While two additional rural-residential titles are created, these are physically separated from the main farming areas that will be in reach of the new pivots and the scheme reduces the overall fragmentation that presently exists across the primary arable areas of the site. The net result is better protection of productive capacity than the existing status quo.
- **Policy 8:** Development is located outside irrigable land and coupled with mitigation measures (bunding, planting, design controls), avoiding significant displacement of productive capacity.
- **Policy 9:** Reverse sensitivity is addressed by setbacks, design controls, and proposed consent notices recognising existing and future farming operations.

Clause 3.8 – Avoiding Subdivision of HPL

Clause 3.8 of the NPS-HPL provides a very clear policy direction to avoid subdivision of highly productive land unless certain exceptions can be met, including;

(a) the applicant demonstrates that the proposed lots will retain the overall productive capacity of the subject land over the long term.

The applicant demonstrates that productive capacity will be retained overall. The consolidation of irrigable land into two large parcels ensures the continued viability of pivot irrigation and improves the farm's ability to adapt to new freshwater allocation rules. The two lifestyle-sized lots are sited on land that cannot practicably be irrigated by the new pivots. Their size and physical characteristics are such that they could be utilised for separate small-scale enterprises.

With respect to Clause 3.8(2)(a), Cumulative loss of HPL availability is avoided. Although the total number of titles increases by two, the scheme delivers a material reduction in fragmentation of irrigable land. The long-term productive capacity is safeguarded.

With respect to Clause 3.8(2)(b). Reverse sensitivity effects are avoided/mitigated through appropriate siting and standard consent notice conditions.

Clause 3.9 – Protecting HPL from Inappropriate Use and Development

Clause 3.9 requires inappropriate use and development of HPL to be avoided. The residential platforms are confined to marginal terrace land that cannot be serviced by pivots. While small pockets of relatively flat soils exist within these lots, they are suitable for boutique or small-scale productive use by future landowners and their removal from the main farming operation is inconsequential to overall productivity. Clause 3.9(3) is satisfied through the same measures identified under clause 3.8(2).

Conclusion

The proposal is broadly consistent with the NPS-HPL objective and policies. Although two additional residential titles are created, they are located on marginal terrace land outside pivot irrigation zones. The consolidation of productive paddocks into two large, contiguous farm titles materially improves efficiency and supports the long-term viability of farming operations, particularly in the context of regulatory changes requiring a shift to more efficient irrigation systems. Reverse sensitivity effects are appropriately mitigated through design controls, landscaping, and consent notices. Overall, the proposal retains the productive capacity of the land and achieves an outcome consistent with clauses 3.8 and 3.9 of the NPS-HPL.

Section 104D

Section 104D of the Resource Management Act 1991 specifies that resource consent for a non-complying activity must not be granted unless the proposal can meet at least one of two limbs. The limbs of section 104D require that the adverse effects on the environment will be no more than minor, or that the proposal will not be contrary to the objectives and policies of both the district plan and the proposed district plan. It is considered that the proposal meets both limbs as any adverse effects arising from this proposed activity will be no more than minor, and the activity will not be contrary to the objectives and policies of both the District Plan. Therefore, the Council can exercise its discretion under section 104D to grant consent.

Part 2

Based on the findings above, I consider that the proposal would satisfy Part 2 of the Resource Management Act 1991. Granting of consent would promote the sustainable management of District's natural and physical resources.

RECOMMENDATION

After having regard to the above planning assessment, I recommend that:

1. This application be processed on a non-notified basis, pursuant to sections 95A and 95B of the Resource Management Act 1991.

2. The Council grant consent to the proposed activity under delegated authority, in accordance with sections 104 and 104B and 104D of the Resource Management Act 1991, subject to the conditions imposed under section 108 of the Act listed below.

Oli Monthule-McIntosh
Consultant Planner

Date: 12 September 2025

CENTRAL OTAGO DISTRICT COUNCIL
1 Dunorling Street
PO Box 122, Alexandra 9340
New Zealand
03 440 0056
Info@codc.govt.nz
www.codc.govt.nz

Consent Type: Subdivision and Land Use Consent

Consent Number: RC 240323

Purpose: Subdivision consent to subdivide four existing titles into six, resulting in two additional titles and establish two residential building platforms.

Location of Activity: 360 Ardgour Road, Tarras

Legal Description: SECTION 23 BLOCK XVI TARRAS SD, PART SECTION 25 BLOCK XVI TARRAS SD, PART SECTION 31 BLOCK XVI TARRAS SD, LOT 1 DP 25202, SECTION 50 BLOCK XVI TARRAS SD AND SECTION 24 BLOCK XVI TARRAS SD (HELD IN RECORD OF TITLE OT14B/606, OT17B/63, OT17B/64 & OT14B/580).

Lapse Date: [Day and Month] 2030, unless the consent has been given effect to before this date.

SUBDIVISION CONDITIONS:

1. The proposed activity must be undertaken in general accordance with the approved plans attached to this certificate as Appendix One, and the information provided with the resource consent application received by the Council on 23/12/2024, and further information received on 22/05/2025 and the revised proposal received 22/08/2025, except where modified by the following conditions.

2. Prior to commencement of any physical work approved by this subdivision, the consent holder must apply for and receive council Engineering Acceptance (EA) via the CODC online portal at:

   CODC Home > Services > Planning > Land Development and Subdivision Engineering

   This EA application must include:

   a) Confirmation as to who their representative is for the design and execution of the engineering work.

   b) Provision of design: reports, calculations, specifications, schedules, and drawings, as applicable.

3. Prior to the commencement of works occurring on site approved by this subdivision consent, the consent holder must:

   a) Install all practicable measures required to mitigate erosion and control and contain sediment-laden stormwater run-off and dust from the site during any stages of site disturbance that may be associated with this subdivision.

b) If during any site disturbance, the consent holder or subsequent owners:

a) discovers koiwi tangata (human skeletal remains), waahi taoka (resources of importance), waahi tapu (places or features of special significance) or other Maori artefact material, the consent holder or subsequent owner must without delay:

i) notify the Consent Authority, Tangata whenua and Heritage New Zealand and in the case of skeletal remains, the New Zealand Police.

ii) stop work within the immediate vicinity of the discovery to allow a site inspection by Heritage New Zealand and the appropriate runanga and their advisors, who must determine whether the discovery is likely to be extensive, if a thorough site investigation is required, and whether an Archaeological Authority is required.

Site work may recommence following consultation with the Consent Authority, Heritage New Zealand, Tangata whenua, and in the case of skeletal remains, the New Zealand Police, provided that any relevant statutory permissions have been obtained.

c) discovers any feature or archaeological material that predates 1900, or heritage material, or disturbs a previously unidentified archaeological or heritage site, the consent holder must without delay:

i) stop work within the immediate vicinity of the discovery or disturbance; and

ii) advise the Consent Authority, Heritage New Zealand, and in the case of Maori features or materials, the Tangata whenua, and if required, must make an application for an Archaeological Authority pursuant to Heritage New Zealand Pouhere Taonga Act 2014; and

iii) arrange for a suitably qualified archaeologist to undertake a survey of the site.

Site work may recommence following consultation with the Consent Authority.

4. Producer Statements/Certificates where appropriate are to be submitted as per NZS 4404:2004 in the form of:

a) Schedule 1A,

b) Schedule 1B,

c) Schedule 1C, and

d) Standalone Schedule 1B for 3 waters work.

5. As-built drawings are to be lodged with the Council in accordance with clause 1.5.10(b) of NZS 4404:2004 and must comply with Council's "Specifications for as-built drawing

documentation version 3.1". The as-built drawings are to be provided in *.dxf or *12da, and in *.pdf file format. New Zealand Vertical Datum (NZVD2016) must be used.

6. The subdivision may be staged, providing all necessary subdivision works (such as servicing, provision of formed legal access and other works required to satisfy conditions of this consent), are completed for each stage, as relevant, prior to certification being issued under Sections 223 and 224(c) of the Resource Management Act 1991.

7. Prior to certification of the survey plan, pursuant to section 223 of the Resource Management Act 1991 (RMA), the subdivider must ensure the following:

   a) If a requirement for any easements for services, including private drainage, is incurred during the survey then those easements must be granted or reserved and included in a Memorandum of Easements on the cadastral dataset.

   b) The Right of Way must be duly granted or reserved and shown in a Memorandum of Easements on the cadastral dataset.

Water & firefighting

8. Prior to section 224(c) certification, an adequate working water supply must be provided individually to each of the proposed Lots 4 and 5 from new on-site bores within the boundary of each Lot, in accordance with the CODC Addendum, including Clause 6.3.15 Small Rural Water Supplies, and other relevant provisions of NZS 4404:2004, with the following specific requirements:

   a) Quality. A consent notice must be registered on the titles describing any non-compliant aspects of the water supply and detailing installation of point-of-use remedial treatment required, and that the adequacy of such treatment must be confirmed through retesting as fully compliant, prior to any domestic use of the water supply or occupation of any connected dwelling.

   b) Design. The new bores must be designed and constructed by a suitably qualified person, and a description of the design along with as-built drawings must be submitted to, and accepted by, Council.

9. Prior to section 224c certification, firefighting provisions serving the existing dwellings on each of proposed Lots 8 and 9 must be demonstrated to be compliant with, or upgraded in accordance with the following requirements: minimum domestic water and firefighting storage is to be provided by a standard 30,000 litre tank. Of this total capacity, a minimum of 20,000 litres must be always maintained as a static firefighting reserve. Alternatively, an 11,000-litre firefighting reserve is to be made available to the building in association with a domestic sprinkler system installed in the building to an approved standard. A firefighting connection is to be located within 90 metres of any proposed building on the site. To ensure that connections are compatible with Fire and Emergency New Zealand (FENZ) equipment the fittings are to comply with the following standards:

   a) Either: For flooded sources, a 70 mm Instantaneous Couplings (Female) NZS 4505 or, for suction sources, a 100 mm and 140 mm Suction Coupling (Female) NZS 4505 (hose tail is to be the same diameter as the threaded coupling e.g. 100 mm coupling has

100 mm hose tail), provided that the consent holder must provide written approval of Fire and Emergency New Zealand to confirm that the couplings are appropriate for firefighting purposes.

b) All connections must be capable of providing a flow rate of 25 litres per second at the connection point.

c) The connection must have a hardstand area adjacent to it to allow a Fire and Emergency New Zealand appliance to park on it. The hardstand area must be located at the centre of a clear working space with a minimum width of 4.5 metres. Access must be always maintained to the hardstand area.

d) Underground tanks or tanks that are partially buried (provided the tank is no more than 1 metre above ground) may be accessed by an opening in the top of the tank, removing the need for couplings.

e) Any new water tank must be coloured dark green/grey/brown or similar, and located to ensure it is not visible against the skyline when viewed from any public place.

Wastewater

10. Prior to section 224c certification, the existing on-site wastewater disposal system serving the existing dwellings on each of proposed Lots 8 and 9 must be inspected by a suitably qualified and experienced person to they are in good working order and have sufficient capacity for their intended use. The inspection report must describe the systems' size, condition, and disposal field location with regard to the boundary of the intended lot. Should it be found to be inadequate it must be upgraded to compliance with AS/NZS1547 (2012).

Electricity and telecommunications

11. Prior to section 224c certification, operational underground power and telecommunication connections must be provided to proposed Lots 1 and 2. Alternatively, a consent notice must be registered on the title for each allotment which confirms that telecommunications may be by wireless technology.

Access

12. Prior to section 224c certification, the existing vehicle entranceways/crossings from Ardgour Road, one to serve each of proposed Lots 1, 2, 3 and 6, must be demonstrated to be in compliance with, or upgraded in accordance with the requirements of Part 29 of Council's Roading Policies January 2015

13. Prior to section 224c certification, new individual vehicle entranceways/crossings from Ardgour Road, one to serve each of proposed Lots 4 and 5, must be constructed in compliance with the requirements of Part 29 of Council's Roading Policies January 2015.

14. Prior to section 224c certification, a driveway serving Lot 4 must be constructed in general accordance with the earthworks details on the 'Lot 4 Building Platform Access'

plan on Sheet 103 in Appendix 1. The driveway must be constructed to an appropriate all-weather 2wd accessible standard with the following specific requirements:

- Durable well-bound wearing course to be constructed over pit-run base to provide all weather traction and prevent surface ravelling.
- Shallow trafficable side-drains / water channels over level sections.
- Rock armouring of side channels over steeper sections
- Cut batters to be stabilised and grassed, or otherwise vegetated, to reduce erosion and visual scarring.

Landscaping

15. Prior to section 224(c) certification, a landscape bund must be formed and planted to the north of the Lot 4 building platform, in general accordance with the details provided in the applicant's further information response dated 22 August 2025, and the plans attached as Appendix 1. The bund is to be planted with natives suited to the site conditions, mulched and watered/irrigated appropriately.

Financial Contributions

16. Prior to 224(c) certification, payment of a reserves contribution of $2,523.48 (exclusive of Goods and Services Tax) calculated in terms of Rule 15.6.1(1)(a)(i) of the Operative District Plan on the basis of one additional dwelling equivalent.

Consent Notices

17. Pursuant to Section 221 of the Resource Management Act 1991, consent notices must be prepared for registration on each of the certificates of title for Lots 4 and 5 hereon, for the following ongoing conditions:

Firefighting

a) At the time residential activity (new dwelling) is constructed on Lots 4 and 5, domestic water and firefighting storage is to be provided by a standard 30,000 litre tank. Of this total capacity, a minimum of 20,000 litres must be maintained at all times as a static firefighting reserve. Alternatively, an 11,000 litre fire fighting reserve is to be made available to the building in association with a domestic sprinkler system installed in the building to an approved standard. A fire fighting connection is to be located within 90 metres of any proposed building on the site.

In order to ensure that connections are compatible with Fire and Emergency New Zealand equipment the fittings are to comply with the following standards:

i) Either: for flooded sources, 70 mm Instantaneous Couplings (Female) NZS 4505 or, for suction sources, a 100 mm and 140 mm Suction Coupling (Female) NZS 4505 (hose tail is to be the same diameter as the threaded coupling e.g. 100 mm coupling has 100 mm hose tail), provided that the consent holder shall provide written approval of Fire and Emergency New Zealand to confirm that the couplings are appropriate for firefighting purposes.

ii) The connection must have a hardstand area adjacent to it to allow a Fire and Emergency New Zealand appliance to park on it. The hardstand area must be located at the centre of a clear working space with a minimum width of 4.5 metres. Access must be maintained at all times to the hardstand area.

iii) All connections shall be capable of providing a flow rate of 25 litres per second at the connection point.

iv) Underground tanks or tanks that are partially buried (provided the tank is no more than 1 metre above ground) may be accessed by an opening in the top of the tank, removing the need for couplings.

Firefighting water supply may be provided by means other than that provided for above if the written approval of Fire and Emergency New Zealand is obtained for the proposed method and that approval is submitted to the Chief Executive.

b) Any new water tanks must be coloured dark green, dark grey, or dark brown and located in such as manner as to ensure it is not visible against the skyline when viewed from any public place.

Reverse sensitivity

c) All purchasers, lessees, licences or tenants and any other users having an interest in Lots 4 and 5 are advised that:

i) Horticultural, viticultural and agricultural activities can occur as of right in the Rural Resource Area, and

ii) The usual incidence of these activities including (but not limited to) stock handling, hay making, chemical spraying, pest control (including by use of poison, night shooting and helicopters) deer stag roaring, irrigations, frost control and bird scaring may have amenity effects beyond the boundaries of adjoining properties, and

iii) Appropriate siting, design, and screening of dwellings and other sensitive land uses to mitigate adverse effects associated with noise and spray drift from adjacent horticultural activities is required.

Development conditions

d) All residential buildings are to be located within the defined building platforms located in accordance with the coordinates and locations shown on the subdivision scheme plan contained in Appendix 1 of RC240323.

e) All residential buildings must have a maximum building height not exceeding 7.5m above existing ground level at time of subdivision;

f) External cladding colours with a Light Reflectance Value (LRV) of ≤20%, limited to browns, greens, or greys and including natural timbers stained in natural hues;

g) Roofing must have a matte finish and utilise recessive colours, also with LRV ≤20%.

h) The earth bund and associated plantings on Lot 4, must be maintained in perpetuity. Any plants which sicken or die must be replaced in the next growing season.

i) All outdoor lighting (with the exception of pool lighting and very low luminosity pathway lighting) must be shielded from above in such a manner that the edge of the shield shall be below the whole of the light source.

j) No external lighting may be lit except when the lit area is occupied by persons. All exterior lighting must be on a timer switch or movement sensor as to turn off when not in use.

k) Existing vegetation screening along Ardgour Road and between Lots 5 and 1 is to be retained, and any dead or diseased plants replaced within the next growing season.

ADVICE NOTES:

Residential Activity

1. *The establishment of residential activity on Lots 4 and 5 within the residential building platforms will require additional resource consent.*

Earthworks

2. *All earthworks to develop and/or landscape each lot shall comply with Rule 4.7.6J of the Central Otago District Plan or additional resource consent will be required.*

3. *Where there is a risk that sediment may enter a watercourse at any stage during the earthworks, it is advised that the Otago Regional Council be consulted before works commence, to determine if the discharge of sediment will enter any watercourse and what level of treatment and/or discharge permit, if any, may be required.*

4. *The Otago Regional Council also has rules regarding earthworks and the consent holder is advised to ensure that they do not require approvals from the Regional Council.*

Water, Wastewater and Firefighting

5. *It is strongly recommended that additional treatment be included for all water supply to provide wholesome water by achieving compliance with the Guideline Values (GVs) shown to be exceeded in the laboratory reports.*

6. *On-site disposal will be assessed as each lot is developed and will need to comply with the Otago Regional Council requirements. Wastewater disposal areas must be located such that the maximum separation (in all instances greater than 50 metres) is achieved from any water course or water supply bore.*

Financial Contributions

7. *All charges incurred by the Council relating to the administration, inspection and supervision of conditions of subdivision consent must be paid prior to Section 224(c) certification.*

8. *Development contributions for roading of $3,600.00 (exclusive of goods and services tax) are payable for pursuant to the Council's Policy on Development and Financial Contributions contained in the Long Term Council Community Plan. Payment is due upon application under the Resource Management Act 1991 for certification pursuant to Section 224(c). The Council may withhold a certificate under Section 224(c) of the Resource Management Act 1991 if the required Development and Financial Contributions have not been paid, pursuant to section 208 of the Local Government Act 2002 and Section 15.5.1 of the Operative District Plan.*

Access

9. *It is the consent holder's responsibility to obtain all necessary Temporary Traffic Management Plans, Corridor Access Requests or any other approvals to undertake works within the road reserve. These approvals should be obtained prior to the works commencing.*

General

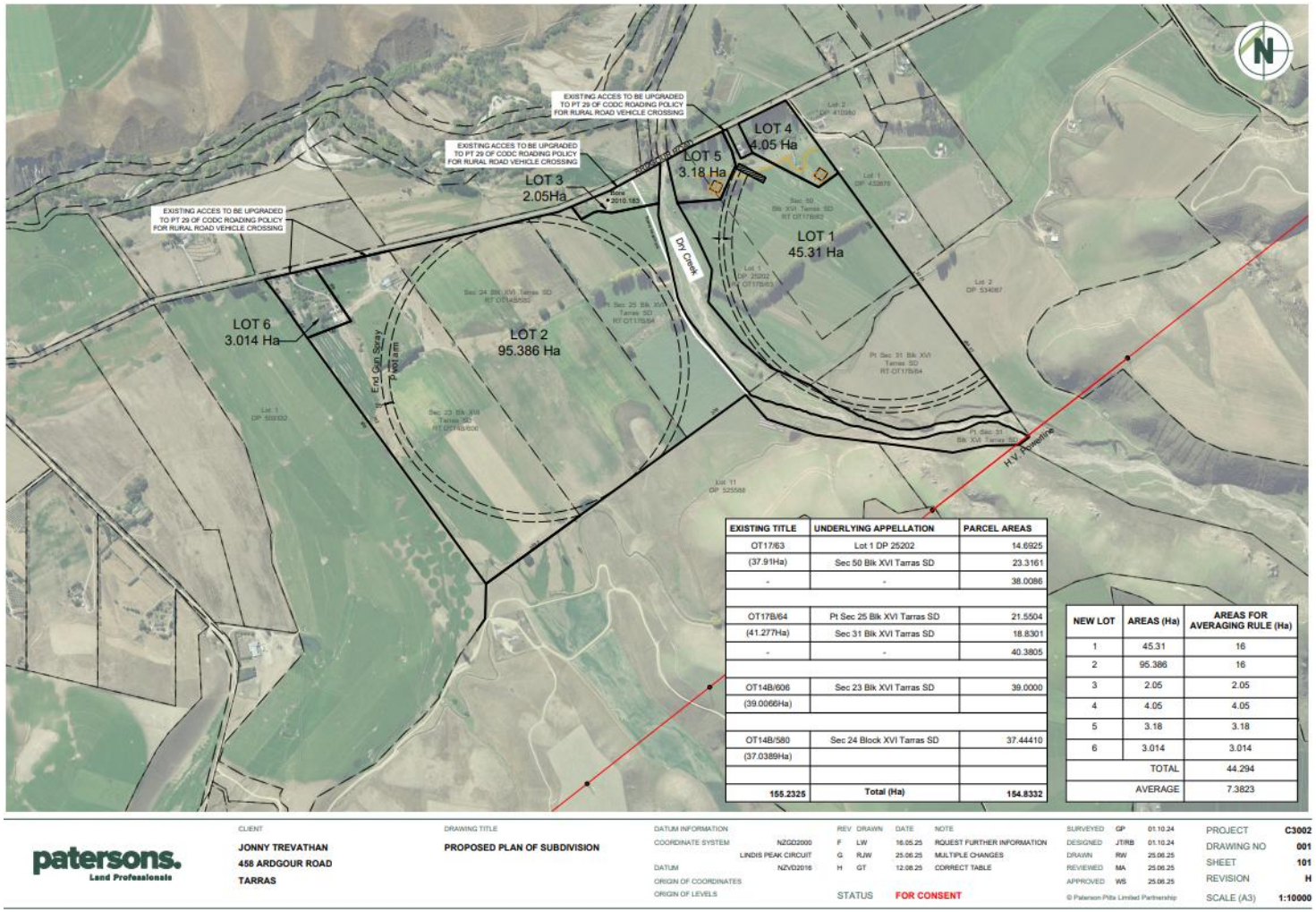
10. *In addition to the conditions of a resource consent, the Resource Management Act 1991 establishes through sections 16 and 17 a duty for all persons to avoid unreasonable noise, and to avoid, remedy or mitigate any adverse effect created from an activity they undertake.*

11. *Resource consents are not personal property. The ability to exercise this consent is not restricted to the party who applied and/or paid for the consent application.*

12. *It is the responsibility of any party exercising this consent to comply with any conditions imposed on the resource consent prior to and during (as applicable) exercising the resource consent. Failure to comply with the conditions may result in prosecution, the penalties for which are outlined in section 339 of the Resource Management Act 1991.*

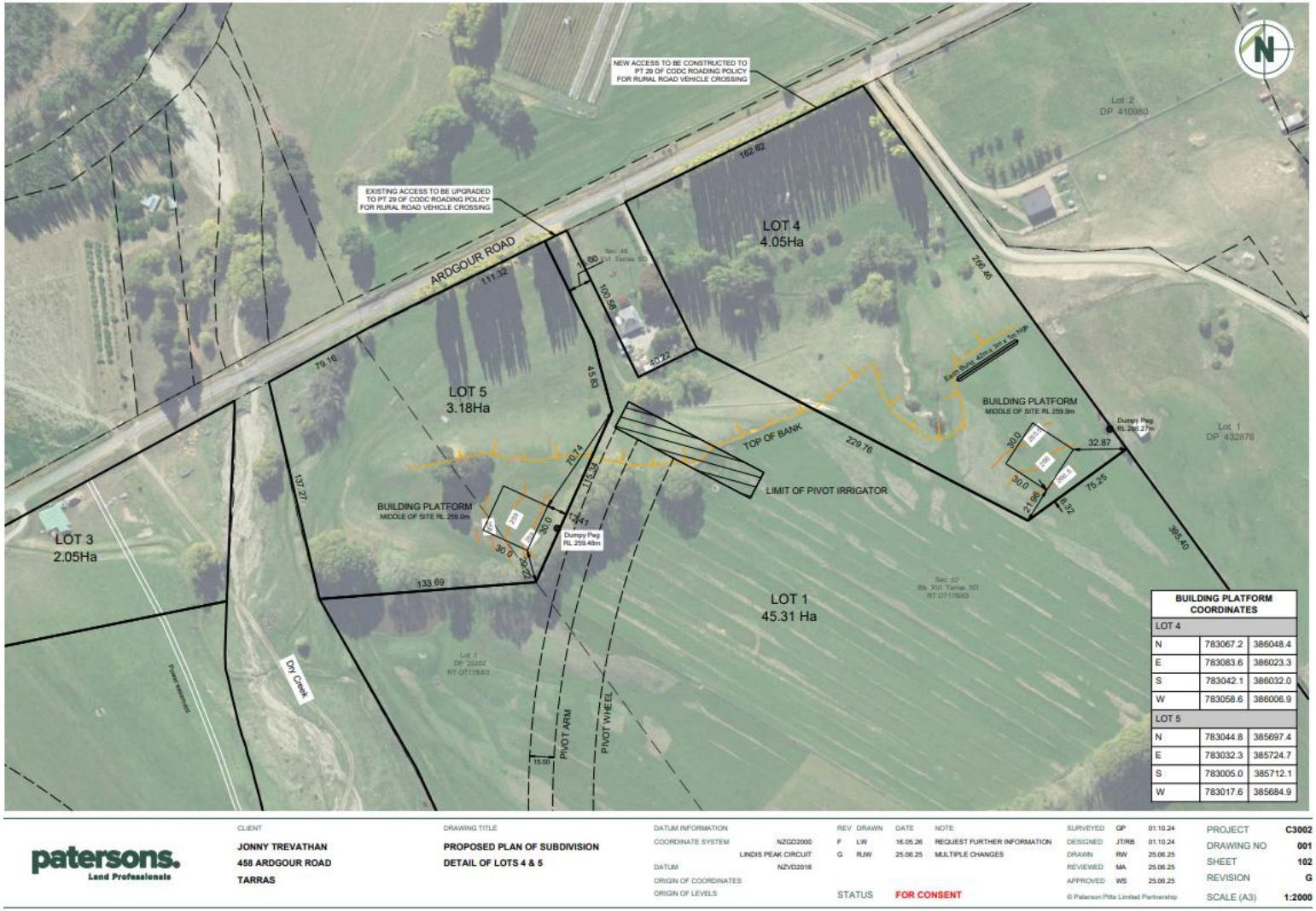
13. *The lapse period specified above may be extended on application to the Council pursuant to section 125 of the Resource Management Act 1991.*

Appendix One: Approved Plan/s for RC 240323 (scanned image(s), not to scale)



EXISTING TITLE	UNDERLYING APPELLATION	PARCEL AREAS
OT17/63	Lot 1 DP 25202	14.6925
(37.91Ha)	Sec 50 Blk XVI Tarras SD	23.3161
-	-	38.0086
OT17B/64	Pt Sec 25 Blk XVI Tarras SD	21.5504
(41.277Ha)	Sec 31 Blk XVI Tarras SD	18.8301
-	-	40.3805
OT14B/606	Sec 23 Blk XVI Tarras SD	39.0000
(39.0066Ha)		
OT14B/580	Sec 24 Block XVI Tarras SD	37.4410
(37.0389Ha)		
155.2325	Total (Ha)	154.8332

NEW LOT	AREAS (Ha)	AREAS FOR AVERAGING RULE (Ha)
1	45.31	16
2	95.386	16
3	2.05	2.05
4	4.05	4.05
5	3.18	3.18
6	3.014	3.014
	TOTAL	44.294
	AVERAGE	7.3823



BUILDING PLATFORM COORDINATES		
LOT 4		
N	783067.2	386048.4
E	783083.6	386023.3
S	783042.1	386032.0
W	783058.6	386006.9
LOT 5		
N	783044.8	385697.4
E	783032.3	385724.7
S	783005.0	385712.1
W	783017.6	385684.9

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CLIENT
JONNY TREVATHAN
458 ARDGOUR ROAD
TARRAS

DRAWING TITLE
PROPOSED PLAN OF SUBDIVISION
DETAIL OF LOTS 4 & 5

DATUM INFORMATION
COORDINATE SYSTEM NZGD2000
LINDIS PEAK CIRCUIT
DATUM NZVD2016
ORIGIN OF COORDINATES
ORIGIN OF LEVELS

REV	DRAWN	DATE	NOTE
F	LW	16.05.26	REQUEST FURTHER INFORMATION
G	RJW	25.06.25	MULTIPLE CHANGES

STATUS FOR CONSENT

SURVEYED	GP	01.10.24
DESIGNED	JT/RB	01.10.24
DRAWN	RW	25.06.25
REVIEWED	MA	25.06.25
APPROVED	WS	25.06.25

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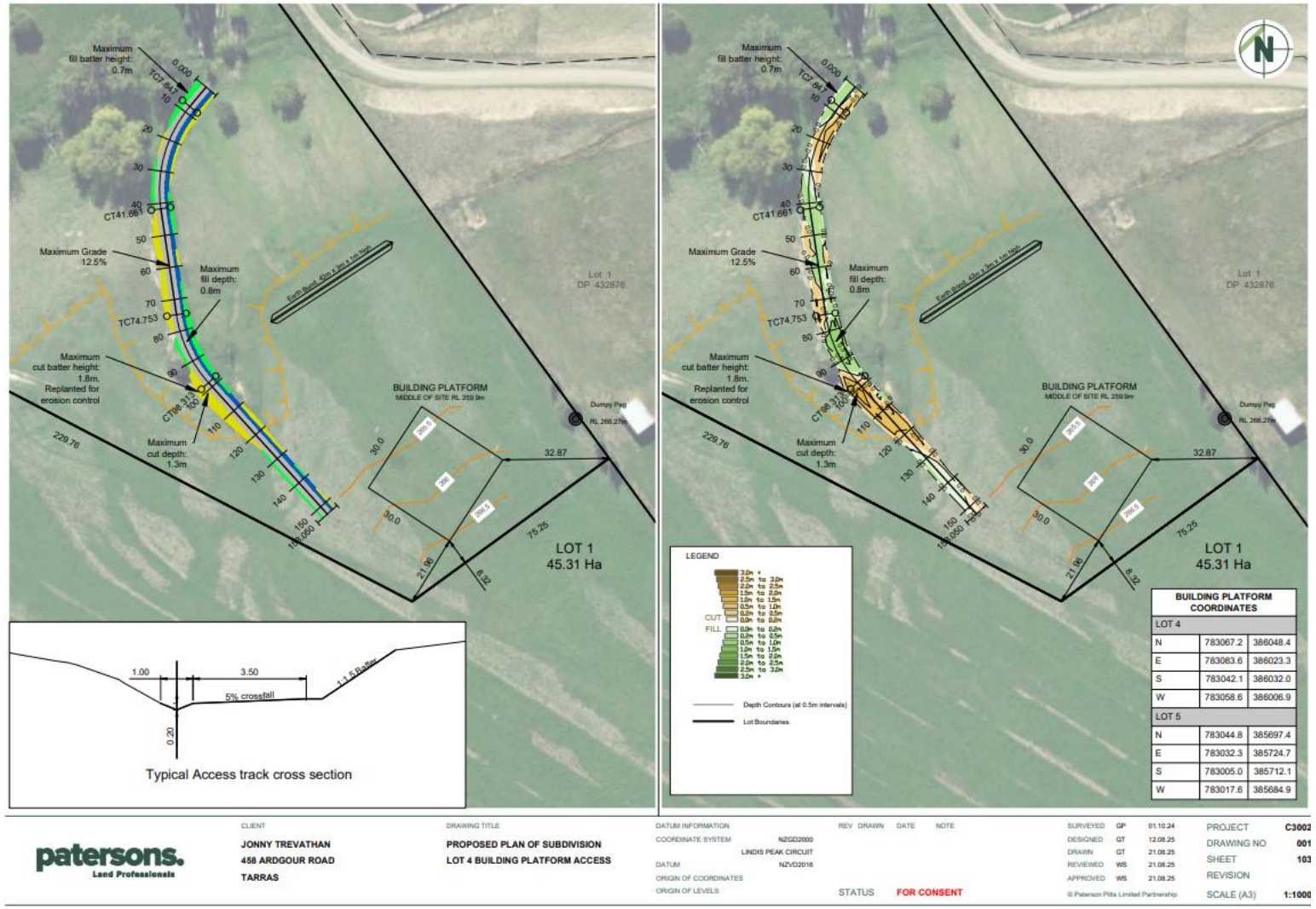
PROJECT C3002
DRAWING NO 001
SHEET 102
REVISION G
SCALE (A3) 1:2000


Maximum fill batter height: 0.7m
Maximum Grade 12.5%
Maximum fill depth: 0.8m
Maximum cut batter height: 1.8m. Replanted for erosion control
Maximum cut depth: 1.3m
BUILDING PLATFORM
MIDDLE OF SITE RL 259.9m
LOT 1
45.31 Ha
Typical Access track cross section
1.00
3.50
5% crossfall
1:1.5 Batter
0.20
LEGEND
CUT
FILL
Depth Contours (at 0.5m intervals)
Lot Boundaries
BUILDING PLATFORM COORDINATES
LOT 4
N 783067.2 386048.4
E 783083.6 386023.3
S 783042.1 386032.0
W 783058.6 386006.9
LOT 5
N 783044.8 385697.4
E 783032.3 385724.7
S 783005.0 385712.1
W 783017.6 385684.9
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Land Professionals
CLIENT
JONNY TREVATHAN
458 ARDGOUR ROAD
TARRAS
DRAWING TITLE
PROPOSED PLAN OF SUBDIVISION
LOT 4 BUILDING PLATFORM ACCESS
DATUM INFORMATION
COORDINATE SYSTEM NZGD2000
LINDIS PEAK CIRCUIT
DATUM NZVD2016
ORIGIN OF COORDINATES
ORIGIN OF LEVELS
REV DRAWN DATE NOTE
STATUS FOR CONSENT
SURVEYED GP 01.10.24
DESIGNED GT 12.08.25
DRAWN GT 21.08.25
REVIEWED WS 21.08.25
APPROVED WS 21.08.25
PROJECT C3002
DRAWING NO 001
SHEET 103
REVISION
SCALE (A3) 1:1000

CENTRAL OTAGO DISTRICT COUNCIL
S95A-F DECISION FOR RC240323
360 Ardgour Road, Tarras

INTRODUCTION

BACKGROUND/REVISED PROPOSAL

Council accepted the processing planner's recommendation to publicly notify this application on 30 May 2025. Following that decision, the applicant placed the application on hold while reconsidering the proposed layout. During this period, the processing planner met with the applicant on-site (28 June 2025) to discuss potential variations. The applicant subsequently redesigned the subdivision in a manner that reflects the advice provided.

Key changes in the revised scheme include:

1. **Inclusion of Additional Title**
   The site now includes Section 24 Block XVI Taras Survey District, which sits between Section 23 and Part Section 25 but was previously excluded from the application. This increases the number of existing titles from three to four.
2. **Reduction in Proposed Lots**
   The number of proposed allotments has reduced from nine to six, achieved through deletion of a small lifestyle lot and amalgamation of the larger farming parcels into two consolidated titles located either side of Dry Creek.
3. **Change in Activity Status**
   The revised layout results in a lower average lot size of 7.38ha (as calculated under Rule 4.7.4(iii), which caps averaging at 16ha per lot), triggering non-complying activity status. By contrast, the original proposal achieved an average lot size of 8.52ha and was a discretionary activity.

While this change in activity status may appear counter-intuitive on the surface, the revised proposal is considered to have significantly improved planning outcomes. In particular, it reduces fragmentation of productive land by consolidating the balance of the working farm into just two large titles, rather than five. This provides better alignment with the intent of the NPS-HPL and Rural Resource Area policies.

Importantly, the applicant could have retained a three-title farm layout (thereby preserving a compliant average lot size) with no change to the revised residential layout. However, they elected to forego this option in favour of a more integrated and less fragmented rural landholding, in response to Council's feedback.

In addition to changes to the subdivision layout, the applicant has now provided preliminary design for the access track serving proposed Lot 5. Areas of cut will be replanted to prevent land scarring, and a bund is proposed north of the building platform to be planted as a visual buffer and to further mitigate potential effects from the proposed dwelling.

This report supersedes the previous notification assessment and reflects the revised proposal in full. While Council has already made a decision under section 95A to publicly notify the original application, this revised proposal has materially altered the scope and nature of the development. As such, a new assessment is warranted under sections 95A to 95E of the Resource Management Act 1991. This report is intended to replace the earlier s95 assessment in its entirety and forms the basis for a new recommendation on notification.

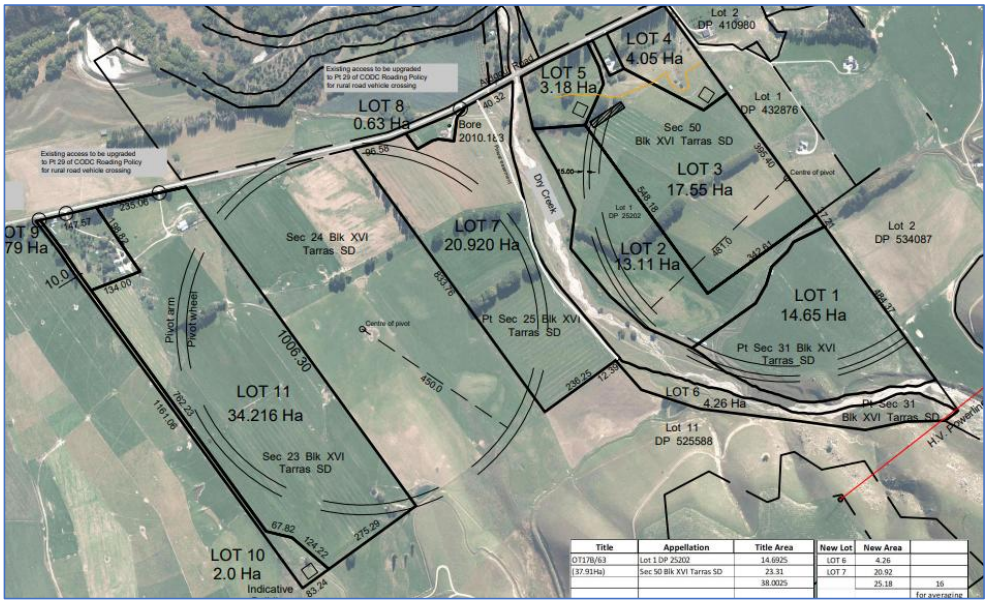

Figure 1: Original subdivision scheme

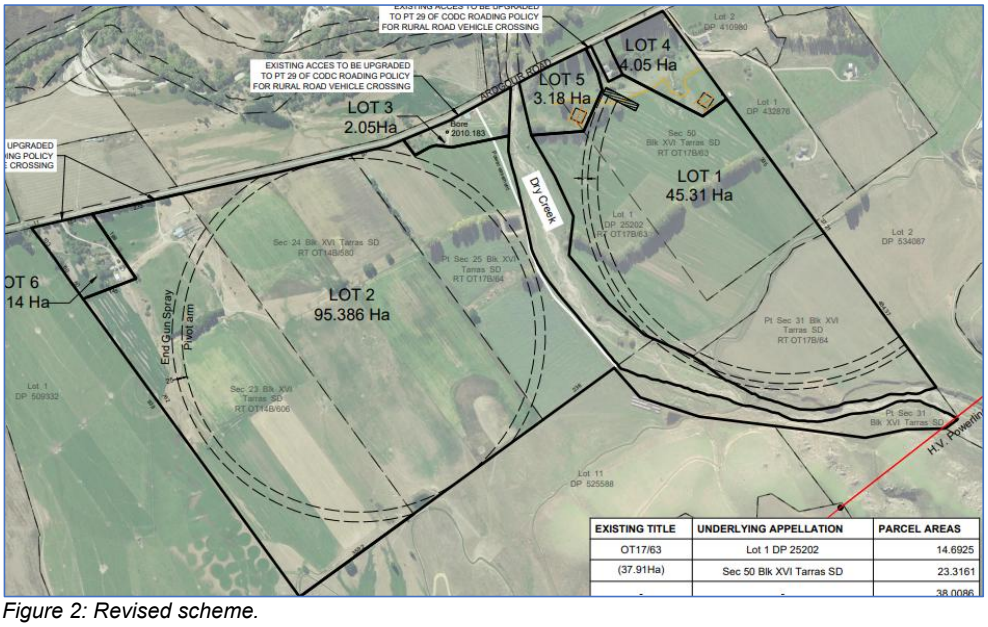

Figure 2: Revised scheme.

SITE DESCRIPTION

The subject site is thoroughly described in Sections 2 and 3 of the application. The applicant's site description is adopted for the purposes of this report, notwithstanding that Section 24 Block XVI Tarras Survey District has been incorporated into 'the site' under the revised proposal. Key aspects summarised as follows;

- **Location & Legal Description:**
  The site is located at 458 Ardgour Road, Tarras, Cromwell and comprises 155 hectares across allotments (five titles). The site is predominantly used for dryland farming, with a mix of irrigated and non-irrigated pasture.

Legal Description	Record of Title	General Site Information
Section 23 Block XVI Tarras SD	OT14B/606	Contains an existing dwelling and shearing shed; used for dryland farming. Bisected by a water race with no current physical use and the Lindis River Irrigation Race exists at its southern tip.
Part Section 25 Block XVI Tarras SD	OT17B/64	Contains an existing dwelling. Split by Dry Creek. Historically relied on flood irrigation but transitioning to pivot.
Part Section 31 Block XVI Tarras SD	OT17B/64	Includes land transitioning to terraced pasture; affected by the active alluvial fan.
Lot 1 DP 25202	OT17B/63	Predominantly flat terrain; planned for pivot irrigation.
Section 50 Block XVI Tarras SD	OT17B/63	Forms part of the productive farming land; includes irrigation infrastructure.
Section 24 Block XVI Tarras SD	OT14B/580	Forms part of the productive farming land; includes irrigation infrastructure – originally excluded from original application.

Table 1: Existing site details.

- **Current Use & Built Development:**
  - The site is predominantly used for dryland farming, with a mix of irrigated and non-irrigated pasture.
  - Two existing dwellings are located on the site, along with a shearing shed and various farm infrastructure.
  - The property has historically been held and farmed by the Trevathan family since 1914.
- **Topography & Landscape Character:**
  - The site consists of flat to gently sloping land near Ardgour Road, transitioning to terraced pasture to the north and south.
  - Dry Creek runs through part of the site, acting as a natural separation of land parcels.
  - Vegetation consists mainly of pasture and scattered shelter belts, with limited native vegetation.
- **Surrounding Environment & Land Use:**
  - The surrounding area is rural-productive in character, featuring a mix of productive farming land, associated residential activity and a mixture of lots sizes, but with large lots balancing smaller lots such that a very low density, open rural landscape is maintained. curtilages.
  - The wider area is semi-arid, with annual rainfall between 325mm and 400mm, resulting in significant reliance on irrigation for productive land use.

- The Lindis Irrigation Scheme is being phased out and will be replaced by bore supplies to enable more residual flow to be retained in the Lindis River.
- A water race bisects Sections 23 and 24, and a request has been lodged with LINZ to incorporate the race into the adjacent two titles. This request is currently under consideration but will not affect the proposed subdivision.

- **Zoning & Planning Overlays:**
  - The site is zoned Rural Resource Area under the Central Otago District Plan (CODP).
  - There are no District Plan overlays affecting the site, although an active floodwater-dominant alluvial fan is identified in the Otago Regional Council hazard database.
  - The majority of the site is identified as Land Use Capability Class 3 soils (LUC 3). Some LUC 4 exists over LOT 1 DP 25202, while a significant portion of PT SEC 31 BLK XVI TARRAS SD and a very small portion of SEC 23 BLK XVI TARRAS SD are identified as LUC 7.

- **Infrastructure & Services:**
  - Vehicle access is via multiple entrances off Ardgour Road.
  - Water supply is currently provided by bores and irrigation infrastructure, with future domestic bores proposed for new allotments.
  - Wastewater disposal is via existing on-site systems, with additional systems proposed for new residential lots.

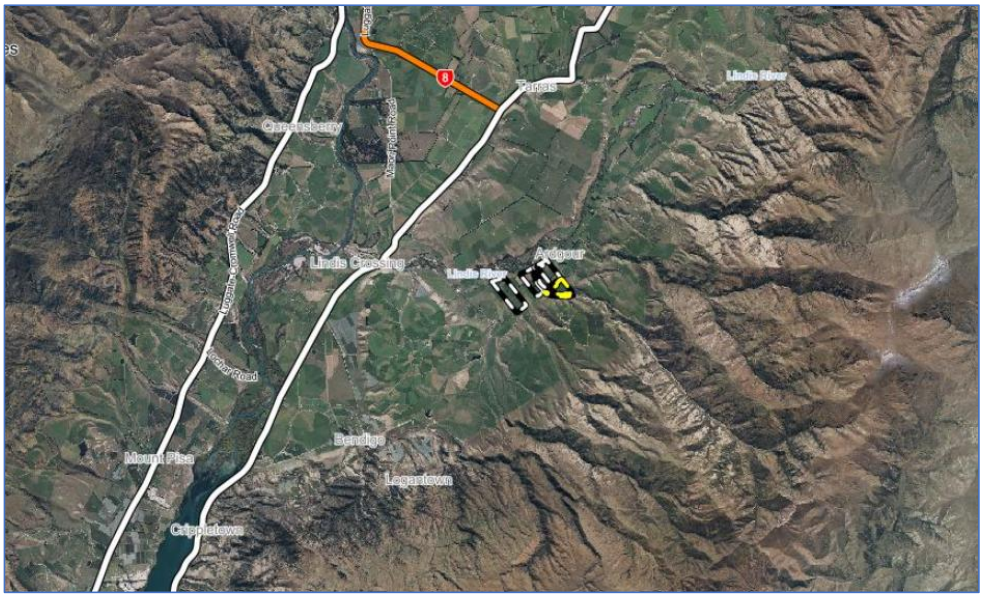

Figure 3: Location Plan

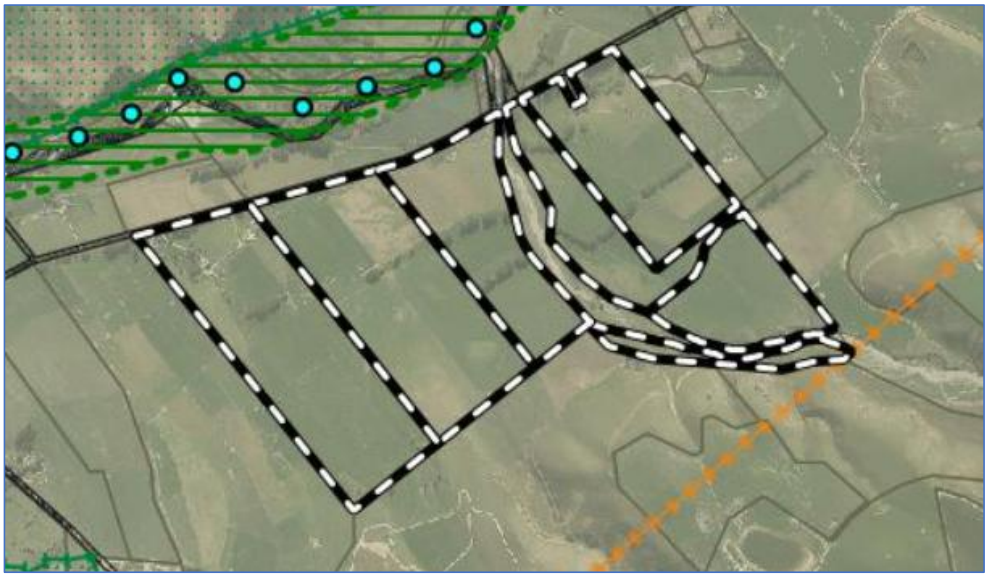

Figure 4: District Plan Aerial Site Overlay.

Figure 5: Land Use Capability overlay

DESCRIPTION OF ACTIVITY

The application, as revised, seeks subdivision and land use consent to subdivide five existing titles into six, resulting in one additional title. The proposal includes the identification of residential building platforms on two of the new lots and associated servicing, access and infrastructure provisions. The following description incorporates amendments and clarifications made in the applicant's further information responses, and ultimately the revised proposal received on 22 August 2025.:

- **Subdivision Layout:**
  - The proposed subdivision will create six allotments/titles from six existing allotments held across five titles, resulting in one additional title.
  - The proposed titles range in size from 2.05 hectares to 95.386 hectares.
  - Revised scheme plans include coordinates and surveyed reduced level (RL) data for each identified building platform.

NEW LOT	AREAS (Ha)	AREAS FOR AVERAGING RULE (Ha)
1	45.31	16
2	95.386	16
3	2.05	2.05
4	4.05	4.05
5	3.18	3.18
6	3.014	3.014
	TOTAL	44.294
	AVERAGE	7.3823

Table 2: Proposed lot details.

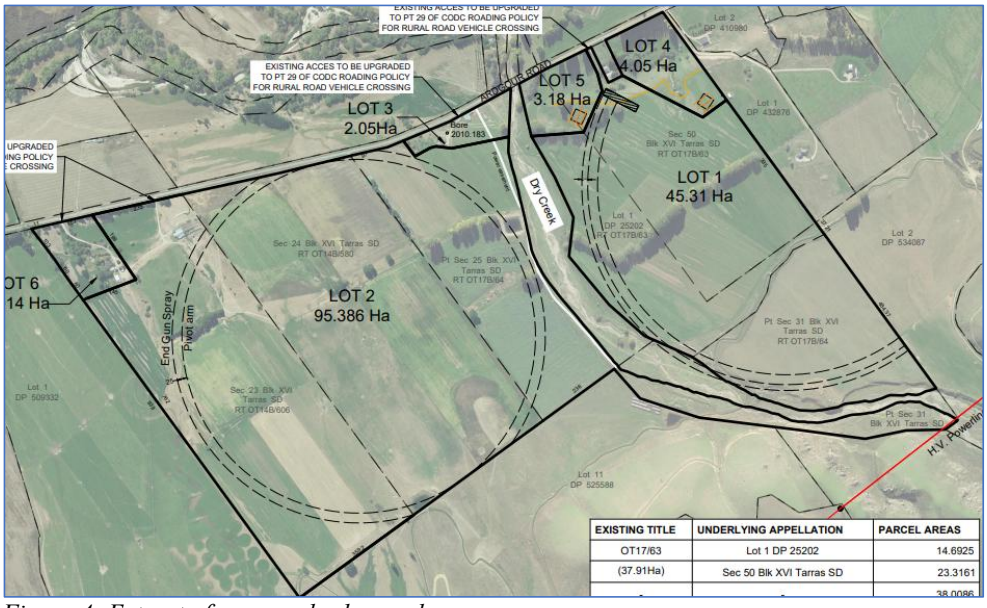

Figure 4: Extract of proposed scheme plan.

- **Access & Roading:**
    - Proposed Lot 1, 2, 3 and 6 will be accessed via existing vehicle crossings that are to be upgraded, as necessary, to meet Council's Roading Policies.
    - New access points from Ardgour Road are proposed for Lots 4 and 5.
- **Servicing & Infrastructure:**
    - Water supply for proposed Lots 4 and 5 is to be provided by new domestic bores, subject to regional consenting requirements.
    - Existing bores will continue to service the existing dwellings on Lots 3 and 6.
    - Wastewater disposal will be provided via onsite wastewater treatment systems, with site suitability assessed in the supporting wastewater report.
    - Stormwater from future dwellings is proposed to be discharged to land, with final design details to be determined at the building consent stage.
    - Power and telecommunications will be made available to the boundaries of the new lots, with satellite-based telecommunications anticipated.
    - Firefighting water supply is proposed to be addressed via a consent notice requiring onsite storage at the time of residential development.
- **Earthworks & Natural Hazards:**
    - Earthworks will be required for access upgrades and minor works associated with the subdivision. In particular, the new driveway to Lot 4 will follow a small gully up to the top of the terrace riser and will require some benching
    - Proposed building platforms are on flat to shallow sloping areas and no significant earthworks are proposed or anticipated to prepare them.
    - A geotechnical review confirms that the site is generally suitable for development; some parts of the site are within an active floodwater-dominant alluvial fan, however, the proposed building platforms are clear of these.
- **Land Use:**
    - Proposed Lots 4 and 5 are identified for residential development and are located outside the planned pivot irrigation area. Both have proposed building platforms with the following parameters;
        - 30m x 30m (900m^2) building platforms.
        - Max overall building footprint of future built form within each building platform will not exceed 450m^2.
        - 7.5m height limit above existing ground level.
        - Exterior colours shall have a maximum light reflectivity value (LRV) of 20% in the range of browns, greens and greys; and Natural timbers shall be left to weather, or stain colours shall be of a natural hue or black, rather than other colours; and Roof cladding shall have a maximum LRV of 20% or less and shall be dark recessive colours in the range of browns and greys and finished with a matte surface

- An earthen bund is proposed to be constructed at the top of the terrace riser to the immediate north of the proposed platform on Lot 4, and planted out to provide additional visual mitigation of future buildings located on the platform.

REASONS FOR APPLICATION

Central Otago District Plan
The subject site is located within the Rural Resource Area of the Central Otago District Plan (the District Plan). There are no other annotations for the site, however, the site is identified as being within an active floodwater dominated alluvial fan on the ORC Natural Hazards Database.

Rule 4.7.4.iii of the Plan provides for subdivision in the Rural Resource Area as a discretionary activity under certain circumstances, including that it creates allotments with an average allotment area of no less than 8 hectares and a minimum allotment area of no less than 2 hectares states and where it involves land that is or is likely to be subject to material damage by erosion, falling debris, subsidence, slippage, or inundation from any source. As outlined under the 'Background/Revised Proposal' section, the amended application does not comply with the 8 Ha minimum average standard and is therefore a **non-complying activity** pursuant to Rule 4.7.5.iii.

Rule 4.7.3(vii) of the Central Otago District Plan provides for residential building platforms as a **discretionary (restricted) activity** providing the performance standards set out in Rule 4.7.3(vii) (a-d) are met. In this instance, there will be no more than one platform per lot, no new access to a State Highway is sought and a separation distance of 50m between platforms is achieved, however, the proposed platforms breach internal yard standards and it is anticipated that future dwellings on the platforms on Lots 4 and 5 will breach the skyline.

Rule 4.7.6A(a) stipulates minimum side and rear yards of 25m for residential buildings. The Platform on Lot 4 comes to within 8.3m of the internal boundary with Lot 3, and the platform on Lot 5 comes to within 12.4m of its boundary with Lot 3. Breaches of this standard are a **discretionary (restricted) activity** pursuant to Rule 4.7.3(i).

Rule 4.7.6D(b) stipulates that no buildings shall protrude onto a skyline or above a terrace edge when viewed from a public place. It is anticipated that buildings up to 7.5m in height on the platforms on Lots 4 and 5 are likely to breach the skyline when viewed from Ardgour Road. Breaches of this standard are a **discretionary (restricted) activity** pursuant to Rule 4.7.3(iii).

National Environmental Standards

The Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS) came into effect on 1 January 2012. The National Environmental Standard applies to any piece of land on which an activity or industry described in the current edition of the Hazardous Activities and Industries List (HAIL) is being undertaken, has been undertaken or is more likely than not to have been undertaken. Activities on HAIL sites may need to comply with permitted activity conditions specified in the National Environmental Standard and/or might require resource consent.

The applicant has provided a combined Preliminary and Detailed Site Investigation (PSI/DSI) focused solely on a known diesel tank removal site located on Lot 6 (then Lot 9). The investigation identified localised petroleum hydrocarbon contamination exceeding human health screening criteria for residential use. This contamination is limited in scale and depth and can be remediated via removal or relocation.

However, no PSI has been undertaken for the balance of the site, and the application does not include a site-wide HAIL screening assessment or site walkover. The broader site has been used for primary production for over a century, and may contain other HAIL-related activities such as farm infrastructure, chemical or fertiliser storage, or spray zones.

As such, it cannot presently be confirmed that the site as a whole is not a HAIL site, nor that the proposal is a permitted activity under the NES-CS. Further information or a site-wide HAIL screening assessment may be necessary to confirm permitted activity status, and the proposal therefore constitutes a discretionary activity under the NES-CS.

There are no other National Environmental Standards relevant to this application.

SECTION 95A NOTIFICATION

Step 1 – Mandatory public notification
Public notification has not been requested. (s95A(3)(a)).

There has been no failure or refusal to provide further information or the commissioning of a report under section 92(2)(b) of the Act (s95A(3)(b).

The application does not involve the exchange of recreation reserve land under section 15AA of the Reserves Act 1977 (s95A(3)(c).

Step 2 – Public notification precluded
There are no rules or national environmental standards precluding public notification (s95A(5)(a)).

The proposal is not exclusively for controlled activities and/or boundary activities (s95A(5)(b)).

Step 3 – If not precluded by Step 2, public notification is required in certain circumstances

The application is not for a resource consent for one or more activities, where those activities are subject to a rule or national environmental standard that requires public notification (s95A(8)(a).

A consent authority must publicly notify an application if it decides under s95D(8)(b) that the activity will have or is likely to have adverse effects on the environment that are more than minor (s95A(2)(a)). An assessment under s95D is therefore made below.

ASSESSMENT OF EFFECTS ON THE ENVIRONMENT (s95D)

1. Rural Character, Landscape and Visual Effects

The revised proposal consolidates productive land into larger standalone holdings while separating existing dwellings onto smaller titles. Although one new title is created, the overall development intensity is significantly reduced compared to the original application. This reduction lessens the potential for cumulative rural character and visual effects. The remaining landscape considerations relate primarily to the location and treatment of the building platforms on Lots 4 and 5.

For Lot 4, newly submitted driveway plans show that access can follow a natural gully which already cuts into the terrace riser. This will visually contain much of the driveway from external viewpoints and reduce the extent of earthworks required. The platform itself, although in a relatively prominent position, is appropriately set back from the terrace edge and is to be screened by a planted bund. While a building on the platform may still be intermittently visible from Ardgour Road and is likely to break the skyline in those fleeting views, the combination of landform, setback and bunding will mitigate its visual impact to a level that is, in my opinion, no more than minor.

The platform on Lot 5 is located in a less prominent part of the site where the terrace landform flattens and is backed by shelter planting on the Lot 1 boundary. These features provide natural containment and effective screening, and I consider that development on this lot will also result in no more than minor visual effects.

While some clustering of residential titles will remain, I consider the revised layout and supporting details sufficient to avoid a step change in rural character. The proposal will not result in cumulative landscape or visual effects that are more than minor for the purposes of public notification.

2. Amenity Effects

Amenity in the rural environment typically includes privacy, low noise levels, limited artificial lighting, and a sense of openness. All proposed building platforms are located more than 100 metres from the nearest dwelling on an adjoining site, and no intensive activities or clustering are proposed that would likely result in amenity effects beyond those reasonably anticipated in a rural area.

While the platforms on Lots 4 and 5 breach internal yard standards relative to Lot 1, these relate to internal boundaries and are not relevant for the purposes of this assessment under section 95D. Given the level of separation and the nature of the proposed activity, I consider any non-visual amenity effects are likely to be less than minor.

3. Servicing, Access and Infrastructure

The application has been reviewed by Council's Environmental Engineer, and I am satisfied that the proposed subdivision can be appropriately serviced. New residential lots will be equipped with on-site water, wastewater, and stormwater systems, and firefighting water supply will be addressed via standard static storage. Access upgrades and vehicle crossings will be constructed to Council standards, and infrastructure effects are expected to be no more than minor.

4. Earthworks

The proposal will involve earthworks to establish building platforms, driveways, and servicing infrastructure. The applicant's AEE notes that the platforms on Lots 4 and 5 are sited above existing depressions to provide more stable, well-drained building areas. While the scale of earthworks has not been quantified in detail, no bulk earthworks are proposed at subdivision stage, and works associated with future dwellings are expected to be localised to each site.

The site is not subject to any mapped erosion or slope instability overlays and has no known history of instability. However, it lies within an active floodwater-dominated alluvial fan, and earthworks will require appropriate management to avoid sediment generation and off-site effects.

In my opinion, the most significant potential adverse effects will arise from driveway construction on Lots 4 and 5, particularly where access will require cutting into small terrace risers. This concern is especially relevant for Lot 4, where the proposed platform is elevated well above the road. Google Street View imagery from 2009 illustrates the visual impact of a similar driveway cut into the terrace face on the adjacent site to the north.

Figure 1: Google Streetview Image Captured Nov 2009 of the (then) recently constructed benched driveway on the neighbouring property to the north (522 Ardgour Road)

The applicant has advised that cut batters resulting from driveway construction will be planted to assist with both stabilisation and visual integration. While the platform on Lot 4 remains relatively elevated, it is now proposed to be accessed via a driveway that follows a small gully, reducing the extent of cut required and improving integration with the natural landform. Lot 5 has less pronounced elevation, and although localised earthworks will still be required, the overall modification is expected to remain relatively modest. With appropriate erosion and sediment controls in place, I consider the adverse effects of earthworks and associated site development will be no more than minor.

5. Natural Hazards and Site Suitability

The site lies within an active floodwater-dominated alluvial fan, as identified by the Otago Regional Council. A geotechnical assessment by Geosolve (14 February 2024) confirms the proposed building platforms are geotechnically suitable for residential development. While soft topsoils were identified, no fatal geotechnical constraints were noted.

Given the elevated siting of most platforms and the absence of mapped erosion or instability hazards, I consider the residual natural hazard risk to be low. The proposal does not trigger section 106 of the RMA, and the site is considered suitable for development. Likely adverse effects from natural hazards are considered to be less than minor.

6. Ecological and Biodiversity Effects

The subject site comprises a mix of exotic pasture and shelter belt vegetation and does not contain any scheduled or mapped areas of ecological significance under the District Plan or regional overlays. The site has been historically developed for pastoral use, with no evidence of indigenous vegetation or habitats likely to support threatened or at-risk species.

While the application is silent on biodiversity matters, the nature of the site is that it is comprised of highly modified environments with limited ecological value. As such, I do not consider that the proposal will result in any notable ecological effects.

7. Cultural and Heritage Values

The subject site is not identified as containing any scheduled wāhi tūpuna, archaeological sites, or heritage features. Given the modified nature of the site, its historic use for pastoral

activities, and the absence of any known recorded features, I do not consider that the proposed subdivision and future residential development are likely to give rise to adverse effects on cultural or heritage values.

8. Public Access and Esplanade Provisions

The site is bisected by Dry Creek, which is contained within an existing public hydro parcel. This parcel already provides for public access along the length of the waterway through the site.

Given this existing arrangement, no additional esplanade reserve or esplanade strip is required to maintain or enhance public access, and no new access routes are proposed or necessitated by the subdivision. The proposal will not affect the existing legal access or obstruct public enjoyment of Dry Creek.

9. Design and Functionality of Lots

The revised proposal results in a notably improved outcome in terms of lot design and functionality, particularly when viewed through the lens of productive land use and alignment with the National Policy Statement for Highly Productive Land (NPS-HPL).

Lots 1 and 2 have been completely redefined as two large, consolidated land parcels, encompassing several existing titles and absorbing the fragmented areas previously associated with Lots 1, 2, 6 and 7. This represents a significant improvement over the status quo, where several titles were split by Dry Creek or constrained by legacy configurations. The resulting lots are more coherent, contiguous, and better aligned with the site's natural boundaries and productive land units. This is a positive outcome in terms of land management, future versatility, and protection of productive capacity, particularly given the NPS-HPL direction to avoid unnecessary fragmentation (Policy 7).

During the site inspection, it was evident that the pivot irrigator cannot practically extend to the terrace riser area where the building platform is proposed. Accessing this area would require substantial earthworks to reshape the terrace edge and fill a small gully, which explains its exclusion from the current proposed irrigation infrastructure layout. In this context, the placement of the building platform on the upper slope is considered a pragmatic outcome that maintains the relatively productive, low-lying paddock for keeping several horses or a small scale productive use by the future lot owner. The revised design, which includes a planted bund and realigned driveway, provides a reasonable degree of mitigation, and on balance, I am satisfied that the outcome will be functional and is unlikely to result in more than minor adverse effects.

Lot 5 presents a more neutral scenario. Site inspection confirmed that the terrace riser flattens appreciably within this lot, and there is no clear visual or topographical break between the upper and lower landforms. As such, the proposed building platform location appears well integrated and is not anticipated to compromise the site's productive potential or contribute to adverse visual effects.

Taken as a whole, the revised layout reflects a material improvement over the original application, particularly in terms of rural land consolidation and the containment of residential activity. While some residual reservations remain around the integration of built form within Lots 4 and 5, these are now relatively limited in scope and, in my view, do not undermine the overall functionality or appropriateness of the proposed lot design.

10. Productivity and Fragmentation of Highly Productive Land

The site comprises predominantly Class 3 land and qualifies as Highly Productive Land (HPL) under the National Policy Statement for Highly Productive Land 2022 (NPS-HPL). The Central Otago District Plan also identifies this area as having "special qualities" due to its soils, high Growing Degree Days, and access to irrigation. These attributes underscore its strategic value for land-based primary production.

The revised proposal increases the total number of titles from five to six. While this still represents a net increase, the subdivision facilitates meaningful consolidation of production land into two large, coherent lots (Lots 1 and 2), each of which contains its own pivot irrigator. Although it would have been technically possible for the applicant to amalgamate the two larger lots into a single parcel and thereby avoid any net title increase, and increase their average lot size to over 8 Ha, I consider this would have been an artificial outcome given the physical separation imposed by Dry Creek. Under the circumstances, the proposed configuration strikes a practical balance between physical constraints and maintaining productive land in large, consolidated holdings.

Lots 3–6 occupy elevated land that is beyond the reach of pivot irrigation and also contain existing dwellings and/or topography that is not conducive to pivot irrigation. Site inspection confirmed that the proposed building platforms have been located appropriately to avoid productive, irrigable land. While the creation of additional rural-residential lots on HPL is not ideal in principle, the revised layout achieves a more favourable fragmentation outcome than the status quo and ultimately maintains the integrity of the site's productive core.

On balance, I consider the proposal to represent an improved and largely pragmatic response to the site's productive values. It will result in some residual fragmentation by small 'lifestyle character' lots, but this is outweighed by the benefits of consolidating irrigable land into larger, better-defined parcels that can be more effectively managed for primary production. Accordingly, I consider the adverse effects on productive values to be nil overall.

11. Contaminated Land and NES-CS Compliance

The applicant has provided a PSI/DSI limited to the former diesel tank area within proposed Lot 6. Council's earlier section 92 request raised broader concerns under the National Environmental Standard for Assessing and Managing Contaminants in Soil (NES-CS), particularly in relation to Lots 4 and 5, which are proposed for residential use and may be transitioning from 'production land' per Regulation 5(7).

To address this, the applicant has advised they will provide a statutory declaration confirming the relevant parts of the site have not been subject to any HAIL activities. Given the applicant's long-term family association with the land, and the isolated focus of proposed development, I anticipate this will provide sufficient certainty for the purpose of Regulation 8(4).

Accordingly, while the statutory declaration is yet to be received, I do not consider there is any information before Council that would suggest a risk of significant adverse effects the environment. On this basis, I consider that the NES-CS does not trigger notification

DECISION: EFFECTS ON THE ENVIRONMENT (S95A(2))

Overall the proposed activity is not likely to have adverse effects on the wider environment that are more than minor. Therefore, public notification is not required under Step 3.

Step 4 – Public Notification in Special Circumstances

Public notification is required if the consent authority decides such special circumstances exist as to warrant the application being publicly notified (s95(9)(a)).

Current case law has defined 'special circumstances' as those *"outside the common run of things which is exceptional, abnormal or unusual, but they may be less than extraordinary or unique."* The court has also found that special circumstances are deemed to apply where there is likely to be high public interest in the proposal [*Murray v Whakatane DC [(1997) NZRMA 433 (HC), Urban Auckland v Auckland Council [(2015) NZHC 1382, (2015) NZRMA 235*].

There is nothing exceptional or unusual about the application that makes public notification desirable in this particular instance. As such, there are no special circumstances that warrant the application being publicly notified.

OVERALL DECISION - S95A NOTIFICATION

Pursuant to 95A(5)(b)(i), public notification is required as identified in the assessment above.

EFFECTS ON PERSONS

Section 95B(1) requires a decision whether there are any affected persons (under s95E). The following steps set out in this section, in the order given, are used to determine whether to give limited notification of an application for a resource consent, if the application is not publicly notified under section 95A.

Step 1: certain affected groups and affected persons must be notified

Limited notification is not required under Step 1 as the proposal does not affect customary rights groups, customary marine title groups nor is it on, adjacent to or may affect land subject to a statutory acknowledgement.

Step 2: if not required by step 1, limited notification precluded in certain circumstances

Limited notification is not precluded under Step 2 as the proposal is not subject to a rule in the District Plan or is not subject to a NES that precludes notification.

Limited notification is not precluded under Step 2 as the proposal is not exclusively for a controlled land use activity.

Step 3: if not precluded by step 2, certain other affected persons must be notified

Limited notification is not required under Step 3 as the proposal is not a boundary activity where the owner of an infringed boundary has not provided their approval, and it is not a prescribed activity.

Limited notification is not required under Step 3 as the proposal falls into the 'any other activity' category and the effects of the proposal on persons are assessed below.

ASSESSMENT: EFFECTS ON PERSONS

In accordance with section 95E(1) of the Resource Management Act 1991, a consent authority must decide whether a person is an affected person by assessing whether the adverse effects of the activity on that person are minor or more than minor.

In this case, no written approvals have been provided. Nevertheless, the proposal has been assessed against each potential source of effects, including visual amenity, noise, privacy, reverse sensitivity, and the loss of productive land.

The nearest dwellings on adjoining sites are located more than 100 metres from any proposed building platform, and there is no clustering or intensive activity likely to give rise to direct off-site effects. The proposed internal boundary setbacks do not give rise to any material effects on neighbouring landowners due to the topography, separation distance, and intended use of each lot.

While the proposal involves a net increase in rural-residential titles and introduces residential activity into parts of the site that will no longer be used productively, this effect is internal to the site and will not give rise to adverse effects that are experienced by any specific person or neighbouring property.

Accordingly, it is considered that no person is subject to adverse effects that are minor or more than minor, and no persons are considered affected under section 95E.

Step 4: Further limited notification in special circumstances

Special circumstances do not apply that require limited notification.

DECISION: EFFECTS ON PERSONS (s95B(1))

In terms of Section 95E of the RMA, no person is considered affected by this proposal.

OVERALL NOTIFICATION DETERMINATION

Given the decisions made under s95A and s95B, the application is able to be processed on a non-notified basis. It is noted that the determination, as to whether an application should be notified or not, is separate from the issues to be considered in making a decision on the application itself.

Prepared by:

Oli Monthule-McIntosh
Planning Consultant

Date: 26 August 2025

Approved under Delegated Authority by:

Tim Anderson
Team Leader – Planning

Date: 27 August 2025

Application for a resource consent - Form 9

APP241237292

CENTRAL OTAGO DISTRICT COUNCIL
1 Dunorling Street
PO Box 122, Alexandra 9340
New Zealand
03 440 0056
Info@codc.govt.nz
www.codc.govt.nz

Date and Time Created	20/12/2024 03:04
Submitted to Council	20/12/2024 03:21

To cross reference Datacom with MAGIQ please click Here. to add the Resource Consent number.

Property Details

Property Address	458 Ardgour Road, Tarras, Cromwell
Valuation Number	2841110700
Record of Title Number	OT17B/64
Legal Description(s) of the specific parcels that the resource consent application is for	Part Section 25 Block XVI Tarras SD

What is your role in this application?	Agent acting on behalf of the applicant

Agent details

An agent acts on behalf of the applicant in the submission and processing of the application.

Organisation	Patersons
First name	Maddy
Last name	Albertson
Phone number	0220106236
Email address	maddy.albertson@patersons.co.nz

Note that the applicant will also receive a copy of all correspondence.

Postal address:	25 The Mall, Cromwell 9310
Confirm that you have approval to act on behalf of the applicant	Yes

The applicant is the person(s) or organisation making the application.

Applicant details

Is this applicant an individual or an organisation?	Individual
First name	Margaret and Noel
Last name	Trevathan
Phone number	0274511981
Email address	jonnyt@xtra.co.nz
Postal address:	458 Ardgour Road, RD 3, Cromwell 9383

Invoicing

Who is paying the invoice?	Applicant

DETAILS

Activity or works proposed

Application type	Subdivision consent
Short description of your proposal	It is proposed to subdivide the existing five allotments into 11 with a total of nine new allotments created as proposed allotments 1 & 2 and 6 & 7 will be amalgamated,

Provide a detailed description in the Assessment of Environmental Effects (AEE) or other document.

Assessment of Environmental Effects (AEE)

An application cannot be accepted for processing by the Council under Section 88 of the Resource Management Act 1991, without an Assessment of Environmental Effects (AEE).

Refer to the guidelines for Assessment of Environmental Effects.

AEE Final.pdf (1 mb)

Assessment of the activity

You may need to provide an assessment of the activity against the following provisions:

- **The matters set out in Schedule 4 of the Resource Management Act 1991.**
- **Any relevant objectives, policies, or rules in a document.**
- **Any relevant requirements, conditions, or permissions in any rules in a document.**
- **Any other relevant requirements in a document (e.g. in a national environmental standard or other regulation).**

Please do not load the same document that you loaded for AEE above

Other activities

Describe any other activities that are part of the proposal to which the application relates	three building platforms on proposed new allotments

Other applications

Are you required to apply for any other resource consents for this project?	No
Is this project related to a building consent?	No

Pre-application information

Have you discussed this proposal with Council staff prior to this application?	No prior discussion

Site visit requirements

Who is the site contact?	Applicant

Affected party approvals

All affected property owners, including trustees where properties are held in a trust, must sign written approval forms AND a copy of your plans.

- **If an affected party does not give approval to your proposal this may impact on the way that the application is processed.**
- **Council's duty planner can provide you with advice on which parties may be affected by your proposal.**

Download an affected party approval template form.

Do you need affected party approval?	Yes
Final APA Package.pdf (13 mb)	
Final APA Package.pdf (13 mb)	
National Environmental Standard – Contaminated Soil - option selected	A review has been undertaken of District and Regional Council records and no records have been found suggesting an activity on the HAIL has taken place on the piece of land which is subject to this application. NOTE: depending on the scale and nature of your proposal you may be required to provide details of the records reviewed and the details found.

LIST OF FILES

AEE Final.pdf (1 mb)
Final APA Package.pdf (13 mb)
Final APA Package.pdf (13 mb)
Appendix B - Subdivision Plan.pdf (3 mb)
Appendix C - Land Capability Report 458 Ardgour Road.pdf (2 mb)
Appendix D - Waste & Stormwater Disposal Suitability.pdf (3 mb)
Appendix H - Geosolve Resport.pdf (9 mb)
Appendix F - NES Record Search.pdf (142 kb)
Appendix G - ORC landuse maps.pdf (188 kb)
Appendix I Tarras Community Plan.pdf (3 mb)
Appendix A Record of Title.pdf (574 kb)

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Application for Resource Consent for 11 Lot Subdivision to create 9 Titles

360 Ardgour Road
Tarras
Section 23 Block XVI Tarras SD
Part Section 25 Block XVI Tarras SD
Part Section 31 Block XVI Tarras SD
Lot 1 DP 25202
Section 50 Block XVI Tarras SD

C3002
20/12/2024

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WANAKA: P.O. Box 283, Wanaka 9305. **T** 03 443 0110

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DOCUMENT CONTROL

Project	11-Lot Subdivision to Create 9 Titles 360 Ardgour Road, Tarras
Client	N & M Trevathan
Project No.	C3002
Revision	00
Date of Issue	20/12/2024
Agent Contact	Maddy Albertson Planner Patersons| Cromwell Mob 0220106236 maddy.albertson@patersons.co.nz PO Box 84, Cromwell 9342 25 The Mall, Cromwell 9342

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1.0 APPLICATION DETAILS

Applicant(s):	Margaret and Noel Trevathan
Site Address:	360 Ardgour Road, Tarras
Legal Description:	Section 23 Block XVI Tarras SD Part Section 25 Block XVI Tarras SD Part Section 31 Block XVI Tarras SD Lot 1 DP 25202 Section 50 Block XVI Tarras SD
Record of Title:	OT14B/606 OT17B/63 OT17B/64 (attached in **Appendix A** – Record of Title)
Site Area:	117.366 ha (combined)
District Plan:	Central Otago District Plan (CODP)
Zoning:	Rural Resource Area
Overlays:	Nil
Resource Consent:	Subdivision
Activity Status:	Discretionary
Locality Map:	

Figure 1 Location of subject site. Source: Grip

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2.0 BACKGROUND

2.1 SITE AND SURROUNDINGS

The subject site at 360 Ardgour Road, Tarras is a rural property with a total area of 154.65Ha. The site is located on the lower elevation along the Lindis Valley. land is situated on the south side of Ardgour Road approximately 1km east of the Thomson Gorge Road intersection. The land is generally flat nearer Ardgour Road and to the north of Dry Creek, the land rising several metres to terraced pasture. The Record of Title is attached as **Appendix A**. The

The current land use is predominantly dryland farming on the upper terrace to the north of Dry Creek. The lower portion of the land near Ardgour Road is nonproductive, due to topography and restrictions to access of irrigation. To the south of Dry Creek, the land is generally flat.

Onsite there are two dwellings housing the Trevathan families. One on Section 23 and the other Pt Section 25. A shearing shed is also located on Section 23. The Trevathan family purchased the home farm block in 1914 and as the farm developed further additional parcels were obtained throughout the years. Today the family still occupy the original farm block with younger generations occupying a dwelling relocated to the site in 2010. The original farmhouse is also still occupied by family-members.

Vegetation at the site consists primarily of mixed spray irrigated pasture, with a few scattered shelter belts. This can be classified as a modified, predominantly with introduced species, rural environment.

To the north of the site, the Lindis River meanders west along the valley floor at the base of a high terrace. Similarly, the south of the land rises from the valley floor to a terrace before rising again to the dominating Dunstan Mountains.

There are several houses along Ardgour Road on a variety of lot sizes. The housing pattern of the immediate surroundings along Ardgour Road displays as various sized productive allotments with smaller residential curtilage areas containing dwellings fronting Ardgour Road. The housing has traditionally been occupied by families and workers tending to the immediate productive properties.

A water race transects Sections 23 & 24 Block XVI Tarras SD and has no physical use on the land. A Lindis Irrigation Limited water race exists currently at the southern tip of Section 23. This will be decommissioned within the coming years in line with the Lindis Irrigation Scheme Regional Council Consents for converting the existing race to a bore supply, to enable more residual flow to be retained in the Lindis River.

There are no hazards which are identified for the site as per the CODC Planning Maps does not identify any hazards on the site. There are no Hazardous Activities and Industries Sites identified for the site as per the Otago Regional Council - Land Use Register.

An Active Flood Water Dominant Alluvial Fan is present on the site, a report completed by Geosolve (attached as **Appendix H**) confirms that this does not pose a risk to the proposed subdivision of the site.

2.2 RECEIVING ENVIRONMENT

The receiving environment is characterised by activities that are reliant on surrounding land resource for various farming and residential activities . Workers and families need to live close to area for active and efficient management of established productive activities.

There is a high voltage transmission line located to the south of the subject site on a neighbouring property. It is not considered that Transpower will be affected by this application as there will be no potential future residential activity in close proximity to the transmission line.

The area surrounding Ardgour Road is classified as semi-arid and farm records indicate a rainfall of 325mm to 400mm annually. Due to low rainfall, hot climate and strong winds the area has a sizable moisture deficit with a high level of evapotranspiration present.

ORC Farm use maps Attached as **Appendix G** detail the areas adjacent and including the subject site as having smaller land blocks of 2ha and upwards, primarily used as mixed livestock, beef, dairy support, viticulture and sheep, intermixed with smaller land holdings used as lifestyle blocks and horticulture and arable land. In recent years a shift toward pivot irrigation and farm practices has been notable within the surrounding environment. This can be attributed to the need to increase the economic viability of productive land where the climate, topography, and water availability provide challenges to effective land use.

The history of the receiving environment has been described within the productivity report produced by Landward Management attached as **Appendix C**. The following is an excerpt from this report:
"Historically the immediate area originally comprised smaller blocks operated as semi-extensive sheep farming with selected areas of cropping in suitable locations. There has been a level of land aggregation over time possibly coinciding with economic cycles and rural depopulation at some point. The Trevathan family purchased the home block in 1914 and acquired additional land in 1950 and 1973 respectively. Often acquisition was driven by smaller blocks no longer having the scale to provide a sustainable income under the traditional farming models. However, in recent years people have been moving into the wider Upper Clutha area and sub-division and land use changes have taken place. These land use changes have frequently resulted in more productive use of smaller parcels of land and therefore providing rural and lifestyle opportunities that were previously not available."

The process to convert to more efficient pivot irrigation requires significant cost input to be able to provide for the water needed to increase the productivity on the site. This consent will allow the applicant to remove unproductive portions of the existing site to provide for community living needs and result in the retention of the remaining larger productive block with the economic insensitive to increase the productivity on the site through pivot irrigation.

2.3 TITLE INTERESTS

A copy of the record of titles and associated interests attached as **Appendix** A

Lot	Interest	Benefit
Section 23 Block XVI Tarras SD & Lot 1 DP 25202 Sec 50 Block XVI Tarras SD Part Section 25 and Part Section 31 Block XVI Tarras SD	Convey Water via Black line transfer	Lindis Irrigation Ltd
Part Section 25 Block XVI Tarras SD	Right to Convey Electricity	Aurora Energy Limited

2.4 CONSENT HISTORY

The Lindis Irrigation Ltd is in the process of being dissolved. These water easements will then be surrendered. This process will co-inside with the applicants change to pivot/ bore irrigation when the race is decommissioned.

The existing water take permits will be unaffected by the proposed subdivision.

Existing bores on the subject site:

- G41/0382: Domestic Bore consented under RM2010.183 – Located within proposed Lot 8 and services existing dwelling.
- G41/0152: Domestic Bore – existing since 1959 to service shearing sheds

There are no other relevant consents to this application.

3.0 DESCRIPTION OF PROPOSAL

3.1 CURRENT ALLOTMENT BREAK DOWN AND CORRESPONDING LAND USAGE

Currently the landholding consists of six lots held in three titles with Dry Creek splitting the title of Part Section 25 and Part Section 31 Block XVI Tarras SD. Section 24 Block XVI Tarras SD is also included in the landholding and overall farm. A water race bisects the current Sections 23 and 24. LINZ has been requested to incorporate the water race within the adjacent two titles. The request is currently with LINZ for consideration; however, this process will not affect the proposed subdivision.

The location of the lots in titles OT17B/64 is split by Dry Creek, which creates difficulty with land management, particularly, water allocation. The proposed reconfiguration of the lots is intended to use Dry Creek as a physical separation of the titles providing the owner with increased efficiency in management of the land.

Title	Appellation	Title Area
OT17B/63	Lot 1 DP 25202	14.6925
(37.91Ha)	Sec 50 Blk XVI Tarras SD	23.31
		38.0025
OT17B/64	Pt Sec 25 BLK XVI Tarras SD	21.5504
(41.277Ha)	Sec 31 Blk XVI Tarras SD	18.8301
		40.3805
OT14B/606	Sec 23 BLK XVI Tarras SD	39.0066
(39.0066Ha)		
	Total	117.3896

Table 1 Existing Allotment Areas

The owner intends to develop the landholding into single large open pasture suited to pivot and hardhose irrigators. The eastern portion of the land over proposed lots 1 - 3 is intended to have a single pivot irrigator which can reach from the eastern boundary of Proposed Lot 1 - 3 west to Dry Creek. The plan C3001 Pivot 5A (attached in **Appendix B**) below shows the planned extents of the pivot irrigator. The plan shows the limitation of the pivot to reach to the north of the property where the topography drops towards Ardgour Road.

The land within proposed lots 4 and 5 has a dry face dropping towards the road and is currently not intentionally irrigated, with any water reaching the sites coming from flood irrigation run off. The sites also cannot be suitably irrigated with a separate type of irrigation system such as K-line. The dry face of the land formation is uneven and unsuitable for best practice pivot irrigation. This becomes

inefficient and costly to operate in tandem with the planned large scale pivot irrigation system. For this reason, these areas have been identified for subdivision as they do not support the overall productivity or future increase in productivity of the site.

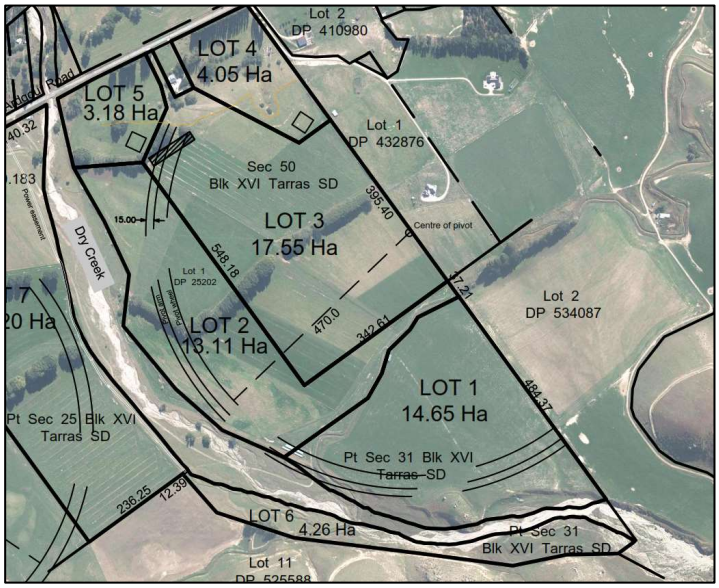

Figure 2 extent of proposed pivot irrigation to the East of Dry Creek

3.2 PROPOSED SUBDIVISION

It is proposed to subdivide the existing five allotments into 11 with a total of nine new allotments created as proposed allotments 1 & 2 and 6 & 7 will be amalgamated, It is requested that CSN numbers are obtained from LINZ. The proposed plan of subdivision is attached as **Appendix B.** The proposed subdivision meets the requirements of an average of 8ha and no less than 2ha, table 2 below details exact allotment sizes and averaging calculations. Pt Section 24 is not proposed to be subdivided and will be utilised in its current form.

Due to the age of the previous survey plan of the subject site, the subsequent surveying of the site for this application has identified some minor differences in the definition of the boundaries of Dry Creek. This has resulted in a minor difference in the total area of the subdivision (as evident in Table 2 below). This will not affect the overall averaging of land areas within this subdivision.

The shape of the dry face that runs parallel across proposed Lots 4 and 5, together with the uneven topography means that it is not possible to adequately fence or irrigate these areas. This presents a meaningful carrying capacity for cattle or sheep or a continuation of productive uses under pivot irrigation. The allotments as proposed only encompass areas that do not increase the productivity of the site. The land from being mitigated and from any economically productive use.

The plan C3001_Pivot_5A, attached as **Appendix B** shows the extent of the pivot irrigation on the land. Lots 8, 9 and 10 are all out of the pivot irrigator's reach.

The house and curtilage on proposed Lot 9 is currently the home of N&M Trevathan (owners of the site) and has not practically been part of the working farm for several years. Currently the house and shearing shed have a farm track between them, however all farm trucking and vehicular movements now come through the gate off Ardgour Road to the north of the shed.

It is intended for proposed Lot 8, including the existing house and curtilage to be subdivided off the site due to being surplus to requirements on site. The existing fenced curtilage area will provide the boundaries to the new allotments. The house does not form part of the large-scale pasture plans for the farm and is outside the reach of new pivot irrigator to be installed on the site. The house is currently occupied by members of the Trevathan family, but they intend to build a new house on proposed Lot 10. Once the Trevathans have moved, the house on Lot 8 will become surplus to their requirement and is better suited to a separate title that is not included within the productive farm areas. The allotment area of proposed Lot 8 is considered appropriate to the controlled subdivision rule as confirmed through the reasoning provided within the district plan: *"Subdivision for these activities has only a limited effect on the environment. A minimum allotment size to control density of development is not considered appropriate given the purpose of these activities."*

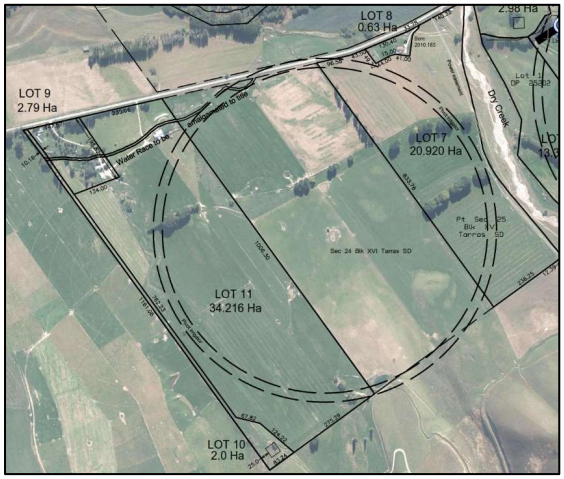

Figure 3 Proposed subdivision and pivot area. Lots 7-11

New Lot	New Area	
LOT 6	4.26	
LOT 7	20.92	
	25.18	16
		for averaging
LOT 1	14.65	
LOT 2	13.11	
	27.76	16
		for averaging
LOT 3	17.55	16
		for averaging
LOT 4	4.05	4.05
LOT 5	3.18	3.18
LOT 8	0.63	0.63
LOT 9	2.79	2.79
LOT 10	2	2
LOT 11	34.216	16
	117.356	76.65
	Titles	9
	Lot Average	8.52

Table 2 Proposed Allotment Areas

The economic benefit of separating the two dwellings from the farm onto separate titles provides the region additional housing stock for a workforce. The applicant does not desire to be a landlord due to the time demands, along with the maintenance required for rental housing. This would quickly become onerous and untenable whilst managing large scale farms. Separating the houses from the main land holding allows the houses to remain liveable and not be left vacant.

Lot 10 is intended to be the location of the new Trevathan residence. The site is situated on a small rise at the southeastern corner of the land holding. This section of the land is fenced and not farmed. A section of the Lindis Irrigation water race traverses through the Lot 10 and will be filled once the decommissioning of the Lindis Irrigation Scheme race is completed.

Resource consent is sought to establish an 11-lot subdivision in eight titles. Proposed Lots 6 and 7 as well as proposed lots 1 and 2 are to be amalgamated and held in one title. The scheme plan for the

proposed subdivision is attached as **Appendix B.** Servicing, infrastructure and roading aspects of the proposed subdivision are detailed in the subsections below.

The physical design and construction of works to be carried out as part of the subdivision or as required by a condition of consent will generally be in accordance with Council's Code of Practice for Subdivision.

3.2.1 Access and Servicing

Access	• Lots 1 – 3 will be accessed by the existing vehicle crossing within a 15m wide corridor with a new ROW created to access Lots 1 and 2 • Lots 4, 5 and 10 will require new access to be constructed • Lot 8, 9 and 11 will use the existing access points.
Power	Power will be reticulated to the property boundaries of the proposed the allotments.
Water	It is proposed for domestic bores to be established to service allotments 4, 5 and 10 where build platforms are proposed. These will not exceed domestic permitted quantities. A separate regional consenting process for the bores will be undertaken by the drilling companies prior to 224c of the proposed subdivision. Testing will be undertaken to ensure the domestic water meets freshwater drinking standards prior to the finalisation of the subdivision. The remaining allotments, subject to the installation of pivot irrigation have undergone a separate regional consenting process for the bores providing irrigation water. Through the Environment Court process confirming the decommissioning of the Lindis Irrigation Scheme Water Race, ground water takes for user of the race have been provided for and are in various stages of development. The irrigation project on the subject site is considered as part of this process.
Wastewater	It is intended that at the stage of establishing residential dwellings onsite wastewater disposal systems will be installed. The size of the proposed building platforms is appropriate for various treatment methods. A site and soils report has been completed and is attached as **Appendix D**; this confirmed the sites are appropriate for onsite wastewater disposal systems. The existing dwellings on proposed Lots8 and 9 will retain the existing established systems.
Stormwater	Stormwater from future dwellings is proposed to be discharged to land. Appropriate designs will be confirmed at building consent stage.
Telecommunications	Satellite telecommunications is considered appropriate for this proposal due to the rural location. It is proposed that this be conditioned via consent notice
Fire Fighting	It is requested that a consent notice be placed on the titles of proposed Lots 4, 5 and 10 stating that firefighting reserve is to be provided for by the owner at the time domestic activity is undertaken on the site. The proposed Lots are considered appropriate for reserve tank and hard stand provision.

3.2.2 Geotech and Natural Hazards

A review of the ORC hazard database has confirmed that there is an active flood water dominant alluvial fan on the subject site. This will have little to no impact the building platform for Lot 5 as confirmed through the Geo Solve Report attached as **Appendix H**. The Mt Iron Geodrill Domestic wastewater and storm water suitability report **(**attached as **Appendix D**) identifies, and the ground is also suitable for drainage and wastewater disposal.

The area is described as being made up of primarily schist bedrock. There is an identified flood water dominated alluvial fan below the subject site that does not impact the areas for proposed dwellings.

It is considered that the site is appropriate for establishing residential activity on the proposed building platforms and further investigation on establishing foundations for dwellings can be completed prior to building consent if required. Risk of erosion and sedimentation will be managed separately though any further resource or building consent process to establish residential activities on the build platforms.

3.2.3 Earthworks

Earthworks will include upgrading the existing accessways. No additional earthworks will be needed to prepare proposed build platforms at this stage.

Prior to beginning earthworks related with the subdivision, appropriate earthwork management practices will be implemented to ensure any risks of erosion or sedimentation are mitigated.

3.2.4 Building Platform

Lots 4 and 5 will each contain a 30m x 30m (900m^2) building platform. The overall building footprint of future built form within each building platform will not exceed 450m^2.

Each building platform is proposed to be limited to a 7.5m height limit above existing ground level.

The external cladding of future dwellings will be in accordance with the following standards of the Rural Resource Area:

- Exterior paint colours shall be in the recessive with a maximum light reflectivity value (LRV) of 20% in the range of browns, greens and greys; and
- Natural timbers shall be left to weather, or stain colours shall be of a natural hue or black, rather than other colours; and
- Roof cladding shall have a maximum LRV of 20% or less and shall be dark recessive colours in the range of browns and greys and finished with a matte surface.

3.2.5 Landscape

Minor skyline breaches will be anticipated from built form on the proposed building platforms on Lots 4 and 5, however the vegetation backdrop will help to absorb future built form into the environment. The proposed building platform locations along with the lower traffic numbers along Ardgour Road will ensure the visibility of these breaches is minimal. Existing skyline breaches of residences visible from SH8 generate significantly more effects in a higher visibility location, with this comparison it is considered the proposed building platforms are appropriate.

The topography Lots 4 and 5 provides limitations for appropriate build platform locations. It was considered that the most appropriate build locations were located above the depression on the sites to provide for adequate stable buildable areas along with drainage for onsite wastewater disposal.

The applicant is proposing to retain the existing vegetation along Ardgour Road for Lots 4 and 5 as well as the vegetation on the boundary line between proposed Lots 5 and 2/3. This will ensure that the skyline breaches will be less noticeable and future built form is absorbed into the backdrop.

The pattern of residential settlement along Ardgour Road is evident when viewing allotments along the road with separate detached dwellings placed conveniently to surrounding larger productive parcels. The inclusion of two additional allotments, separated by 200m will not lead to inappropriate domestication of the surrounding environment, but will reflect the existing character values of the area. The retention of large productive areas within this subdivision will ensure the pattern of dispersed residential dwellings amongst larger parcels of rural land will continue.

The Tarras Community Plan (attached in **Appendix I)** has highlighted the need for an increase in accommodation and rural dwellings to enable the local workforce and families to continue to service the area. The applicant intends to provide further residential options while also retaining the productive areas of the exsisting farm. This will provide a net benefit to the local community.

3.2.6 Soil Productivity / Current and future farming

Lindisvale Farm originally exclusively used border dyke irrigation and currently uses k-line irrigation, hard hose and a small amount of border dyke. However, k-line irrigation is becoming less effective, so it is intended for pivot irrigation to be implemented to help improve efficiency and productivity of the site. Operating both systems is neither productive nor economical. There is a general shift within the industry and the Tarras region away from flood irrigation to variable rate irrigation, like line or pivot systems.

Pivot systems, such as SCADAfarm, allow remote control and monitoring via GPS. K-line irrigators are labour-intensive, need constant water pressure, and struggle with even water distribution on uneven terrain, making them less suitable in some circumstances. Drip irrigation is better for smaller crops on uneven ground. However, using two different irrigation systems is uneconomical and labour-intensive due to differing pressure requirements.

Ray Macleod of Landward Management Ltd has produced a Land Use Capability Report (Attached as **Appendix C)** assessing the current and future productivity of the site. His comments below provide insight to the climate conditions surrounding the Tarras / Ardgour Road and the impacts on viability of crops and productivity as a whole.

"*The influence of climate on productivity is a key part of soil productivity regardless of soil classification and will be discussed further. Regular cropping is rare due to environmental risks around wind erosion and our estimates are as little as 200ha-250ha of feed crop is planted annually in the immediate district, or about 2% of the area available. Current semi-extensive farming uses in the area tend to reflect best practice under the prevailing climatic conditions."* – Ray Macleod

Under a centre pivot irrigation scheme the residual farming area is projected to increase dry matter production by 70% over current estimated production levels and stock carrying capacity by a similar amount (Pivots cost more overall but significantly increase productivity. K-line is estimated to cost 10x the capital cost per stock unit). Better outcomes are able to be achieved through pivot irrigation, upgrades will be supported financially through the provision of allotments for future or existing residences.

Proposed Lots 4 , 5 and 10 were previously only irrigated through overflow from flood irrigation. The topography of the areas prevents the ability to effectively K-line irrigate. With the change to pivots these allotments will be significantly drier and unlikely to support speciality crops. However, when separated from the primary parcels may have the ability to support smaller scale lifestyle farming activities (fruit trees, olives, hops or viticulture on the slopes etc). This will have a very minor impact on the overall productivity of the residual farming platform.

The Landward report further indicates that there is great efficiencies in labour time and cost reductions by improvements in moving to a pivot irrigation system. Staff are no longer required to live directly on the land that they are employed on and prefer to live in the townships of Tarras or Cromwell, nearer services and schooling. This comment is supported by The University of New Zealand Environmental Health and Intelligence New Zealand (ehinz) which shows that the rural labour force continues to shrink in NZ dropping from almost 20% of the workforce in 1951 to 5.9% in 2018.(https://www.ehinz.ac.nz/indicators/population-vulnerability/urbanrural-profile/). Also, as efficiencies in agriculture increase, the workforce can be deployed on multiple farms as evidenced by the applicant working on multiple family owned farms in the Tarras area such as Māori Point Road and also lease Jollys Road, without the requirements to live within the immediate location.

It is considered that the overall productivity of the site will be increased through this application and will result in better practice land use through the conversion to pivot irrigation. While Lots 4 and 5 will be separated from the underlying parcel, as they hold significant limitations to effective land use and efficient irrigation, the proposed subdivision will result in a better outcome and will align with the National Policy Statement on Highly Productive Land. Conversion to pivot irrigation will not be economically viable without proposed Lots 4 and 5 being sold to provide capital for the investment in conversion to pivot irrigation.

4.0 RESOURCE CONSENTS REQUIRED

4.1 REASONS FOR CONSENT

The subject site is zoned Rural Resource Area in the CODP.

Subdivision consent is required under the CODP for the following:

- As a **Controlled** Activity under Rule 4.7.2 b(iii)(ii) to subdivide existing dwellings already on the site and surplus to the requirements of a permitted activity.

- As a **Discretionary** Activity under Rule 4.7.4(iii) for creating allotments with an average allotment area of no less than 8 hectares and a minimum allotment area of less than 2 hectares in an area not identified on the planning maps as Rural-Residential, Rural Resource Area (1) or Rural Resource Area (2) or Rural Resource Area (3).

Land Use consent is required under the Central Otago District Plan for the following:

- As **Discretionary** Activity under Rule 4.7.4(i) for residential building platforms that do not comply with standards 4.7.3(vii)(b)-(d) for separation distances.

Overall, the application seeks resource consent as a **Discretionary** activity.

5.0 DISTRICT PLAN ASSESSMENT

5.1 STANDARDS

For ease of assessment, the relevant chapter standards of the Central Otago District Plan are assessed in **Appendix E**.

The aspects of the proposal that require resource consent have been identified in **Section 4.0** above. The matters of discretion associated with the residential building platform activity have been included in the standards assessment table in **Appendix E**.

5.2 OBJECTIVES AND POLICIES

The application is required to be assessed against the relevant District Plan objectives and policies. These are assessed below by chapter.

5.2.1 Section 4 Rural Resource Area

- ***4.3.1 Objective - Needs of the District's People and Communities - To recognise that communities need to provide for their social, economic and cultural wellbeing, and for their health and safety at the same time as ensuring environmental quality is maintained and enhanced.***

  Policies: *4.4.1 to 4.4.16, 4.4.18*

  Comment: The proposed rural subdivision development provides for additional housing supply on currently unproductive parts of the subject site, while environmental, landscape and amenity values are managed appropriately. The proposal is considered consistent with the above objective and associated policies and the Tarras Community Plans intentions for the future of the community.

  "There are a number of lifestyle blocks in the area, and we have examined lifestyle property sales in the period 5 from January 2021 to the present. There is a steady demand for such property and during this period twenty-nine properties under 10ha were sold including five in Ardgour Road itself. This demand for rural blocks is consistent with the Upper Clutha area [and the Ardgour Valley]. There is an economic and social demand for lifestyle property in the area"- Ray Macleod on economic considerations

- ***4.3.3 Objective - Landscape and Amenity Values - To maintain and where practicable enhance rural amenity values created by the open space, landscape, natural character and built environment values of the District's rural environment, and to maintain the open natural character of the hills and ranges.***

  Policies: *4.4.1, 4.4.2, 4.4.3, 4.4.8, 4.4.9, 4.4.10, 4.4.11, 4.4.12, 4.4.14, 4.4.18*

  Comment: The proposed rural subdivision provides both for adequately spaced and generously sized lots for future rural lifestyle activity and for increased productivity on large rural blocks. The proposal includes the provision of building platforms on lots 4,5 and 10 which specifies where future residential buildings will be located, the locations have been assessed to integrate into the existing landscape and reduce the potential for visual effects from the wider environment, while ensuring the amenity and character of the surrounding environment is maintained.

- ***4.3.7 Objective - Soil Resource - To maintain the life-supporting capacity of the District's soil resource to ensure that the needs of present and future generations are met.***

  Policies: *4.4.6, 4.4.10, 4.4.12, 4.4.18*

  Comment: As detailed in Section 7 of this report, the site contains land mapped as LUC Class 3, as identified by Land Use Capability mapping held by Landcare Research. As the subject site is considered highly productive and is it currently used for agriculture productivity, the proposed subdivision has been designed and assessed with the intention of retaining and increasing the overall productive capacity

  Further to this, the applicant wishes to continue productive farming on this farm held in their family since 1914 and to also improve the efficiency of the farm and modernise the irrigation infrastructure, financial capital will need to be raised. As the Lindis irrigation Scheme is decommissioning water races previously used on the site, updating the infrastructure is necessary for the future viability of the farm.

  The areas proposed to be subdivided with building platforms have been directly identified and assessed as un-productive due to severe limitations that are unlikely to be resolved within the next 30 years to enable the sites to contribute productively to the site. Overall, this ensures the productive life supporting capacity of the District's soil resource will be preserved for rural use, while other areas are able to be utilised for rural living. The above, confirms that the proposal is consistent with the above objective and associated policies.

5.2.2 Section 12 District Wide

- ***12.3.1 Objective - Safe and Efficient Roading Network - To promote the safe and efficient operation of the District's roading network.***

  Policies: *21.4.1*

  Comment: The proposal will utilize existing access ways off Ardgour Road for Lots 1-3 (with a ROW proposed for Lots 1 and 2) and 8,9 and 11, with new accesses proposed for Lots 4, 5 and 10. All lots will have sufficient vehicle parking on site. All new accesses will be formed to council standards. The proposal is considered consistent with the above objective and associated policies.

- ***12.3.4 Objective - Avoidance, Remedying or Mitigation of Nuisances - To ensure that activities avoid, remedy or mitigate nuisance to adjoining properties from odour, dust, lightspill, glare and electrical interference.***

  Policies: *12.4.7*

  Comment: The increase in the level of activity on the site, resulting from the proposed allotments and building platforms, is not expected to generate a level of effect that would result in nuisance to neighbouring sites. Therefore, it is considered that the proposal is consistent with the above Objective and Policy

5.2.3 Section 16 Subdivision

- ***16.3.1 Objective - Adverse Effects on the Roading Network - To ensure that subdivision avoids, remedies or mitigates adverse effects on the safe and efficient operation of the District's roading network.***

Policies: *16.4.1, 16.4.2*

Comment: The associated trip generation from the proposed additional lots anticipated for rural lifestyle activity is not expected to create a noticeable impact on the local road network. The subdivision will not affect the trip numbers associated with the productive farm areas. The proposed subdivision will be accessed from Ardgour Road, a rural access road (within the CODP), it is considered the road design is safe and appropriate for the additional vehicle trips and the proposed subdivision will avoid adverse effects to the safe and efficient operation of the districts roading network. As such the application is considered consistent with the above objective and policies.

- ***16.3.2 Objective - Services and Infrastructure - To ensure that subdivisions provide all necessary services and infrastructure without adversely affecting the public interest and the ongoing viability of those services and infrastructure.***

  Policies: *16.4.3, 16.4.5*

  Comment: The proposed subdivision will include the provision of all required service connections including water, serviced through proposed bores on the allotments with building platforms, also electricity extended to the boundaries of the proposed allotments with building platforms. New access for vehicle access to lots for future residents will also be provided. An onsite wastewater report was completed and concluded the identified build platforms are appropriate for onsite wastewater treatment. Telecommunication will be provided by satellite based systems.

- ***16.3.3 Objective – Hazards - To ensure that subdivision does not facilitate development that may potentially be at risk from hazards.***

  Policies: *16.4.8 Section 17 Hazards*

  Comment: An active floodwater dominant alluvial fan is noted on the subject site within the Otago Regional Council Natural Hazards Portal. The Geosolve report attached as **Appendix H** confirms the sites with building platforms (Lots 4,5 and 10) are positioned in locations appropriate for building with minimal risks. Appropriate building platform sites have been provided on the subdivision plan attached as **Appendix B.** This application is considered to be consistent with the above Objective and Policies.

- ***16.3.4 Objective - Amenity Values - To ensure, where appropriate, that amenity values of the District created by the open space, landscape and natural character values, and areas of significant indigenous vegetation, significant habitat of statutorily managed sports fish and game are not adversely affected by subdivision.***

  Policies: *16.4.4, 16.4.7, 4.4.10*

  Comment: As discussed above within section 3, the building platform locations have been chosen and for their ability to best absorb future built form into the environment and ensure the amenity and natural character of the area is maintained. The remaining larger parcels will be kept as productive and maintain the existing open space of the surrounding environment. It is considered that this application is consistent with the above objective and associated policies.

- ***16.3.5 Objective - Water and Soil Resources - To ensure that subdivision does not facilitate development that may compromise the life-supporting capacity of the District's water and soil resources.***

Policies: *16.4.4, 4.4.10*

Comment: The proposed subdivision on highly productive LUC Class 3 land aims to retain and enhance agricultural productivity. The applicant, whose family has farmed the land since 1914, plans to upgrade the existing irrigation infrastructure to ensure the farm's future viability, especially as the Lindis irrigation Scheme is decommissioning in favour of ground water takes. The subdivision targets unproductive areas, preserving the district's soil resource for rural use while allowing for rural living. This approach aligns with the relevant objectives and policies.

- ***16.3.6 Objective - Heritage Values - To ensure that subdivision does not facilitate development that may adversely affect heritage and cultural values including cultural values of importance to Kai Tahu ki Otago.***

  Policies: *16.4.7, 16.4.10*

  Comment: The site does neighbour Dry Creek, however for majority of the year there is no water present in the creek bed, water is mostly only present during significant rain events. As documented through ORC and CODC mapping, historically the creek has not been used for mahinga kai gathering as it does not support fish species or plant species. Nevertheless, all proposed activities associated with forming the building platforms and providing servicing will provide appropriate environmental management to ensure sediment and erosion is appropriately managed on site. Wastewater will be serviced through onsite disposal systems, which will be established individually at the time of construction. The size of the site and locations of the proposed build platforms is considered to be appropriate for onsite wastewater and is unlikely to have any effects on Heritage or Cultural Values. The proposal is therefore considered consistent with the above objective and associated policy.

- ***16.3.9 Objective - Physical Works Involved in Subdivision - To ensure that the physical works involved in preparing land that is part of the subdivision avoids, remedies or mitigates adverse effects on: (a) The stability of land. (b) Water quality within natural watercourses and the stability of their margins. (c) Neighbouring properties in respect of the effects of noise, dust and vibration.***

  Policies: *16.4.6, 16.4.7, 12.4.3 12.4.7*

  Comment: The physical works involved in preparing the subdivision include forming individual accesses to Ardgour Road and building platforms (where required). Such aspects have been designed appropriately to avoid areas of potential instability and will be undertaken with all required earthwork management measures in place. The proposal is considered consistent with the above objective and associated policies.

- ***16.3.11 Objective - Effluent Disposal - To ensure that subdivision in areas without reticulated foul sewage services does not facilitate development that has an adverse effect on soil, surface and groundwater resources, and public health.***

  Policy *16.4.4*

  Comment: Wastewater will be serviced through onsite disposal systems, which will be established individually at the time of construction. The size of the site and locations of the proposed build platforms is considered to be appropriate for onsite wastewater and unlikely

to cause adverse effects on soil and water resources as established within the onsite wastewater report attached in **Appendix D**. The proposal is considered consistent with the above objective and policy.

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6.0 RMA S104(1)(A) ASSESSMENT OF ENVIRONMENTAL EFFECTS

The actual or potential effects of the proposed activities on the environment have been assessed under the following heading below in *Table 3*.

Table 3. Assessment of Environmental Effects

Effect	Scale of Effect	Assessment of Effect
People and Built Form		
Rural Character	No more than minor	The subdivision and creation of subsequent dwellings on the proposed building platforms will not adversely affect the rural character. The primary intention of this subdivision is to retain and increase the productivity of the rural use of the subject site. Over 104ha of the subject site will remain in productive farming with the remaining sites with proposed building platforms and existing dwellings maintaining the character of the surrounding environment. Effects are considered less than minor.
Visibility	No more than minor	The proposed platforms on Lots 4 and 5 will be visible for a short distance along Ardgour Road, behind existing vegetation, and only when directly in front of the build platforms. The existing vegetation, which will be retained through the subdivision, will help absorb and obscure future structures. The platform on Lot 10 will be very difficult to spot due to its setback from Ardgour Road. Therefore, the effects on visibility are considered less than minor.
Building Density	Less than minor	The proposed subdivision and building platforms comply with the relevant size and separation standards in the CODP. The subdivision and building platforms have been designed to ensure built form visibility is minimised, with their locations responding to the site topography which results in a more spread and natural appearing built form. The dwelling on proposed Lot 8 is surplus to requirements of the farm and so meets the District Plan reasoning for building density.
On-site Amenity	Less than minor	The proposed subdivision and building platforms have been designed to ensure on-site amenity is enhanced for future residents, by locating building platforms in positions that limit inter-visibility between lots and integrate building platforms within the landscape as to appear in logical and unobtrusive location, with existing vegetation to provide natural separation from retained productive areas. Effects are considered less than minor.
Cumulative Effects	Less than minor	The proposed subdivision is situated along Ardgour Road, adjacent to existing rural lifestyle activities. The allotments and building platforms have been strategically placed to

Effect	Scale of Effect	Assessment of Effect
Precedent Effect	Less than minor	maintain productive areas and ensure proper separation from external and existing residential activities. Planned upgrades to the irrigation infrastructure indicate that there is no intention to reduce the productive areas further. Consequently, the proposed subdivision is expected to blend seamlessly with the surrounding landscape and adjacent activities, without causing cumulative or precedent effects on the site.
Reverse Sensitivity	Less than minor	While proposed building platforms 4 and 5 are located on the exterior of one of the future pivot irrigators, the setbacks and existing vegetation will reduce any reverse sensitivity issues. The expectation is that housing created through the proposed build platforms will be utilised by the local rural community who are also engaged in rural productive activities. The applicant proposes a reverse sensitivity consent notice for build platforms 4 and 5 to further identify the location of productive activities to future lot owners.
Land, Flora and Fauna		
Vegetation	Less than minor	No vegetation removal is proposed.
Landform	No more than minor	Earthworks will be limited to forming accesses to Ardgour road and minor works to form proposed building platforms. Effects to landform are considered no more than minor.
Waterbodies	Less than minor	The proposed subdivision and building platforms are not anticipated to affect the nearby Dry Creek
Groundwater	Less than minor	The proposed subdivision and building platforms are not considered to pose a risk to any waterway. The proposed locations of build platforms are appropriately setback from Dry Creek and the provision of onsite wastewater treatment and therefore will have a negligible effect on groundwater.
Contamination	Less than minor	
Significant Soils	Less than minor	The proposed subdivision on highly productive LUC Class 3 land aims to retain and enhance agricultural productivity. The applicant proposes to be upgraded existing irrigation infrastructure to ensure the farm's future viability, especially as the Lindis irrigation Scheme is decommissioning. The subdivision is of unproductive areas of the farm as a whole while preserving the district's soil resource for rural use and allowing for rural living on areas with significant productivity limitations.
Infrastructure		
Water Supply	Less than minor	Domestic bores will be established for Lots 4, 5, and 10, staying within permitted quantities. Drilling companies will handle the regional consenting process before the completion of the subdivision. Water testing will ensure water supplies meet drinking water quality standards.

Effluent Disposal	Less than minor	On-site wastewater disposal systems are proposed to be used on the new allotments. Site and soil suitability testing has been undertaken and concluded the proposed building platforms are appropriate. The existing dwellings on Lots 8 and 9 will retain existing systems. Effects are considered to be less than minor.
Stormwater	Less than minor	Stormwater on proposed allotments containing building platforms is to be disposed to land when dwellings are established on site. Due to the size of the allotments and overall area of undeveloped land to be retained, disposal of stormwater to ground on the proposed site is considered to be appropriate and effects will be less than minor. There will be no change to productive allotments and allotments containing existing dwellings.
Energy Supply	Less than minor	Power will be reticulated to the proposed building platforms and the existing dwellings will retain established connections. There will be change to productive rural allotments.
Telecommunication	Less than minor	Telecommunication services will be provided through satellite-based systems which is considered appropriate in this instance.

Economic		
Residential land capacity	Positive	The proposed subdivision will increase the local housing supply by three, increasing the residential capacity of the area. The Tarras Community Plan (Attached in **Appendix I**) has identified a need for rural workers accommodation and further land for residential development to support the productive uses of the region. Effects of this application will be positive on residential land capacity
Rural Productivity	Positive	The site, classified as LUC Class 3 by Landcare Research, is highly productive and currently used for productive agriculture. The proposed subdivision has been designed to retain and enhance this productivity. Effects are considered positive to the overall rural productivity of the site, which will significantly benefit from this subdivision.
Rural economy	Positive	The proposed subdivision will positively benefit the rural economy by increasing the availability of worker housing and providing an overall increase to the Tarras communities' residential accommodation availability. Additionally, making more land available on the market will increase growth within the region. Upgrading the farms irrigation infrastructure will bolster local businesses that support rural industries, with the upgrade result leading to enhanced productivity and a positive economic impact.

Traffic Generation and Vehicle Movements		
On-Site Parking	Nil	The subdivision does not propose vehicle parking. This will be provided for by the house designs at building consent stage. There is adequate space available for parking provision within building platforms.

Site Access and Vehicle Safety	Less than minor	Proposed vehicle crossings and ROWs will be constructed to Council standards and existing access will be confirmed to be compliant. No significant increase in traffic is anticipated through this subdivision. Effects are considered less than minor.
Traffic Generation	Less than minor	The provision of new rural lifestyle lots is considered to have a negligible impact on trip generation effects on the local road network capacity, safety, and efficiency. Effects are considered less than minor.
Roading Capacity	Less than minor	

Nuisance		
Noise	Less than minor	The proposed subdivision will have negligible noise effects on neighbouring properties and/or the wider environment.
Odour	Nil	No odour is anticipated to arise from the proposed subdivision.
Hours of Operation	Less than minor	The proposed subdivision and subsequent residential activity have been designed to minimise visual amenity and nuisance effects on the neighbouring properties and wider environment. Therefore, the design of the subdivision is sympathetic to landforms and existing vegetation helps to reduce the presence of residential activity within the rural area to a degree that effects associated with rural lifestyle activity is less than minor.
Dust	Less than minor	The proposed access upgrade will reduce the potential for dust nuisance associated with vehicles accessing the lots. The number of vehicle trips generated by the proposed subdivision is such that it is not considered to create nuisance on Ardgour Road.
Air Discharges	Nil	No discharge to air is proposed.
Vibration	Nil	No vibration activities are proposed.
Lighting	Less than minor	Specific build designs will be undertaken through separate consenting processes to establishing the building platforms. The size and location of platforms is considered appropriate to absorb residential activity. Effects are considered as less than minor
Farming Practices	Nil	The primary use of the productive portion of the site will remain as a productive farm, which is a permitted activity under the District Plan, effects of the farming are not considered relevant to this application. Reverse Sensitivity has been assessed above.

Cultural		
Archaeological and heritage Sites	Nil	No archaeological items or areas are identified on the site area proposed for subdivision. This site contains no known areas of heritage significance.

Conclusion

The above assessment concludes that the environmental effects of the proposed subdivision will be *Less than minor* when considered in conjunction with the proposed mitigation and controls around the activities.

Table 4. Scale of Environmental Effects

Scale	Description
Nil Effects	No effects at all.
Less than Minor Adverse Effects	Adverse effects that are discernible day-to-day effects, but too small to adversely affect other persons.
Minor Adverse Effects	Adverse effects that are noticeable but that will not cause any significant adverse impacts.
More than Minor Adverse Effects	Adverse effects that are noticeable that may cause an adverse impact but could be potentially mitigated or remedied.
Significant Adverse Effects that Could Be Remedied or Mitigated.	An effect that is noticeable and will have a serious adverse impact on the environment but could potentially be mitigated or remedied.
Unacceptable Adverse Effects	Extensive adverse effects that cannot be avoided, remedied or mitigated.

7.0 RMA S104(1)(B) MATTERS

The application has been assessed against the relevant provisions of the documents referred to in RMA section 104(1)(b) as detailed below. The application has also been assessed against the relevant provisions of the Central Otago District Plan as detailed in previous sections.

7.1 NATIONAL ENVIRONMENTAL STANDARDS (NES)

The NES Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011 is relevant to this application as the proposal involves a change in land use and subdivision involving earthworks. A search of the most up to date information from the Otago Regional Council indicates no record of any HAIL activities on subject site. Therefore, the NES does not apply.

The remaining National Environmental Standards are not relevant to this application:

- Air Quality 2004
- Sources of Human Drinking Water 2007
- Electricity Transmission 2009
- Telecommunications Facilities 2016
- National Environmental Standard for Freshwater 2020
- Marine Aquaculture 2020
- Storing Tyres Outdoors 2021
- Greenhouse Gas Emissions from Industrial Process Heat 2023
- Commercial Forestry 2023

7.2 OTHER REGULATIONS

No other regulations are relevant to this application.

7.3 NATIONAL POLICY STATEMENTS (NPS)

7.3.1 NPS-HPL

The NPS for Highly Productive Land 2022 came into force on 17 October 2022 and has the purpose to ensure highly productive land is protected for use in land-based primary production. The NPS-HPL applies to Rural Zoned land and is required to be considered for the current application.

Areas of 'Highly Productive Land' are required to be identified and mapped in a Regional Policy Statement within 3 years of the operative date, and within a District Plan 6 months after this. Until this time, highly productive land is defined under clause s3.5(7) of the NPS to be land that:

> *(a) is*
>
> *(i) zoned general rural or rural production; and*
>
> *(ii) LUC 1, 2, or 3 land; but*
>
> *(b) is not:*
>
> *(i) identified for future urban development; 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.*

Key Objective of the NPS - HPL: Highly productive land is protected for use in land-based primary production, both now and for future generations.

The identification of Land Use Capability 1,2 and 3 mapping is held by Landcare Research. According to the Land Use Capability mapping, the subject site is identified as LUC Class 3. The proposed subdivision has been designed with the retention and increase of the onsite productivity as a key objective. Without the potential financial capital from this subdivision to fund the pivot irrigation the land on the site would otherwise be likely to be unviable for solely productive purposes by future generations. This application ensures the continuation of use of land that has been productive and supported generations on site since 1914.

Policy 4: The use of highly productive land for land-based primary production is prioritised and supported

The ongoing use of this site in productive capacities and the proposed upgrade of irrigation infrastructure is consistent with this objective. In order to prioritise the productivity of this site, subdivision is required to generate the capital needed to upgrade the irrigation. This is discussed in depth within the land capability report, prepared by Landward Management (attached as **Appendix C).**

However, as identified within the Landward Management capability report ,there are significant limitations to the productive soils on the identified sites with building platforms, due to the steep topography and shallow presence of rocks.

Exemptions under 3.10 of the NPS-HPL 1 (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;

The proposed build platforms on Lots 4, 5 and 10 make up areas of the existing farm that have significant constraints that will limit the economic viability of the areas for more than 30 years. This is identified within the Landward Management report as due to steep topography / terrain on those sites, inability to irrigate consistently on the areas and shallow soils with the presence of rocks.

The applicant intends to retain all areas that are currently productive, with the goal of significantly improving the productivity of these areas through the upgrade of irrigation infrastructure. This subdivision will provide capital to fund these upgrades. With the productivity on the site increased and the efficiency of irrigation provided for, the result will be the productive areas being retained for future generations to continue productive uses.

It is concluded that the proposed subdivision meets the Objectives, Policies and exemptions provided for under the National Policy Statement on Highly productive Land.

The following National Policy Statements are not relevant to the current application:

- Electricity Transmission 2008
- New Zealand Coastal Policy Statement 2010
- Renewable Electricity Generation 2011
- Freshwater Management 2020
- National Policy Statement on Urban Development 2020
- Greenhouse Gas Emissions from Industrial Process Heat 2023
- Indigenous Biodiversity 2023

7.4 OTAGO REGIONAL POLICY STATEMENT

7.4.1 Partially Operative Otago Regional Policy Statement 2019 (RPS)

The Partially Operative Otago Regional Policy Statement (RPS) was notified on 23 May 2015, and the Decision version was released on 1 October 2016. The RPS was made Partially Operative on 15 March 2021 and the Regional Policy Statement for Otago 1998 was revoked.

Overall, the proposal is not considered to be contrary to the provisions of the PORPS. The RPS is given effect to by the CODP, and the previous assessment has determined that the proposal is consistent with the CODP.

7.4.2 Proposed Otago Regional Policy Statement 2021 (PORPS 2021)

The Otago Regional Policy Statement is currently under review. The PORPS 2021 was notified on 26 June 2021 and submissions closed on the 3 September 2021 with further submissions closing on 12 November and 1 December for the Corrigendum.

Since the High Court declaration, the PORPS 2021 has been split into two parts, one which relates to parts deemed to be freshwater planning instrument and the other for parts which are not deemed to be related to freshwater. The 'non-freshwater parts' are continuing through the Schedule 1 process, with the submissions having closed and the hearings panel making recommendations to Council. The 'freshwater parts' were announced as being a freshwater planning instrument in 2022 with additional hearings closing in November 2023 and appeals continuing through Environment Court in 2024.

The PORPS 2021 must have regard given to it, however, as neither part of the PORPS 2021 have been exposed to an independent decision-making process the weighting of the PORPS 2021 is lesser than that of the RPS.

The application does not propose any activities within waterways or wetland areas. All earthworks and construction will be undertaken with appropriate erosion and sedimentation controls to mitigate any adverse effects from the activities. Overall, the proposal is not considered to be contrary to the provisions of the PORPS.

7.5 REGIONAL PLAN: WATER FOR OTAGO

This Regional Plan: Water for Otago (the Water Plan) provides a framework for the use, development, and protection of the freshwater resources of the Otago region, the beds and margins of water bodies, and the issues associated with that use, development, and protection.

There is no proposed alteration of streams, rivers or other waterways, with the exception of installing culverts along the proposed access track to prevent flooding and run off from any ephemeral streams. These will be installed in line with permitted Otago Regional Council standards. Earthworks proposed to formalise access tracks along with preparing building platforms and installing services will not exceed the permitted standards under the Regional Plan. It is considered that any earthworks required through these processes can be completed to a standard that will minimise sedimentation and run off, through the implementation of earthworks management practices.

Considering the above it is concluded that the application is consistent with the Regional Plan: Water for Otago.

8.0 RMA S106 MATTERS

Section 106 of the RMA allows a consent authority to refuse to grant a subdivision consent, or grant a subdivision consent subject to conditions, if it considers that –

(a) there is a significant risk from natural hazards; or
(c) sufficient provision has not been made for legal and physical access to each allotment to be created by the subdivision.

It has been assessed that there is no risk to the proposed sites from Natural Hazards . Furthermore, sufficient provision has been made for legal and physical access to each lot created by the subdivision. It is considered that it will be appropriate for the Council to grant the subdivision in this instance.

9.0 RMA PART II MATTERS

The purpose of the Resource Management Act 1991 is to promote the sustainable management of natural and physical resources. The CODC District Plan has already given substance to the principles in Part 2 of the RMA and, therefore, no further assessment against Part 2 matters is required for this application (Environmental Defence Society Incorporated v New Zealand King Salmon [2014] NZSC 38, [2014] 1 NZLR 593). Regardless, the application is considered to represent a sustainable management of natural and physical resources having had regard to the section 6 and 7 matters of the RMA.

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10.0 NOTIFICATION AND AFFECTED PARTIES ASSESSMENT

10.1 PUBLIC NOTIFICATION

An assessment of the steps that a consent authority must follow to determine whether to publicly notify an application for resource consent is undertaken in the following tables.

Table 5. Section 95A - Steps for Determining Whether Public Notification of Consent Applications is Required Under S95a of the RMA

Step	RMA Section	Response	Comment
ONE: Mandatory public notification in certain circumstances	95A(3)(a) the applicant has requested that the application be publicly notified	No	The applicant does not request public notification.
	95A(3)(b) public notification is required under section 95C	No	This is not a relevant consideration at this stage.
	95A(3)(c) the application is made jointly with an application to exchange recreation reserve land under section 15AA of the Reserves Act 1977	No	This application does not involve the exchange of reserve land under the Reserves Act.
TWO: Public notification precluded in certain circumstances	95A(5)(a) the application is for a resource consent for 1 or more activities, and each activity is subject to a rule or national environmental standard that precludes public notification	Yes	Not every applicable rule under which resource consent is being sought (in the ODP) precludes public notification.
	95A(5)(b)(i) the application is for resource consent for a controlled activity	No	The overall activity status is not Controlled under the ODP.
	95A(5)(b)(iii) the application is for resource consent for a restricted discretionary, discretionary, or non-complying activity, but only if the activity is a boundary activity	No	The proposed activity is not a boundary activity.
THREE: Public notification required in certain circumstances	95A(8)(a) the application is for a resource consent for 1 or more activities, and any of those activities is subject to a rule or national environmental standard that requires public notification	No	No rule under which resource consent is being sought (in the ODP or NES) requires public notification.
	95A(8)(b) the consent authority decides, in accordance with section 95D, that the activity will have or is likely to have adverse effects on the environment that are more than minor	No	In accordance with s95D of the RMA (refer to assessment below) the potential adverse effects of the proposal are considered to be less than minor.

FOUR: Public notification in special circumstances	95A(9) Determine whether special circumstances exist in relation to the application that warrant the application being publicly notified and,— (a) if the answer is yes, publicly notify the application; and (b) if the answer is no, do not publicly notify the application, but determine whether to give limited notification of the application under section 95B	No	This proposal relates to a subdivision and the creation of three building platforms g within the Rural Zone. There is nothing exceptional or out of the ordinary in this application that would constitute a special circumstance to warrant public notification.

Table 6 Section 95D – Consent Authority Decides if Adverse Effects Likely to be More Than Minor

RMA Section	Comment
95D(a) must disregard any effects on persons who own or occupy— (i) the land in, on, or over which the activity will occur; or (ii) any land adjacent to that land; and	The effects on the persons identified in 95D(a) (i) and (ii) have been disregarded.
95D(b) may disregard an adverse effect of the activity if a rule or national environmental standard permits an activity with that effect; and	There are no relevant permitted activities to consider in this instance.
95D(c) in the case of a restricted discretionary activity, must disregard an adverse effect of the activity that does not relate to a matter for which a rule or national environmental standard restricts discretion; and	The overall activity status is **Discretionary** under the ODP. The matters of discretion for particular infringements have been considered and incorporated into the assessment in Section 5.1 of this report.
95D(d) must disregard trade competition and the effects of trade competition; and	The proposal will not result in trade competition.
95D(e) must disregard any effect on a person who has given written approval to the relevant application.	Affected Party Approval has been given by • 522 Ardgour Road • 159 Thompson Gorge Road • 502 Ardgour Road • 634 Ardgour Road • 525 Ardgour Road • 522a Ardgour Road
Assessment	
Refer to Section 5.2 and 6 for a complete assessment, a summary is provided below.	

The proposed subdivision is considered to be consistent with the relevant objectives and policies of the ODP and effects have been assessed as "*less than minor*". The Application has been assessed against Section 104(1)(b) matters within the RMA and is compliant with all relevant standards and policies. It is considered that the application should not be publicly notified.

The notification assessment has demonstrated that:

- Public notification is not mandatory under Step One;
- Public notification is not precluded under Step Two;
- Under Step Three, the activity is not expected to have adverse effects that are more than minor; and
- No special circumstances exist under Step Four.

Accordingly, it is considered appropriate for this application to be processed without the need for public notification.

10.2 LIMITED NOTIFICATION

Having determined that public notification of the application under s95A of the RMA is not necessary, an assessment of the steps that a consent authority must follow to determine whether to give limited notification of an application is undertaken in the following tables.

Table 7. Section 95B – Steps for Determining Whether Limited Notification of Consent Applications is Required Under S95b of the RMA

Step	RMA Section	Response	Comment
ONE: Certain affected groups and parties must be notified	95B(2) Determine whether there are any— (a) affected protected customary rights groups; or (b) affected customary marine title groups	No	There are no affected customary rights groups or affected customary marine titles groups.
	95B(3) (a) whether the proposed activity is on or adjacent to, or may affect, land that is the subject of a statutory acknowledgement made in accordance with an Act specified in Schedule 11; and (b) whether the person to whom the statutory acknowledgement is made is an affected person under section 95E	No	The proposed activity is not on or adjacent to land that is subject to a statutory acknowledgement nor will it affect any land that is subject to a statutory acknowledgement.
TWO: Limited notification precluded in	95B(6)(a) the application is for a resource consent for 1 or more activities, and each activity is subject to a rule or national environmental standard that precludes limited notification	No	Not every applicable rule under which resource consent is being sought (in the ODP) precludes limited notification.

certain circumstances	95B(6)(b) the application is for a controlled activity (but no other activities) that requires a resource consent under a district plan (other than a subdivision of land)	No	The overall activity status is not controlled under the ODP.
THREE: Certain other affected persons must be notified	95B(7) In the case of a boundary activity, determine in accordance with section 95E whether an owner of an allotment with an infringed boundary is an affected person.	No	The proposal does not involve a boundary activity.
	95B(8) In the case of any other activity, determine whether a person is an affected person in accordance with section 95E.	No	No persons are considered to be adversely affected (in accordance with s95E of the RMA) as any actual or potential effects will be less than minor– refer to assessment in the table below.
FOUR: Further notification in special circumstances	95B(10) Determine whether special circumstances exist in relation to the application that warrant notification of the application to any other persons not already determined to be eligible for limited notification under this section (excluding persons assessed under section 95E as not being affected persons), and,— (a) if the answer is yes, notify those persons; and (b) if the answer is no, do not notify anyone else.	No	This proposal relates to a rural subdivision with the provision of three building platforms for future residential development. There is nothing exceptional or out of the ordinary in this application that would constitute a special circumstance to warrant limited notification.

Table 8. Section 95E – Consent Authority Decides if Person is an Affected Person

RMA Section	Comment
(1) For the purpose of giving limited notification of an application for a resource consent for an activity to a person under section 95B(4) and (9) (as applicable), a person is an affected person if the consent authority decides that the activity's adverse effects on the person are minor or more than minor (but are not less than minor).	
(2) The consent authority, in assessing an activity's adverse effects on a person for the purpose of this section, —	
(a) may disregard an adverse effect of the activity on the person if a rule or a national environmental standard permits an activity with that effect; and	All relevant permitted activities have been disregarded.

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(b) must, if the activity is a controlled activity or a restricted discretionary activity, disregard an adverse effect of the activity on the person if the effect does not relate to a matter for which a rule or a national environmental standard reserves control or restricts discretion; and	The matters of discretion for the particular infringement have been considered and incorporated into Section 5 of this report.
(c) must have regard to every relevant statutory acknowledgement made in accordance with an Act specified in Schedule 11.	There are no statutory acknowledgements relevant to the subject site or the proposed activity.
(3) A person is not an affected person in relation to an application for a resource consent for an activity if—	
(a) the person has given, and not withdrawn, approval for the proposed activity in a written notice received by the consent authority before the authority has decided whether there are any affected persons; or	Affected Party Approval has been given by • 522 Ardgour Road • 159 Thompson Gorge Road • 502 Ardgour Road • 634 Ardgour Road • 525 Ardgour Road • 522a Ardgour Road
(b) the consent authority is satisfied that it is unreasonable in the circumstances for the applicant to seek the person's written approval.	This is not a relevant consideration.
Assessment	
Effects of the proposed subdivision have been assessed as *"less than minor"*. The activity will not result in adverse effects on neighbouring sites due to the underlying size of productive areas of the subject site and proposed design and location of the proposed building platforms. The subject site and neighbouring properties are zoned Rural but present a mix of productive, lifestyle and detached residences. This application proposes to continue the existing amenity of the surrounding environment.	

The assessment has demonstrated that:

- There are no certain affected groups or persons under Step One;
- Limited notification is not precluded by Step Two;
- There are no other identified affected persons by Step Three; and
- There are no special circumstances under Step Four.

Accordingly, it is considered appropriate for this application to be considered without the need for limited notification.

10.3 NOTIFICATION SUMMARY

Based on the assessment in the preceding sections, it is considered that this application can be considered without the need for either public or limited notification.

11.0 CONCLUSION

Resource consent is sought as a **Discretionary Activity** for the subdivision of the subject site into 11 allotments with two amalgamated and the establishment of three building platforms on Lots 4, 5 and 10.The subdivision will ensure the enhancement and retention of the productive areas of the existing farm while using the financial capital from Lots 4 and 5 to upgrade the irrigation infrastructure to secure the productive viability for future generations

Environmental effects overall and specifically in relation to the proposed building platforms are considered less than minor. The proposal specifically achieve key objectives and policies aligned with the protection of productive soils, along with the NPS HPL.

As the environmental effects of the proposal are considered to be less than minor and largely constrained within the subject site. The proposal is consistent with the relevant objectives and policies of the District Plan, and it is requested that the application be processed through public notification.

As such it is recommended to Council to grant this application on a non-notified basis.

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APPENDIX A – RECORD OF TITLE

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APPENDIX B – SUBDIVISION PLAN

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APPENDIX C – LAND USE CAPACITY REPORT

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APPENDIX D –MT IRON GEODRILL SITE AND SOILS REPORT

Section 4 – Rural Resource Area

Ref	Standard and Non-Compliance Status		Compliance	
			Y/N	Comments
4.7.2(ii) Subdivision				
(i) Minimum Allotment Sizes	No minimum lot sizes apply to areas identified "Rural Resource Area". Therefore Rule 4.7.4(iii) applies.	D	**Y**	The average allotment size is 8.52 hectares.
(ii) Separation Distances for Dwellings	*Where the development of the site is to accommodate a dwelling, the plan of subdivision shall identify a building platform for a dwelling with no less than the following separation distances from any existing dwelling, dwelling under construction, other registered building platform identified on a plan of subdivision, or any urban area: Rural Residential - 50 metres*	RD	**Y**	The proposed building platforms are located greater than 50m apart from one another and any existing residential building or building platform.
(iii) Concept Plans	*The setback from internal boundaries for any building housing animals shall be 30m.*	D	**N/A**	Not applicable to Rural Resource Area zone.
(iv) Maximum Number of Allotments for Residential Activities	No maximum number of allotments apply to areas identified "Rural Resource Area". Therefore Rule 4.7.4(iii) applies.	D	**N**	The proposed subdivision will result in eleven new allotments with two amalgamated, for a total of nine new titles.
(v) Access Formed	*No additional accesses are to be created to any State highway.*	D	**Y**	The new accesses are proposed from Ardgour Road
4.7.3(vii) Residential Building Platform *A residential building platform that are not provided for in Rule 4.7.2(i), 4.7.2(ia), 4.7.2(ib) and Rule 4.7.2(vii) is a discretionary (restricted) activity provided the following standards are complied with.*				
(a) General Standards	*The relevant standards set out in 4.7.6 are complied with.*	D	**Y**	The relevant standards set out in 4.7.6 are provided below, in this table.
(b) Residential Activities Per Site	*There shall be no more than one residential activity on the relevant certificate of title unless additional residential activity is required to accommodate people working the property and their families*	D	**Y**	The proposal includes a three residential building platforms isolated to individual allotments. The two existing dwellings will be contained within individual sites.
(c) Access	*No additional formed accesses are to be created to any State Highway.*	D	**Y**	The proposal does include any new access to a State Highway.
(d) Separation Distances	*Where the dwelling is not located on a building platform established by way of resource consent a 50 metre separation distance to any existing dwelling, any dwelling under construction, any residential building platform established by way of resource consent, or any urban area shall apply.* *Council shall restrict the exercise of its discretion to the following matters:*	D	**Y**	The proposal includes building platform on three new lots for future residential activity. The building platforms have been assessed against the relevant matters below.

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Ref	Standard and Non-Compliance Status	Compliance	
		Y/N	Comments
	Council shall restrict the exercise of its discretion to the following matters *1. Whether or not the building and associated development or future building located on the residential building platform can be appropriately screened from public view by topographical features appropriate planting or other screening having regard to the open space, landscape, natural character and amenity values of the rural environment.*		Views of built form from public places will be no more than minor.
	2. Whether the siting of the building and associated development or future building located on the residential building platform will give rise to earthworks including access carriageways and planting, which will adversely affect the open space, natural character and amenity values.		The proposal will include forming three new accesses to Ardgour Road, these are proposed to be formed in accordance with CODC standards and controls on earthworks are proposed to ensure effects on natural character and open space will be no more than minor.
	3. Whether the building and associated development or future building located on the residential building platform will maintain the open natural character of hills and ranges, without compromising the landscape and amenity values of prominent hillsides and terraces, including any skyline or terrace edge.		The proposed building platforms have been designed and located to ensure they are appropriate for future dwellings and have the ability for planting and residential use without resulting in adverse effects to the amenity values of prominent hill sides and terraces.
	4. The colour scheme for the building which should in general be darker than the background in which it is set		As detailed in Section 3 of this report it is proposed to control the appearance of future residential units within the proposed building platforms via colour and materials to minimise adverse effects.
	5. Whether the building and associated development or future building located on the residential building platform will have adverse cumulative effects when assessed in conjunction with existing and consented unimplemented built development including any residential building platforms established by way of resource consent.		The subject site is located along Ardgour Road, there are no nearby unimplemented developments to be assessed in conjunction with this application.
	6. Any objectives and policies relevant to the above matters.		The relevant objectives and policies are assessed in Section 5 of this report.
	7. Methods to avoid, remedy or mitigate the effects of existing activities including potential for reverse sensitivity, the provision of screening, landscaping and methods for noise control		A consent notice is proposed to ensure all future purchasers are aware of the rural

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Ref	Standard and Non-Compliance Status	Compliance	
		Y/N	Comments
			environment and associated activities.
	8. Provision of services, including fire fighting water supply.		Services will be reticulated to the buildable areas of each allotment. Fire fighting supply will be provided on each lot by future purchasers when a dwelling is constructed. A consent notice is proposed to confirm his is provided.

4.7.6 Rural Resource Area – General Standards

Ref	Standard	Compliance	
		Y/N	Comments
A. Bulk and Location Requirements	*(a) Yards* *a minimum yard of 10 metres for all other buildings and buildings used for residential activity and/or an accommodation facility on land subject to the Rural Residential notation shall be provided to all adjoining property boundaries (including roads) provided that a minimum yard of 20 metres shall be provided to all State highways and Arterial Roads*	**N**	All future dwellings on proposed build platforms will meet setback standards under the CODP. The exsisting dwelling on proposed Lot 8 will result in an internal boundary breach with the neighbouring productive paddock owned by the applicant.
B. Traffic Generation and Characteristics of Activities	*(b) (i) No more than 3 persons shall be engaged in any activity of a commercial, industrial or manufacturing nature except in areas identified as "Rural Residential" ([RR]) on the planning maps. For the purpose of this rule, farming, horticulture, viticulture, network utilities and forestry activities are excluded from an activity of a commercial, industrial or manufacturing nature.*	**N/A**	
	(c) No activity shall involve the attraction of the public to a site for community related services or events other than for temporary activities.	**N/A**	
C. Tree Planting		**N/A**	
D. Visual Effect of Buildings and Structures	*i) Finish - All buildings shall be finished in any of the following materials:*	**Y**	All future dwellings will be required to meet the colour and finish controls as set out within the standards of the

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4.7.6 Rural Resource Area – General Standards

Ref	Standard	Compliance	
		Y/N	Comments
	(i) Timber/Composite Weatherboard (vertical and horizontal). *(ii) Plaster/Adobe/Rammed Earth/Masonry Products/Concrete.* *(iii) Stone.* *(iv) Coloured steel excluding unpainted zincalume and unpainted corrugated iron.* *(v) Weathered corrugated iron* *(vi) Brick*		CODP. No Buildings are proposed through this application however build platforms on proposed allotments 4 and 5 will likely result in a skyline breach from Ardgour road if structures of permitted height are established there. This has been assessed within section 6 of this application.
	(ii) Colour: Exterior Walls, Accents and Trim *The exterior walls, accents and trim for all buildings and structures shall be in a colour or colours selected from the following colour palette, provided that the colours of exterior walls shall be in a low sheen:* *Browns, greens, grey blue, greys, terracotta, tussock and dark reds provided that such colours shall have a Reflectivity Value (RV) of less than 38%.*	**Y**	
	(iii) Colour: Roofs *The roofs of all buildings shall be in a low sheen in any colour that has a RV of less than 32% or shall be unpainted natural products such as timber shingles or slate.* *Note: Colours of roofs are to be similar to and darker than the surrounding landscape colours.*	**Y**	
	(b) All buildings and structures shall not protrude onto a skyline or above a terrace edge when viewed from a public road or other public place at a distance not exceeding 2 kilometres from the building or structure.	**Y**	
E. Noise		**Y**	
F. Storage		**N/A**	
G. Provision of Services	*(a) Effluent Disposal* *Any site intended to accommodate a household unit or any activity that generates human effluent shall be either connected to an existing sewerage scheme at the owners cost (provided that the scheme has the capacity to accommodate the waste generated) or if such a scheme is not available the site shall be capable of effective disposal of effluent safely within the site.*	**Y**	Each site will utilise onsite wastewater disposal systems, at the time of constructing a dwelling, these will be confirmed to be appropriate for the site and compliant with Council requirements as part of future building control applications.

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4.7.6 Rural Resource Area – General Standards

Ref	Standard	Compliance	
		Y/N	Comments
	(b) Water Supply *At the time of subdivision or prior to the issue of building consent to erect a residential building, the owner shall provide a safe and adequate water supply...*	**Y**	It is proposed to reticulate drinking water to the buildable areas of each allotment through the provision of future bores. Compliance with drinking water standards and treatment requirements will be confirmed prior to S224c.
	(c) Access, Loading and Manoeuvring *Access, loading and manoeuvring requirements shall be provided in accordance with Rule 12.7.1 page 12:13 and Rule 12.7.3 page 12:17.*	**Y**	The proposed subdivision and provision of access to Ardgour Road will comply with CODC standards. This will be confirmed during the Engineering Approval process.
	(d) Parking *Parking shall be provided in accordance with Rule 12.7.2 (pg 12:16) and Table 12.3 (pg 12:25).*	**Y**	All sites will have adequate provision for on-site parking.
H. Signs	*1. Shall be situated on the property to which they relate provided that no more than two pre warning signs having a maximum area of 1m2 each are permitted within 500 metres of the site entrance.* *2. Shall comprise a single sign not exceeding a total of 3m2 in area.* *3. Shall not obscure driver visibility to and from access ways* *4. Shall not be constructed using reflective material or flashing or animated components.* *5. Shall not be illuminated.* *6. Shall comply with Rule 12.7.5(v) at page 12:21.*	**N/A**	No signage is proposed
I Riparian Margins		**N/A**	

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4.7.6 Rural Resource Area – General Standards

Ref	Standard	Compliance	
		Y/N	Comments
J. Earthworks for Access tracks and Extraction Activities		**Y**	Earthworks to form access and proposed build platforms will not exceed CODP standards.
K. Areas of Significant Indigenous Vegetation, Habitats of Indigenous Fauna and Wetlands		**N/A**	No part of site identified within the DP as being areas of significant vegetation or wetland
KA. Clearance of Indigenous Vegetation		**Y**	No indigenous vegetation clearance Is proposed.
L. Outstanding Natural Landscapes, Outstanding Natural Features and Land inthe Upper Manorburn/Lake Onslow L andscape Management Area		**Y**	There is no ONL or ONF notation on this site.

Section 16 – Subdivision

Ref	Standard and Non-Compliance Status	Compliance	
		Y/N	Comments
16.7 GENERAL STANDARDS			
16.7.1 Subdivision Code of Practice	*The physical design and construction of works to be carried out as part of the subdivision or as required by a condition of consent will generally be in accordance with Council's Code of Practice for Subdivision (see Method 16.5.2 page 16:11). Modification may be made to the requirements of this Code by any conditions of consent.*	**Y**	The proposed subdivision will be in accordance with *Council's Code of Practice for Subdivision.*
16.7.2 Services, Infrastructure and Roading Within a Subdivision	*(a) The subdivider shall be responsible for providing all reticulation, services and roading within the subdivision. The subdivider shall also ensure that services are provided to the boundary of each allotment. All costs of tying into existing services and infrastructure (including roading, footpaths and kerb and channel (or other similar systems)) shall rest with the subdivider.*	**Y**	The proposed subdivision will be fully serviced, including the provision of all relevant services to each proposed lot.
	(b) The subdivider shall be responsible for the forming, grassing and where necessary, irrigating of all berms, and for establishing landscaping that is required as a condition of consent. An irrigation system may be required as a condition of consent and this shall be installed at the cost of the subdivider.	**Y**	As this is a rural subdivision no berming is proposed. However, the applicant will complete all proposed landscape mitigation planting prior to 224c in line with issued conditions.
	(c) Lighting shall be installed within all urban subdivisional roads and shall be designed and installed in accordance with the requirements of NZS 6701:1983. Lighting reticulation to be installed shall be cost effective with regard to future availability, operating costs and maintenance. Lighting components must be approved by Council.	**N/A**	
	(d) The consent holder or successor in title shall be responsible for providing kerb crossing places and vehicle entrances to all allotments intended to accommodate a dwelling or other building.	**Y**	The proposed lots will include vehicle crossings.
	(e) The consent holder shall provide for Council's consent, a proposed name or names for any new subdivisional road and when approved it shall be the	**N/A**	

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Ref	Standard and Non-Compliance Status	Compliance	
		Y/N	Comments
	consent holder's responsibility to supply and erect appropriate signs of a design consistent with the road sign design used in that particular locality.		
	(f) The subdivider shall provide, as part of the design and construction of any private way or access lot servicing more than 2 allotments, common facilities for postal delivery and refuse collection services. Facilities for these services shall be provided in a co-ordinated and tidy manner which promotes ease of access and use, the design of which is to be compatible with the existing streetscape.	**N/A**	
16.7.3 Services, Infrastructure and Roading Servicing the Subdivision	*All services, infrastructure and roading that service the land within a subdivision shall be of a standard adequate to meet the intended use of the subdivision.*	**Y**	All proposed services and access will be formed to a standard anticipated by the proposed use – for rural lifestyle activity.
16.7.5 Minimum Access Widths - Rural Areas	*Minimum access width in rural areas shall be as follows:- Rights of way, access lots = 6 metres legal, 4 metres formed. Crossfalls of a minimum of 6% shall be provided to ensure water drains freely from the carriageway*	**Y**	All proposed access will be formed to CODP standards
16.7.6 Maximum Gradients for Carriageways	*The maximum gradients for carriageways shall be as follows – Private access - 1 in 5*	**Y**	All access ways will meet the minimum design gradient. Final designs will be confirmed prior to engineering approval of subdivision works.
16.7.7 Access to Back Land	*The design of every subdivision shall give consideration to the future development of adjoining land and the Council, may, as a condition of consent, require the creation of reserves, roads or the formation of roads to the boundary of adjoining land to facilitate future development.*	**N/A**	The proposed subdivision occurs in a rural zone not adjacent to any future anticipated residential development
16.7.8 Existing Buildings or Other Developments	Where any subdivision includes land that has existing buildings or other developments located upon it, Council will require that the individual allotments upon which the existing buildings or other developments are situated have independent connections to all utilities servicing the land and that appropriate easements are created to protect existing services. Separate drainage and water connections will generally be required for each property. In special circumstances, however, "drains in common" or a shared water connection with separate tobys may be consented to.	**N/A**	Lots with existing buildings will be provided with individual service connections as discussed previously.
16.7.9 Stability of Land	*Prior to considering an application, the Council may require the production of a report from a geologist or engineer experienced in the field of land stability showing that each site in the proposed subdivision is suitable for the permitted activities on that site and the erection of buildings. A report from an appropriately qualified and experienced person may be required where any other potential hazard may affect land subject to the application*	**Y**	Information available on the ORC Natural Hazard mapping confirms that the proposed subdivision is safe and appropriate on the subject site.
16.7.10 Electricity and Telephone Services	*The design and provision to each allotment of electricity and telephone utility services shall comply with the standards of the relevant network utility operator (that is referred to in the context of this rule as a 'provider') provided that electricity and telephone utility services are to be located underground in urban areas unless this is demonstrated to be impracticable (apart from the*	**Y**	The proposed subdivision anticipates telephone utility services will be provided through a satellite based system. Electricity will be reticulated to the

Ref	Standard and Non-Compliance Status	Compliance	
		Y/N	Comments
	Industrial Resource Area) and other areas if Council so determines as a condition of consent.		boundaries of each allotment.
16.7.11 High Voltage Transmission Lines	*Where subdivision activities are to occur in close proximity to high voltage transmission lines (being 20 metres either side of the centre line of that transmission line) such subdivisions shall, through the design of sites and the location of roads and reserves under the route of the line:* *(a) Ensure that ease of access to transmission lines is maintained so that maintenance and inspections of transmission lines to avoid risk of injury and/or property damage can occur;* *(b) Be designed so that there will be no need to erect buildings within 20 metres of the centre line on each of high voltage transmission lines; and* *(c) Facilitate building platforms for residential dwellings where the main living area will not face the transmission lines.*	**Y**	The proposed subdivision is designed to ensure access to the transmission lines are maintained. No change is proposed to the high voltage transmission lines located on a neighbouring site to the south of the subject site.
16.7.12 Amalgamation Conditions	*In addition to the circumstances set out in section 220(1)(b) of the Act Council may impose amalgamation conditions for the following purposes:* *(a) To ensure adequate legal and/or physical access is available to the land being subdivided.* *(b) To maintain the integrity of network utility services and/or infrastructure that serves or crosses the land being subdivided.* *(c) To maintain and enhance amenity values, particularly with respect to landscape values.* *(d) To meet minimum allotment size requirements.* *(e) To reduce the non-compliance of an existing allotment* *(f) To meet yard and/or separation requirements.* *(g) To facilitate boundary adjustments.* *(h) For any other purpose consistent with the above.*	**N/A**	Proposed Lots 1 and 2 and 6 and 7 will be amalgamated. Proposed allotments 11 and Sec 24 will remain in separate titles

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APPENDIX F – CODC NES RECORD SEARCH

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APPENDIX G– ORC LAND USE MAPS

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APPENDIX H– GEOSOLVE REPORT

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APPENDIX I – TARRAS COMMUNITY PLAN

Show Historical View

GRIP TITLE INFORMATION PREVIEW

Freehold

Identifier	OT14B/606
Land Registration District	Otago
Date Issued	19 March 1992

Prior References
OT7B/459

Estate	Fee Simple
Area:	39.0066 hectares more or less
Legal Description	Section 23 Block XVI Tarras Survey District

Registered Owners
Margaret Ann Trevathan as to a 1/2 share
Noel George Trevathan as to a 1/2 share

Interests

Subject to Part IV A Conservation Act 1987

Subject to Section 11 Crown Minerals Act 1991

885426 Transfer creating the following easements in gross - 29.6.1995 at 9.46 am

Type	Servient Tenement	Easement Area	Grantee	Statutory Restriction
Convey water	Section 23 Block XVI Tarras Survey District - herein	black line Transfer 885426	Lindis Irrigation Limited	

12491581.3 Mortgage to Rabobank New Zealand Limited - 29.11.2022 at 12:08 pm

Disclaimer: This preview provides an indication of the likely content of Record of Title OT14B/606, it is not a substitute for an authoritative Record of Title. For an authoritative Record of Title of OT14B/606 please contact Land Information New Zealand. This content of this preview has been generated using data sourced from LINZ Data Service on 02/08/2024

Show Historical View

GRIP TITLE INFORMATION PREVIEW

Freehold

Identifier	OT17B/64
Land Registration District	Otago
Date Issued	30 July 1996

Prior References
OT14B/600

Estate	Fee Simple
Area:	41.2770 hectares more or less
Legal Description	Part Section 25 and Part Section 31 Block XVI Tarras Survey District

Registered Owners
Noel George Trevathan as to a 1/2 share
Margaret Ann Trevathan as to a 1/2 share

Interests

Subject to Part IV A Conservation Act 1987

Subject to Section 11 Crown Minerals Act 1991

885426 Transfer creating the following easements in gross - 29.6.1995 at 9.46 am

Type	Servient Tenement	Easement Area	Grantee	Statutory Restriction
Convey water	Part Section 25 and Part Section 31 Block XVI Tarras Survey District - herein	Black line Transfer 885426	Lindis Irrigation Limited	

Subject to a right to convey electricity over Part Section 25 Block XVI Tarras Survey District marked B and over Part Section 31 Block XVI Tarras Survey District marked C all on DP 544100 created by Easement Instrument 12580633.2 - 9.11.2022 at 10:23 am

12491581.3 Mortgage to Rabobank New Zealand Limited - 29.11.2022 at 12:08 pm

12923325.1 CAVEAT BY AURORA ENERGY LIMITED - 29.1.2024 at 9:31 am

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Show Historical View

GRIP TITLE INFORMATION PREVIEW

Freehold

Identifier	OT17B/63
Land Registration District	Otago
Date Issued	30 July 1996

Prior References
OT14B/600 OT14C/199

Estate	Fee Simple
Area:	37.9100 hectares more or less
Legal Description	Lot 1 Deposited Plan 25202 and Section 50 Block XVI Tarras Survey District

Registered Owners
Margaret Ann Trevathan as to a 1/2 share
Noel George Trevathan as to a 1/2 share

Interests

Subject to Part IV A Conservation Act 1987

Subject to Section 11 Crown Minerals Act 1991

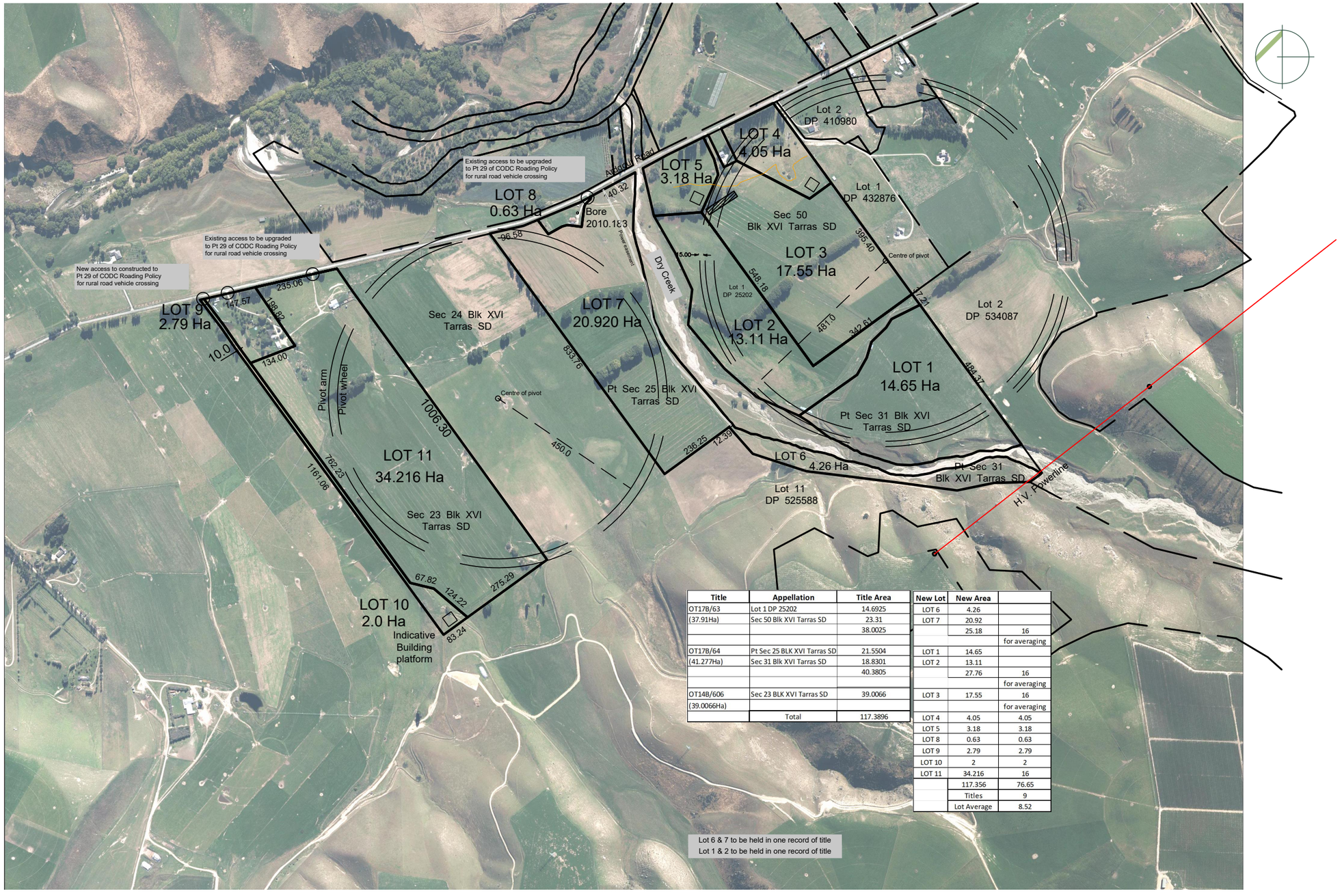
Subject to Section 241 (2) Resource Management Act 1991 - see DP 25202

885426 Transfer creating the following easement in gross - 29.6.1995 at 9.46 am

Type	Servient Tenement	Easement Area	Grantee	Statutory Restriction
Convey water	Lot 1 Deposited Plan 25202 and Section 50 Block XVI Tarras Survey District - herein	Black line Transfer 885426	Lindis Irrigation Limited	

12491581.3 Mortgage to Rabobank New Zealand Limited - 29.11.2022 at 12:08 pm

Disclaimer: This preview provides an indication of the likely content of Record of Title OT17B/63, it is not a substitute for an authoritative Record of Title. For an authoritative Record of Title of OT17B/63 please contact Land Information New Zealand. This content of this preview has been generated using data sourced from LINZ Data Service on 02/08/2024



Title	Appellation	Title Area
OT17B/63	Lot 1 DP 25202	14.6925
(37.91Ha)	Sec 50 Blk XVI Tarras SD	23.31
		38.0025
OT17B/64	Pt Sec 25 BLK XVI Tarras SD	21.5504
(41.277Ha)	Sec 31 Blk XVI Tarras SD	18.8301
		40.3805
OT14B/606	Sec 23 BLK XVI Tarras SD	39.0066
(39.0066Ha)		
	Total	117.3896

New Lot	New Area	
LOT 6	4.26	
LOT 7	20.92	
	25.18	16
		for averaging
LOT 1	14.65	
LOT 2	13.11	
	27.76	16
		for averaging
LOT 3	17.55	16
		for averaging
LOT 4	4.05	4.05
LOT 5	3.18	3.18
LOT 8	0.63	0.63
LOT 9	2.79	2.79
LOT 10	2	2
LOT 11	34.216	16
	117.356	76.65
	Titles	9
	Lot Average	8.52

Lot 6 & 7 to be held in one record of title
Lot 1 & 2 to be held in one record of title

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CLIENT
Jonny Trevathan

DRAWING TITLE
Scheme Plan

DATUM INFORMATION
COORDINATE SYSTEM NZGD2000
LINDIS PEAK CIRCUIT
DATUM NZVD2016
ORIGIN OF COORDINATES
ORIGIN OF LEVELS

REV	DRAWN	DATE	NOTE
A	RB	16/10/2024	LOT BOUNDARIES
B	RB	26/11/2024	HV powerline
C	RB	9/12/2024	Remove water races

STATUS **ISSUE**

SURVEYED	GP	OCT 2024
DESIGNED	JT/RB	OCT 2024
DRAWN	RB	OCT 2024
REVIEWED		
APPROVED		

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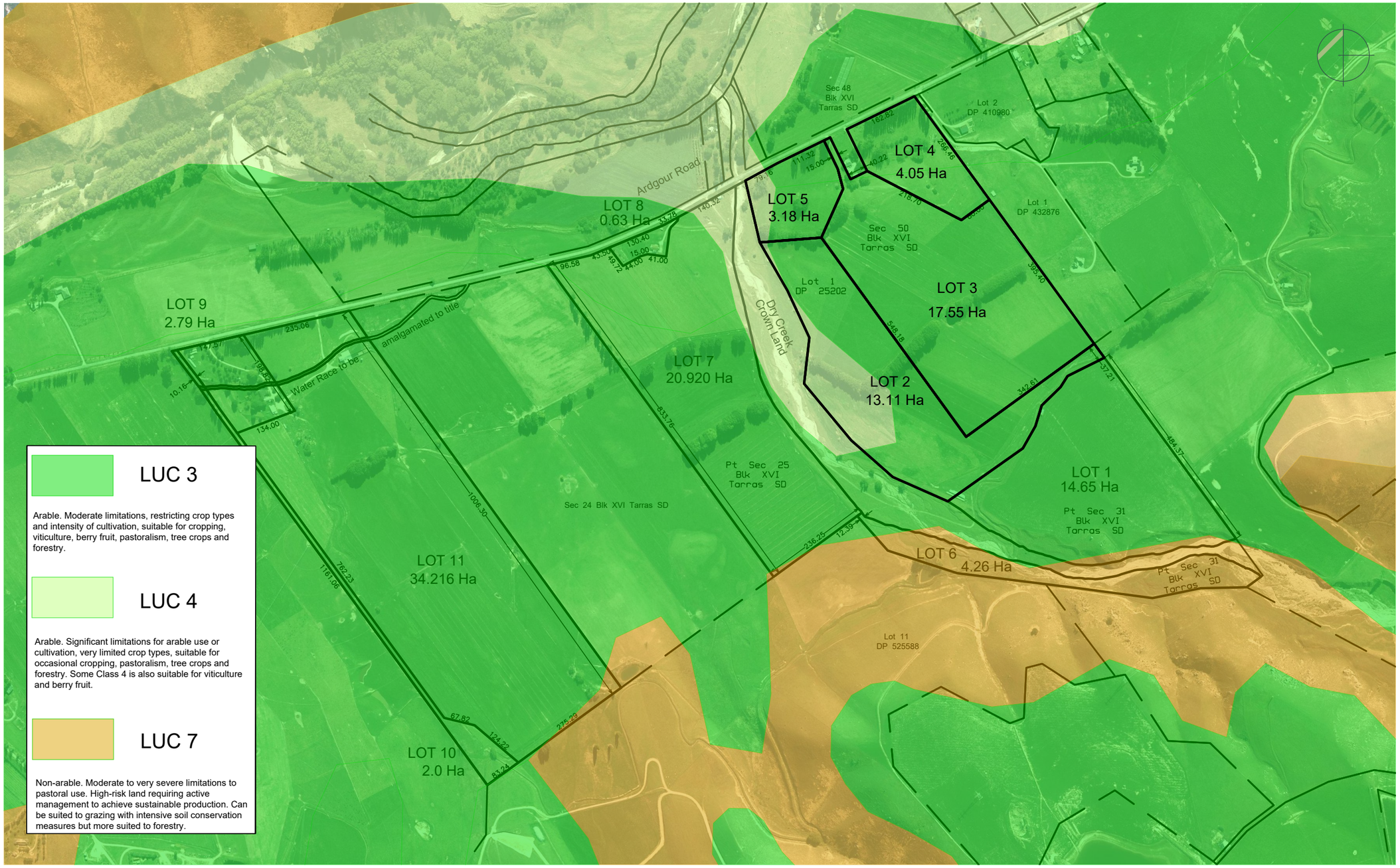
PROJECT **C3001**
DRAWING NO **SCM 5**
SHEET **1**
REVISION **C**
SCALE (A3) **1:10000**

patersons. Land Professionals	CLIENT Jonny Trevathan	DRAWING TITLE Scheme Plan Lots 4 & 5	DATUM INFORMATION COORDINATE SYSTEM NZGD2000 LINDIS PEAK CIRCUIT DATUM NZVD2016 ORIGIN OF COORDINATES ORIGIN OF LEVELS	REV 1	DRAWN RB	DATE 16/10/2024	NOTE LOT BOUNDARIES	SURVEYED GP OCT 2024 DESIGNED JT/RB OCT 2024 DRAWN RB OCT 2024 REVIEWED APPROVED	PROJECT C3001 DRAWING NO SCM 5 SHEET 2 REVISION A SCALE (A3) 1:2000
				STATUS	ISSUE			© Paterson Pitts Limited Partnership	



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CLIENT	Jonny Trevathan
DRAWING TITLE	Land Use Capability
DATUM INFORMATION	
COORDINATE SYSTEM	NZGD2000
	LINDIS PEAK CIRCUIT
DATUM	NZVD2016
ORIGIN OF COORDINATES	
ORIGIN OF LEVELS	

REV	DRAWN	DATE	NOTE
1	RB	OCT 2024	LUC CATEGORIES

STATUS ISSUE

SURVEYED	
DESIGNED	LANDCARE
DRAWN	RB MAY 2024
REVIEWED	
APPROVED	

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PROJECT	C3001
DRAWING NO	LUC 5
SHEET	1
REVISION	A
SCALE (A3)	1:7500

N.G & M. A. Trevathan

458 Ardgour Road Lindis

LAND USE CAPABILITY REPORT

Photo 1: View lower part proposed Lot 4. This area is unable to be economically irrigated as semi-extensive farmland.

Contents

Introduction. 3

Soil Characteristics & Behaviour Lochar (Waenga Sandy Loam (Ref Number 42b) & Linnburn fine sandy loam Ref number 2 4

Lochar (Waenga) soils are described as : 4

Linnburn Soils (Ref Number 2) are described as: 5

Climatic Considerations 5

Economic Considerations 6

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Introduction.

The owners of 458 Ardgour Road, NG & MA Trevathan have made application to the QLDC to sub-divide and create additional titles over proposed lots 4, 5, 8 (farmhand cottage curtilage) and 10 identified in the sub-division plan prepared by Patterson Pitts Group. The reason for this initiative is due to the property having to discontinue flood and sprinkler irrigation and move to centre pivot irrigation as the primary means of irrigation. A small amount of K-Line may be used in those areas where centre pivot is unsuitable or impractical.

As a result of completing a suitable and compliant irrigation design four small areas of this property have been identified as unsuited, or surplus, to the semi-extensive farming operation under the centre-pivot irrigation scheme.

Table 1: Proposed lots identified as unsuited to centre-pivot operations or surplus to operational requirements.

Proposed Lot Number	Current Use	Future Use	Comment
Lot 4	Dryland rough grazing	Dryland	Assessed as not suited to further development for current farming purposes due to the cost of development vs the benefits.
Lot 5	Dryland rough grazing.	Dryland	Assessed as not suited to further development for current farming purposes due to the cost of development vs the benefits.
Lot 8	Workers Accommodation.	No future farming application	Accommodation is surplus to requirements. There is no production off this parcel.
Lot 10	Access corridor (some grazing) and ridge end with limited grazing.	Site for homestead	The Identified curtilage is on a ridge end where irrigation is impractical and comprises shallow soils not suited to further development

The property is currently in three titles with a total area of 117.366ha. The proposed titles comprise LUC3 soils, of varying depth, and classification but primarily Lochar (Waenga) and Linnburn Soils according to current mapping and the Soil Bureau Bulletin 28 – Soils And Land Use In The Upper Clutha Valley Otago[1].

[1] Published by NZ Department of Scientific & Industrial Research 1967

Ray Macleod, of Landward Management Ltd and Jonny Trevathan inspected the proposed parcels of land on property on 23 May 2024, to assist with the assessment. During this exercise a number of holes were dug to ascertain soil depth on the proposed Lots.

Of the four proposed lots, Lots 4, 5 and 10 have resulted from assessing the benefits of holding these parcels for semi-extensive farming purposes due to them not being suited for centre pivot irrigation. The owners are required to phase out the traditional flood and sprinkler irrigation system and either revert to dryland farming, which is not a viable option or install centre pivot irrigation, for which a design has been prepared, and to irrigate suitable corners using K-Line irrigation. There are two "corners" on the 71ha centre pivot, the worker cottage (Lot 8) and the southwest corner (Lot 10) is part of a broad ridge system unsuited to centre pivot irrigation.

The half pivot on the eastern boundary of the property cannot be used to irrigate proposed Lot 5 due to topography, with an older relatively high river terrace running east to west across the Lot and a neighbouring rural lifestyle property intruding into the outer circumference of the centre pivot. Lot 4, which is separated from Lot 5 by the neighbouring rural lifestyle block, also has the same river terrace running through it and as much as a 15m to 20m change in levels and also running in an east-west direction, with a gully system running north-west, both of which preclude centre pivot irrigation.

In summary the proposed lots are shown in **Table 2 "Summary of soil description and current state of proposed lots"** below.

Proposed Lot Number	Area in Hectares	Primary Soil Classification	Soil Reference Number	Comment
Lot 4	3.97	Lochar (Waenga)	2b	Relatively underdeveloped
Lot 5	2.98	Lochar (Waenga) Fraser (on dry stream boundary	2b 2	Relatively underdeveloped with wilding poplar & other trees present and a disused water race.
Lot 8	0.63	Linnburn	2	Curtilage area for workers cottage.
Lost 10	2.00	Lochar (Waenga)	2b	Very shallow soils on ridge end
TOTAL AREA	**9.58**			

Soil Characteristics & Behaviour Lochar (Waenga Sandy Loam (Ref Number 42b) & Linnburn fine sandy loam Ref number 2[2]

There are two types of LUC3 soils present on the proposed sites as can be seen in table 2 above. These are Lochar (Waenga) and Linnburn.

Lochar (Waenga) soils are described as :

Stony, droughty soils on upper parts of fans and deep, fertile soils on lower parts. Slight wind and gully erosion in places. Deep soils suitable for intensive utilisation (orchards) under irrigation, but shallow soils suitable only for dryland farming. Water supply inadequate, mostly from wells, small streams, and irrigation races. These soils are naturally of high nutrient status and under irrigation

[2] Soils of South Island Soil Bureau Bulletin 27.

capable of running 5su to 10su per hectare if fully developed. The Lochar sub-classification, is a sandy loam and subject to wind and gully erosion.

There is a small amount of LUC4 soil on Lot 5 which is noted but not discussed further.

Linnburn Soils (Ref Number 2) are described as:
Droughty soils (mostly deep, fine sandy loams) with impeded drainage. Suitable for dryland farming, but soluble salts may be limiting factor. Suitable for irrigation, but drainage must be provided and soils must be leached of salts before development. Irrigation water must be applied very carefully thereafter to prevent water logging and reappearance of salts. Deeper soils suitable for cropping. Water inadequate ; few well; streams few and their flow intermittent. There are liable to wind erosion if cultivated. Natural nutrient status is high. Under irrigation it is assessed as suitable for semi-extensive sheep, supplementary feed crops and cash crops. Stock carrying capacity is assessed as 10su/ha fully developed and under the right conditions.These sites are subject to severe winds and frequent cultivation can result in sheet erosion of the soil. Under flood irrigation there is a risk of gully erosion due to underlying layers of looser material.

Climatic Considerations
The Ardgour area is classified as semi-arid[3] and farm records indicate a rainfall of 325mm to 400mm annually. Due to low rainfall, hot climate and strong winds the area has a sizable moisture deficit with a high level of evapotranspiration present. The influence of climate on productivity is a key part of soil productivity regardless of soil classification and will be discussed further. Regular cropping is rare due to environmental risks around wind erosion and our estimates are as little as 200ha-250ha of feed crop is planted annually in the immediate district, or about 2% of the area available. Current semi-extensive farming uses in the area tend to reflect best practice under the prevailing climatic conditions. For comparison, Wanaka Airport 22km to the northwest is in an area designated as "subhumid" and has a recorded average amount of annual soil moisture deficit[4] of 470mm of which 375mm occurs over the four months from the beginning November to the end of February and 77 recorded days of soil moisture deficit over the same period, out of an annual total of 116 days. These figures highlight the challenges facing farm production in general in the Ardgour district, which is drier and winder than the "subhumid" zone around the Wanaka Airport.

[3] Soil Bureau Bulletin 28 – Soils & Land Use In The Upper Clutha Valley, Otago
[4] The Climate And Weather of Otago- 2nd Edition GR Macara NIWA

Photo 2: View across the lower level of Lot 5 illustrating the wilding tree growth and a now disused water race.

Economic Considerations

In assessing the productivity of these soils the landowners must be aware of the cost versus benefit of developing the land. There are a number of factors that may determine the highest and best use outcome from a farming perspective. At Ardgour the surrounding area is primarily extensive and semi extensive farming with large areas of permanent pasture, supported by various irrigation methods. This highest and best land use has developed over many years in response to anticipated productivity levels, development costs, operating costs, soil types, climatic conditions, wind intensity, water availability and available irrigation technology.

There are a number of lifestyle blocks in the area and we have examined lifestyle property sales in the period[5] from January 2021 to the present. There is a steady demand for such property and during this period twenty-nine properties under 10ha were sold including five in Ardgour Road itself. This demand for rural blocks is consistent with the Upper Clutha area. There is an economic and social demand for lifestyle property in the area.

Under a centre pivot irrigation scheme the residual farming platform is projected to increase dry matter production by 70% over current estimated production levels and stock carrying capacity by a similar amount. The centre pivot development is expected to take around $250 of capital investment per stock unit increase at 4200su. By comparison developing Lots 5 and 6 for K-Line irrigation is estimated to cost ten times the capital cost per stock unit increase with an expected 10su increase in carrying capacity. The higher cost for little gain has a significant influence on the subdivision layout as it seeks to maximise the production and economic benefits from the property. The areas unsuited to centre pivot irrigation, or in the case of proposed Lot 8 surplus to requirements, have been identified as suited to lifestyle blocks or people seeking smaller areas for higher value production outputs where irrigation and development costs are better able to be recovered.

[5] REINZ Property Export, Bendigo, Cromwell, Tarras- Date Range: January 2021 to June 2024.

It is possible under centre-pivot and with greater pasture yield a higher residual pasture cover can be maintained which aids pasture recovery times during dry spells due to maintaining a higher soil moisture level. This may result in stock carrying capacity exceeding projections due to better pasture quality and availability. In this case the increase in productivity is likely to provide better animal finishing opportunities with improved selling prices and economic performance.

458 Ardgour Road – Historic Subdivision and Uses

Historically the immediate area originally comprised smaller blocks operated as semi-extensive sheep farming with selected areas of cropping in suitable locations. There has been a level of land aggregation over time possibly coinciding with economic cycles and rural depopulation at some point. The Trevathan family purchased the home block in 1914 and acquired additional land in 1950 and 1973 respectively. Often acquisition was driven by smaller blocks no longer having the scale to provide a sustainable income under the traditional farming models. However in recent years people have been moving into the wider Upper Clutha area and sub-division and land use changes have taken place. These land use changes have frequently resulted in more productive use of smaller parcels of land and therefore providing rural and lifestyle opportunities that were previously not available.

Current Land Use

The property is operated as a semi-extensive livestock farm with the Trevathan's bringing in stock, cattle and sheep, to finish off. It is also farmed in conjunction with other land on Maori Point Road some four kilometres to the northwest. The bulk of the land is flood (30ha) and overhead spray irrigated (60ha) with some small areas undeveloped or less developed due to topography, shallow soils and trees making irrigation or other development impractical and uneconomic.

Soils of the Upper Clutha

Soils of the Upper Clutha were assessed by the New Zealand Department of Scientific and Industrial Research in the 1950s and 1960s resulting in the publication of Soil Bureau Bulletin 28 in 1967.

Soils are assigned to one of five depth phases[6] according to their depth above gravel or bedrock:

- 0 Deep: > 100 cm
- 1 Moderately Deep: 45-100 cm
- 2 Shallow: 20-45 cm
- 3 Stony: 10-20 cm
- 4 Very Stony: < 10 cm

As cropping land Ardgour has limitations due to wind erosion, soil depth and moisture deficits. It does lend itself to some fodder crops, with the land then being placed into permanent pasture. Frequent or continuous cropping on a large scale is not sustainable as it raises the wind erosion risk, the soil needs to be placed in pasture for extended periods to manage this risk, as is normal practice. Fertiliser history is irregular. Some supplementary feed is required during the winter months.

[6] Landcare Research

In terms of productivity dry matter production[7] can vary widely from year to year and across the farming platform. For the purposes of this report and following discussion with Jonny Trevathan the land under flood and spray irrigation is assessed as capable of 9 tonnes of dry matter production per hectare per year which comprises 80% 0f the property with the balance producing at 4 tonnes per hectare per year.

Potential Land Use & Limitations

Across the current farming platform the preferred land use is semi-extensive livestock farming under centre pivot irrigation. Land under this proposed centre pivot development is assessed as being able to sustainably produce 14 tonnes of dry matter per hectare annually compared to 9 tonnes per hectare under flood irrigation and 4 tonnes per hectare as developed dry land.

Dry Matter production is assessed for each land use status, as shown in Table 3 below. Centre pivot irrigation is projected to sustainably achieve a 70% increase in livestock carrying capacity over the current flood irrigation system.

The climate and a finite or limited access to water for irrigation places significant restrictions on the production capacity of the land, despite the presence of good soils. Lack of soil depth, even under optimal (no limitation on supply of water to consistently achieve optimal) irrigation, places limitations on production and this property, by definition, is generally comprised shallow to very shallow soils. The area experiences severe winds that funnel through the Thompsom Saddle and results in an elevated risk of soil erosion when cultivated.

Table 3: Stock Carrying capacity under varying land use options

Land Status	Land Area	Est Yield (Ha) Tonnes	Total Yield (Tonnes)	Est Carry Capacity in stock units (su). Using 1.0kgDM/Day/SU including losses.	Comment
Dry Land	117	4	468	1300su	No allowance for land not in production (ie curtilage and yards)
Flood/Sprinkler Irrigated	90	9	810		
Balance Dry	7	4	81		
TOTAL			891	2440su	Current circa 2500su
Centre Pivot irrigated	108	14	1512		
Dry	2	4	8		
TOTAL			1520	4200su	Subdivision completed

In summary the shallow soils, high levels of moisture deficit experienced in a semi-arid zone, long cold winters and hot dry summers all conspire to limit highly productive growth even in the presence of good soils. Specifically while the main farming platform will show good increases in productivity under the proposed centre pivot development the remaining lots, namely Lots , 5, 8, and 10 are

[7] Dry Matter (DM) is simply the weight of feed after all moisture has been removed.

limited in use within the proposed centre pivot farming platform, or surplus to ongoing requirements. This is dealt with below under the heading Lots to be disposed of.

Lots identified for possible disposal

Lot 4 – 3.97ha

Lot 4 fronts Ardgour Road on the eastern boundary of the farming platform It also receives run-off from the flood irrigation situated above and to the south. There appears to have been some tunnel or gully erosion as a result of this run-off.

The Lot, topographically, is unsuited to centre pivot irrigation and would also need wilding poplar and other trees to be removed to satisfactorily develop and operate an irrigation system. In its current state annual dry matter production is estimated to be around 9 tonnes. It may run 10su to 15su in its current state in a good season. Soil cover, before hitting clay material and gravelly stones is around 200mm and prone to drying out under summer conditions of high temperatures and strong winds. Like Lot 5, there is sufficient land area available to support a locally suitable niche crop. Its sale will have no discernible impact on the farming operation and very possibly production could well increase over what it would contribute as part of the present farming platform..

Photo 3: View northwest looking down into the lower level of proposed Lot 4 at eastern end of the property. The gully is possibly the result of tunnel erosion caused by the flood irrigation system immediately above it.

Photo 4a & 4b: Soil depth on lot 6 by definition is shallow to very shallow. Image on the left suggests gully or tunnel erosion caused by flood irrigation.

It is concluded this Lot would provide greater community and economic value as a larger lifestyle block than as a pocket of dryland on a semi-extensive farming operation.

Lot 5 – 2.98ha

Proposed Lot 5, which fronts Ardgour Road, is not suited to centre pivot or flood irrigation, the lower area has been a receiving basin for the water runoff from flood irrigation that takes place on the land behind the line of trees to the top of photo 5 below. The area has a terrace running through it, which is the dry face running left to right across the middle of photo 5. With the advent of centre pivot irrigation this parcel of land will become quite dry and less productive as it will not receive the irrigation runoff it currently receives. Un-irrigated, and in its current state it is estimated production off the parcel will be around 3 tonnes of dry matter annually. Whilst this could carry between 8su-10su, depending on the feed quality, it effectively becomes dryland pasture and of little productive value to the farming operation.

Photo 5:View of Lot 5 from Ardgour Road

Soil depth on Lot 5 varies with 450mm in small hollows but on surrounding higher ground and exposed areas this reduces to around or under 200mm, this makes them shallow and very shallow soils with attendant limitations. Again the disposal of Lot 5 will little discernible impact on the productivity of the residual farming platform. The Lot has sufficient area to potentially create a niche crop opportunity with a new owner and where development costs may be recovered. It is considered this Lot would have improved economic value and productivity as a larger lifestyle block than as a pocket of dryland on a semi-extensive farming operation.

Lot 8 – 0.63ha

Lot 8 is an existing house and curtilage area on Adrgour Road. It does not form part of the redeveloped farming platform and is surplus to requirements.

Presently it is used by the Trevathan family but in due course they will move into the homestead. No staff are living on the farm as the preference is to live in Cromwell or Tarras where they can own their own properties and still have acceptable commute times. The boundary of Lot 8 follows the existing curtilage boundary and does not encroach upon existing productive farmland.

There is no production off the land and its subdivision and ultimate disposal is, in economic terms, of higher value to the Trevathan family and the wider community by being available for rural housing under separate ownership.

Photo 6: View of proposed Lot 8 which comprises the existing farmhand cottage and associated curtilage

The subdivision and disposal of proposed Lot 8 will have zero impact on production off the land. We consider its availability as a separate title to the wider community is its highest and best use.

Lot 10 – 2.0ha

Proposed Lot 10 has been identified as a future homestead site. It has a long access way to the building site which is about 0.9ha of the total 2ha identified. The remain 1.1ha is located on a steep ridge end which comprises very shallow Lochar soils.

On a day of the visit a hole was dug to determine the depth of soil on the building platform/curtilage area. There is a thin layer of soil, about 50mm, followed by gravelly clay and at around 100mm a gravelly layer, as can be seen in photo 7 below. The wider view in photo 8 below shows the line of

the proposed access to the left although in reality it will be approximately half this width at 10m. The access is about 900m long and 9000sqm in area, the first part of Ardgour Road is relatively undeveloped at the back of the existing homestead and it is unirrigated for its length. We would estimate the level of production off the access at around 1 tonne of dry matter as the access could still be grazed and it would not be entirely formed roadway. The curtilage area is very boney and steep and its productive capacity limited.

Photo 7: Illustrates the limited nature of the soil on the building platform

Photo 8: Showing the lie of the proposed access on the left and the elevated and steep nature of the proposed building platform and curtilage area in the foreground.

Capital & Economic Considerations

Parcels of these sizes that have limited or no value to a semi-extensive farming business are attractive to rural lifestyle buyers for housing and potentially for small scale niche producers. Lot 8, the house and curtilage, is simply surplus and its subdivision and sale is the best way to release the capital invested, which may very well be used towards on farm development and debt reduction. If it were to remain as part of the larger farming property it would at best become a rental property and on this basis its subdivision and disposal does not result in a land use change or impact production but does provide economic benefits to both the seller and buyer.

Proposed Lot 10 has been identified as a possible house site for the family. The intended building platform and associated curtilage would be on very shallow soils on a ridge end and not suited to irrigation. The Lot as identified has minimal impact on the farming operation and is good use of marginal land.

Discussion

It is noted that production levels could very likely improve on Lots 4 and 5 under a change of ownership where new owners are looking to change land use to an alternative activity. The issue here is the capital required to develop for semi extensive farming has little farming benefit. My view is that the land is very likely to be more productive as small blocks and therefore its subdivision and its disposal a net benefit to production off the land and to the wider community economy.

For the Trevathan family these areas do not fit the planned farming operation and alternative uses have been identified.

Briefly there are impediments to obtaining a viable return from Lots 4 and 5 in their present use, these include:

1. As dry blocks they have low productive value and limited farming returns.
2. Irrigation water is not practically available under the centre pivot system and the changes to the irrigation of the land will see both of these lots becoming dryland with attendant low productive capacity. A bore supply for these smaller blocks and targeted irrigation under future land uses is preferable.
3. There is some sign of gully erosion on proposed Lot 4 suggesting it is best suited to a more targeted and less water intensive irrigation system that would likely be undertaken by a small rural landholder.

The disposal of Lot 8 is the highest and best use of the land as there is no production from it due to being a house and curtilage. To return the land to farming is not an economic option and its continuing use as a housing unit is the sensible outcome.

Lot 10 has been identified as a future house site for the family where a separate title will allow them to be flexible around future family succession planning. Its envisaged change in use due to topographical and soil limitations will not in my view impact production off the land.

Summary & Conclusion

In summary the economic incentive is not present to seek to increase productivity off identified lots, these being Lot 4, Lot 5, Lot 8 and Lot 10, for semi extensive farming purposes. What can clearly be demonstrated is that the production off the farmland will exceed the current production levels and the residual parcels will have a higher and better use as rural lifestyle with the opportunity for niche production undertakings.

The soils are identified as LUC3 soils but there are significant climatic limitations present and depth of soil is a challenge in this location. Our view is they will not achieve highly productive levels.

The proposed centre pivot development will result in an increase in production off the land with more efficient use of the water resource but not at highly productive levels as the end use is constrained due to climate and soil depth. For example large scale land use change requiring frequent cultivation of the soils is unlikely to be environmentally sustainable due to frequent high winds at critical times. The projected increase in production off the farming platform however does outweigh possible loss of productive capacity, if any, resulting from the creation and disposal of Lots 4, 5, 8 and 10.

The disposal of the identified Lots would potentially enable the costs of the centre-pivot development to be offset by the net proceeds. This would be of economic benefit to the Trevathan family and the community. The sustainability of the farming operation through more efficient use of water and the available land also has environmental benefits and the availability of the proposed Lots will provide economic and social opportunities to wider community.

Ray Macleod
Landward Management Ltd
June 2024

Soil Map

Title	Appellation	Title Area	New Lot	New Area	16Ha for averaging purposes	Average
OT17B/63	Lot 1 DP 25202	14.6925	LOT 1	14.65	14.65	
	Sec 50 Blk XVI Tarras SD	23.31	LOT 2	13.35	13.35	
		38.0025	LOT 3	17.6	16	
			LOT 4	3.97	3.97	
OT17B/64	Pt Sec 25 BLK XVI Tarras SD	21.5504	LOT 5	2.98	2.98	
	Sec 31 Blk XVI Tarras SD	18.8301	LOT 6	4.26	4.26	
		40.3805	LOT 7	20.92	16	
			LOT 8	0.63	0.63	
		78.383		78.36		8.98
OT14B/606	Sec 23 BLK XVI Tarras SD	39.0066	LOT 9	34.216	16	
			LOT 10	2.79	2.79	
			LOT 11	2	2	
				39.006	20.79	6.93
		117.3896		117.366		

Soil Map, Prepared by Patterson Pitts showing the proposed sub-division overlaid.

This map shows the LUC3 soils as the darker green and the LUC as the little green. It is noted that Lot 5 does contain a smaller amount of LUC4. This has not been specifically addressed as it little impact on analysis or the conclusions reached

15

ONSITE DOMESTIC WASTEWATER & STORMWATER DISPOSAL SUITABILITY REPORT

TREVATHAN WW

458 ARDGOUR ROAD TARRAS

CLIENT: Jonny Trevathan

DATE: 03 Octocber 2024

JOB REF: G25036

MT IRON GEODRILL
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Gavin Tippett
Engineering Geologist
B.Sc (Geol), P.G.Dip.Eng.Geol, M.Sc (Eng.Geol), MEngNZ

ENGINEERING NEW ZEALAND OFFICIAL MEMBER

1 INTRODUCTION

This report is for inclusion in Consent applications for a proposed new subdivision development. The scope of this report is to assess the suitability of the site for on-site domestic wastewater and stormwater disposal

We have conducted an onsite soils assessment in accordance with AS/NZS 1547:2012 for wastewater disposal.

Stormwater disposal assessment was done regarding NZS4404:2010, Section 4.

Limitations

Findings presented as a part of this report are for the sole use of Jonny Trevathan and the Central Otago District Council in accordance with the specific scope and the purposes outlined above. While other parties may find this reporting useful the findings are not intended for use by other parties, and may not contain sufficient information for the purposes of other parties or other uses.

Our professional services are performed using a degree of care and skill normally exercised, under similar circumstances, by reputable consultants practising in this field at this time. No other warranty, expressed or implied, is made as to the professional advice presented in this report.

1.1 RELATED DOCUMENTS

In this report, reference is made to the following documents:

- AS/NZS 1547:2012 Onsite Domestic-wastewater management.
- NZS4404:2010 Land Development and Subdivision Infrastructure
- New Zealand Building Code, Section E1
- Otago Regional Council's Grow Otago website (http://growotago.orc.govt.nz)
- Central Otago District Council GIS Maps
- Marta Scott, ECan Memorandum - Separation Distances Between Discharges and Wells, 5 September 2012

2 SITE EVALUATION

2.1 GENERAL

Component	Description	Reference
Assessment Standard	AS/NZS 1547:2012	
Territorial Authority	Central Otago District Council	
Regional Authority	Otago Regional Council	
Purpose	Site evaluation for consent	

2.2 SITE DETAILS

Component	Description	Reference
Owner	Jonny Trevathan	Client
Legal Description	LOT 1 DP 25202 SECS 23-24 50 PT SEC 25 3 1 BLK XVI TARRAS SD	CODC GIS Maps
Grid Reference	Lat 44° 53.064'S Long 169° 24.696'E Lat 44° 53.028'S Long 169° 24.932'E Lat 44° 53.698'S Long 169° 24.156'E	Google Earth
Area	117.39 ha	Survey Plan

2.3 SITE EVALUATION

Component	Description	Reference
Evaluator	Gavin Tippett	
Company	Mt Iron Ventures Ltd T/A Mt Iron Geodrill	
Date of Evaluation	09/09/2024	
Topography	Gently undulation with a terrace riser (down) to the west of all sections. Terrace is approximately 10m high.	Site investigation
Soil Type	An1sG – Annan moderately deep sandy loam, gently undulating Bd1sG – Bendigo moderately deep sandy loam, gently undulating	Grow Otago Website, Site investigation
Average rainfall	401 - 450 mm per year	Grow Otago Website
Water supply	Bore supply (or similar)	Authors knowledge
Neighbouring systems	Onsite disposal	Site visit
Water Bores	See Appendix C of this report	
Site land use history	Stock grazing	Author
Environmental concerns	Ground freezing	
Depth to groundwater	No Ground water noticed in test pits, boreholes or weeps. Likely to be approximately 10m	Geotechnical site investigation and boreholes.

3 GEOLOGY

The geology of the site is mapped by the Qm14 as comprising:

OIS1 (Holocene) fan deposits - Loose, commonly angular, boulders, gravel, sand, and silt forming alluvial fans; grades into scree (upslope) and valley alluvium.

The Qmap is at a 1:250,000 scale so only details the larger units present. Site investigations have confirmed the presence of river deposits.

The area is part of the larger Tarras Basin which has undergone a series of glacial outwash events over hundreds of thousands of years. Thus, there are numerous deposition episodes which can be identified in the area. These events have been eroded by subsequence events which have left behind the terraced topography of the area, with the older events being the higher elevation deposits. The latest glacial event is locally known as the Lindis formation and is part of the New Zealand Oxygen Isotope Stage 12, mapped as Q12 on GNS geological maps. This unit was deposited approximately 423,000 to 477,000 before present and forms the the flat top hill to the east of the site (western side of the Lindis river. There are also Lindis Formation deposits on the hills to the south and east of the site.

There are terraces in the area, with one directly to the west of the subject area. These terraces are part of the fan deposists which have been subseqencly eroded by the Lindis River.

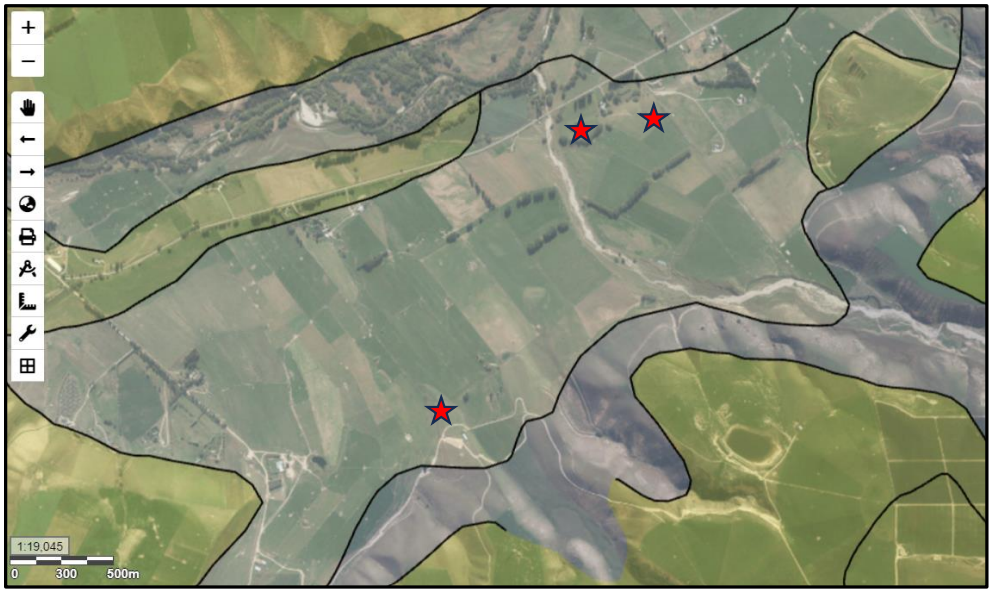


Figure 1 - The approximate site locations are shown by the red stars. (North is top of the page)

It is considered that the fan deposits are approximately 20m or greater thick under the proposed development locations. The deposits likely consist of sandy gravels with some lenses of sand and possible silty material for the full depth.

4 SITE & SOIL EVALUATION

Each of the proposed lots is a different size. No evidence of natural instability was found on around any of the proposed lots during our site investigations.

The site is open with some low vegetation cover. This lot currently has no existing dwellings or other buildings at the locations of the proposed building platforms. The majority of the area is fully exposed at all times of the year.

A summary of the soils onsite is presented in the table below. Full soil investigation details can be found in Appendix A.

Component	Description	Reference
Soil Profile	Determined using 4 test pits to depths ranging from 1.9m to 2.1m.	Appendix A
Soil structure	Massive	Appendix A
Soil Texture	Gravels and Sands	Appendix A
Indicative permeability	SK1 = >3 m/day	Appendix A. Determined in accordance with AS/NZS 1547:2012 Appendix B6, CB6 and G
Soil Category based on indicative permeability	Category 1	AS/NZS 1547:2012 Table 5.1
Sensitive receivers	Nil	Site investigation

We have characterised the soils in the area investigated as a Category 1 soil in accordance with AS/NZS 1547:2012 Table 5.1 based on the visual and assumed Ksat values. This is for the sandy gravels below a variable thickness layer of aeolian silts and fine sand.

This is assuming that all disposal (wastewater and stormwater) is located in the sandy gravel materials.

4.1 SUITABILITY FOR ONSITE STORMWATER DISPOSAL

It is considered that the site is well suited for onsite stormwater disposal. Careful placement and design of stormwater soak pits away from the wastewater disposal field is highly recommended. The Base of the soak pit(s) shall be installed into the underlying sandy gravel materials. If the base of the soak pit(s) encounters sand then re-testing of the ground conditions will be required to confirm the infiltration rate.

It is recommended that the location of the soak pit is checked and tested at the time of design to confirm the actual infiltration rate.

4.2 SUITABILITY FOR ONSITE WASTEWATER DISPOSAL

It is considered that the site is suitable for onsite wastewater disposal. It is considered that any area of the site could be used for the disposal field. However, careful consideration regarding setbacks from other disposal fields and stormwater soak pits is undertaken

The site is considered suitable for both onsite wastewater disposal as long as the following issues are considered during the design phase:

- The soils are considered to be soil Category 1 (sandy Gravels), massive, as per AS/NZS1547:2012 Table 5.1
- All treatment systems are suitable provided good design is undertaken
- Highly recommended that a dosing system is used

It shall be noted that AS/NZS1547:2012 recomends a set back of 20m between disposal fields and also from disposal fields to stormwater soak pits. Given that each section is approximately 40m by 40m these set backs could be achived by having the stormwater soak pits located at the the front (western side) of the lots and the wastewater disposal fields at the rear as long as the placement of the disposal fields are located in the same position on each lot.

5 CONCLUSIONS

The proposed on site disposal of stormwater and wastewater is considered geotechnically suitable for the site; as long as the above considerations in Sections 4.1 and 4.2 are followed for design and construction, no adverse effects are expected.

6 APPLICABILITY

This report is only to be used by the parties named above for the purpose that it was prepared and shall not be relied upon or used for any other purpose without the express written consent of the principal and Mt Iron Geodrill Ltd.

The extent of testing associated with this assessment is limited to discrete locations and variations in ground conditions can occur between and away from such locations. If subsurface conditions encountered during construction differ from those given in this report further advice should be sought without delay.

7 COMPETENCY STATEMENT

I, Gavin Tippett, am a member of Engineering New Zealand (MEngNZ 1153129), and hold the following qualifications:

- BSc (Geology),
- PGDip Engineering Geology,
- M.Sc (Engineering Geology).

Mt Iron Geodrill holds a current policy of Professional Indemnity Insurance no less than $200,000.

Appendix A – SITE PLANS

- Testing location plan (Figure 1)

LEGEND

TP1 **Test Pit Location**

All test locations are approximate only

Base plan taken from CODC GIS Maps

	Project:	Client:	Drawing Title:	Scale:	Drawing Number
MT IRON GEODRILL	Trevathan WW 458 Ardgour Road Tarras	Jonny Trevathan	Site investigation Plan	As shown	Figure 1
				Job No. G25036	Revision: 03/10/2024

Appendix B – ENGINEERING LOGS

- Test Pit Logs (TP4 – TP4)

TP1

TEST PIT LOG

CO-ORDINATES:	374545 5028670	JOB NUMBER:	G25036 T	EQUIPMENT TYPE & MODEL:	Yanmar ViO17
± m:	4m	PROJECT:	revathan WW	COMPANY:	Mt Iron Geodrill
ELEVATION:	270	LOCATION:	458 Ardgour Road Tarras	OPERATOR:	G Tippett
GPS DATUM:	UTM				
HEIGHT DATUM:	MLS	DATE:	09 September 2024	PIT DIMENSIONS:	
		LOGGED BY:	GT	Wide: 0.5m	Long: 2.4m

METHOD	DEPTH (m)	BLOWS/50mm	WATER	SAMPLES	GRAPHIC	DESRIPTION: Soil Name, Plasticity or Particle Characteristics, Colour, Secondary Components & Minor Components	MOISTURE	CONSISTENCY DENSITY	Structure and Additional Observations Geological / Depositional
E	0	Scala Not Undertaken	N			**TOPSOIL:** dark brown organic rich silt loam.	M	F	TOPSOIL
	1					**Sandy SILT:** yellow brown, high dilatancy silt; fine grained sand. Tree and grass roots present. Category 4 Soil		F	AEOLIAN
	2					**Sandy GRAVEL:** yellow grey, fine to medium grained, subrounded to angular, well graded gravel; fine to coarse grained well graded sand; trace fines. Category 1 Soil		MD - D	ALLUVIUM
	3					End of Hole 2m (Limit of Machine)			
	4								

METHOD:
- **N** Natural Exposure
- **X** Existing Excavation
- **E** Excavator
- **HA** Hand Auger

SAMPLES:
- **U50** Undisturbed Sample 50mm Diameter
- **D** Disturbed Sample
- **V** Vane Shear (kPa)
- **Bs** Bulk Disturded Sample
- **E** Environmental Sample
- **INF** Infiltration test

MOISTURE:
- **D** Dry
- **M** Moist
- **W** Wet
- **S** Saturated

CONSISTENCY / DENSITY:

VS	Very Soft	VL	Very Loose
S	Soft	L	Loose
F	Firm	MD	Medium Dense
St	Stiff	D	Dense
VSt	Very Stiff	VD	Very Dense
H	Hard		
Fb	Friable		

NOTE:
A scala result of 2.5 blows per 50mm is equivelent to a geotechnical ultimate bearing capacity of 300kPa in accordance with NZS 3604-2011, Section 3.3.7.

WATER:
- ◁ Water Inflow
- ▼ **Standing Water Level**
- ▽ **Estimated High Water Level**
- **N** **Nil Water Observed**

TP2

TEST PIT LOG

CO-ORDINATES:	374568 5028703	JOB NUMBER:	G25036 T	EQUIPMENT TYPE & MODEL:	Yanmar ViO17
± m:	4m	PROJECT:	revathan WW	COMPANY:	Mt Iron Geodrill
ELEVATION:	270	LOCATION:	458 Ardgour Road Tarras	OPERATOR:	G Tippett
GPS DATUM:	UTM				
HEIGHT DATUM:	MLS	DATE:	09 September 2024	PIT DIMENSIONS:	
		LOGGED BY:	GT	Wide: 0.5m	Long: 2.4m

METHOD	DEPTH (m)	BLOWS/50mm (0, 5, 10)	WATER	SAMPLES	GRAPHIC	DESRIPTION: Soil Name, Plasticity or Particle Characteristics, Colour, Secondary Components & Minor Components	MOISTURE	CONSISTENCY DENSITY	Structure and Additional Observations Geological / Depositional
E	0	Scala Not Undertaken	N			**TOPSOIL:** dark brown organic rich silt loam.	M	F	TOPSOIL
						Sandy SILT: yellow brown, high dilatancy silt; fine grained sand. Grass roots present. Category 4 Soil		F	AEOLIAN
	1					**Sandy GRAVEL:** yellow grey, fine to medium grained, subrounded to angular, well graded gravel; fine to coarse grained well graded sand; trace fines. Category 1 Soil		MD - D	ALLUVIUM
	2								
						End of Hole 2.1m (Limit of Machine)			
	3								
	4								

METHOD:
- N Natural Exposure
- X Existing Excavation
- E Excavator
- HA Hand Auger

SAMPLES:
- U50 Undisturded Sample 50mm Diameter
- D Disturbed Sample
- V Vane Shear (kPa)
- Bs Bulk Disturded Sample
- E Environmental Sample
- INF Infiltration test

MOISTURE:
- D Dry
- M Moist
- W Wet
- S Saturated

CONSISTENCY / DENSITY:

VS	Very Soft	VL	Very Loose
S	Soft	L	Loose
F	Firm	MD	Medium Dense
St	Stiff	D	Dense
VSt	Very Stiff	VD	Very Dense
H	Hard		
Fb	Friable		

NOTE:
A scala result of 2.5 blows per 50mm is equivelent to a geotechnical ultimate bearing capacity of 300kPa in accordance with NZS 3604-2011, Section 3.3.7.

WATER:
- ◁ Water Inflow
- ▼ **Standing Water Level**
- ▽ **Estimated High Water Level**
- **N Nil Water Observed**

TP3

TEST PIT LOG

CO-ORDINATES:	374875 5028720	JOB NUMBER:	G25036 T	EQUIPMENT TYPE & MODEL:	Yanmar ViO17
± m:	4m	PROJECT:	revathan WW	COMPANY:	Mt Iron Geodrill
ELEVATION:	272	LOCATION:	458 Ardgour Road Tarras	OPERATOR:	G Tippett
GPS DATUM:	UTM				
HEIGHT DATUM:	MLS	DATE:	09 September 2024	PIT DIMENSIONS:	
		LOGGED BY:	GT	Wide: 0.5m	Long: 2.4m

METHOD	DEPTH (m)	BLOWS/50mm (0, 5, 10)	WATER	SAMPLES	GRAPHIC	DESRIPTION: Soil Name, Plasticity or Particle Characteristics, Colour, Secondary Components & Minor Components	MOISTURE	CONSISTENCY DENSITY	Structure and Additional Observations Geological / Depositional
E	0	Scala Not Undertaken	N			**TOPSOIL:** dark brown organic rich silt loam.	M	F	TOPSOIL
						Sandy SILT: yellow brown, high dilatancy silt; fine grained sand. Grass roots present. Category 4 Soil		F	AEOLIAN
	1					**Sandy GRAVEL:** yellow grey, fine to medium grained, subrounded to angular, well graded gravel; fine to coarse grained well graded sand; trace fines. Category 1 Soil		MD - D	ALLUVIUM
	2					End of Hole 1.9m (Limit of Machine)			
	3								
	4								

METHOD:
- N Natural Exposure
- X Existing Excavation
- E Excavator
- HA Hand Auger

SAMPLES:
- U50 Undisturded Sample 50mm Diameter
- D Disturbed Sample
- V Vane Shear (kPa)
- Bs Bulk Disturded Sample
- E Environmental Sample
- INF Infiltration test

MOISTURE:
- D Dry
- M Moist
- W Wet
- S Saturated

CONSISTENCY / DENSITY:

VS	Very Soft	VL	Very Loose
S	Soft	L	Loose
F	Firm	MD	Medium Dense
St	Stiff	D	Dense
VSt	Very Stiff	VD	Very Dense
H	Hard		
Fb	Friable		

NOTE:
A scala result of 2.5 blows per 50mm is equivelent to a geotechnical ultimate bearing capacity of 300kPa in accordance with NZS 3604-2011, Section 3.3.7.

WATER:
- ◁ Water Inflow
- ▼ **Standing Water Level**
- ▽ **Estimated High Water Level**
- **N Nil Water Observed**

TP4

TEST PIT LOG

CO-ORDINATES:	374874 5027480	JOB NUMBER:	G25036 T	EQUIPMENT TYPE & MODEL:	Yanmar ViO17
± m:	4m	PROJECT:	revathan WW	COMPANY:	Mt Iron Geodrill
ELEVATION:	280	LOCATION:	458 Ardgour Road Tarras	OPERATOR:	G Tippett
GPS DATUM:	UTM				
HEIGHT DATUM:	MLS	DATE:	09 September 2024	PIT DIMENSIONS:	
		LOGGED BY:	GT	Wide: 0.5m	Long: 2.4m

METHOD	DEPTH (m)	BLOWS/50mm (0 5 10)	WATER	SAMPLES	GRAPHIC	DESRIPTION: Soil Name, Plasticity or Particle Characteristics, Colour, Secondary Components & Minor Components	MOISTURE	CONSISTENCY DENSITY	Structure and Additional Observations Geological / Depositional	DEPTH (m)
	0					**TOPSOIL:** dark brown organic rich silt loam.		F	TOPSOIL	0
						Sandy SILT: yellow brown, high dilatancy silt; fine grained sand. Grass roots present. Category 4 Soil		F	AEOLIAN	
E	1	Scala Not Undertaken	N			**Sandy GRAVEL:** yellow grey, fine to medium grained, subrounded to angular, well graded gravel; fine to coarse grained well graded sand; trace fines. Category 1 Soil	M	MD - D	ALLUVIUM	1
	2					End of Hole 1.9m (Limit of Machine)				2
	3									3
	4									4

METHOD:
- **N** Natural Exposure
- **X** Existing Excavation
- **E** Excavator
- **HA** Hand Auger

SAMPLES:
- **U50** Undisturbed Sample 50mm Diameter
- **D** Disturbed Sample
- **V** Vane Shear (kPa)
- **Bs** Bulk Disturded Sample
- **E** Environmental Sample
- **INF** Infiltration test

MOISTURE:
- **D** Dry
- **M** Moist
- **W** Wet
- **S** Saturated

CONSISTENCY / DENSITY:

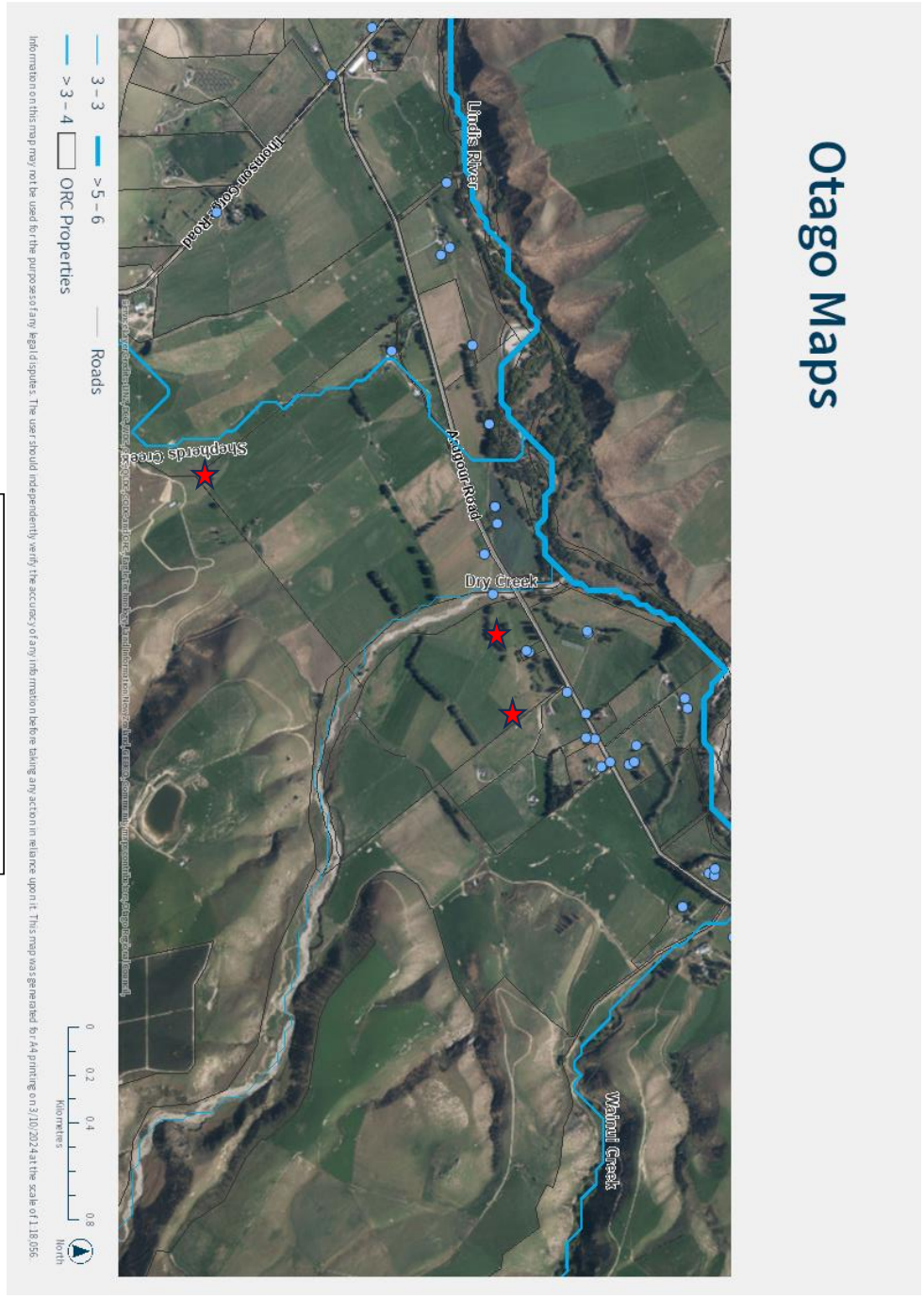
VS	Very Soft	VL	Very Loose
S	Soft	L	Loose
F	Firm	MD	Medium Dense
St	Stiff	D	Dense
VSt	Very Stiff	VD	Very Dense
H	Hard		
Fb	Friable		

NOTE:
A scala result of 2.5 blows per 50mm is equivelent to a geotechnical ultimate bearing capacity of 300kPa in accordance with NZS 3604-2011, Section 3.3.7.

WATER:
- ◁ Water Inflow
- ▼ **Standing Water Level**
- ▽ **Estimated High Water Level**
- **N** **Nil Water Observed**

Appendix C – ORC BORE LOCATIONS

MT IRON GEODRILL
info@mtirongeodrill.com (03) 443 7491 027 5342589 mtirongeodrill.com



Site Locations Marked by Red Stars

MT IRON GEODRILL
info@mtirongeodrill.com (03) 443 7491 027 5342589 mtirongeodrill.com

NES RECORD SEARCH

Application

Paterson Pitts Limited Partnership PO Box 84, Cromwell 9342	Number NES240008 Application date 13/05/24 Phone 03 445 1826 Mobile 021 854 759 Email rod.baxter@ppgroup.co.nz

Property

Valuation No.	2841110700
Location	360 Ardgour Road, Tarras
Legal Description	Lot 1 DP 25202, Part Sections 25, 31 and Section 50 Block XVI Tarras SD
Area (hectares)	38.0087

Resource consents

Resource Area: Rural Resource Area

Consents:

09/09/2011	RC 110171: Change to Conditions 2 and 3 of RC 100103 to allow addition of garage and a breach of rural colour palette
	No information in relation to HAIL activities could be found on this record.
31/05/2010	RC 100103: Land use consent to relocate a dwelling in the Rural Resource Area
	No information in relation to HAIL activities could be found on this record.
27/10/1995:	RC 264: Boundary adjustment between Sections 25 and 31 Block XVI Tarras SD
	No information in relation to HAIL activities could be found on this record.

Building

Consents/Permits/Compliance Schedules:

29/08/2011	BC 110651: Erect new garage on existing dwelling
	No information in relation to HAIL activities could be found on this record.
07/05/2010	BC 100281: Foundations and site works for relocated dwelling
	No information in relation to HAIL activities could be found on this record.

Preliminary Site Investigations and Detailed Site Investigations

No information in relation to the above could be found on Council's records.

Aerial Photographs

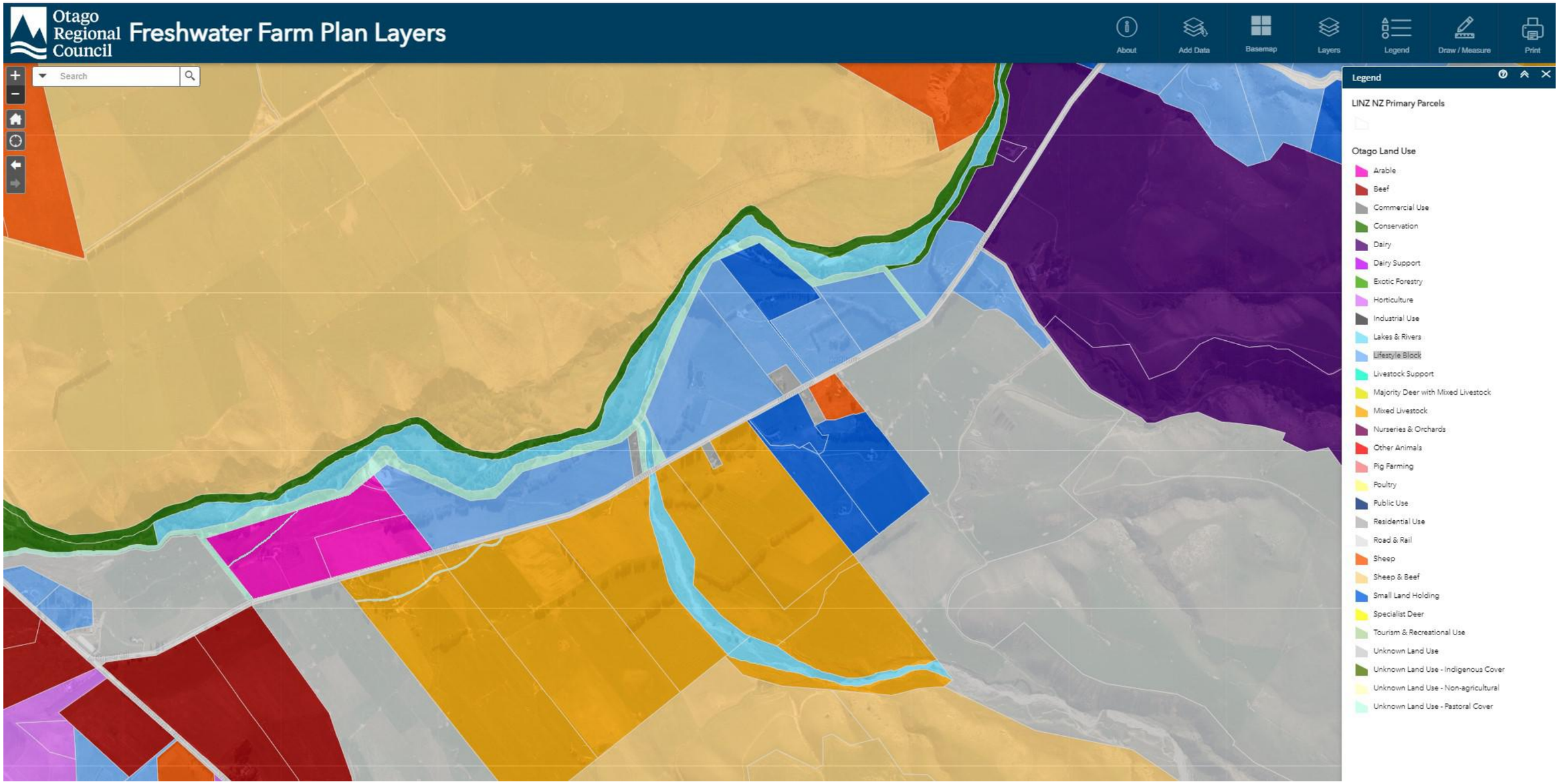
Council's aerial photographs for the site date back to 2006. Aerial photographs indicate an area of unknown excavation in the northern corner of Part Section 25 Block XVI Tarras SD. Waste disposal to land is Item G5 on the HAIL and may trigger NES-CS requirements if undertaken on the site (Figure One)

Figure One: Unknown excavation on Part Section 25.

Disclaimer: The Council does not hold records directly relating to activities on the Hazardous Activities and Industries List (HAIL). In the event some information is available it cannot be guaranteed as correct or complete and therefore may not satisfy your request. We therefore recommend you undertake further investigation to determine whether any HAIL activities exist on the site.

Prepared by

Adam Vincent
Planning Officer - Consents
Date: 16 May 2024


Otago Regional Council
Freshwater Farm Plan Layers
About
Add Data
Basemap
Layers
Legend
Draw / Measure
Print
Search
Legend
LINZ NZ Primary Parcels
Otago Land Use
Arable
Beef
Commercial Use
Conservation
Dairy
Dairy Support
Exotic Forestry
Horticulture
Industrial Use
Lakes & Rivers
Lifestyle Block
Livestock Support
Majority Deer with Mixed Livestock
Mixed Livestock
Nurseries & Orchards
Other Animals
Pig Farming
Poultry
Public Use
Residential Use
Road & Rail
Sheep
Sheep & Beef
Small Land Holding
Specialist Deer
Tourism & Recreational Use
Unknown Land Use
Unknown Land Use - Indigenous Cover
Unknown Land Use - Non-agricultural
Unknown Land Use - Pastoral Cover

GeoSolve Ref: 240612
20 November 2024

Noel George Trevathan
Lindisvale, 360 Ardgour Road
3RD Cromwell
Cc' Rod Baxter (Patersons)

Geological Review and Natural Hazards Assessment
458 Ardgour Road Subdivision, Tarras

1.0 Introduction

This report summarises the results of a preliminary geological review and natural hazards assessment completed for a proposed rural subdivision at 458 Ardgour Road, Tarras. This report is intended to support a resource consent application to Council.

Photo 1. Panoramic view looking southwest across the development area from the proposed Lot 4.

The assessment was completed for Noel George Trevathan in accordance with GeoSolve Ltd.'s Short Form Agreement (Ref no. 240612) dated 13th of August 2024, which outlines the scope of work and conditions of engagement.

2.0 Proposed Development

It is proposed to subdivide 3 rural allotments with designated building platforms from the existing farming operation. Access to the allotments will be via Ardgour Road.

Geological and natural hazards information is required from GeoSolve to support a resource consent application to Council for subdivision. Subsurface investigation was undertaken by Mount Iron GeoDrill to assess site suitability for below ground wastewater disposal. These investigations were undertaken in conjunction with our site inspection and offer preliminary design information for development, although site-specific investigations are recommended for the detailed design phase or building consent stage for individual building platforms.

A subdivision scheme plan outlining the development is presented in Appendix A.

3.0 Preliminary Geological Review

The GNS Science 1:250,000 geological map area of the Wakatipu indicates the property is underlain by gravel and sand in alluvial fans (Q1a) grading into valley alluvium above the Lindis River. These soils are intern underlain by sediments of the Manuherikia Group or regionally extensive schist bedrock exposed on the range southeast of the subdivision.

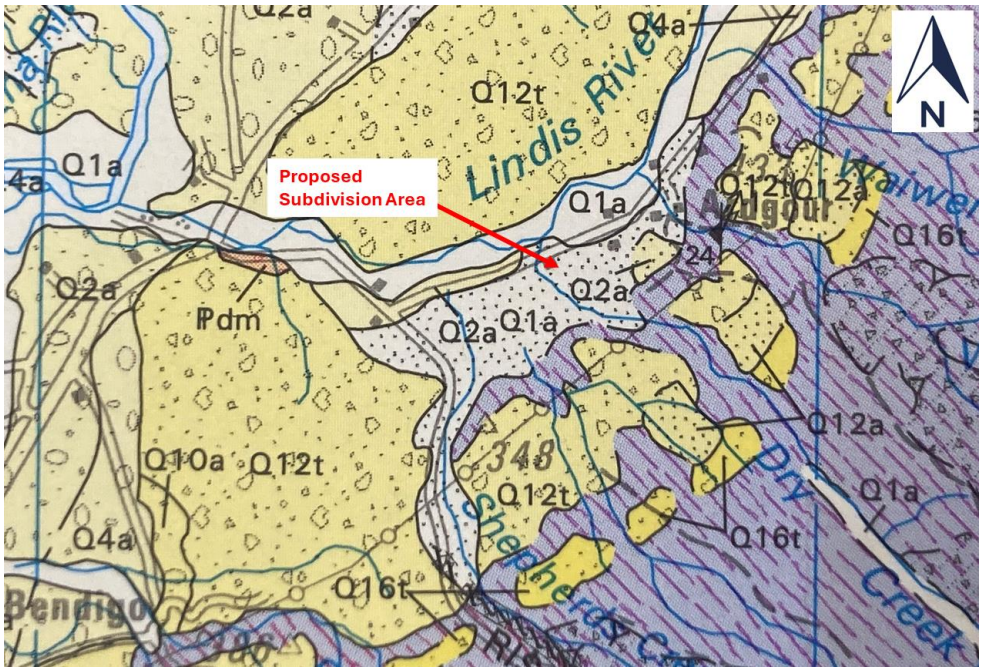


Figure 1. Image taken from the GNS Science 1:250,000 geological map of the subdivision and surrounding area.

Site inspection confirmed that the subdivision area is underlain by gently inclined alluvial fan surfaces along the base of the schist range front. The Dry Creek channel on the southwestern edge of Lot 5 is incised below the fan surface by around 5.5 m. Dry Creek

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was dry at the time of inspection but is expected to carry flows during heavy prolonged rainfall.

LiDAR contour data for the property and a hydrological cross-section indicating the height difference between the Lot 5 building platform and Dry Creek is presented in Appendix A.

4.0 Preliminary Subsurface Investigations and Results

Mount Iron GeoDrill excavated a total of 4 test pits nearby the building platforms to a maximum depth of 2.1 m below ground level (bgl). GeoSolve produced logs of the test pits and undertook Scala penetrometer testing adjacent to the excavations to assess soil relative densities.

The subsurface stratigraphy, as observed in test pits, is relatively consistent despite the distance between locations and comprises:

- 0.2-0.3 m of **topsoil**, overlying;
- 0.2-0.8 m of **loess** (loose to medium dense/firm to stiff silty SAND to sandy SILT), overlying;
- 1.7 m+ of **fan alluvium** (medium dense sandy GRAVEL with rare cobbles).

Groundwater flows or seepages were not observed in test pits or in the vicinity of the building platforms. The regional groundwater table is expected to correspond with Lindis River level.

Test pit and Scala penetrometer test locations and logs are contained within Appendix A and B respectively. Full details of the observed subsurface stratigraphy can be found within the test pit logs.

5.0 Natural Hazards Assessment

Geological field mapping and relevant features discussed in the following subsections are shown on the site plans and cross-section contained in Appendix A.

Alluvial Fan and Flooding:

The Otago Regional Council (ORC) natural hazards database indicates that the building platforms are situated on a combination of active (Lot 5) and inactive (Lot 4 & 10) floodwater dominated alluvial fans originating from Dry Creek and the adjacent gullies. However, the Dry Creek outflow channel is now incised below the full length of the fan surface from the base of the range to beyond Ardgour Road. Photo 2 below shows the depth of channel incision at the head of the fan, a typical location for a floodwater avulsion to occur but unlikely in this scenario given the channel depth. The hydrological cross-section located further down the fan indicates the height difference between the Lot 5 building platform and the active channel.

Photo 2. The Dry Creek channel looking east towards the base of the range. The Lot 4 & 5 building platforms are situated on the upper terrace (indicated by the red arrow) around 1 km downslope.

Aerial reconnaissance has previously been undertaken across Otago during regional flood events to gauge the extent of flood damage from the air. Photo 3 below includes the Lot 5 building platform and adjacent Dry Creek channel following regional flooding in Dec 1995.

Photo 3. Aerial reconnaissance photo showing the Lot 5 building platform (indicated by the red arrow) situated on the upper terrace above visible flood damage following the Dec 1995 flood event.

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The fan surfaces on which the building platforms are proposed are now elevated above and isolated from the active channel of Dry Creek. The Lot 10 building platform is also situated on a degraded ridge of fan alluvium well above adjacent active fans. The alluvial fans on which the building platforms are located can therefore be considered in-active.

Slope Stability:

Given the setback distances from nearby terrace risers and the subdued slope angles there are no slope instability issues for the proposed building platforms.

Seismic Stability/Risk from Active Faults:

The active Pisa Fault is located at the foot of the Pisa Range within 10 km northwest of the subdivision. However, due to the estimated >20,000 years average return period for earthquakes on this fault, the seismic risk posed by this structure is considered relatively low. The Alpine Fault, located approximately 120 km to the northwest, runs along the western foothills of the Southern Alps, and is likely to present a more significant seismic risk. There is a high probability that a major earthquake of Magnitude 8 or more will occur along the Alpine Fault within the next 50 years and such a rupture is likely to result in variable ground shaking within the Upper Clutha Valley. The Alpine fault is considered to provide the governing seismic risk for the subdivision from a geotechnical perspective.

Seismic Liquefaction:

The ORC natural hazards database indicates the development is situated within mapped liquefaction category Domain A with low to no liquefaction potential. This has been categorised on the basis that the site is inferred to be predominantly underlain by rock or firm sediments. Due to the depth to regional groundwater, identified within nearby water bores, GeoSolve considerers the risk of seismic liquefaction for the building platforms to be low. No further assessment is necessary with respect to liquefaction.

6.0 Foundation Bearing Capacity and Subsoil Category

Topsoil will need to be removed from building footprints. Loess silty SAND/sandy SILT and fan alluvium comprising gravel is expected to underlie future building platforms. Medium dense gravels typically meet the minimum requirements for NZS 3604:2011 “good ground” conditions. Specific engineering design (SED) for reduced bearing capacities will be required for foundations bearing directly upon loess sandy SILT and silty SAND based on existing Scala penetrometer testing. However, the founding ground model will need to be confirmed via site specific subsurface investigation for each building platform to inform detailed design.

The building platforms are probably “Class D” (deep soil site) in accordance with NZS 1170.5:2004 seismic provisions. The allocation of Class D subsoil category at this site is based on the inferred subsurface geology and deep water bore data completed elsewhere within the Ardgour Valley which terminated within alluvial sediments.

7.0 Recommendations and Considerations

Subsurface geotechnical investigations are recommended as part of the detailed design phase or building consent stage for individual building platforms. Test pitting and Scala penetrometer testing is required to confirm soil parameters and bearing capacity for foundation and earthworks design.

Standard floor level elevations apply for future dwellings to account for surface water ponding and runoff during heavy rainfall. Low landscaped soil bunds or cut-off drains on the upslope side of the building platforms will afford additional protection from any surface water and farm irrigation runoff.

We do not foresee any site-specific constraints with respect to the prevailing geotechnical conditions or natural hazards which would prevent residential development of the property; noting the recommendations provided above. A risk of seismic activity is present in the region from the Alpine Fault and appropriate allowance should be made for seismic loading during detailed design of future buildings, foundations, retaining walls and earthworks.

Based on the current assessment, the development is technically feasible from a geotechnical perspective; noting that site-specific ground investigations, reporting and design will be required during the detailed design/building consent stage.

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8.0 Applicability

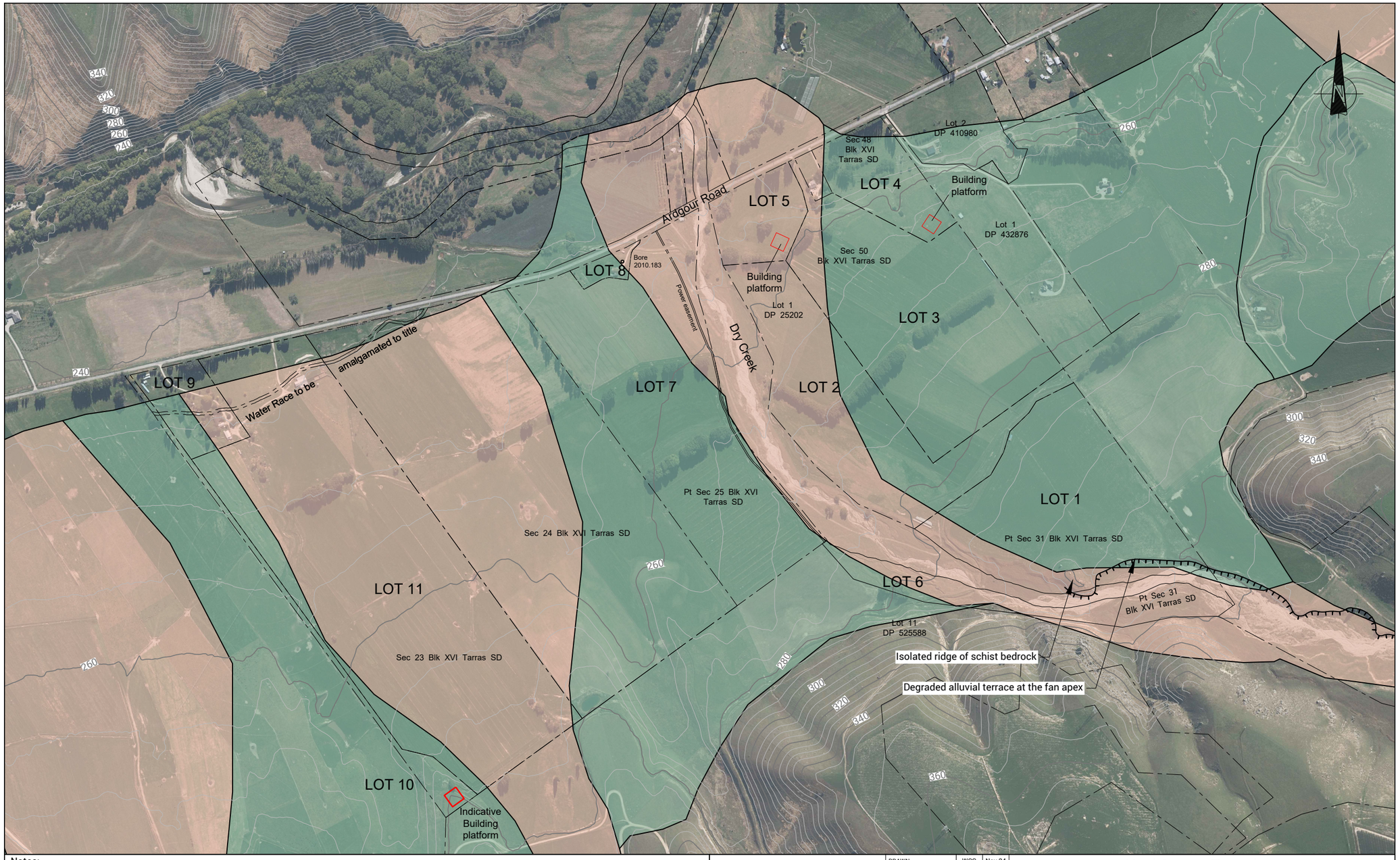
This report has been prepared for the benefit of our client, Noel George Trevathan, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and written agreement.

It is important that we be contacted if there is any variation in subsoil or groundwater conditions from those which are currently inferred within this report.

Please do not hesitate to contact the undersigned if we can provide any further assistance with this project.

Report prepared by:	Reviewed for GeoSolve Ltd by:
.....	.....
James Stewart Engineering Geologist	Fraser Wilson Senior Engineering Geologist

Appendix A: Site Investigation Plans and Hydrological Cross-Section



Notes:
1. These drawings have been prepared for the benefit of Noel George Trevathan with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.

Legend:
- Active Alluvial Fan (Source: Otago Alluvial Fans Project Mar.2009)
- Inactive Alluvial Fan (Source: Otago Alluvial Fans Project Mar.2009)
- Degraded Alluvial Terrace

SCALE 1:7,500
0 75 150 225 300 375 (m)

GEOSOLVE
Level 1, 70 MacAndrew Road, South Dunedin
www.geosolve.co.nz

DRAWN	WCG	Nov.24
DRAFTING CHECKED	JAS	Nov.24
APPROVED	FAW	Nov.24
CADFILE: 240612.dwg		
SCALES (AT A3 SIZE): 1:7,500		
PROJECT No: 240612		

Noel George Trevathan
458 Ardgour Road, Tarras
Natural Hazards Assessment
Site Plan

FIG No: Appendix A, Figure 2a
REV. 0

Notes:
1. These drawings have been prepared for the benefit of Noel George Trevathan with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.

Legend:
- Active Alluvial Fan (Source: Otago Alluvial Fans Project Mar.2009)
- Inactive Alluvial Fan (Source: Otago Alluvial Fans Project Mar.2009)
- Ephemeral Flow Path
- Test Pit Location

GEOSOLVE
Level 1, 70 MacAndrew Road, South Dunedin
www.geosolve.co.nz

DRAWN	WCG	Nov.24
DRAFTING CHECKED	JAS	Nov.24
APPROVED	FAW	Nov.24
CADFILE: 240612.dwg		
SCALES (AT A3 SIZE): 1:2,000		
PROJECT No: 240612		

Noel George Trevathan
458 Ardgour Road, Tarras
Natural Hazards Assessment
Lots 4 & 5 Site Plan

FIG No: Appendix A, Figure 2b
REV: 0

Notes:
1. These drawings have been prepared for the benefit of Noel George Trevathan with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.

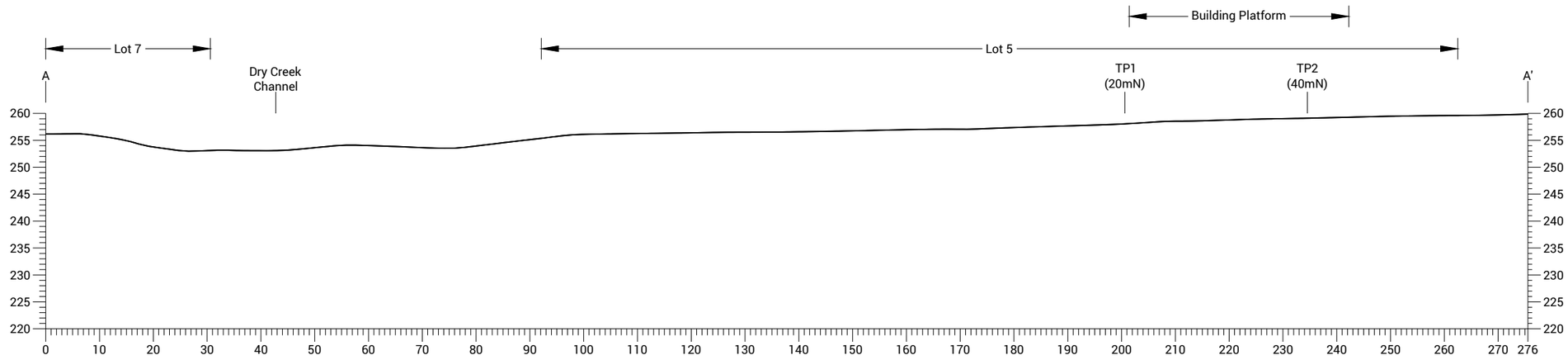
Legend:
- Active Alluvial Fan (Source: Otago Alluvial Fans Project Mar.2009)
- Inactive Alluvial Fan (Source: Otago Alluvial Fans Project Mar.2009)
- Test Pit Location

GEOSOLVE
Level 1, 70 MacAndrew Road, South Dunedin
www.geosolve.co.nz

DRAWN	WCG	Nov.24
DRAFTING CHECKED	JAS	Nov.24
APPROVED	FAW	Nov.24
CADFILE: 240612.dwg		
SCALES (AT A3 SIZE): 1:2,000		
PROJECT No: 240612		

Noel George Trevathan
458 Ardgour Road, Tarras
Natural Hazards Assessment
Lot 10 Site Plan

FIG No: Appendix A, Figure 2c
REV. 0



Notes:
1. These drawings have been prepared for the benefit of Noel George Trevathan with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.

SCALE 1:800
0 8 16 24 32 40 (m)

GEOSOLVE
Level 1, 70 MacAndrew Road, South Dunedin
www.geosolve.co.nz

DRAWN	WCG	Nov.24
DRAFTING CHECKED	JAS	Nov.24
APPROVED	FAW	Nov.24
CADFILE: 240612.dwg		
SCALES (AT A3 SIZE): 1:800		
PROJECT No: 240612		

Noel George Trevathan
458 Ardgour Road, Tarras
Natural Hazards Assessment
Lot 5 Cross Section

FIG No: Appendix A, Figure 3
REV. 0

Appendix B: Site Investigation Data

GEOSOLVE ENGINEERING CONSULTANTS

TEST PIT LOG

HOLE NO.: TP01

CLIENT: Noel George Trevathan
PROJECT: Ardgour Road Subdivision

JOB NO.: 240612

SITE LOCATION: 458 Ardgour Road, Tarras
COORDINATES:
LOCATION METHOD: Map or aerial photograph
ELEVATION: Existing ground level

CONTRACTOR: Mt Iron Geodrill
EQUIPMENT: 2 Tonne Excavator
ACCURACY: ± 3 m
OPERATOR: Gavin

START DATE: 09/09/2024
END DATE: 09/09/2024
LOGGED BY: JAS
CHECKED DATE: 10/09/2024

SOIL / ROCK TYPE	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH / RL	LEGEND	SCALA PENETROMETER (Blows / 100 mm)	SHEAR STRENGTH (kPa) Vane: Values	WATER
TOPSOIL	Organic SILT, dark brown. Soft to firm, moist. 0.30 m				1, 2, 3		Groundwater Not Encountered
LOESS	Sandy SILT with trace tree roots, light brown, massive. Firm to stiff, moist, sand, fine. 1.10 m		0.5, 1.0		2, 4, 3, 5, 6, 6, 3, 4		
ALLUVIAL GRAVEL	Sandy fine to coarse GRAVEL with trace cobbles, brown, bedded. Medium dense, moist, gravel, angular to sub-angular; sand, fine to coarse. 2.00 m		1.5, 2.0		12, 16 >>, 10		
	End Of Hole: 2.00 m						

PHOTO(S)

REMARKS

No water level.

WATER

- Standing Water Level
- Out flow
- In flow

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GEOSOLVE
ENGINEERING CONSULTANTS

TEST PIT LOG

HOLE NO.: TP02

CLIENT: Noel George Trevathan
PROJECT: Ardgour Road Subdivision
JOB NO.: 240612

SITE LOCATION: 458 Ardgour Road, Tarras
COORDINATES:
LOCATION METHOD: Map or aerial photograph
ELEVATION: Existing ground level

CONTRACTOR: Mt Iron Geodrill
EQUIPMENT: 2 Tonne Excavator
ACCURACY: ± 3 m
OPERATOR: Gavin

START DATE: 09/09/2024
END DATE: 09/09/2024
LOGGED BY: JAS
CHECKED DATE: 10/09/2024

SOIL / ROCK TYPE	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH / RL	LEGEND	SCALA PENETROMETER (Blows / 100 mm)	SHEAR STRENGTH (kPa) Vane: Values	WATER
TOPSOIL	Organic SILT, dark brown. Soft to firm, moist. 0.20 m			TS	2, 12		
LOESS	Silty fine SAND with trace rootlets, light brown, massive. Loose to medium dense, moist; contains worm castings. 0.40 m				2, 3		
ALLUVIAL GRAVEL	Sandy fine to coarse GRAVEL with trace cobbles, brown, bedded. Medium dense, moist, gravel, angular to sub-angular; sand, fine to coarse. 2.10 m		0.5, 1.0, 1.5, 2.0		10, 10, 12, 8, 8, 9, 7, 10, 15		Groundwater Not Encountered
	End Of Hole: 2.10 m						

PHOTO(S)

REMARKS

No water level.

WATER

- Standing Water Level
- Out flow
- In flow

Page 1 of 1

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GEOSOLVE ENGINEERING CONSULTANTS

TEST PIT LOG

HOLE NO.: TP03

CLIENT: Noel George Trevathan
PROJECT: Ardgour Road Subdivision

JOB NO.: 240612

SITE LOCATION: 458 Ardgour Road, Tarras
COORDINATES:
LOCATION METHOD: Map or aerial photograph
ELEVATION: Existing ground level

CONTRACTOR: Mt Iron Geodrill
EQUIPMENT: 2 Tonne Excavator
ACCURACY: ± 3 m
OPERATOR: Gavin

START DATE: 09/09/2024
END DATE: 09/09/2024
LOGGED BY: JAS
CHECKED DATE: 10/09/2024

SOIL / ROCK TYPE	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH / RL	LEGEND	SCALA PENETROMETER (Blows / 100 mm)	SHEAR STRENGTH (kPa) Vane: Values	WATER
TOPSOIL	Organic SILT, dark brown. Soft to firm, moist. 0.30 m				1, 1, 2		Groundwater Not Encountered
LOESS	Silty fine SAND with a lens of sandy GRAVEL, light brown, massive. Loose to medium dense, moist. 0.90 m		0.5		1, 2, 1, 2, 2, 6		
ALLUVIAL GRAVEL	Sandy fine to coarse GRAVEL with trace cobbles, light brown, bedded. Medium dense, dry, gravel, angular to sub-angular; sand, fine to coarse. 1.90 m		1.0, 1.5		10, 10, 10, 12, 12		
	End Of Hole: 1.90 m		2.0				

PHOTO(S)

REMARKS

No water level.

WATER

- Standing Water Level
- Out flow
- In flow

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GEOSOLVE
ENGINEERING CONSULTANTS

TEST PIT LOG

HOLE NO.: TP04

CLIENT: Noel George Trevathan
PROJECT: Ardgour Road Subdivision
JOB NO.: 240612

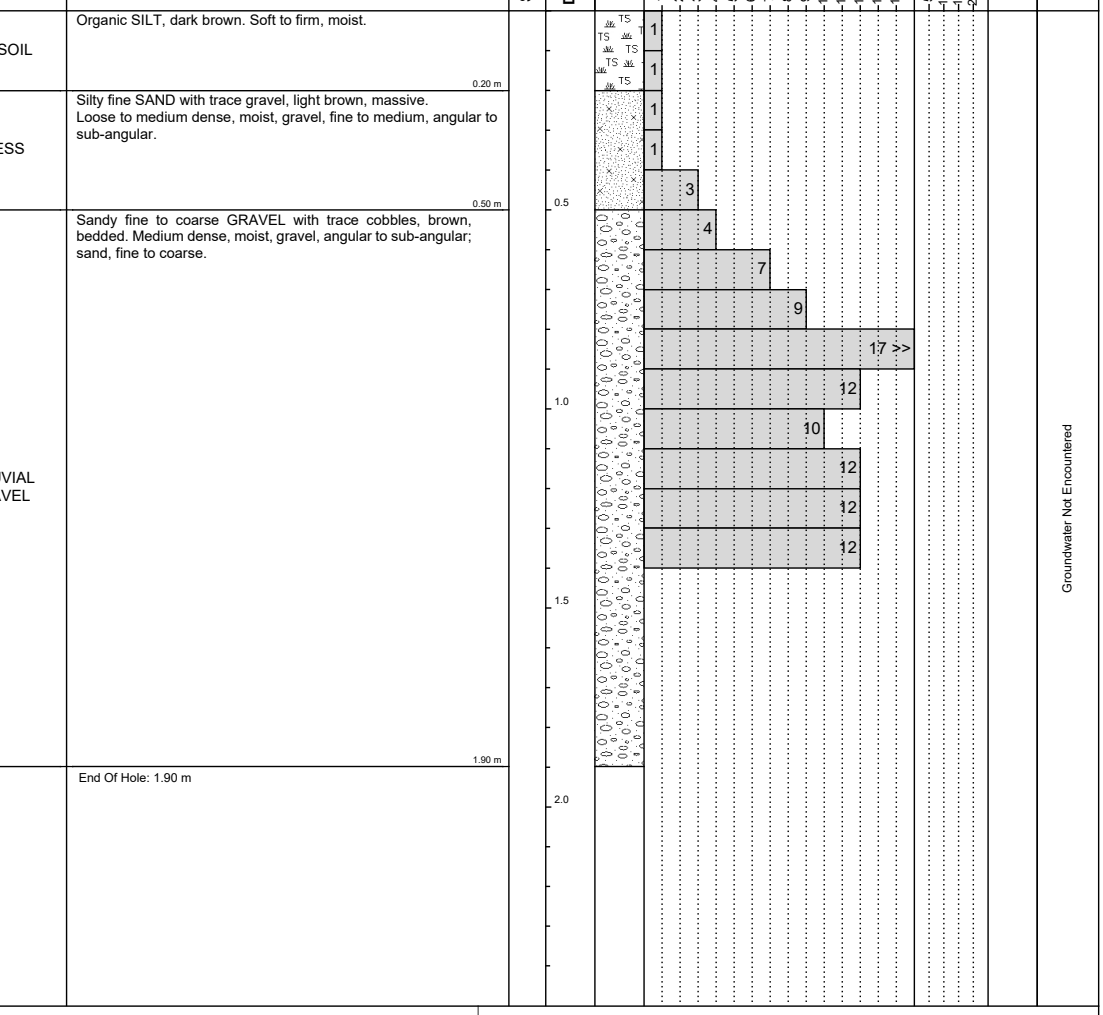
SITE LOCATION: 458 Ardgour Road, Tarras
COORDINATES:
LOCATION METHOD: Map or aerial photograph
ELEVATION: Existing ground level

CONTRACTOR: Mt Iron Geodrill
EQUIPMENT: 2 Tonne Excavator
ACCURACY: ± 3 m
OPERATOR: Gavin

START DATE: 09/09/2024
END DATE: 09/09/2024
LOGGED BY: JAS
CHECKED DATE: 10/09/2024

SOIL / ROCK TYPE	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)
TOPSOIL	Organic SILT, dark brown. Soft to firm, moist. 0.20 m
LOESS	Silty fine SAND with trace gravel, light brown, massive. Loose to medium dense, moist, gravel, fine to medium, angular to sub-angular. 0.50 m
ALLUVIAL GRAVEL	Sandy fine to coarse GRAVEL with trace cobbles, brown, bedded. Medium dense, moist, gravel, angular to sub-angular; sand, fine to coarse. 1.90 m
	End Of Hole: 1.90 m

SAMPLES | DEPTH / RL | LEGEND | SCALA PENETROMETER (Blows / 100 mm) | SHEAR STRENGTH (kPa) Vane: Values | WATER



PHOTO(S)

REMARKS

No water level.

WATER

- Standing Water Level
- Out flow
- In flow

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Tarras
COMMUNITY PLAN
2023
Presented by the Tarras Community

Executive Summary

This plan sets out a direction and future vision for Tarras based on the community's views.

The vision for Tarras is captured in the following statement:

"Tarras is a strong, thriving community that is a great place to live, work and visit, set in an outstanding environment."

This vision is supported by a number of value statements which articulate the areas of focus for the community as follows:

- The stunning Tarras environment is maintained and enhanced for future generations.
- Tarras continues to be a strong, thriving community that looks out for each other.
- The community spaces and places of Tarras are celebrated, well known and well used, with new opportunities explored and fostered.
- The economic vitality of Tarras is strong, built on great farming, quality produce and products, with a vibrant country village.
- Core infrastructure, including land use planning frameworks, meets the current and future needs of Tarras.
- The Tarras community feels heard and is heard on things that matter to them.

For each of these value statements a number of actions have been identified which are provided on the following pages. It is recommended that the community form an umbrella group to oversee the plan and connect with the Council, Community Board, Government Agencies and other organisations as required.

Actions

- These actions have not been prioritised. It is recommended that once an umbrella group is established they consider priorities under each category.

Natural Environment

Actions:

- Lobby controlling authorities for better management of weed control (willows, lupins, broom/gorse) alongside waterways and public spaces.
- Consider community led environmental action such as planting days, weed eradication and community clean ups.
- Consider initiatives that formalise the importance of the Tarras dark skies to the community, for example:
  - Hosting guest speakers.
  - Holding star gazing evenings.
  - Having a respectful discussion with the farming community about the pivot irrigation lights and if they can be better controlled at night, for instance can these be restricted at certain times in the evening?
  - Investigate what is involved to become a dark sky precinct, under the proposed provisions of the CODC District Plan's dark skies chapter.
- Understand the community's view on having an aerobatic zone above Tarras and whether any follow-up with Civil Aviation Authority is required.

Connected Community

Actions:

- Create an up-to-date farm map/community contact list of the area.
- Explore opportunities for evening get togethers at the village (such as pizza truck nights)
- Maintain and support the existing social networks that exist in the area (i.e. Book Club, Golf Club, Rural Women's etc.)
- Utilise existing information sharing activities such as Tarras Talk and the Tarras website, and ensure they are accessible to all.
- Consider opportunities to better promote community events and activities.
- Consider the establishment of an umbrella group to oversee the plan and connect to the Community Board or other organisations.

Community Places and Spaces

Actions:

- Explore opportunities to connect cycling routes to each other and the village, such as the Ardgour Valley loop, Thomson Gorge and Bendigo Diggings.
- Explore the appetite for creating new places such as a tavern, diverse retail offerings and a shared office space in the village.
- Work with Council to explore possibilities to enhance the tennis court and playground area.
- Examine the viability of establishing a dog park area in the Tarras area.
- Explore the creation new recreational opportunities such as better public access to the Lindis River and discuss with the landowner the possibility of developing a walkway where the water race used to be.
- Protect and celebrate the unique heritage of the area and explore opportunities to tell local stories.
- Work with Council to enhance the existing Community Hall and improve accessibility.
- Explore the opportunity of developing a civil defence community response centre for the Tarras community.
- Acknowledge, celebrate and make the most of community and recreational facilities such as the Tarras School, the Church and (privately owned) golf course.
- Work with owners of the café and village to see what support could be offered to increase opening hours.
- Support the Cemetery Trust to maintain and enhance the Tarras Cemetery.

Economic Vitality

Actions:

- Celebrate the quality produce and products of the areas through a regular farmers market at the village.
- Explore the viability of providing after school care for children whose caregivers may work out of town.
- Keep actively involved in future community engagement and discussions on proposed developments in the area, and ensure opportunities to be involved are taken advantage of.
- Consider if there is a shared community view on how seasonal worker accommodation needs are best met and advocate for that solution.
- Talk to Ignite Wanaka or the Cromwell Business Network about setting up a group for Tarras businesses.

Infrastucture and Land Use

Actions:

- Investigate possibility of installing EV charging stations within the Tarras Village.
- Explore possible improvements to household waste services with Council.
- Liaise with Council and Waka Kotahi about the sealing of Māori Point and other roads, the type of seal used on the state highway through the village, and options for reducing the speed limit through the village.
- Enquire about the feasibility of repositioning the information weather station on the state highway to minimize its effect on private residents.
- Investigate if any changes have been proposed under the District Plan for rezoning of Tarras land in the future. What can existing landowners can do with their land when applying for consent to subdivide on rural land - specifically when it relates to a non-complying activity?
- Work with Council to ensure appropriate land use provision exists for the Tarras area and surrounds. This includes the consideration of the provision of future housing options, and the establishment of a rural settlement zone for the village to accommodate town and rural interface, for growing need and demand.
- Arrange a community meeting with CODC Planning Policy Team to discuss options for future growth.

Tarras Voice

Actions:

- Seek out and participate in engagement forums to express views and opinions such as at 'have your say' days and public forums at Council and Community Board meetings.
- Ensure information about opportunities to submit on changes to regulations and plans are known about and utilised.
- Encourage the participation of decision makers in Tarras community groups and organizations, such as the Cromwell Community Board liaison position on the Tarras Hall Committee.
- Utilise community platforms to promote public good over personal views.
- Acknowledge there are different views on different matters and remembering the importance of listening to and respecting those alternative views.

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> ❝ I want Tarras to be known as a Destination, a place people will continue to want to visit. A Village with shops and cafe, high country stations, our wine & vineyards, walking & cycling tracks, Golf Course, the recreational opportunities of our rivers and mountains, historical gold mining areas, nature reserves, Dark Skies, our community church & venue centre, our creative artisans and accommodation providers. I want Tarras to be a thriving, diverse and inclusive community. ❞
>
> - **Quote from a survey respondent**

Introduction

A community plan connects and binds people together through their shared values. It sets out what is important to the people of that place, and provides a set of objectives and roadmap for positive development and resilience.

The aim of this plan is to create a document that articulates and reflects the values, initiatives and direction for the wider Tarras community.

The development of the Tarras Community Plan has been a community led process, which the Central Otago District Council helped to facilitate. The Plan was developed through listening to and summarising feedback from the people who live, stay or own property in the Tarras area. The comments and sentiment captured in this plan are a direct reflection of the comments and feedback provided through community surveys, workshops and conversations.

The Tarras Community Plan represents and is owned by the Tarras community.

A special thanks to everyone who took the time to be involved in this process, to share their views and to care deeply about this place they call their home. Tarras is a very special place and it has been a privilege to develop a brief insight into this connected and resilient community.

> “The sustainable management of Tarras. The trajectory it is on at the moment - is a calm beautiful rural residential environment with a border of a huge flowing river and untouched mountainous surroundings. A reserve is continuing to protection (sic) of the ecosystem. Vineyards contribute to its economic resilience. Traffic is largely through traffic but a store and a cafe are ports of call for numerous visitors and provide a lively atmosphere even in winter. The school and its surrounds sit in a well groomed environment which encourages those with small children when they come to this place. The indigenous history of this place fascinates those who enquire. ”
>
> - **Quote from a survey respondent**

How the plan was developed

In 2021, members of the Tarras community approached the Central Otago District Council asking for assistance to facilitate the development of a new community plan for the area.

The Tarras community had last developed a community plan in 2007 and given the number of changes that have occurred in the area since then, and with more proposed, it was agreed that the time was right to work on a new plan.

The consultation process for the 2023 Tarras Community Plan included two surveys which gathered information from the Tarras community, followed by two community workshops.

In broad terms, participants in both the surveys and workshops were asked what they liked and valued about Tarras, what they saw as opportunities for the area's future, along with what the challenges were, and the things that could be changed.

It is acknowledged that beyond those people who participated in this process there is also a wider community of individuals and organisations who have an interest in Tarras' future. The focus of this plan is on the people living in the area, and its content has come from those who participated and provided feedback.

> ❝ The best little town you have ever seen. ❞
>
> - **Quote from a workshop respondent**

Community Survey

To begin the process, a values survey was distributed to households in November of 2021, and 75 responses were received. The survey release coincided with community activity restrictions due to the COVID-19 pandemic, so the survey was redistributed in September in 2022 to capture any participants who missed the opportunity to participate the first time around. A further 37 responses were received. A copy of the survey, and an analysis of both sets of results is attached as appendices.

Community Workshops

Once the survey results had been analysed, two community planning workshops were held. The workshops were held at the Tarras Hall on Tuesday 18 October 2022 and Saturday 5 November 2022. A total of 27 people attended the first workshop, and 21 attended the second.

Using a SWOT (Strengths Weaknesses Opportunities and Threats) analysis approach, the groups identified opportunities for Tarras' future, barriers to progress, what was important to the people of Tarras and how they wanted the Tarras region to be known into the future. A summary of the feedback received at the workshops is attached as appendix 1.

The survey results were shared with workshop participants at the conclusion of each session to enable participants to compare and discuss responses.

Development of the document

Community feedback was summarised into a draft community plan. The draft plan was then released to the community for feedback in June 2023. Fourteen individual responses were received during that process and the community plan was updated as a result.

Most respondents thought that the draft plan reflected the sentiments of the community and only minor changes were made as a result of the feedback.

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About Tarras – a profile

Geography and climate

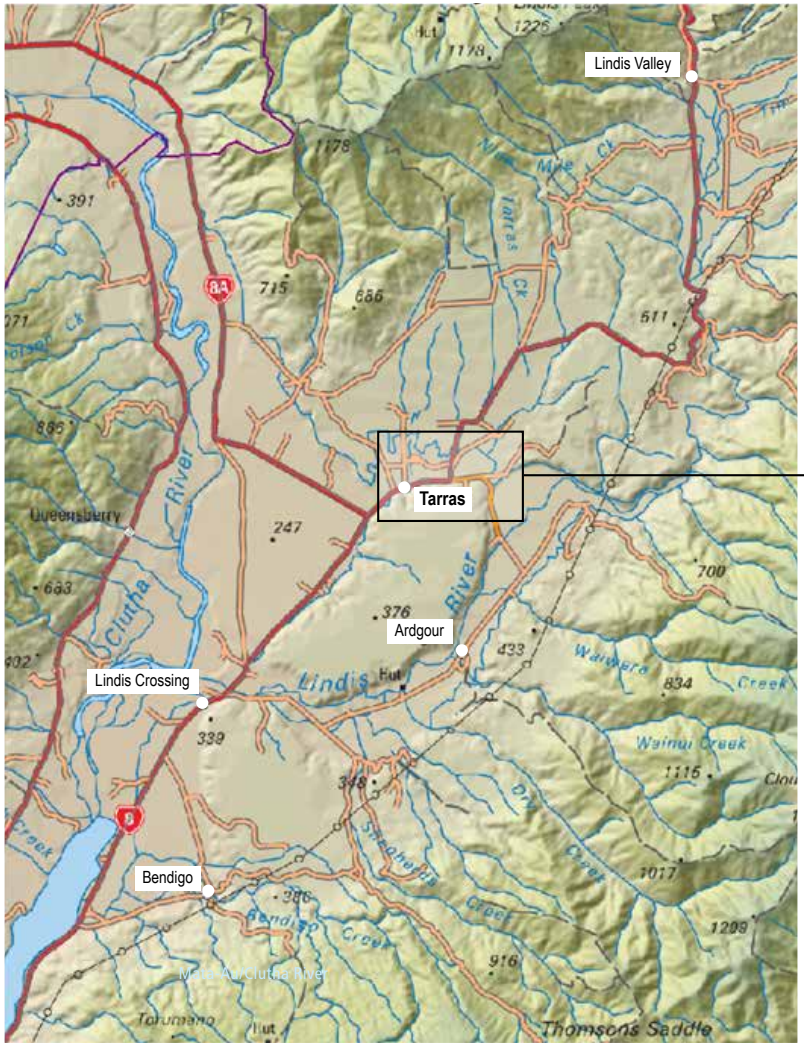
This community plan takes in more than just the Tarras village. It encompasses much of the head of the Cromwell Basin, and is bounded by the Mata Au–Clutha River to the west, the Dunstan Range to the east, the top of the Lindis Pass to the north and Lake Dunstan to the south. It extends to the Lindis Valley and Lindis Pass, over to the Mata Au–Clutha River, down to Bendigo, along State Highway 8A to the territorial boundary near Luggate.

Tarras village is situated less than 30 minutes' drive from both Cromwell and Wanaka. Located on State Highway 8, which is the main tourist route from Mount Cook to Queenstown, it is viewed by many as the gateway to Central Otago.

Tarras' distinctive landscape, heritage aspects and access to recreational opportunities in and around the area makes it a special place. The vast open space includes a superb vista which takes in the Dunstan Range to the east and the Pisa Range to the west. From Tarras there is a great view looking down the Cromwell valley, north east to the St Bathans Range, and north west to the mountains and Matukituki Valley.

Tarras is one of the driest areas in New Zealand with an annual rainfall of between 300 and 500mm, and an average rainfall of approximately 400mm. There is on average 70 wet days per year and there is a marked temperature variation in winter (down to -10 degrees C) compared to summer (up to 35 degrees C).

A Map of Tarras



Back

About Tarras

History

The history of Tarras is rich and deep. Prior to European settlement, Māori used the Lindis Pass as part of the inland route from the Waitaki River to Lakes Wānaka and Hāwea. The landscape came to the government as part of the Kemp Purchase in 1848, the boundaries of which were contested by Ngā Tahu as part of their historic land claims. These claims were settled in 1997 and legislated in 1998 through the enactment of the Ngā Tahu Claims Settlement Act.

Tarras was given its name in the 1850s by John Turnbull Thomson, a surveyor of the area. It is named after the Tarras Water, a river of Dumfriesshire, Scotland.

Gold was first discovered in the region in 1857, and features prominently throughout the years, particularly at Lindis and Bendigo.

The Lindis irrigation scheme began as a private venture in 1920 and contributed greatly to the viability of the area.

The history of the area is beautifully showcased on the community's website:

https://www.tarras.org.nz

A fine Māori paddle made of wood, found in the Tarras region & donated to Tūhura | Otago Museum in 1877.

Demographics

The population of the wider Tarras area (as outlined above in our geographical boundary), has increased from 408 people in 2013, to 606 in 2018.

The 2018 Census provides a relatively recent baseline of key demographic facts about Tarras, as presented in the following table. Results from the 2023 Census are eagerly awaited.

> “I love the country feeling vibe. I love how people use to enjoy going for a coffee, wandered around visiting the shop and Mrs Robinson, I love how it use to be a hub for people to stop and get their drinks/goods/eat before or after coming over the Lindis Pass.”
>
> - **Quote from a survey respondent**

A further breakdown of population is provided in appendix four.

Quick statistics about Tarras (2018 Census)

Population	According to the 2018 Census there are 606 people who usually live in Tarras, this is an increase of 198 people since 2013. The population has more males (327) than females (282).
Age	The median age is 41.4 years. A total of 17.8% of people are aged under 15.
Families	82.6% of people in Tarras over the age of 15 responded that they were in a partnered relationship in the 2018 Census.
Households	The average household size is 2.4 people.
Dwellings	There are 276 occupied dwellings and 72 unoccupied dwellings in Tarras.
Education	According to the 2018 Census, 86.2% of people aged 15 and over have a formal qualification.
Employment	The unemployment rate for Tarras is 3.5% and `managers' are the most common occupational group.
Income	The median income for permanent residents aged 15 and over is $45,300. Furthermore, 24.7% of people aged 15 and over have an annual income of $20,000 or less and 42.8% have an annual income of more than $50,000.
Technology	According to the 2018 Census 86.5% of households have access to the internet, 89.2% have access to a cell phone.
Travel	37.0% of households have access to three or more motor vehicles. Additionally, 39.7% of people travel to work driving a private car, truck or van. A further 18.4% drive a company car or van.
Housing	67.3% of individuals or family trusts own or partly own their own home. The median rent paid for those who rent was $215 per week.
Business	Out of the 408 people employed who live in Tarras, 120 people work in the Agriculture Industry[1] (29.4%). Construction is the second most common industry with 57 employed in this field (14.0%). This is followed by Professional, Scientific, and Technical Services, which accounts for 33 people who live in Tarras (8.1%).

[1] Category known as Agriculture, Forestry and Fishing Industry

TARRAS VILLAGE
STORE

Community facilities and amenities

Tarras village is strategically located on State Highway 8, with proximal links with larger towns in the region and the first settlement after the Lindis Pass for south-bound traffic. This makes it a popular stopping point for road users, particularly with its ready access to a café, merino shop, village store, 24-hour fuel pumps and toilet facilities. It is also a focal point for locals.

Shrek the Sheep and the national merino story have all helped Tarras become recognised nationally. New public toilet facilities were installed by the Council at the village following a request through the 2007 Tarras Community Plan. These are well utilized by people travelling on State Highway 8 through the village.

The small rural Tarras School is one of the key features of the town. The role of the school has grown in recent years from 14 pupils in 2017 to 20 pupils in 2022[2] . This reflects the increase in population of the area. Facilities at the school include a swimming pool, playground and playing fields along with vegetable gardens.

The Tarras Recreation Reserve includes the community hall, playing field, tennis courts, children's playground and rural fire centre. Adjacent to this is a nine-hole golf course on private land. The Tarras Community Hall is used by multiple groups in the local community and is also a community-led centre for civil defence purposes.

The attractively situated Tarras Church (built in 1921) continues to operate as a church, wedding venue and community event space. It was upgraded and earthquake strengthened in 2021 through a community-led project, and it is now owned by the community through the Tarras Community Church Charitable Trust. This ensures this community facility can continue to be used for future generations.

Tarras' distinctive landscape, heritage aspects and access to many recreational opportunities such as hiking, biking, water sports, gold fossicking, fishing, hunting and camping all contribute to making this a special place. It is home to historic sites and rich gold mining heritage, such as the Bendigo diggings, administered by the Department of Conservation, and the historic Thomsons Gorge Trail.

For a small community, there are many community groups. Those noted in the responses to the community survey included: Tarras Community Church Charitable Trust, Tarras Golf Club, Tarras Rural Women, Sustainable Tarras, Lindis Conservation Group, Tarras Fire Brigade, Collie Dog Club, Book Club, Tarras Playgroup, Tarras Community Hall, Friends of Tarras School, Darksky, Lindis Irrigation and the Tarras Recreation Committee.

The Tarras Community has built a community website (www.tarras.org.nz) which provides visitors and locals alike with a wealth of information about the area. There is also a Tarras Guide available which showcases local businesses and activities.

[2] Tarras School | Education Review Office (ero.govt.nz)

Services

The Tarras community has access to a rubbish drop off utilising Council rubbish bags. This is located on Jolly Road and is currently operated on a key system through collection at the Tarras store. In addition, there is a recycling centre located at the Fire Station on the recreation reserve.

There is no reticulated sewage scheme in the Tarras area and residents are on sceptic tanks. Water provision is through a range of private bores and privately operated water schemes.

Internet access in the area is predominantly wireless with the school having access to fibre. The Broadband MapNZ provides more detail and can be found here at the following link:

https://broadbandmap.nz/home

Cellphone coverage varies across the area with some parts having very limited or no coverage. It is hoped that new technology improve this service in the coming years.

Economy

The local Tarras economy has been primarily based on agriculture and sheep farming [3]. Most farms in the Tarras district run sheep, principally merino farmed for their super-fine wool. Some also raise other sheep breeds, deer and beef cattle. Other farms have been used for dairy grazing since the 2010 introduction of large-scale irrigation. Grains and seeds are also produced in the area.

Vineyards were first established in the area in 2000, with mostly pinot noir and riesling grapes, and some plantings of pinot gris. Results from the 2021 Central Otago Labour Survey indicate a further 76ha of plantings are planned for the Bendigo area between 2021-2025 [4].

Large scale cherry and apricot orchards and a packhouse have also recently established in the area.

There are several other businesses in the area including accommodation providers, retail and craft shops, food producers and tourism offerings. Community feedback indicates a growing number of work from home opportunities, with consultancies and other businesses being run from the area.

Further business data is included in the demographics section on page 12.

[3] https://www.tarras.org.nz/farming.html
[4] Horticulture and Viticuture: Central Otago Labour Survey, Thrive Consulting 2021

New developments and regulations

At the time of writing, there are a number of new developments underway in the Lindis, Tarras and Bendigo areas, which are worth mentioning as they set the context and circumstances under which this plan was written. Some of these developments may change the current look and feel of the area.

- Scapegrace Distilling Co. is being built on a 35ha site at Bendigo Downs. The site will also host a restaurant and three barrel rooms, along with the company's main headquarters, making it New Zealand's biggest distillery. This is a four-stage project which will span several years with the restaurant planned to open in 2027.
- Resource consent has been obtained for a 17-lot farm park subdivision on Jolly Rd. The farm park provides for lots of various sizes from 1735m² through to a jointly-owned farm block of 129ha. Other subdivisions have also been approved in recent years.
- HortInvest along with project partner and landlord Mackersy Properties, have built a 4,500m² packhouse, Lindis Coolpac Ltd. The packhouse, completed in December 2022, has been fitted with the world's latest technology, and will process and pack cherries grown at Lindis Peaks and Mt Pisa, and cherries and apricots from Ardgour Valley Orchards for 2023.
- Christchurch Airport has bought 750ha of farmland in the Tarras area to build a regional airport[1]. The airport property is bordered by State Highway 8 and 8A. The proposed airport will include a 2.2km jet capable runway. Christchurch International Airport Ltd have indicated that the airport is a long-term undertaking, and they anticipate three stages; validation and planning, approvals, construction.

  At the time of writing, the Airport project team has released airport runway alignment options.
- Santana Minerals has a five-year exploratory drilling permit at four sites of the Bendigo-Ophir project – the Come In Time Battery, Rise and Shine, Shreks, and Shreks East deposit – covering a total area of 251km². The company expects this will proceed over the next five years in line with its current permit. Mining permits and resource consents will be needed if this venture is to proceed beyond exploration, and this will involve consultation as required by legislation.
- The Central Otago Queenstown Trail Network Trust is currently working on the Wānaka link of the Lake Dunstan Cycle Trail. This link will connect the Lake Dunstan Cycle Trail from Cromwell to Wānaka. It is proposed that the cycle trail will cross the Mata-Au/Clutha River near the head of the lake, follow the river margin on the Tarras side of the river, crossing back over the Mata-Au/Clutha River adjacent to the Luggate Tarras Road, and eventually joining with the existing DoC River Track. At the time of writing, the Trust is obtaining the final permissions and easements required prior to construction.
- On Thursday 25th of May 2023, a resource consent application was publicly notified from Cold Gold Clutha Limited. Cold Gold Clutha Ltd has applied to the Central Otago District Council, Queenstown Lakes District Council and the Otago Regional Council "to undertake suction dredge gold mining and to disturb the bed of the Mata-Au/Clutha River. Spot mining will occur between Sandy Point downstream of Luggate to the confluence with the Lindis River." Submissions were open until 23 June 2023 and a hearing is scheduled for November 2023 with a decision anticipated in December 2023.
- The community is hoping to develop a community response group to create an Emergency Preparedness leaflet for the Lindis Valley area and then move on to create a Community Resilience Plan. This work is being developed with Emergency Management Otago.

[1] www.centralotagoairport.co.nz

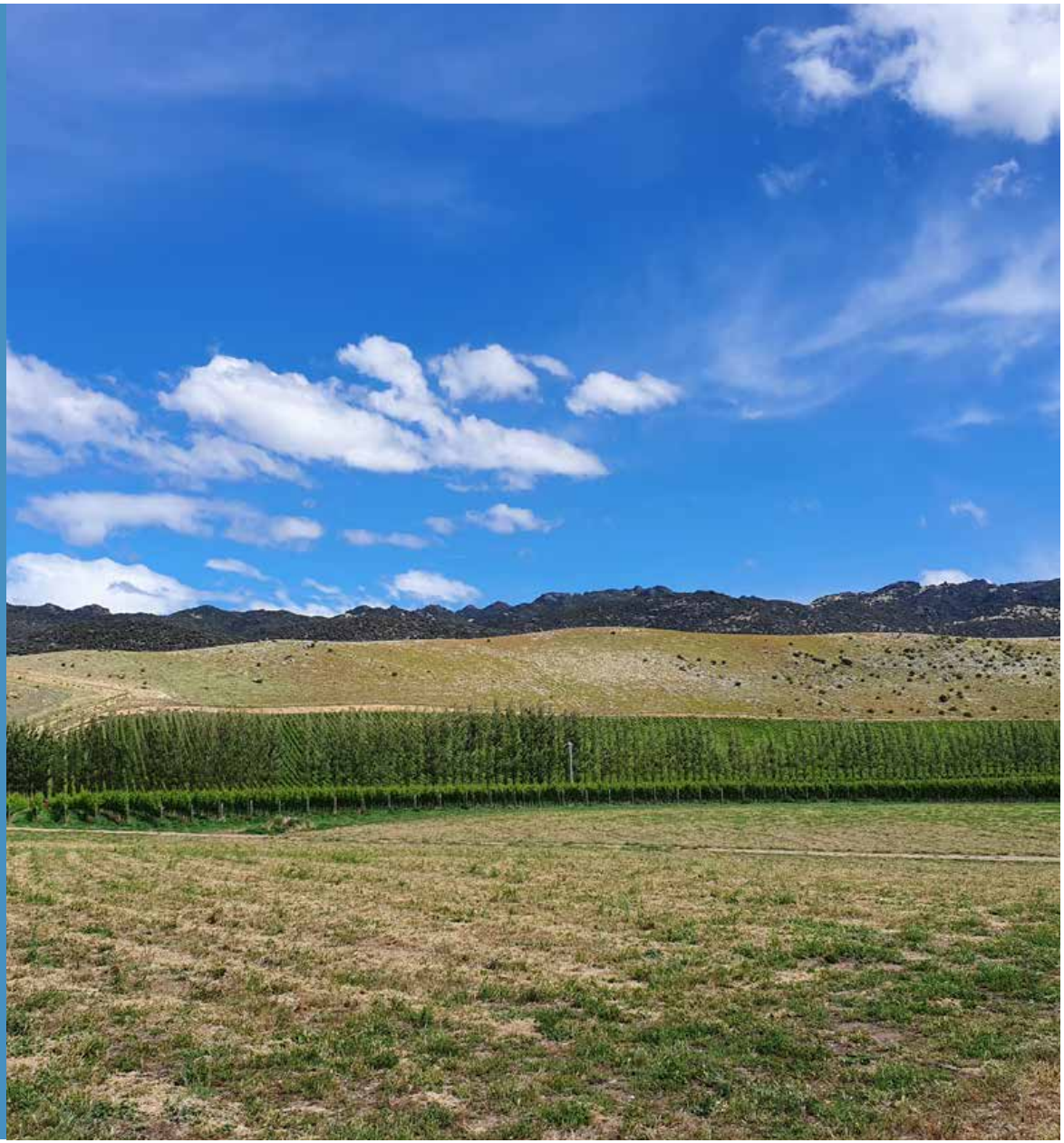
Central government regulations and policy changes

Protection of productive soils
The Ministry for the Environment released the National Policy Statement for Highly Productive Land[5] in September of 2022, and is developing a proposed national policy statement for indigenous biodiversity. The objective of the National Policy Statement is to protect highly productive rural land for use in land-based primary production by making it more difficult to subdivide and develop highly productive land, thus restricting its removal from primary productive use.

Other regulations and policies
There are other changes to regulations and policies which are being imposed by Central Government that are having an impact on the local community. These include, but are not limited to, the New Zealand Emissions Trading Scheme, changes to the Resource Management Act and potential changes to minimum river flows.

Many of these developments and changes are creating a significant level of uncertainty due to their impact on the community, and the potential intended and unintended consequences they could create on many parts of the district, including impacts on housing, business and lifestyle.

[5] A map of Highly Productive Land can be found at the following website:
https://ourenvironment.scinfo.org.nz/maps-and-tools/app/Land%20Capability



> ❝ There is actually quite a lot going on at Tarras, it is full of life that is not always immediately obvious ... farming, viticulture, horticulture, sheep, beef & deer grazing all comes to mind as the visible obvious and they set the platform for the intrinsic' s that are not quite so obvious ....
>
> 1. The smell of fresh cut grass & stock effluent,
> 2. The noise of tractors, stock and dogs barking
> 3. The absolute silence on a still day when there is no background noise.
> 4. The sound of helicopters spraying, mustering and dropping into nearby high country stations
> 5. The mist & fog that hangs low in the valley
> 6. Driving on gravel roads with dust spilling out behind.
> 7. The casual no hurried attitude of locals going about their business.
> 8. The quaint step back in time feeling of the Tarras shops, with the fire blazing in the café in winter.❞
>
> **- Quote from a respondent to the draft plan**

What do we value most about Tarras?

The people of Tarras value that it is strong and thriving community that looks out for each other. Respondents to the values survey talked about Tarras as:

"a supportive, welcoming and caring community, that was thriving and known for its quality products and produce."

"A community that had a vibrant country village facilitating a connected community hub, and a strong community spirit."

The community wants to ensure that the stunning natural environment is maintained and enhanced for future generations. People love the unique landscape with its historic sites and rich gold mining heritage, the bird life, the rivers, as well as the peace and quiet of the surrounding rural area. People love that their rivers, lake and conservation areas are rich with history and right on their doorstep.

Silence is valued by many, along with big skies, landscapes, vistas, night skies, wide open spaces and the serenity of the rural space.

Tarras' country village brings its own special characteristics, and many people want to retain this to ensure that sense of connection remains. Some would like further development of the village, and to bring new families into the area who can grow the school and the many clubs/groups and societies. The community is mindful that any new development is done 'sensitively' to maintain the rural country village feel, and preservation of a traditional New Zealand town.

The community would like Tarras to have its own identity and country village feel, while utilising the services offered at the nearby larger towns of Cromwell and Wānaka, as needed.

The people of Tarras value the various community groups and clubs, many recreational opportunities and places to explore in their region – the physical environment and what it offers is plentiful.

The community would like the area's community spaces and places to be celebrated, well known, and well used, with new opportunities explored and fostered.

The economic vitality of Tarras is important, built on great farming, quality produce and products, with a vibrant country village. To ensure this, core infrastructure, including land use planning frameworks, must meet the needs of current and future needs of the area.

The Tarras community is facing a lot of change and uncertainty, and this has become challenging for many. A key objective for this community is to feel heard and be heard on things that matter to them. It is important that local people are able to speak and have control over their own community, and to gain assistance from central and local government on matters of local significance.

Tarras has a strong community spirit and a commitment to building on that to ensure that it remains a great place to live, work and visit, now and into the future. Together we can make this happen.

Back

Key words used in response to the question "What is the one thing you like about Tarras" in the community surveys:

A vision for Tarras community:
Tarras is a strong, thriving community that is a great place to live, work and visit, set in an outstanding environment.
“ Fresh air and barking sheep dogs. ”
- Quote from a workshop respondent
“ The people, the baking, the characters, the stories. ”
- Quote from a workshop respondent

Key value statements

These key value statements have been derived through the feedback received from the community to date.

Natural Environment
The stunning Tarras environment is maintained and enhanced for future generations.

Connected Community
Tarras continues to be a strong, thriving community that looks out for each other.

Community Spaces and Places
The community spaces and places of Tarras are celebrated, well known and well used, with new opportunities explored and fostered.

Economic Vitality
The economic vitality of Tarras is strong, built on great farming, quality produce and products, with a vibrant country village.

Infrastructure and Land Use
Core infrastructure, including land use planning frameworks, meets the current and future needs of Tarras.

Tarras Voice
The Tarras community feels and is heard on things that matter to them.

Each of these themes are explored in more detail in the next section.

An action plan for the community

5.1 Natural Environment

The natural environment is a key theme of the Tarras community. Big uninterrupted vistas (mountain views), clear night skies, and beautiful landscape/countryside are highly valued and many would like to celebrate the night skies.

Peace and quiet are all strong values to many community residents. In fact, 15 people surveyed said they would do nothing to change Tarras.

The people of Tarras love the tranquility and serenity of this place, with its wide open spaces and rural atmosphere. ("fresh air and barking sheep dogs")

The Lindis and Mata-au/Clutha Rivers provide a valuable ecological and recreation space. The preservation and conservation of natural landscapes is important to the community, and weed control on both Lake Dunstan and the Lindis River is seen as an important and ongoing issue. Better access to the Lindis River was also suggested.

There is a desire to protect the abundance of wildlife in the area and to value the bird life.

Objective:

That the stunning Tarras environment is maintained and enhanced for future generations.

Actions:

- Lobby controlling authorities for better management of weed control (willows, lupins, broom/gorse) alongside waterways and public spaces.
- Consider community led environmental action such as planting days, weed eradication and community clean ups.
- Consider initiatives that formalise the importance of the Tarras dark skies to the community, for example:
  - Hosting guest speakers.
  - Holding star gazing evenings.
  - Having a respectful discussion with the farming community about the pivot irrigation lights and if they can be better controlled at night, for instance can these be restricted at certain times in the evening?
  - Investigate what is involved to become a dark sky precinct, under the proposed provisions of the CODC District Plan's dark skies chapter.
- Understand the community's view on having an aerobatic zone above Tarras and whether any follow-up with Civil Aviation Authority is required.

5.2 Connected Community

A strong theme that came through was that of community connectedness – both the sense of community and of the vibrant hub created by the village and many groups, clubs and societies.

Tarras residents love their community – the feel/spirit; peaceful, safe, friendly and supportive community. “A quaint country village with an active caring community”. “A great place to visit and live”.

“The people, the baking, the characters, the stories.”

“People like the supportive, welcoming and caring Tarras community”. They feel that the community spirit is strong and that ‘people matter in Tarras’

Tarras is a tight-knit community, who are known and are friendly with each other. Many people like to get involved in group activities, while supporting each other.

Some people would like to see the community celebrate diversity and be supportive in its practices.

With many social groups and clubs available in Tarras, the community has been pro-active about publishing a monthly newsletter to inform residents of what is on. Tarras Talk is the local ‘go to’ for what’s on in the region, and participants want to ensure its availability and accessibility to all in the community. It has now been made available on the main Tarras website **www.tarras.org.nz** for everyone to access once published.

Tarras has a strong community spirit but in the face of change from the external world, people have acknowledged there are now many uncertainties, and this has been challenging for many.

Objective:

To maintain Tarras as a thriving community that looks out for each other.

Actions:

- Create an up-to-date farm map/community contact list of the area.
- Explore opportunities for evening get togethers at the village (such as pizza truck nights).
- Maintain and support the existing social networks that exist in the area (i.e. Book Club, Golf Club, Rural Women’s etc.).
- Utilise existing information sharing activities such as Tarras Talk and the Tarras website, and ensure they are accessible to all.
- Consider opportunities to better promote community events and activities.
- Consider the establishment of an umbrella group to oversee the plan and connect to the Community Board or other organisations.

5.3 Community Places and Spaces

Tarras has a wealth of community places and spaces, including community facilities and recreation spaces.

People love the vibe the iconic Tarras village creates. It is recognised as a place to "step back in time" and come together as a community.

There was mixed commentary about future development of the village, with many wanting to see it developed in its own unique style to maintain the country village feel. Some suggested diversity in retail offerings and others would like to see additions such as a tavern and restaurant and a shared office space for those who are currently commuting out of the area for work. A suggestion of creating a new village elsewhere was even made. Many would like to see the opening hours of the café and village increased.

The one thing that is clear is that people would love for Tarras to be known as a great place to live and visit, with a vibrant country village and great café.

Like many rural communities, the school is at the heart of Tarras. The school is valued and has a good school community. Some would like to bring more people to the area to help the school grow further.

The role of the Tarras recreation reserve in providing places and spaces for people to connect was acknowledged. There is a desire to improve the surface of the tennis courts and enhance the playground for older children. It was also noted that seismic strengthening and accessibility upgrades are being planned for the hall.

One of the things that people love the most about Tarras is the natural environment and the opportunity that it provides for recreation. The ability to hike, bike, walk, hunt, camp and enjoy water sports are all valued and appreciated by the local community. Opportunities to enhance recreational activities in the area were discussed, with the potential to connect cycling routes to each other and the village, raised as one possibility. Better public access to the Lindis River and the creation of a walkway where the water race once was, were also raised as suggestions.

The heritage of the area is another highlight and sharing local knowledge on the various tramping tracks, conservation areas as well as the flora and fauna is something that could be explored further. Many different opportunities exist in the area and letting people know about these and telling local stories is important to people.

The church, golf club and the cemetery are other community assets valued by the community. One person suggested the creation of a fenced dog park for the area, which could cater for locals and provide a logical stopping point for travellers with dogs in their vehicles. There was also support for an upgrade of the cemetery.

Objective:

That the community spaces and places of Tarras are celebrated, well known and well used with new opportunities explored and fostered.

Actions:

- Explore opportunities to connect cycling routes to each other and the village, such as the Ardgour Valley loop, Thomson Gorge and Bendigo Diggings.
- Explore the appetite for creating new places such as a tavern, diverse retail offerings and a shared office space in the village.
- Work with Council to explore possibilities to enhance the tennis court and playground area.
- Examine the viability of establishing a dog park area in the Tarras area.
- Explore the creation new recreational opportunities such as better public access to the Lindis River and discuss with the landowner the possibility of developing a walkway where water race used to be.
- Protect and celebrate the unique heritage of the area and explore opportunities to tell local stories.
- Work with Council to enhance the existing Community Hall and improve accessibility.
- Explore the opportunity of developing a civil defence community response centre for the Tarras community.
- Acknowledge, celebrate and make the most of community and recreational facilities such as the Tarras School, the Church and (privately owned) golf course.
- Work with owners of the café and village to see what support could be offered to increase opening hours.
- Support the Cemetery Trust to maintain and enhance the Tarras Cemetery.

Back

5.4 Economic vitality

The economic vitality of the Tarras area is a key discussion point for the community.

Tarras is a prime example of a traditional New Zealand farming town, and many people want to preserve that. It is seen as a peaceful, quiet, friendly town surrounded by growing industries that produce a range of products - from "wine to wool" and considered "a fruit bowl of possibilities."

There are a number of new developments that have either taken place or are planned in the Lindis, Tarras and Bendigo areas that diversify from traditional sheep and beef farming practices and are slowly changing the economic profile of Tarras. Now, as well as viticulture, stonefruit and gold mining exploration are looking to establish or re-establish in the area.

The proposed regional airport is front and centre in many people's minds. Community workshop and survey feedback on the proposed international airport in Tarras generated strong and mixed responses. Some welcome the economic opportunity that the project offers, while others fear its impact on environmental and community values, and Tarras becoming an "industrial zone". It is clear that the community want to remove the uncertainty surrounding this potential venture by Christchurch International Airport Ltd.

Many would like to see additional housing in the area, both for family to return, and to accommodate increased worker numbers. However, there are mixed views on village growth. Some fear urban sprawl and are concerned that current offerings would not provide sufficient activities and services for a growing resident worker population. Others saw growth as an opportunity to enhance the sustainability of village services and bolster growth at the school - and in clubs and groups. Many wanted any development to be done sensitively to maintain the rural country feel. Others would like to be more progressive and accepting of change.

There was also discussion that worker accommodation might be better situated elsewhere, closer to services, with employees transported into the area for work.

New job opportunities and support for those who travel out of Tarras for work was raised. In addition to the idea of creating a shared office space, exploring after school care for working parents was suggested as a way of encouraging people to work in the area, and support the local school.

Tarras is seen as the gateway to Central Otago and is a natural resting place for many travellers. The vibrancy created by the village is celebrated, and some people would like Tarras to become a destination in its own right.

Tarras wants to be known as a strong, thriving community with a special rural feel that is a great place to live and visit.

Objective:

That the economic vitality of Tarras is strong, built on great farming, quality produce and products, with a vibrant country village.

Actions:

- Celebrate the quality produce and products of the areas through a regular farmers market at the village.
- Explore the viability of providing after school care for children whose caregivers may work out of town.
- Keep actively involved in future community engagement and discussions on proposed developments in the area, and ensure opportunities to be involved are taken advantage of.
- Consider if there is a shared community view on how seasonal worker accommodation needs are best met and advocate for that solution.
- Talk to Ignite Wanaka or the Cromwell Business Network about setting up a group for Tarras businesses.

5.5 Infrastructure and Land Use

A number of comments were made about various aspects of the infrastructure in the area.

The current arrangements for refuse collection in the area and areas for improvement was raised at the workshops, and one survey respondent suggested moving the recycling centre.

The sealing of Māori Point Road is a high priority for residents, followed by Cemetery Road and Oliver Road.

Concerns were raised about the speed limits near the village and some would like to see the 80km per hour restriction extended to the Luggate Tarras Road turnoff on State Highway 8. A comment was also raised about the recent resealing of the highway and the noise created by the new seal.

Upgrading the one lane bridge at Lindis Crossing on State Highway-8 was suggested by some, whereas others appreciated the reduction in speed the bridge created.

The investigation of a small-town sewerage and water system was also suggested at one of the workshops.

Light spill from the information weather station located on the state highway near the village, was commented on at one community workshop and it was suggested that the station be relocated away from family homes.

Given the location of the village on SH8, the installation of an EV charging station was raised at one of the workshops as an opportunity to encourage people to stay longer in the area.

Planning frameworks and land use is a focus for many. Reducing subdivision sizes from eight hectares to quarter-acre sections and creating a subdivision near the village to facilitate growth, were among the suggestions made. The community asked for more council facilitation on what can be achieved within the legislative and planning framework, such as making submissions to council's spatial plans.

Objective:

That core infrastructure, including land use planning frameworks, meets the current and future needs of Tarras.

Actions:

- Investigate possibility of installing EV charging stations within the Tarras Village.
- Explore possible improvements to household waste services with Council.
- Liaise with Council and Waka Kotahi about the sealing of Māori Point and other roads, the type of seal used on the state highway through the village, and options for reducing the speed limit through the village.
- Enquire about the feasibility of repositioning the information weather station on the state highway to minimize its effect on private residents.
- Investigate if any changes have been proposed under the District Plan for rezoning of Tarras land in the future. What can existing landowners can do with their land when applying for consent to subdivide on rural land - specifically when it relates to a non-complying activity?
- Work with Council to ensure appropriate land use provision exists for the Tarras area and surrounds. This includes the consideration of the provision of future housing options, and the establishment of a rural settlement zone for the village to accommodate town and rural interface, for growing need and demand.
- Arrange a community meeting with CODC Planning Policy Team to discuss options for future growth.

Back

5.6 Tarras Voice

A key theme that emerged during the process of developing this community plan is the Tarras community wanting to have their voices heard on matters that are important to them. The community wants control over its own destiny.

They would like assistance from both local and central government. They would like to see more involvement by the Central Otago District Council, including follow through and accountability.

The community is keen to understand how it can influence change. It wants to ensure that those who are affected by, or have an interest in decisions, are informed about those decisions and have the opportunity to present their views – and that those views are given due consideration.

This theme was evident when discussing new developments in the area, land use, council and government rules and regulations and changes to services.

The Tarras community are passionate and care deeply about their place. They love the community spirit of Tarras and want a strong vibrant community. Part of that is acknowledging that not everyone will have the same view on the same issue, and the need to respect each other's views and work together to protect and enhance what is important to all.

Objective:

That the Tarras community feels and is heard on things that matter to them.

Actions:

- Seek out and participate in engagement forums to express views and opinions such as at 'have your say' days and public forums at Council and Community Board meetings.
- Ensure information about opportunities to submit on changes to regulations and plans are known about and utilised.
- Encourage the participation of decision makers in Tarras community groups and organizations, such as the Cromwell Community Board liaison position on the Tarras Hall Committee.
- Utilise community platforms to promote public good over personal views.
- Acknowledge there are different views on different matters and remembering the importance of listening to and respecting those alternative views.

Appendices

Appendix 1:

(Community workshop results (October and November 2022)

What Do You Like?

The people: let them speak and have control over their own community (17)

Physical environment/places to explore (hiking, biking, walking, water sports, hunting, camping (9)

Night sky (9) Dark skies (3)

No industrial infrastructure (9)

Quiet (8)

Silence (8)

Wide open spaces (6)

Community feel/spirit (6)

Bird life (6)

Rivers and mountain (6)

Rural environment (5)

Thriving village (5)

Views/VIsta/Landscapes - (4) responses

Connected community hub (4)

New opportunities (4)

Heritage (4)

We punch above our weight - variety of businesses (4)

Friends (3)

Uniqueness of village (3)

Big uninterrupted vistas (3)

Lovely school, church and hall amenity (2)

Climate/weather (2)

Mountain view (2)

Space not pace (2)

Gold mining (2)

Business viable economy (1)

Desirable destination (2)

Thriving environment (1)

Community activities groups (1)

Unpopulated (1)

Fresh air and barking sheep dogs

A fruit bowl of possibilities (olives, cherries, nuts)

Tarras is a hub (trails, close to big centres)

The people, the baking, the characters, the stories.

Central to many locations

Community: strong, safe, small, known, friendly,

What Do You Want To Change?

Remove uncertainty regarding potential airport and mining development - don't want an industrial zone as the gateway to Central Otago; devisive to community; (16) don't want local vibrant community destroyed.

No industrial infrastructure (9)

The strategic threat of the airport (14)

Rubbish collection - new tip or free skip (without key or code lock) (15)

Weed control on Lindis River (5) + Lake Dunstan (9)

New subdivision near central village to facilitate growth (13)

Seal Roads (Maori Point, Cemetery, Oliver) (12)

Tennis courts +recreational facilities (8)

Increase community engagement (social events) (6)

Get rid of or move information weather station (6)

Pivot irrigators lights (6)

80km/hr speed limit to be extended from Tarras until after Wanaka turnoff (5)

Village to be developed in its own unique style (5)

More diversity in the village/retail opportunities (5)

Link cycleway to village (Ardgour Valley loop) (4)

Cemetery upgrade (4)

More involvement by council + on what we can achieve within the legislative framework (4)

Better control of river flow (3)

Investigate a small town sewage and water system to support the area (3)

Willow control (3)

Remove aerobatic zone above Tarras (2)

More employment opportunities for those who have to travel out of Tarras (2)

Funding for more recreation activities for kids and adults (2)

Limit tourism (2)

EV Charging (1)

Focus on what matters in life (1)

Dog park (1)

Yoga classes in hall (1)

River dumping ground for carcasses (1)

Better public access to the Lindis River

More native plantings

Tarras Talk - how to use?

More new residents under 50

Afterschool care available

How Do We Achieve Our Opportunities?

Assistance from Central and local government - not just every 3 years (7)

Create smaller sections for families (4)

Reduce subdivision sizes from 8ha to 1/4 acres to create affordable development (3) + sewerage infrastructure (1)

Support for initiatives and business opportunities (3)

Protect the abundance of wildlife (3)

Take leadership with vision to build and grow (3)

Open the village at night/or have a place for the community to socialise (3)

Bring more people/families to Tarras to grow school and clubs (3)

Investigate a small town sewage and water system to support the area (2)

Fix tennis courts (2)

More status quo; not so much reset (1)

Better distribution of 'Tarras Talk' (1)

Pristine waterways (1)

Make it easier to create commercial accommodation/ offices (1)

Make submissions to council spatial plans/show up to hearings (submit and speak)

Focus on the school

Build some houses for families to rent

Support an area for worker accommodation

Education about the flora and fauna

Farm map

Enhance hall playground for over 4s.

Astronomy course to learn about night skies

No changes to tranquility

Clean (no litter)

Farmers Market (locals only produce)

Co-working space

Maintain/upgrade hall

Information for hunters/signage for toilets

Talk to Aviation Authority re aerobatic zone

Talk to Contact re river flows

Talk to roading re speed limits and aggregate seal

Community needs to support activities

Break monopoly of the village

Remove irrigator lights (light pollution limitation)

Pub

What Is Important To Tarras?

Any development done sensitively to maintain the rural country village feel (14)

Tarras to retain its beautiful, rural and natural landscapes (12)

Accountability from the council to follow through (7) Responsibility of actions to adhere to community wishes (2) Freedom of speech

Native corridor along Lindis and Clutha Rivers (5)

Increasing job opportunities for young people to stay (2)

Tarras can progress but needs to retain its special character (2)

Conserving and preserving the environment.

Known as stepping back in time

What Is The ONE thing You Would Like Tarras To Be Known For In The Future?

Time stands still - no international airport (15)

Any development to be mindful and respectful (6)

TIA - Tarras International Airport (5)

Don't want extensive population (4) Moderation in growth (2)

Peace and quiet (3)

Best looking township you have ever seen, starting from scratch (3)

Preserving the wide open landscape (3)

A quaint country village with an active, caring community (3)

Vibrant Community Economy (2)

Tarras can progress but needs to retain its special character (2)

Accessibility (1)

Unity of Community Spirit (1)

Night sky

Rural community

Wanaka and Cromwell known as 'just out of Tarras.'

Preservation of traditional New Zealand

Back

Appendix 2:

Tarras Values Survey - December 2021 Results

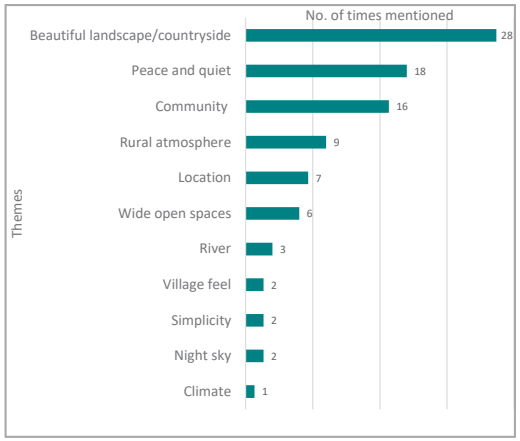
A group of Tarras locals have taken the initiative to put together a new community plan for Tarras. The aim of the plan is to help set a direction for the future by determining shared community values and vision. To do this, the group gathered feedback from people who live, stay or own property in Tarras.

The Tarras community were asked what the special things are about Tarras – what they value and want to remain; what they think should change; and what they want Tarras to be known for in the future.

Seventy-five people took part in the survey. This report summarises the feedback received and will help inform a new Tarras Community Plan and create an action plan for the community.

This is a community-led process, supported by Central Otago District Council.

What is the one thing you LIKE about Tarras?



Respondents were asked, 'What is the one thing you like about Tarras? i.e. what is really important to you and that you wouldn't want to lose.

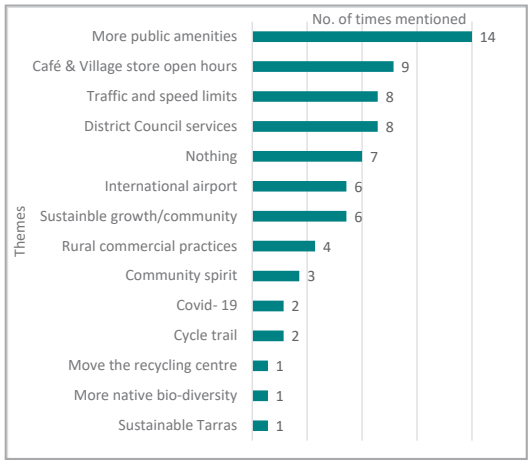
The Tarras community like the beautiful landscape and countryside, they like the peace and quiet of the rural area they live in. 'Stunning views and landscape', 'For me it is the beautiful landscape and peace and quiet', 'The serenity of the open rural space'.

Respondents also like the supportive, welcoming and caring Tarras community. They feel that the community spirit is strong and that 'people matter in Tarras'.

The rural atmosphere is also something the community would like to retain in Tarras. The small town, country feel, and genuine rural nature of the place is valued.

Some respondents really like the location of Tarras being the 'gateway to Central Otago'. The like that the town has its own identity and country village feel with larger towns such as Cromwell and Wanaka close by. 'How it is small but close to town if you need', '... just far enough away from the crazy of town'

What is the one thing you would CHANGE about Tarras?



Respondents were asked, 'What is the one thing you would change about Tarras?'.

More public amenities to enhance the village and create vibrancy was the most common theme mentioned. A pub, accommodation, more businesses and more facilities were all suggested as was more activities in the village such as markets, and general upgrades and enhancements to the village area.

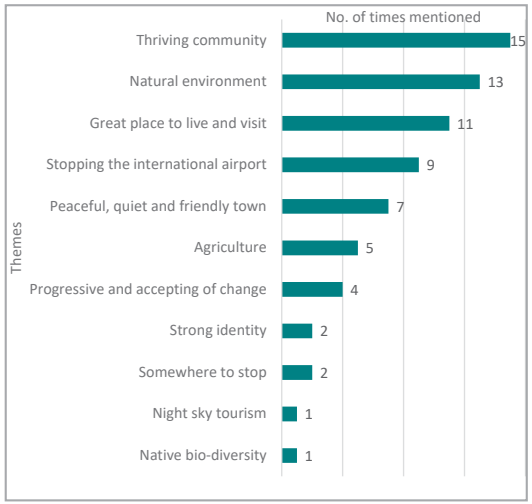
The café and village store opening hours were mentioned a number of times, with suggestions that both need to be open for longer, more consistent hours (it is worth noting that the survey was conducted during a time that Covid-19 was having a significant impact).

A change in traffic and speed limits were also mentioned, in particular the speed limit through Tarras village, and the one lane bridge. Heavy traffic on and the sealing of Maori Point Road was also mentioned.

Some respondents mentioned District Council services such as building and structure regulations and lack of infrastructure and rubbish collection.

Comments around the International airport were about removing the uncertainty around the airport.

What is the one thing you want Tarras to be KNOWN FOR in the future?



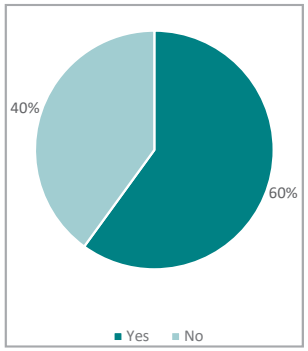
Respondents were asked, 'What is the ONE thing you would like Tarras to be known for in the future?'.

Respondents would like Tarras to be known for its thriving community that looks out for each other, celebrates diversity and is sustainable in its practices. They'd like Tarras to be known for the natural environment, the beautiful rural landscapes, wide open spaces and unspoilt scenery. For Tarras to be a great place to live and visit with a vibrant country village and great café.

Some respondents wanted Tarras to be known as the town that stopped an International airport.

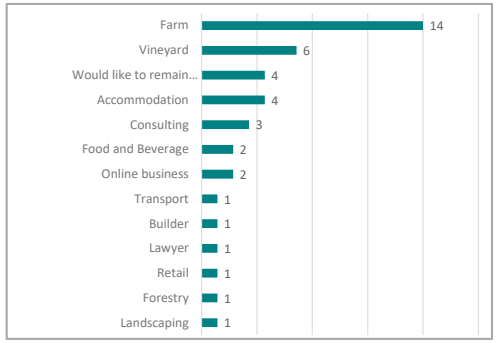
Being a peaceful, quiet friendly town with great farming and quality produce. A place that is progressive and accepting of change with the ability to diversify with new industry coming into the area (airport).

Do you own or operate a business out of Tarras?



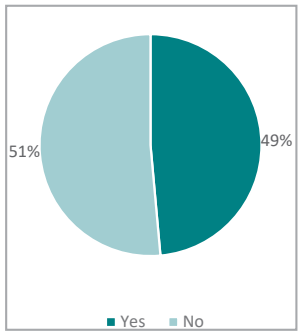
Number of respondents 70

Sixty percent of respondents either own or operate a business out of Tarras. Those who answered 'yes' were asked to tell us what type of business.

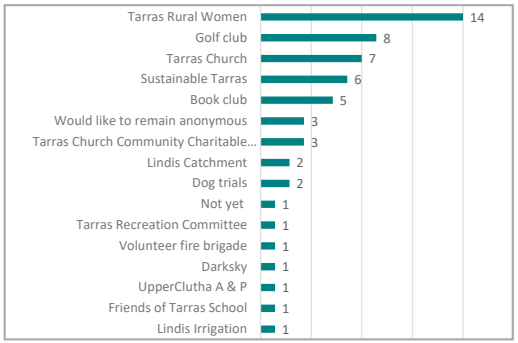


There is a range of businesses owned or operated out of Tarras with farming by far the most common.

Are you a member of any local clubs or societies based in Tarras?

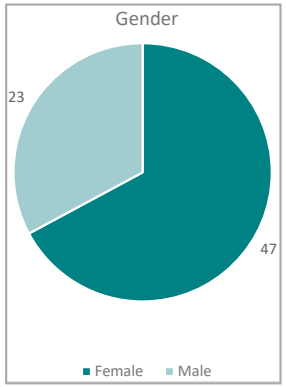


Just under half of respondents are a member of at least one local club or society. Those who answered 'yes' were asked to let us know which groups they are a member of.

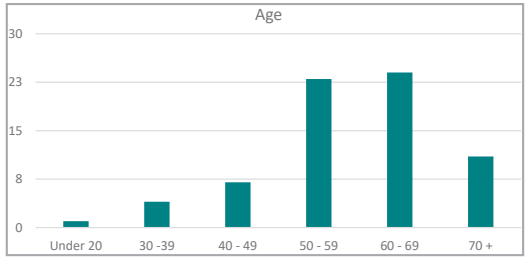


The graph left shows the clubs and societies and the number of respondents who are members.

Demographics



Respondents to the survey were asked to provide a little bit of information about themselves. This section of the survey was not compulsory.



Number of respondents 70

Sixty-seven percent of respondents were female and 33% male. Eighty-two percent of respondents were aged 50 and over, with only seven people in their 40's and 4 people in their 30's providing their feedback.

Appendix 3:

Tarras Values Survey - September 2022 Results

A group of Tarras locals has taken the initiative to put together a new community plan for Tarras. The aim of the plan is to help set a direction for the future by determining shared community values and vision.

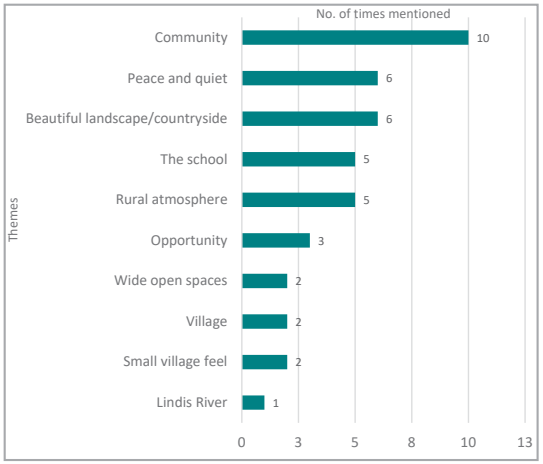
A values survey was sent to the Tarras community for their feedback in December 2021, these results are included in appendix one. In September 2022 the same values survey was sent out to the community to get an up-to-date perspective and ensure the most current information is being used to continue to the next stage of the process.

The Tarras community were asked what the special things are about Tarras – what they value and want to remain; what they think should change; and what they want Tarras to be known for in the future.

Thirty-seven people took part in this survey.
This report summarises the feedback received in September 2022 and will help inform a new Tarras Community Plan and create an action plan for the community.

This is a community-led process, supported by Central Otago District Council.

What is the one thing you LIKE about Tarras?



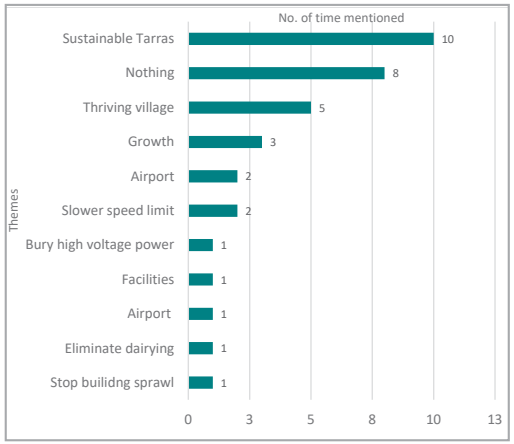
Respondents were asked, 'What is the one thing you like about Tarras? i.e. what is really important to you and that you wouldn't want to lose.

'Community' was the most commonly mentioned theme. Both the small, rural community feel that Tarras offers but also the fact that it's a growing community. They value the peace and quiet and tranquillity of the area along with its beautiful landscape, wide open spaces and big skies.

Respondents like the school. They like that it performs well and that it has a good school community. They like the opportunity that Tarras presents, that it's an evolving town with a growing community and younger generations coming through.

Respondents also like the village itself - the café, store, hall and church. They also like the location being away from the busyness if a bigger town but close enough to access all amenities they may need.

What is the one thing you would CHANGE about Tarras?



Respondents were asked, 'What is the one thing you would change about Tarras?'.

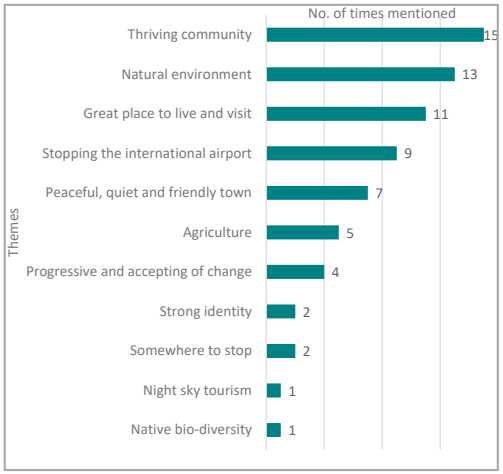
Sustainable Tarras was mentioned as something the community would like to change. Some respondents felt the group was dividing the community, that they need to change the way they engage with the community and to respect the views of others.

Eight respondents said they wouldn't want to change anything about Tarras.

Some respondents felt more amenities such as shops, commercial operations, a pub and creating opportunities to work from home would help enhance the area and create a more thriving and vibrant village.

Encouraging growth and welcoming more families to the area would help ensure the future of Tarras.

What is the one thing you want Tarras to be KNOWN FOR in the future?

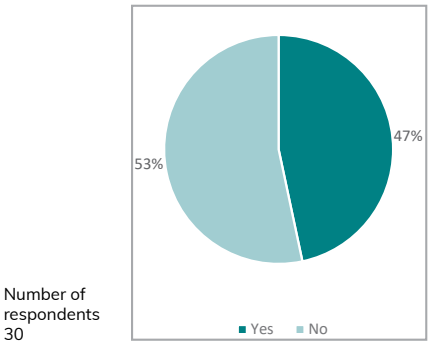


Respondents were asked, 'What is the ONE thing you would like Tarras to be known for in the future?'.

Respondents would like Tarras to be known for its strong economy, quality produce and products, employment opportunities and new industries.

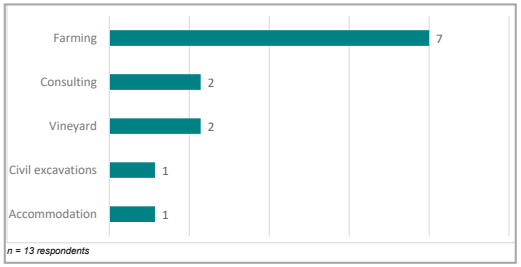
They want Tarras to be known for being a peaceful, supportive community and a vibrant, friendly village

Do you own or operate a business out of Tarras?



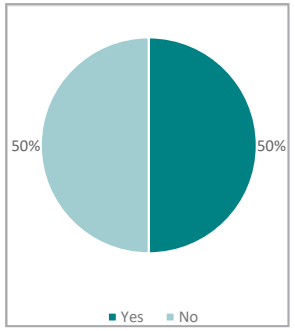
Number of respondents 30

Forty-seven percent of respondents either own or operate a business out of Tarras. Those who answered 'yes' were asked to tell us what type of business.

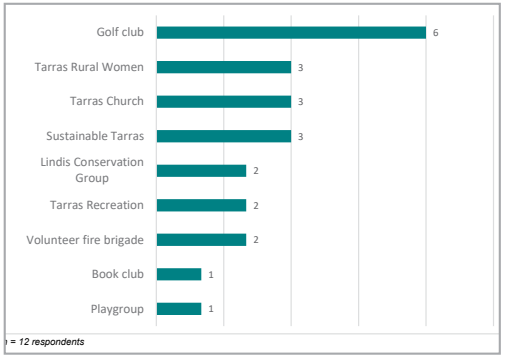


There is a range of businesses owned or operated out of Tarras with farming by far the most common. This is consistent with the data from December 2021.

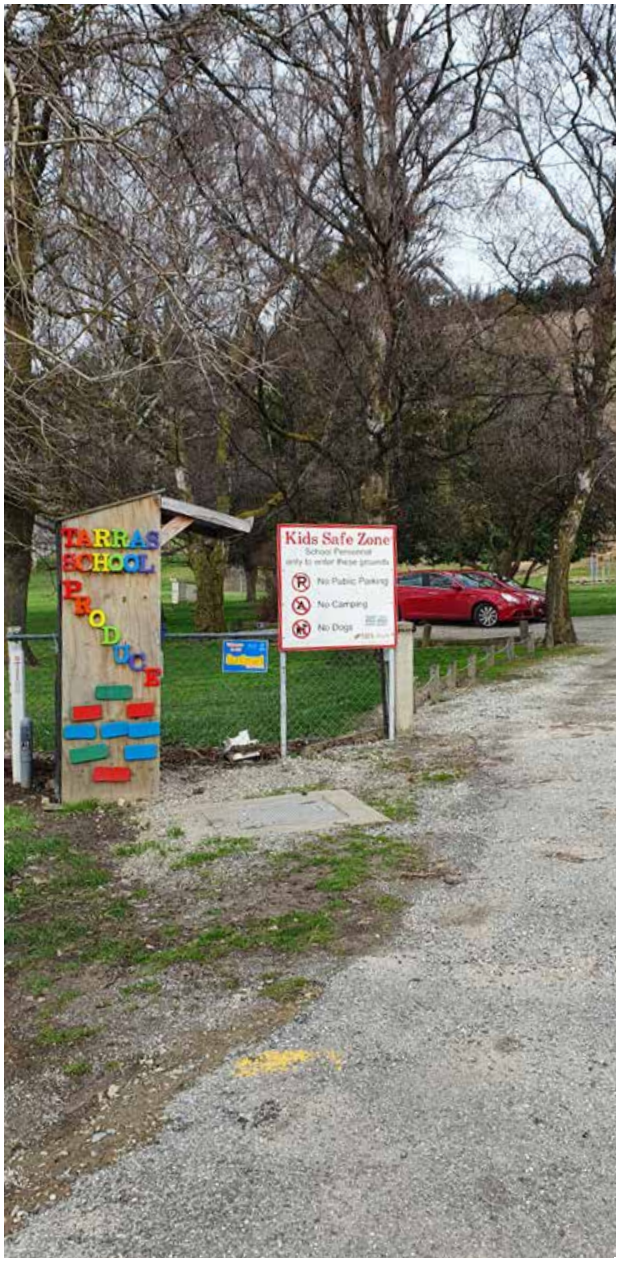
Are you a member of any local clubs or societies based in Tarras?



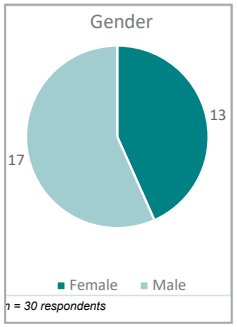
Half of all respondents are a member of at least one local club or society. Those who answered 'yes' were asked to let us know which groups they are a member of.



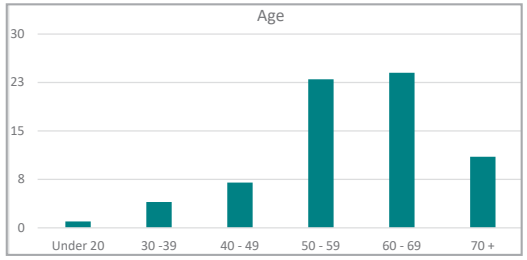
The graph left shows the clubs and societies and the number of respondents who are members.



Demographics



Respondents to the survey were asked to provide a little bit of information about themselves. This section of the survey was not compulsory.



Number of respondents 30

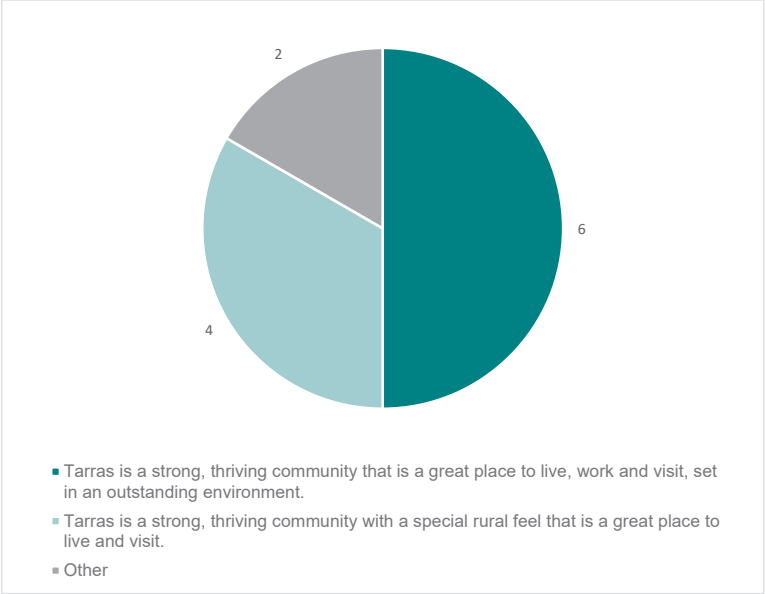
Forty-three percent of respondents were female and 57% male, this is in contrast to the earlier survey where 67% were female and 33% were male.

Seventy-three percent of respondents were aged 50 and over, with only six people in their 40's and 2 people in their 30's providing feedback.

Appendix 4:

Feedback recieved and Outcomes

Draft vision statements



'Other' suggestions included:

1. Tarras is a strong, thriving community that is a great place to live, work and visit, set in an outstanding environment, but the township needs to be shifted to the north and west side of the Tarras Creek to be viable.
2. Tarras is a good little community that needs to grow with the surrounding areas, not bury it's head in the past.

Outcome:

The following Vision Statement is adopted:

"Tarras is a strong, thriving community that is a great place to live, work and visit, set in an outstanding environment."

What is your overall impression of the draft plan?

- A really thorough piece of work which I hope is reflected through the work of CODC
- I really like it
- Good (x2)
- A sympathetic and accurate summary of Tarras residents' feelings
- Fantastic!
- Seems reasonable
- Seems good
- While the draft plan leaves an impression that Tarras should expand a little while still keeping its community values there is no vision as to how this expansion may take place.
- Very positive - the community deciding its' own future
- Very thorough and represents the discussions at the community meeting that I attended. I have some concern that the list of proposed community actions is too long and that there is not enough energy in the community to action these.
- It accurately captures the sentiments of the people who responded to the survey and the work shops.

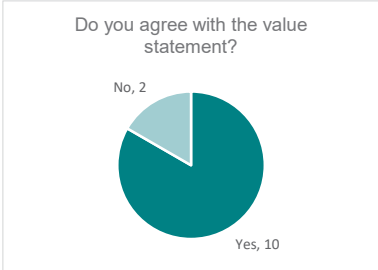
Outcome

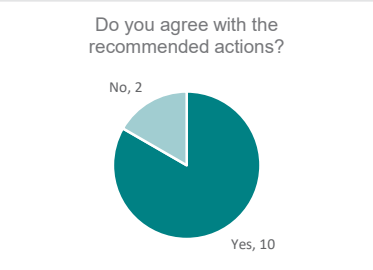
All respondents had a positive overall impression of the draft plan.

An additional action is added to the infrastructure and land use section around a community meeting with the CODC planning policy team to discuss options for future growth.

Natural Environment

Value statement: The stunning Tarras environment is maintained and enhanced for future generations.





Comments about this section:

- The Vale of Tarras has always been a transport corridor, by ground and in my lifetime (80 years) by air. So it will continue.
- It isn't clear what the 'lobby for a change to the COD Plan' is referring to? This needs to be clarified.
- I don't mind the aerobatics.
- Don't agree that the CAA needs to be approached as would prefer an aerobatic zone above Tarras rather than an international airport. It is only spasmodic.
- NZ values see the South Island as traditional New Zealand - unspoilt environment.
- Not sure what change is proposed to the Central Otago District Plan.
- House lighting needs to be better managed, especially in new developments on hill areas. The aerobatic zone is not a concern, it is quite infrequent. Jet planes landing at an international airport is cause for concern!
- The training flights above Tarras is acceptable as it is infrequent. Maybe alarming to some when their engines are switched off as part of their training but as an ex pilot this maybe more easier for me to accept. Pivot lights along the Clutha valley are excessive, a distraction and visually intrusive. They are not necessary.
- Growth and therefore development in Central Otago would appear to be inevitable. I suggest the following statement regarding Natural Environment - Tarras is located in a stunning environment. Any development in Tarras must be completed sensitively to ensure that the environment is maintained and enhanced for future generations.

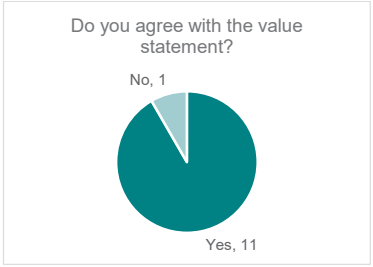
Outcome

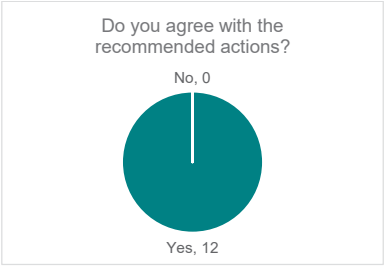
- The action point about asking the Civil Aviation Authority NZ about the aerobatic zone was changed to “understand community views on having an aerobatic zone above Tarras, and whether any follow-up with the Civil Aviation Authority is required”.

- The statement ‘lobbying for change to the Central Otago District Plan’ was about the provision of a darks skies precinct for the area. A plan change is currently underway to create a new dark skies chapter in the Central Otago District Plan. These provisions would apply to areas that are identified as dark skies precincts. Naseby is currently working with the International Dark Sky Association (IDA) to become the district’s first dark sky precinct. The action was updated to read “Investigate what is involved to become a dark sky precinct, under the proposed provisions of the CODC District Plan’s dark skies chapter.”

Connected Community

Value statement: Tarras continues to be a strong, thriving community that looks out for each other.



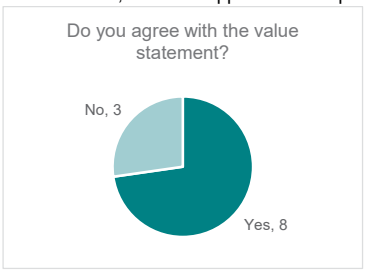


Comments about this section:

- Need a mandated umbrella organisation to stimulate these actions.
- The Tarras Guide should be mentioned
- It was disappointing to see that 10 people responded to 'what would you change' with an attack on a community group (Sustainable Tarras) A disgraceful action given that Sustainable Tarras has no avenue to respond.
- Need a mandated umbrella organisation to stimulate these actions.

Community Spaces and Places

Value statement: The community spaces and places of Tarras are celebrated, well known and well used, with new opportunities explored and fostered.

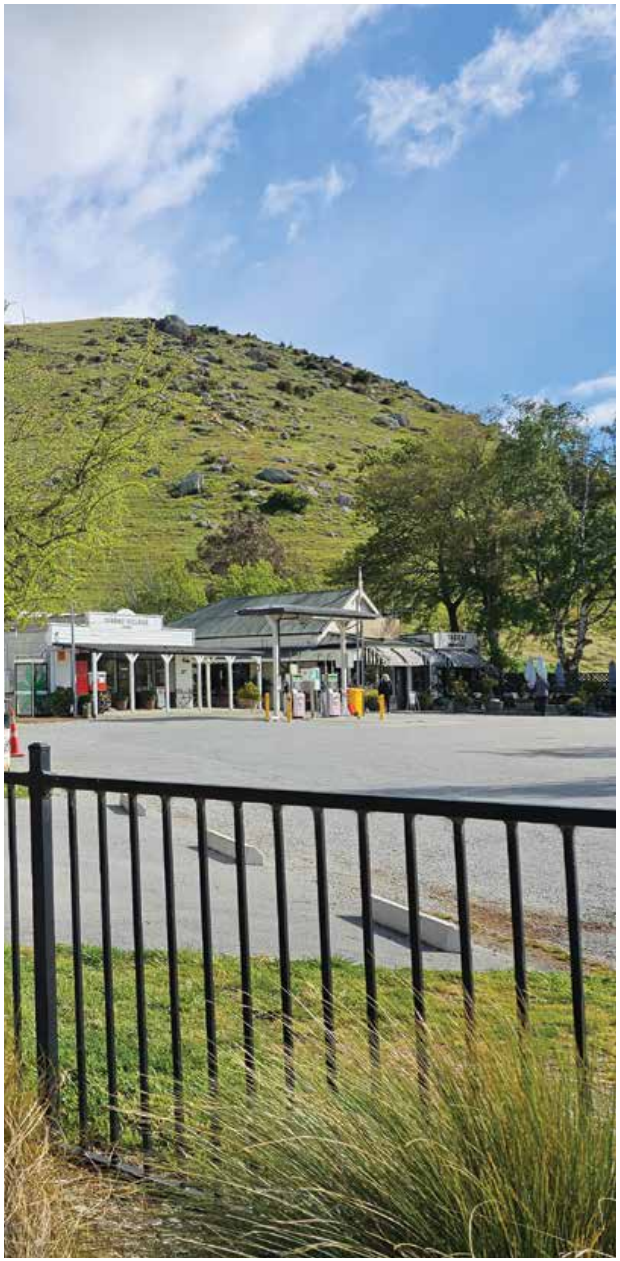


Comments about this section:

- The Tarras township should be re-located to the west side of Tarras Creek along SH8A where ample space is available for expansion (more housing, taverns, diverse retail offerings and a shared office space. Airport or not.
- Sustainable tourism via cycle and walking trails
- Support for the cycle way along the Tarras side of Clutha River
- I do not want to see a tavern in Tarras
- Wonderful ideas!
- Landscaping and planting at the Lindis River bridge is important. In the areas that the public can gain river access, beautification or certainly smartening up the area would look so much better and welcoming than the scrubby appearance at present now.
- Community Spaces need actively upgrading and adding to

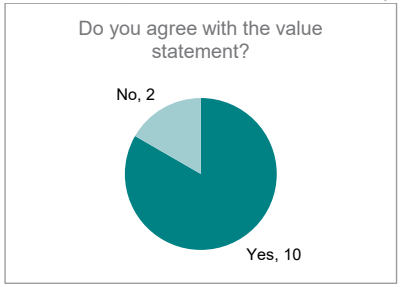
Outcome

- An additional action around a community meeting with the CODC planning policy team to discuss options for future growth has been added to infrastructure and land use section.



Economic Vitality

Value statement: The economic vitality of Tarras is strong, built on great farming, quality produce and products, with a vibrant country village.



Comments about this section:

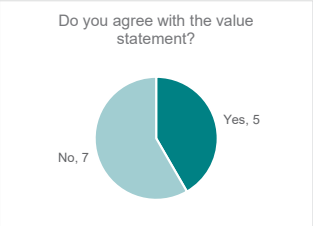
- These things will come with a larger Tarras Township. Housing growth around the periphery of the district, as it is now, will not enforce the nascent community spirit there is now.
- Use Ignite Wanaka or Cromwell Business Network to create a community group of Tarras businesses

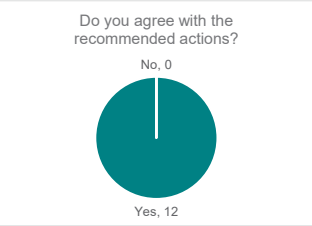
Outcome

- An additional action around speaking to Ignite Wanaka or the Cromwell Business Network about setting up a group for Tarras businesses has been added.

Infrastructure and Land Use

Value statement: Core infrastructure, including land use planning frameworks, meets the current and future needs of Tarras.





It is noted that the above graph indicates that seven people selected the option that they disagreed with the draft value statement for this section, however no alternatives were suggested, and the comments suggest general agreement with the statement *"Core infrastructure, including land use planning frameworks, meets the current and future needs of Tarras."*

Comments about this section:

- The Tarras Township has nowhere to grow to as it is between a steep hill and floodway. It has to be shifted to grow at all. There is adequate space on the NE side of Bell's Lane (SH8A) for a lot of housing, motels, a campground, retail and office space, a tavern - all those things that a modern township needs to develop. A sewage system, with or without airport partnership needs to be installed in this area.
- I particularly support the discussion around consideration of future housing options - ideally to provide housing around the Tarras village area.
- Build the Airport.
- No airport please
- Developers from outside the district rely on the District Plan to prevent residents from developing their land - community should be given a chance to determine the future they want.
- The sealing or part sealing of Maori Point Road is a priority. The road is over utilised and deteriorates very quickly. Speed control and heavy traffic restriction is a welcome improvement but the road needs slip continually under the radar. Partial sealing in stages should at the very least be a priority.
- A slip is developing above the Tarras Township which will wipe it out; it must be shifted.
- I answered no to all of the above because there is need for some growth for Tarras. It's very interesting that the number one thing that most respondents want changed is ' Sustainable Tarras '. This group is very vocal and single mindedly opinionated with no respect for any other people's opinions. Does this area need a 5th reginal airport - no. Does this area need a safe future proof airport - YES Queenstown Airport has the worst Safety Rating of any Airport in the world and no room for future expansion. Tarras International Airport will provide the impetuous for the future growth of Tarras. Tarras needs to have a future rather than linger in the nostalgic past! A general store and cafe do not make a village.
- Protect highly productive land; allow well-planned high-density workers' housing.
- Need to be revised for future growth.

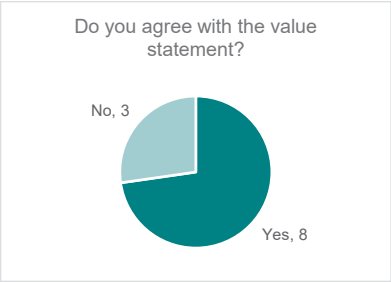
Outcome

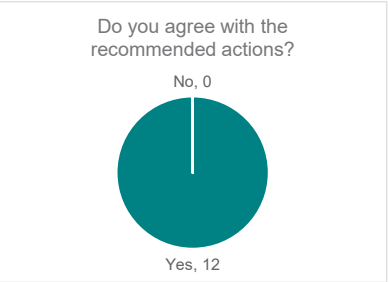
- An additional action around a community meeting with the CODC planning policy team to discuss options for future growth was added to the infrastructure and land use section.
- It is recommended that the umbrella group set up to implement the plan consider the priorities of all actions, including the action around liaising with Waka Kotahi and Council about the road sealing programme.

Back 53

Tarras Voice

Value statement: The Tarras community feels heard and is heard on things that matter to them.





Comments about this section:

- Community meetings should be held in Tarras to discuss the expansion of the township - where it might expand to and what form the expansion might take.
- An umbrella organisation with a representative from each of the community groups could assist with this and be seen to have the mandate to represent the community as a whole. It could hold regular community meetings to encourage information flow. Hopefully such an umbrella group could eliminate negative groups having a misrepresented dominance in the community.
- The Cromwell Community board minutes show that Tarras is "out of sight, out of mind" with references to Tarras since 2020 limited to one topic - the Christchurch Council proposal to develop an airport. The Community Board should be encouraged to reflect on whether representation of Tarras is a desirable part of their remit going forward and if not, devolve that part of the scope to others.
- CODC needs to focus more on Tarras and listen to our voice.
- Still feel Tarras is regarded as small and insignificant. Eliminated from the Emergency Plan, future isn't clear.
- Self-determination is a basic human right, allowing the full community of Tarras to determine its' own future is essential.
- Tarras has long felt forgotten by CODC, a distant outpost. The lack of consultation with CIAL further underscores this lack of our voice being heard.

Outcome

- Consider the establishment of an umbrella group to oversee the plan and connect with the community board and the like.

Areas people would like to help

Tarras Voice – 2 people
Infrastructure- 3 people
Natural Environment – 4 people
Economic Vitality – 2 people

Other Feedback

- Tarras could have a community-owned nursery and also (separately) a large hill reserve for native plants and animals.
- It is sad that members of the community suggested that Sustainable Tarras has created division in the area. It is the threat of an airport developer wanting to build an airport with little understanding of the community's desires - such as has been heard through this process - that has created division. I'm not sure it is appropriate to focus on this in the plan, and I would like the nature and origins of this feedback to be properly considered before it is decided that it be included in the final version.
- I see all the points of 27 (which community actions do you have an interest in helping make happen) as being all important and would like to be involved where I could be of the most use. It would be lovely to see Tarras progress in an agreed and planned way.
- Survey suggests 100% of residents are aligned to a vibrant Tarras, they differ on the pathway to get there. Some Queenstown, Wanaka, Cromwell, Alexandra and Christchurch councillors and residents have views on what Tarras future should be, this plan reflects what Tarras residents views are and is one of very few ways we can be heard. Well done.
- The photo of the Village Store was taken during renovation, it looks bad. Can you replace it with a new one now that the store is looking fabulous. 2) The Introduction & How The Plan Was Developed contain identical text, do they need to be repeated? 3) Page 9 Map. Could you label Mata-au Clutha River please. 4) In several places you refer to the proposed airport as a 'Regional' airport. That is incorrect. It is an International airport, not regional. 5) Well done, it's a great Plan!

Outcome

- The map was updated to include a reference to the Mata-Au, the photo of the shop was updated, the wording of the introduction and how the plan was developed was corrected and there is consistency throughout the document when referring to the airport.

Appendix 5:

Tarras Values Survey - September 2022 Results

Defining the population of Tarras isn't straightforward, as it's a smaller area with multiple official area boundaries.

The following attached area shows an increase in the population from 408 in 2013 to 606 in 2018, according to Census data.

This is Infometrics analysis of Statistical Area 1 data from the Census, published by Statistics New Zealand.

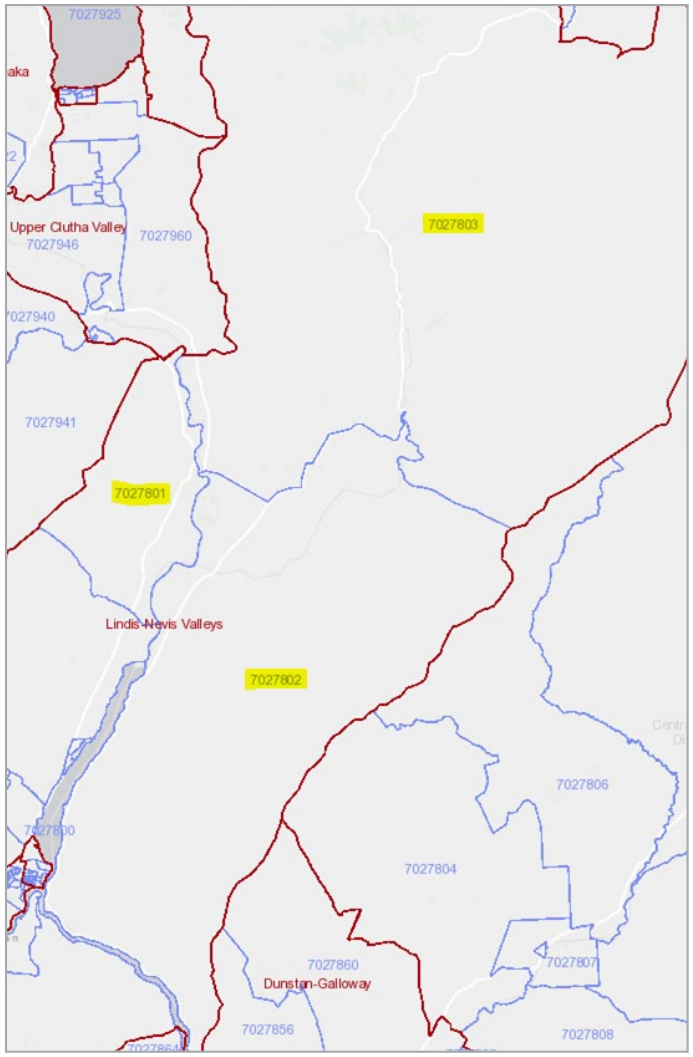
The area we've used for that include three Statistical Area 1 areas (2018 boundaries), being:

- 7027801 - 36 (2006), 108 (2013), 228 (2018) - Luggate boundary.
- 7027802 - 171 (2006), 204 (2013), 273 (2018) - Bendigo/Tarras
- 7027803 - 90 (2006), 96 (2013), 105 (2018) - Lindis Valley

This area includes Bendigo and down to the bottom of Lake Dunstan (across from Cromwell).

Brad Olsen MInst
Principal Economist, Director
Infometrics Limited

www.infometrics.co.nz



Back

CENTRAL OTAGO DISTRICT COUNCIL
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www.codc.govt.nz

Written Persons Approval for Resource Consent

(Form 8A)
Section 95E(3), Resource Management Act 1991

Email to: resource.consents@codc.govt.nz

Post to: The Chief Executive
Central Otago District Council
PO Box 122
Alexandra 9340

TO BE COMPLETED BY THE PERSON(S) REQUESTING APPROVAL

Applicant Name: NG & MA Trevathan

Type of resource consent (circle all appropriate): Land-use / subdivision

Proposed activity:

Application for Resource Consent for 11 Lot Subdivision to create 9 Titles

Location of site:
360 Ardgour Road Tarras

CONTACT DETAILS OF AFFECTED PARTY

Full Name/s: *(name of person giving written approval)* Lynette Sutherland

lynettes@fyfeklaw.co.nz (Email) 027 301 5613 (Phone)

Address of the property *(I am the owner of the following property)*:
522 Ardgour Road, Tarras, Cromwell 9383

The full name of all other owners of the property: (owners of the affected property)
Allan Desmond Sutherland
Dunmore Trustees Limited

I have authority to sign on behalf of all the other owners of the property:

☑ Yes ☐ No other owners

NOTES

Conditional written approvals cannot be accepted.

There is no obligation to sign this form, and no reasons need to be given.

If this form is not signed, the application may be notified with an opportunity for submissions.

If signing on behalf of a trust or company, please provide additional written evidence that you have signing authority.

DECLARATION

- ☑ I have sighted all the attached plans and supporting information for the above activity.
- ☑ I have read the full application for resource consent, the Assessment of Environmental Effects, and any site plans as follows
- ☑ In signing this written approval, I understand that the consent authority must decide that I am no longer an affected person, and the consent authority must not have regard to any adverse effects on me.
- ☑ I understand that I may withdraw my written approval by giving written notice to the consent authority before the hearing, if there is one, or, if there is not, before the application is determined.

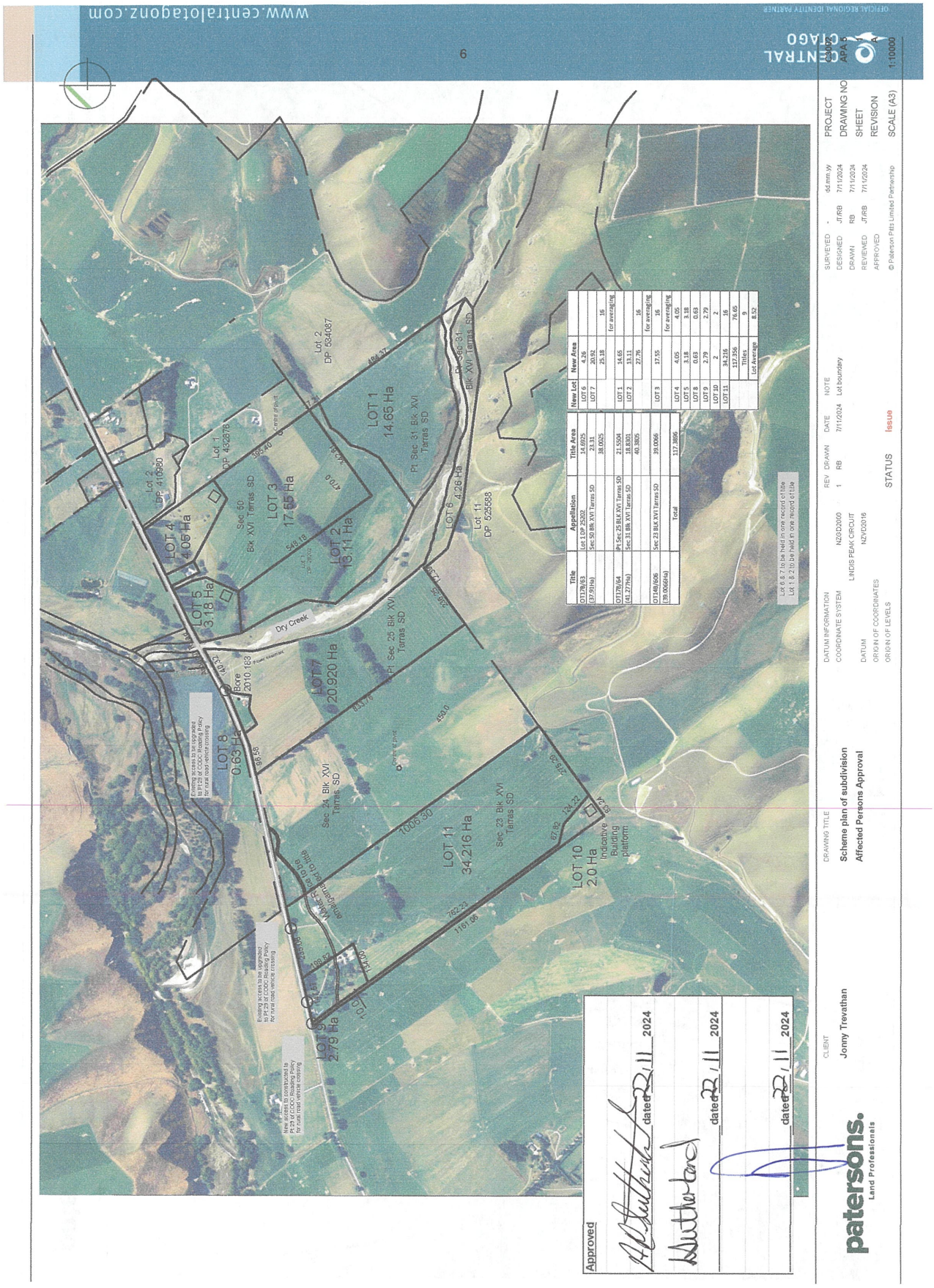
A D Sutherland

Signature

19 November 2024

Date

If you have any questions, please contact the Central Otago District Council by phoning 03 440 0056 or email resource.consents@codc.govt.nz


www.centralotagonz.com
CENTRAL OTAGO
OFFICIAL REGIONAL IDENTITY PARTNER
LOT 1 14.65 Ha
LOT 2 13.11 Ha
LOT 3 17.65 Ha
LOT 4 4.05 Ha
LOT 5 3.18 Ha
LOT 6 4.26 Ha
LOT 7 20.920 Ha
LOT 8 0.631 Ha
LOT 9 2.79 Ha
LOT 10 2.0 Ha
LOT 11 34.216 Ha
Lot 1 DP 452878
Lot 2 DP 410990
Lot 2 DP 534087
Lot 11 DP 525588
Sec 50 Blk XVI Tarras SD
Pt Sec 31 Blk XVI Tarras SD
Pt Sec 25 Blk XVI Tarras SD
Sec 24 Blk XVI Tarras SD
Sec 23 Blk XVI Tarras SD
Dry Creek
Bore 2010.163
Indicative Building platform
Existing access to be upgraded to Pt 23 of CODC Roading Policy for rural road vehicle crossing
New access to be constructed to Pt 23 of CODC Roading Policy for rural road vehicle crossing
Lot 6 & 7 to be held in one record of title
Lot 1 & 2 to be held in one record of title
Approved
dated 22/11/2024
dated 22/11/2024
dated 22/11/2024
patersons.
Land Professionals
CLIENT Jonny Trevathan
DRAWING TITLE Scheme plan of subdivision
Affected Persons Approval
DATUM INFORMATION
COORDINATE SYSTEM NZGD2000
LINDIS PEAK CIRCUIT
DATUM NZVD2016
ORIGIN OF COORDINATES
ORIGIN OF LEVELS
REV DRAWN DATE NOTE
1 RB 7/11/2024 Lot boundary
STATUS Issue
SURVEYED - dd.mm.yy
DESIGNED JT/RB 7/11/2024
DRAWN RB 7/11/2024
REVIEWED JT/RB 7/11/2024
APPROVED
© Paterson Pitts Limited Partnership
PROJECT
DRAWING NO
SHEET
REVISION
SCALE (A3) 1:10000

Lot 1
DP 432876
Lot 2
DP 410980
Building platform
30.0
30.0
75.25
8.3
266.46
LOT 4
4.05 Ha
229.76
TOP OF BANK
LOT 3
17.55 Ha
Limit of
Pivot irrigator
Pivot wheel
Pivot arm
15.00
New access to constructed to
Pt 29 of CODC Roading Policy
for rural road vehicle crossing
Ardgour Road
162.82
Sec 48
Blk XVI
Tarras SD
40.22
100.58
45.83
115.34
15.00
Existing access to be upgraded
to Pt 29 of CODC Roading Policy
for rural road vehicle crossing
111.32
LOT 5
3.18 Ha
12.5
30.0
30.0
Building platform
Ground level = 257.6
133.69
New access to constructed to
Pt 29 of CODC Roading Policy
for rural road vehicle crossing
79.16
137.27
Dry Creek
CLIENT
Jonny Trevathan
DRAWING TITLE
Scheme plan of subdivision
Affected Persons Approval
Lots 4 & 5
DATUM INFORMATION
COORDINATE SYSTEM NZGD2000
LINDIS PEAK CIRCUIT
DATUM NZVD2016
ORIGIN OF COORDINATES
ORIGIN OF LEVELS
REV DRAWN DATE NOTE
1 RB 7/11/2024 Lot boundary
STATUS Issue
SURVEYED - dd mm yy
DESIGNED JT/RB 7/11/2024
DRAWN RB 7/11/2024
REVIEWED JT/RB 7/11/2024
APPROVED
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PROJECT C3002
DRAWING NO APA 5
SHEET 2
REVISION A
SCALE (A3) 1:2000
patersons.
Land Professionals

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TO BE COMPLETED BY THE PERSON(S) REQUESTING APPROVAL

Applicant Name: NG & MA Trevathan

Type of resource consent (circle all appropriate): Land-use / subdivision

Proposed activity:

Application for Resource Consent for 11 Lot Subdivision to create 9 Titles

Location of site:
360 Ardgour Road Tarras

CONTACT DETAILS OF AFFECTED PARTY

Full Name/s: *(name of person giving written approval)* Glenn Andrew McFarlane

mcfarlane.glenn@gmail.com
Email Phone

Address of the property *(I am the owner of the following property)*: 502 Ardgour road

The full name of all other owners of the property: *(owners of the affected property)*
Janet Maree McFarlane.
janetaplanet@hotmail.com.

I have authority to sign on behalf of all the other owners of the property:

☐ Yes ☑ No other owners

Title	Appellation	Title Area
OT17B/63	Lot 1 DP 25202	14.6825
(37.91Ha)	Sec 50 Blk XVI Tarras SD	23.31
		38.0025
OT17B/64	Pt Sec 25 BLK XVI Tarras SD	21.5504
(41.277Ha)	Sec 31 Blk XVI Tarras SD	18.8301
		40.3805
OT14B/606	Sec 23 BLK XVI Tarras SD	39.0066
(39.0066Ha)		
	Total	117.3896

New Lot	New Area	
LOT 6	4.26	
LOT 7	20.92	
	25.18	16
		for averaging
LOT 1	14.65	
LOT 2	13.11	
	27.76	16
		for averaging
LOT 3	17.55	16
		for averaging
LOT 4	4.05	4.05
LOT 5	3.18	3.18
LOT 8	0.63	0.63
LOT 9	2.79	2.79
LOT 10	2	2
LOT 11	34.216	16
	117.356	76.65
	Titles	9
	Lot Average	8.52

Approved

dated 26/11/2024

dated 5/12/2024

dated / /2024

patersons.
Land Professionals

CLIENT
Jonny Trevathan

DRAWING TITLE
Scheme plan of subdivision
Affected Persons Approval

DATUM INFORMATION
COORDINATE SYSTEM NZGD2000
LINDIS PEAK CIRCUIT
DATUM NZVD2016
ORIGIN OF COORDINATES
ORIGIN OF LEVELS

REV	DRAWN	DATE	NOTE
1	RB	7/11/2024	Lot boundary

STATUS Issue

SURVEYED - dd.mm.yy
DESIGNED JT/RB 7/11/2024
DRAWN RB 7/11/2024
REVIEWED JT/RB 7/11/2024
APPROVED

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PROJECT	C3002
DRAWING NO	APA 5
SHEET	1
REVISION	A
SCALE (A3)	1:10000

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Written Persons Approval for Resource Consent

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Section 95E(3), Resource Management Act 1991

Email to: resource.consents@codc.govt.nz

Post to: The Chief Executive
Central Otago District Council
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Alexandra 9340

TO BE COMPLETED BY THE PERSON(S) REQUESTING APPROVAL

Applicant Name: NG & MA Trevathan

Type of resource consent (circle all appropriate): Land-use / subdivision

Proposed activity:

Application for Resource Consent for 11 Lot Subdivision to create 9 Titles

Location of site:
360 Ardgour Road Tarras

CONTACT DETAILS OF AFFECTED PARTY

Full Name/s: *(name of person giving written approval)* Bruce & Linda Jolly

ubjolly@gmail.com (Email) 0276564269 (Phone)

Address of the property *(I am the owner of the following property)*: 159 Thomson Gorge Road Lots 1-3 6 11 DP525588

The full name of all other owners of the property: (owners of the affected property)
Bruce Duncan Stuart Jolly, Linda Marie Jolly

I have authority to sign on behalf of all the other owners of the property:

■ Yes ☐ No other owners

NOTES

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DECLARATION

- ☒ I have sighted all the attached plans and supporting information for the above activity.
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- ☒ I understand that I may withdraw my written approval by giving written notice to the consent authority before the hearing, if there is one, or, if there is not, before the application is determined.

Signature

21/11/2024
Date

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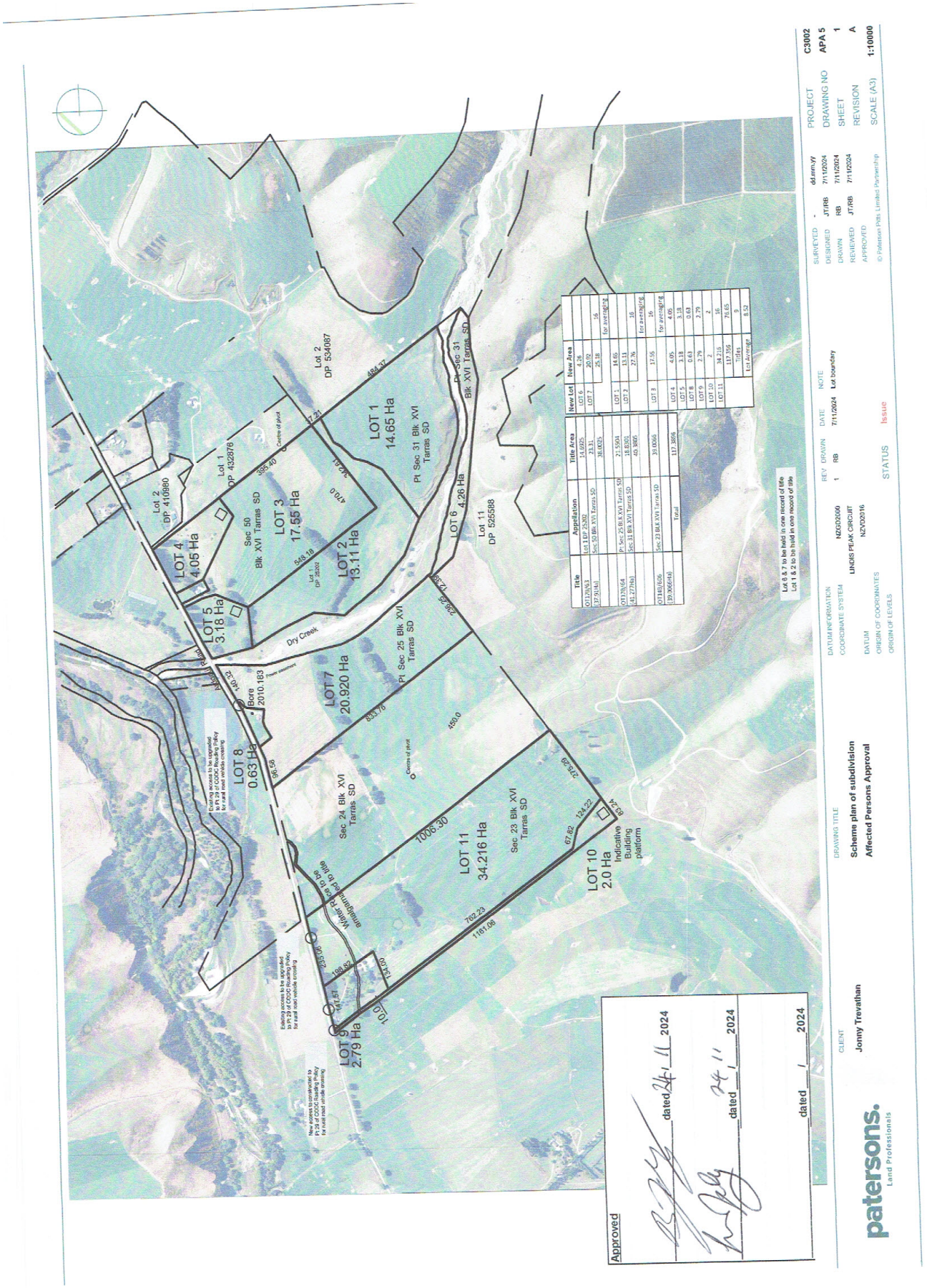
LOT 1
14.65 Ha
Pt Sec 31 Blk XVI
Tarras SD
LOT 2
13.11 Ha
LOT 3
17.55 Ha
Sec 50
Blk XVI Tarras SD
LOT 4
4.05 Ha
LOT 5
3.18 Ha
LOT 6
4.26 Ha
LOT 7
20.920 Ha
Pt Sec 25 Blk XVI
Tarras SD
LOT 8
0.63 Ha
LOT 9
2.79 Ha
LOT 10
2.0 Ha
Indicative
Building
platform
LOT 11
34.216 Ha
Sec 23 Blk XVI
Tarras SD
Sec 24 Blk XVI
Tarras SD
Lot 1
DP 432878
Lot 2
DP 410980
Lot 2
DP 534087
Lot 11
DP 525588
Dry Creek
Bore
2010.183
Centre of pivot
Existing access to be upgraded to Part of CROSS Right of Way for rural road vehicle crossing
New access to be constructed to Part of CROSS Right of Way for rural road vehicle crossing
Boundary Pole to be installed
Water Race
1006.30
762.23
1161.08
833.76
459.0
Title
Appellation
New Lot
Title Area
New Area
Lot 8 & 7 to be held in one record of title
Lot 1 & 2 to be held in one record of title
DATUM INFORMATION
NZGD2000
COORDINATE SYSTEM
LINZ15 PEAK CIRCUIT
DATUM
NZVD2016
ORIGIN OF COORDINATES
ORIGIN OF LEVELS
REV
DRAWN
DATE
NOTE
1
RB
7/11/2024
Lot boundary
STATUS
Issue
CLIENT
Jonny Trevathan
DRAWING TITLE
Scheme plan of subdivision
Affected Persons Approval
patersons.
Land Professionals
Approved
dated 24/11/2024
dated 24/11/2024
dated / /2024
SURVEYED
DESIGNED
DRAWN
REVIEWED
APPROVED
dd.mm.yy
JT/RB
RB
JT/RB
7/11/2024
7/11/2024
7/11/2024
PROJECT
C3002
DRAWING NO
APA 5
SHEET
1
REVISION
A
SCALE (A3)
1:10000

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TO BE COMPLETED BY THE PERSON(S) REQUESTING APPROVAL

Applicant Name: NG & MA Trevathan

Type of resource consent (circle all appropriate): Land-use / subdivision

Proposed activity:

Application for Resource Consent for 11 Lot Subdivision to create 9 Titles

Location of site:
360 Ardgour Road Tarras

CONTACT DETAILS OF AFFECTED PARTY

Full Name/s: *(name of person giving written approval)* George Orchiston Clare Pettinger

orchiston28@gmail.com (Email) 0275720547 (Phone)

Address of the property *(I am the owner of the following property)*: 636 Ardgour Road Tarras

The full name of all other owners of the property: (owners of the affected property)
as trustees of Stirling Trust

I have authority to sign on behalf of all the other owners of the property:

☐ Yes ☑ No other owners

NOTES

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DECLARATION

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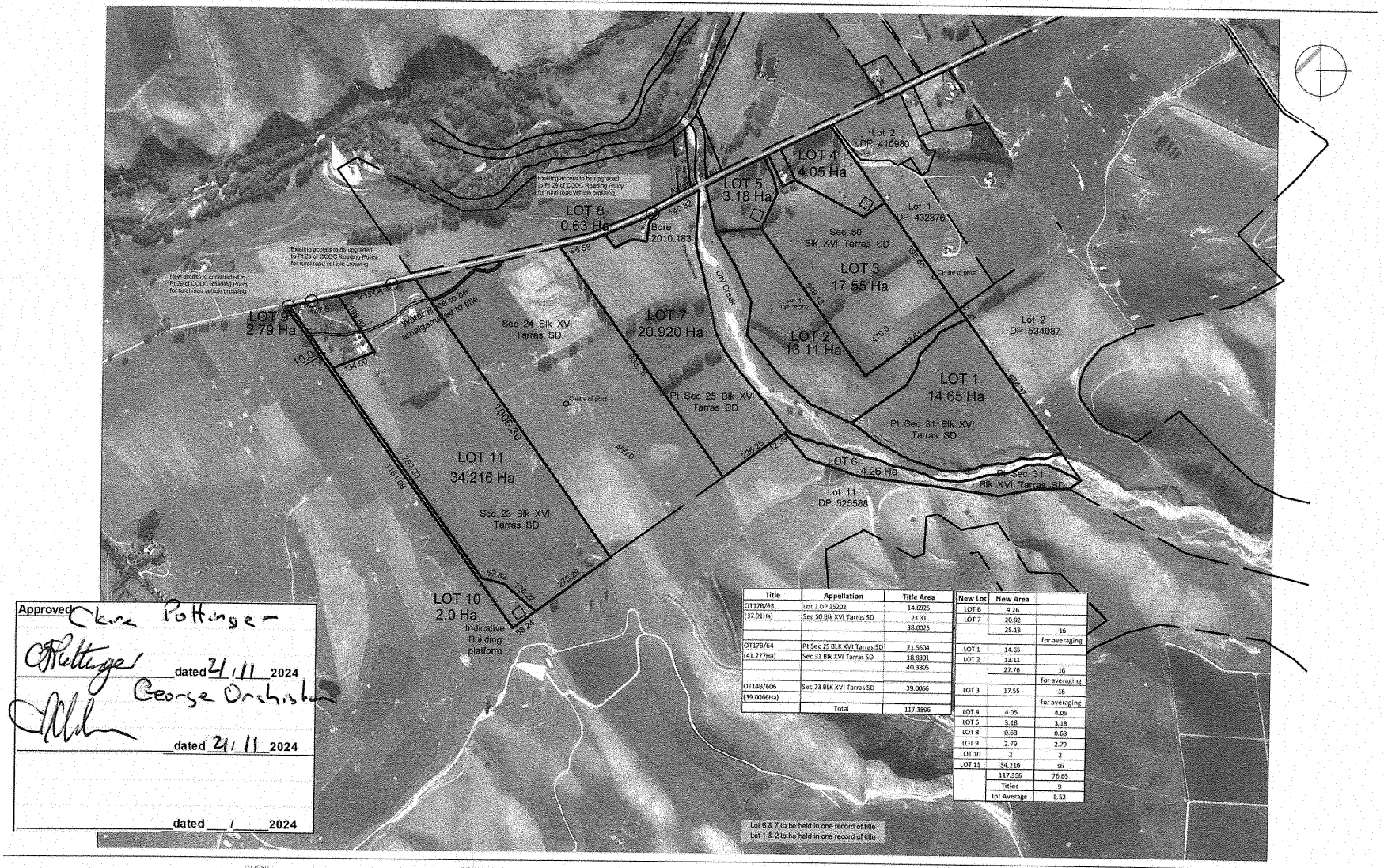
Signature

19/11/2024
Date

If you have any questions, please contact the Central Otago District Council by phoning 03 440 0056 or email resource.consents@codc.govt.nz



Title	Appellation	Title Area
OT17B/63	Lot 1 DP 25202	14.6925
(37.91Ha)	Sec 50 Blk XVI Tarras SD	23.31
		38.0025
OT17B/64	Pt Sec 25 BLK XVI Tarras SD	21.5504
(41.277Ha)	Sec 31 Blk XVI Tarras SD	18.8301
		40.3805
OT14B/606	Sec 23 BLK XVI Tarras SD	39.0066
(39.0066Ha)		
	Total	117.3896

New Lot	New Area	
LOT 6	4.26	
LOT 7	20.92	
	25.18	16
		for averaging
LOT 1	14.65	
LOT 2	13.11	
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		for averaging
LOT 3	17.55	16
		for averaging
LOT 4	4.05	4.05
LOT 5	3.18	3.18
LOT 8	0.63	0.63
LOT 9	2.79	2.79
LOT 10	2	2
LOT 11	34.216	16
	117.356	76.65
	Titles	9
	lot Average	8.52

Approved Clare Pottinger

Pottinger dated 21/11/2024

George Orchiston

dated 21/11/2024

dated / /2024

patersons.
Land Professionals

CLIENT
Jonny Trevathan

DRAWING TITLE
Scheme plan of subdivision
Affected Persons Approval

DATUM INFORMATION
COORDINATE SYSTEM NZGD2000
LINDIS PEAK CIRCUIT
DATUM NZVD2016
ORIGIN OF COORDINATES
ORIGIN OF LEVELS

REV	DRAWN	DATE	NOTE
1	RB	7/11/2024	Lot boundary

STATUS Issue

SURVEYED	-	dd.mm.yy
DESIGNED	JT/RB	7/11/2024
DRAWN	RB	7/11/2024
REVIEWED	JT/RB	7/11/2024
APPROVED		

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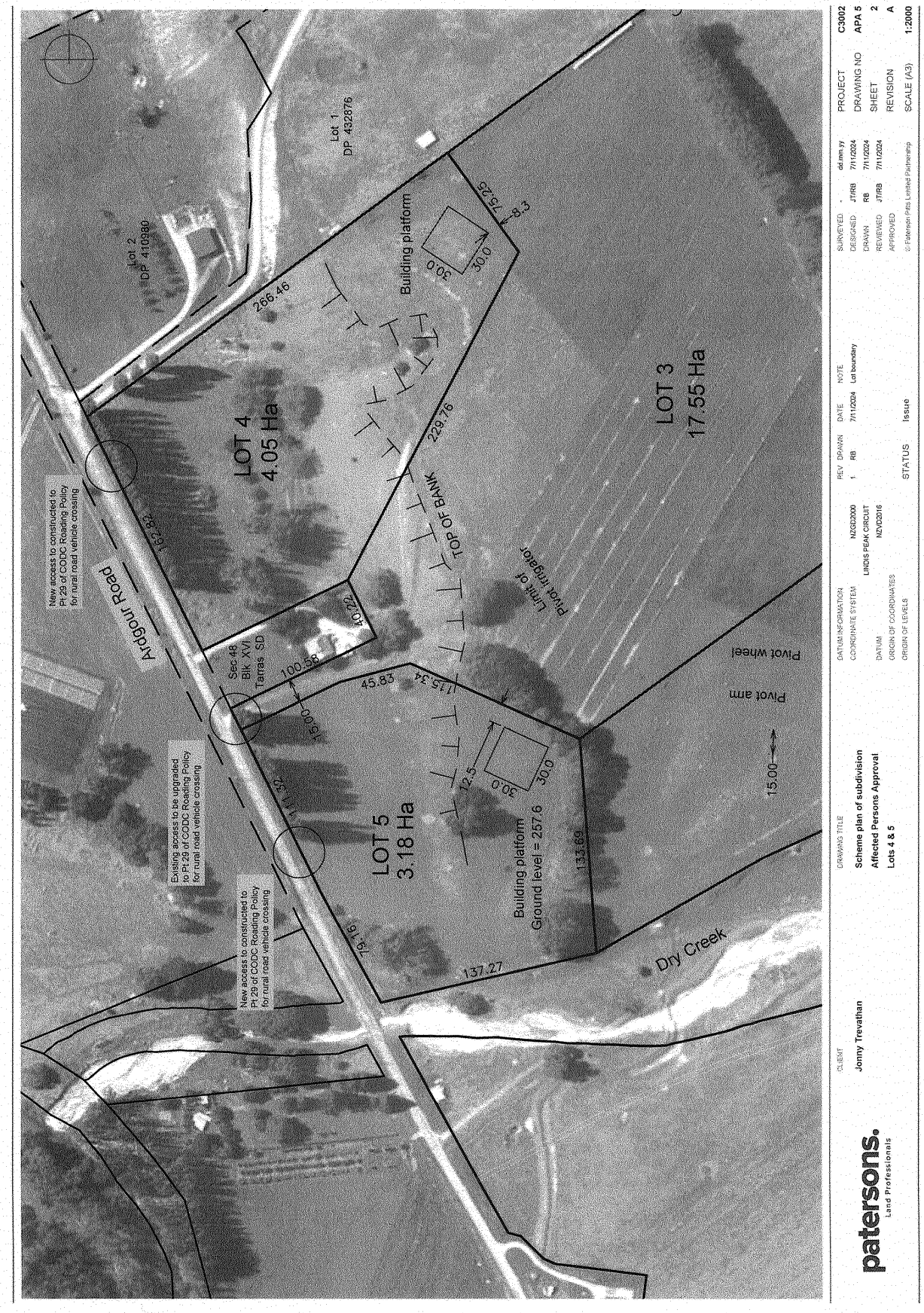
PROJECT	C3002
DRAWING NO	APA 5
SHEET	1
REVISION	A
SCALE (A3)	1:10000


Lot 1
DP 432876
Lot 2
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LOT 4
4.05 Ha
229.76
TOP OF BANK
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17.55 Ha
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Pivot irrigator
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Building platform
Ground level = 257.6
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Dry Creek
patersons.
Land Professionals
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Affected Persons Approval
Lots 4 & 5
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COORDINATE SYSTEM NZGD2000
LINDIS PEAK CIRCUIT
DATUM NZVD2016
ORIGIN OF COORDINATES
ORIGIN OF LEVELS
REV DRAWN DATE NOTE
1 RB 7/11/2024 Lot boundary
STATUS Issue
SURVEYED - dd.mm.yy
DESIGNED JT/RB 7/11/2024
DRAWN RB 7/11/2024
REVIEWED JT/RB 7/11/2024
APPROVED
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PROJECT C3002
DRAWING NO APA 5
SHEET 2
REVISION A
SCALE (A3) 1:2000

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Applicant Name: NG & MA Trevathan

Type of resource consent (circle all appropriate): Land-use / subdivision

Proposed activity:

Application for Resource Consent for 11 Lot Subdivision to create 9 Titles

Location of site:
360 Ardgour Road Tarras

CONTACT DETAILS OF AFFECTED PARTY

Full Name/s: *(name of person giving written approval)* ALISTAIR MADILL

armadillos@xtra.co.nz. 0274970 557
Email Phone

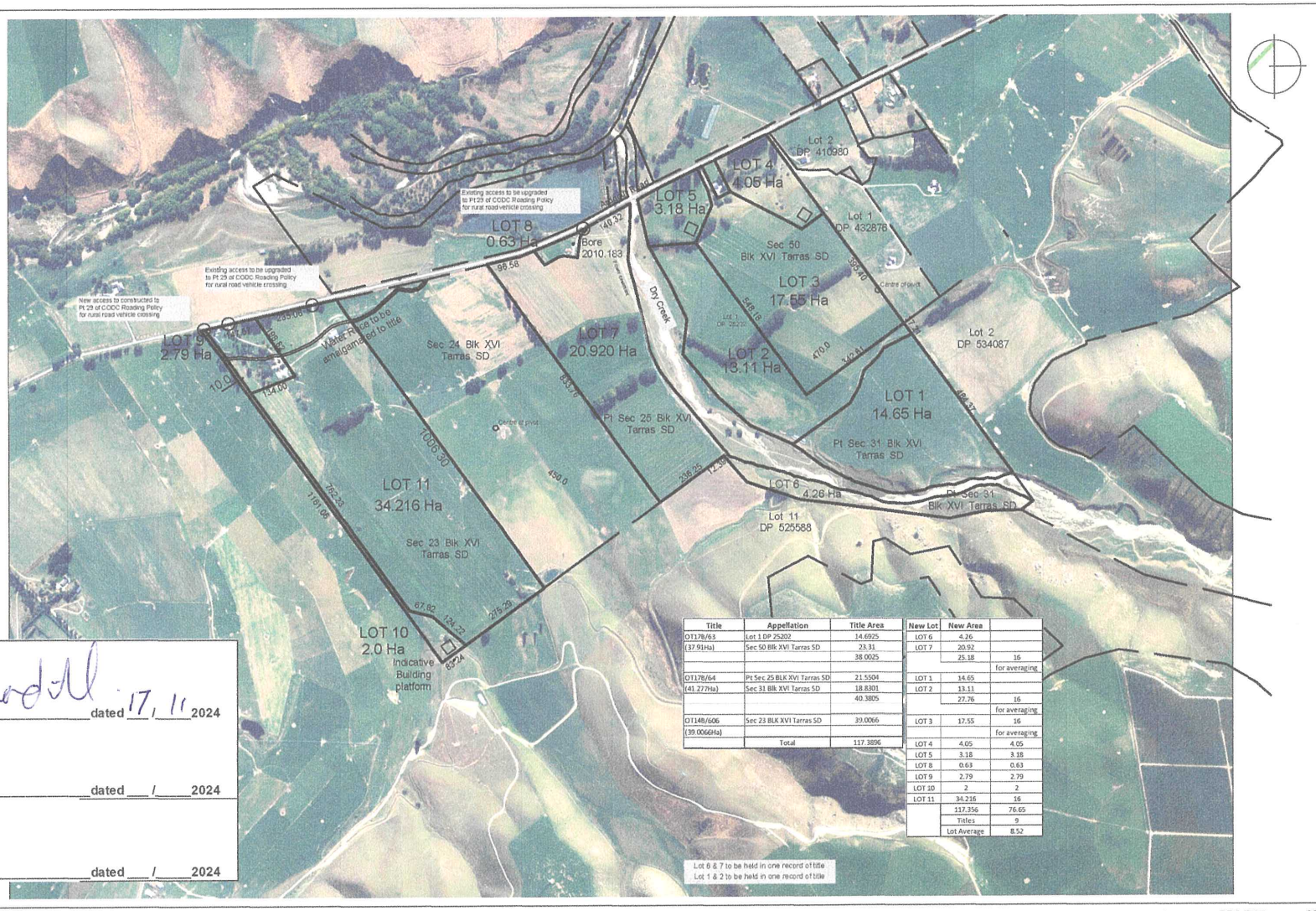
Address of the property *(I am the owner of the following property)*: 525 ARDGOUR RD.

The full name of all other owners of the property: (owners of the affected property)

NIL

I have authority to sign on behalf of all the other owners of the property:

☑ Yes ☑ No other owners



Title	Appellation	Title Area
OT178/63	Lot 1 DP 25202	14.6925
(37.91Ha)	Sec 50 Blk XVI Tarras SD	23.31
		38.0025
OT178/64	Pt Sec 25 BLK XVI Tarras SD	21.5504
(41.277Ha)	Sec 31 Blk XVI Tarras SD	18.8301
		40.3805
OT148/606	Sec 23 BLK XVI Tarras SD	39.0066
(39.0066Ha)		
	Total	117.3896

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	25.18	16
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LOT 3	17.55	16
		for averaging
LOT 4	4.05	4.05
LOT 5	3.18	3.18
LOT 8	0.63	0.63
LOT 9	2.79	2.79
LOT 10	2	2
LOT 11	34.216	16
	117.356	76.65
	Titles	9
	Lot Average	8.52

Approved

A. Mardell dated 17/11/2024

dated ___/___2024

dated ___/___2024

patersons. Land Professionals

CLIENT
Jonny Trevathan

DRAWING TITLE
Scheme plan of subdivision
Affected Persons Approval

DATUM INFORMATION
COORDINATE SYSTEM NZGD2000
LINDIS PEAK CIRCUIT
DATUM NZVD2016
ORIGIN OF COORDINATES
ORIGIN OF LEVELS

REV	DRAWN	DATE	NOTE
1	RB	7/11/2024	Lot boundary

STATUS Issue

SURVEYED	-	dd mm yy
DESIGNED	JT/RB	7/11/2024
DRAWN	RB	7/11/2024
REVIEWED	JT/RB	7/11/2024
APPROVED		

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PROJECT	C3002
DRAWING NO	APA 5
SHEET	1
REVISION	A
SCALE (A3)	1:10000

CENTRAL OTAGO DISTRICT COUNCIL
1 Dunorling Street
PO Box 122, Alexandra 9340
New Zealand

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Written Persons Approval for Resource Consent

(Form 8A)
Section 95E(3), Resource Management Act 1991

Email to: resource.consents@codc.govt.nz

Post to: The Chief Executive
Central Otago District Council
PO Box 122
Alexandra 9340

TO BE COMPLETED BY THE PERSON(S) REQUESTING APPROVAL

Applicant Name: NG & MA Trevathan

Type of resource consent (circle all appropriate): Land-use / subdivision

Proposed activity:

Application for Resource Consent for 11 Lot Subdivision to create 9 Titles

Location of site:
360 Ardgour Road Tarras

CONTACT DETAILS OF AFFECTED PARTY

Full Name/s: *(name of person giving written approval)* Matthew Duffy

matt@centralsummithomes.nz (Email) 0278233341 (Phone)

Address of the property *(I am the owner of the following property)*:

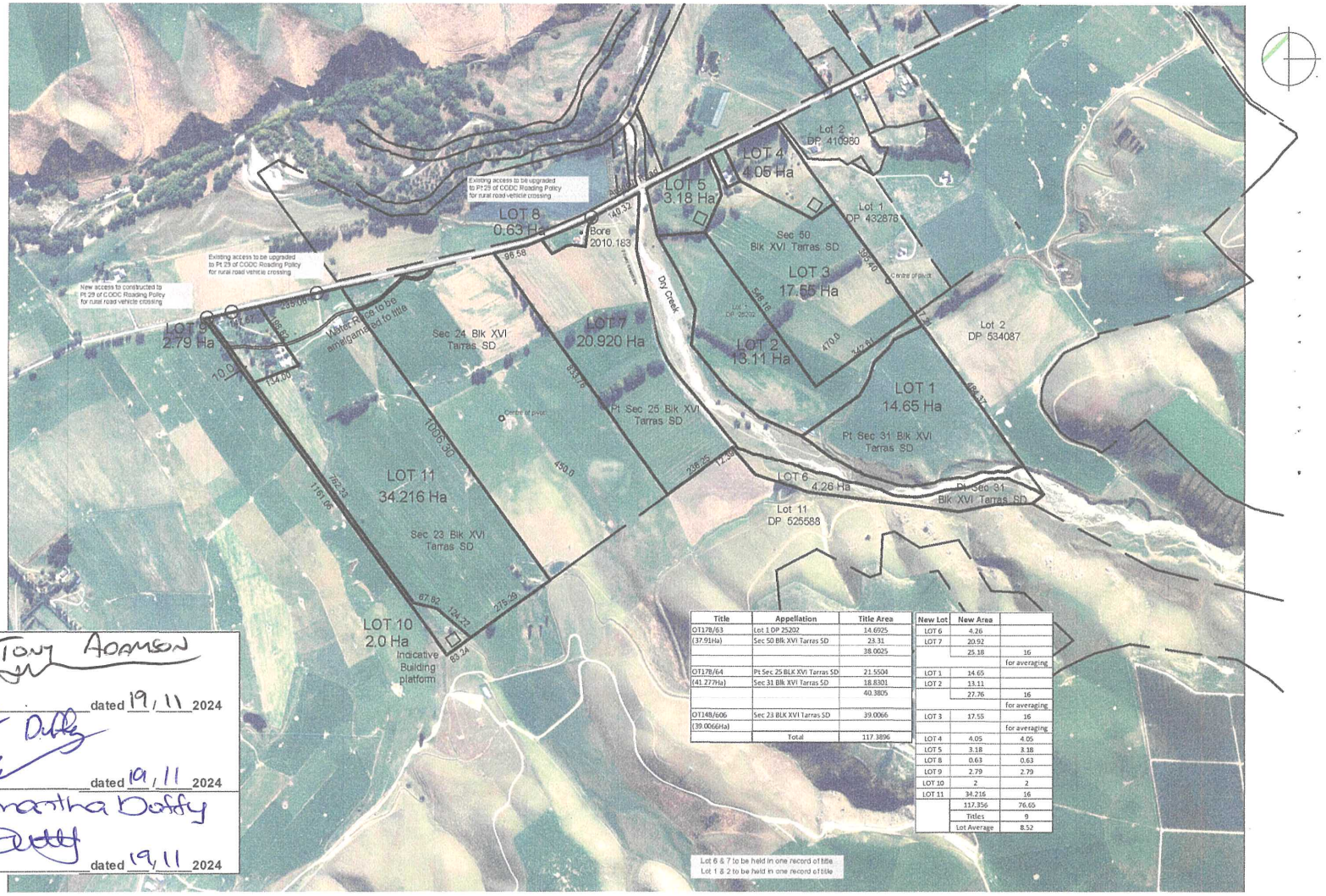
522a Ardgour Rd Tarras

The full name of all other owners of the property: (owners of the affected property)

Samantha Duffy
(Duffy family trust)

I have authority to sign on behalf of all the other owners of the property:

☑ Yes ☐ No other owners



Title	Appellation	Title Area
OT17B/63	Lot 1 DP 25202	14.6925
(37.91Ha)	Sec 50 Blk XVI Tarras SD	23.31
		38.0025
OT17B/64	Pt Sec 25 BLK XVI Tarras SD	21.5504
(41.277Ha)	Sec 31 Blk XVI Tarras SD	18.8301
		40.3805
OT14B/606	Sec 23 BLK XVI Tarras SD	39.0066
(39.0066Ha)		
	Total	117.3896

New Lot	New Area	
LOT 6	4.26	
LOT 7	20.92	
	25.18	16
		for averaging
LOT 1	14.65	
LOT 2	13.11	
	27.76	16
		for averaging
LOT 3	17.55	16
		for averaging
LOT 4	4.05	4.05
LOT 5	3.18	3.18
LOT 8	0.63	0.63
LOT 9	2.79	2.79
LOT 10	2	2
LOT 11	34.216	16
	117.356	76.65
	Titles	9
	Lot Average	8.52

Approved Tony Adamson dated 19/11 2024

Matt Duffy dated 19/11 2024

Samantha Duffy dated 19/11 2024

patersons. Land Professionals

CLIENT: Jonny Trevathan

DRAWING TITLE: Scheme plan of subdivision Affected Persons Approval

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PROJECT	C3002
DRAWING NO	APA 5
SHEET	1
REVISION	A
SCALE (A3)	1:10000

2841110700
RC240323

CENTRAL OTAGO DISTRICT COUNCIL
1 Dunorling Street
PO Box 122, Alexandra 9340
New Zealand
03 440 0056
Info@codc.govt.nz
www.codc.govt.nz

03 February 2025

Noel Trevathan & Margaret Trevathan
458 Ardgour Road
RD 3
Cromwell 9383

Dear Sir/Madam

FURTHER INFORMATION REQUIRED FOR RC 240323
Location: **360 ARDGOUR ROAD, TARRAS**
Proposal: **SUBDIVISION CONSENT TO SUBDIVIDE FIVE EXISTING ALLOTMENTS INTO ELEVEN, WITH A TOTAL OF NINE NEW ALLOTMENTS, IN A RURAL RESOURCE AREA**

The application has been reviewed and has been found to require further information.

Please forward the following information/material at your earliest convenience:

1. Status of Lot 10 Building Platform
   Please confirm whether the building platform on Lot 10 is intended to be formally consented as part of this application, or if it is included for indicative purposes only.

2. Building Platform Height & Ground Levels
   The application proposes a 7.5m height limit above existing ground level for the building platforms, but does not provide specific height datum levels for the existing ground level at these locations. This omission makes it difficult to accurately assess the potential visibility impacts, skyline breaches, and the extent of earthworks that will be likely required to establish future dwellings. It also makes the proposed parameters of a 7.5m height limit 'above existing ground level' to be impractical.

3. Surplus Dwelling Provision
   The application has been submitted on the basis that Lot 8 qualifies as a 'surplus dwelling' subdivision under Rule 4.7.2(ii)(b)(iii) of the Central Otago District Plan.

   Please note, based on the information provided in the application, **Council considers that this provision does not apply to this proposal.** In particular:

   - The application states that the existing dwelling is currently occupied by the farming family, confirming that it is actively in use and not functionally surplus.
   - The proposal includes plans for a new dwelling on Lot 10, which further demonstrates that a residential presence will remain necessary for the operation of the landholding. The applicant's desire to build a new home and move into that is not a valid justification for the existing dwelling to be considered 'surplus' under the District plan.

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- No evidence has been provided to show that the dwelling has become redundant due to operational changes (such as amalgamation) in the rural landholding.

Given these factors, Council considers that the proposed subdivision does not fall within the ambit of Rule 4.7.2(ii)(b)(iii) and that the correct activity status for this proposal is **non-complying** activity under Rule 4.7.5(iii).

The applicant is therefore requested to update the application accordingly, including:

- A revised assessment of environmental effects (AEE) that reflects the correct activity status.
- An assessment against the objectives and policies of the District Plan as required for non-complying activities.
- An assessment of how proposed Lot 8 is consistent with the NPS-HPL.

4. Evidence of Productivity Gains from Smaller Parcels
The submitted productivity report states that subdivision and land use changes in the wider Upper Clutha area have "frequently resulted in more productive use of smaller parcels of land and therefore providing rural and lifestyle opportunities that were previously not available." However, no substantive evidence has been provided to support this claim.

   Please provide:

   - Empirical data, case studies, or examples demonstrating that smaller subdivided parcels in comparable rural environments have led to increased productivity.
   - Productivity metrics (e.g., stocking rates, crop yields, or economic returns per hectare) that support the claim that smaller land holdings have become more productive following subdivision.
   - Any regional or district-wide studies, reports, or policy assessments that substantiate the assertion that subdivision in this area has typically resulted in a net productivity gain rather than adverse effects as a result of fragmentation.

   Without this information, it is unclear whether the proposed subdivision will contribute to the productive use of rural land in a manner consistent with the National Policy Statement for Highly Productive Land (NPS-HPL) and the objectives and policies of the Central Otago District Plan.

5. NES-CS (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) – Land Use Change
Under Regulation 5(7), the regulations apply where subdivision results in land use changes from production to residential.

Council notes that:

- Lots 4, 5, and 10 are proposed for residential use and will cease being production land.
- Lot 8, while proposed as a surplus dwelling lot, is also intended for residential use rather than ongoing production.

To assist with assessing NES-CS applicability, please provide a Preliminary Site Investigation (PSI).

Pursuant to Section 92 of the Resource Management Act 1991, processing of the application will be suspended until the information is received.

Responding to this request:

Within 15 working days from the receipt of this letter you must either:

- Provide the requested information; or
- Provide written confirmation that you cannot provide the requested information within the time frame, but do intend to provide it; or
- Provide written confirmation that you do not agree to provide the requested information.

The processing of your application has been put on hold from (4 February 2025).

If you cannot provide the requested information within this timeframe, but do intend to provide it, then please provide:

- Written confirmation that you can provide it,
- The likely date that you will be able to provide it by, and
- Any constraints that you may have on not being able to provide it within the set time frame.

The Council will then set a revised time frame for the information to be provided.

If you do not agree to provide the requested information, then please provide written confirmation of this to the Council. You may also choose to object to providing the information under s357 of the Resource Management Act 1991.

Restarting the processing of your application

The processing of your application will restart:

- When all of the above requested information is received (if received within 15 working days from the date of this letter), or
- From the revised date for the requested information to be provided, if you have provided written confirmation that you are unable to provide by the original date.
- From the date that you have provided written confirmation that you do not agree to providing the requested information, or
- 15 working days from the date of this letter (if you have not provided the requested information or written confirmation), at which time the application will be publicly notified.

Once the processing of the application restarts:

If you have not provided the requested information then your application will continue to be processed and determined of the basis of the information that you have provided with the application. The Council may decline the application on the basis of insufficient information.

If you have provided all the requested information, then we will consider its adequacy and make a decision on whether your application requires notification or limited notification, or,

whether any parties are considered adversely affected from whom you will need to obtain written approval in order for the proposal to be considered on a non-notified basis.

If the application is to be notified, you will be advised within ten working days of our receiving your further information.

Please do not hesitate to contact me if you have any queries.

Yours faithfully

OLI MONTHULE-MCINTOSH
CONSULTANT PLANNER

22/05/2025

patersons.
Land Professionals

Trevathan Farm – Ardgour Road
Further information response
RC240323
To Oli McIntosh – CODC Planner

Response to Request for further information request

In response to the information request sent on the 3rd of February 2025 the applicant has revised the proposed allotments (Plan attached as **Appendix A**) and completed a detailed site investigation (attached to this letter as **Appendix B**) as well as an in depth assessment on the other matters raised in the request. These have been broken down below:

1. **Status of lot 10 building platform.**
    a) It is proposed to retain the building platform on Lot 10 subject to a consent notice condition restricting the build platform being registered on the title of Lot 10 until the Tarras Water race is fully decommissioned. This is expected to occur within the next 24-36 months and will fall within the standard consent lapse period. Due to the location of proposed lot 10, the existing topography and the site being outside of pivot reach it is still considered to be a suitable location to provide for a build platform. The site is well setback from Ardgour road and has a backdrop of hills allowing the site to blend with the receiving environment.

2. **Building platform height and ground levels**
    a) Height Datums have been confirmed on the revised plan attached as **Appendix A.**
3. **Surplus dwelling**
    a) As attached in **Appendix A** please see the revised site plan confirming the change in area proposed for Lot 8 to be 2ha. We confirm CODCs stance that the existing dwelling on proposed Lot 8 is not surplus. Further assessment on Lot 8s compliance with the National Policy Statement on Highly productive land is included below. The proposed allotment has been extended to encompass the existing curtilage area surrounding the dwelling with the boundaries located in areas that are not required for the productive function of the site. With the adjusted allotment size, the application is considered to be in line with the Discretionary Rural Subdivision Rule.

4. **Evidence of productivity on smaller allotments – assessed individually**
    a) General Productivity comments
        - Farm use change of the site has been anticipated due to the change in irrigation methods; this is a flow on effect from the decommissioning of the Lindis Water Scheme/ Tarras Race which provided flood irrigation water to the Ardgour Valley.
        - Introduction of Pivot sprinklers has identified areas on the existing farm that will not be productive or will have substantial limitations within the next 30 years (Lindis race is to be fully decommissioned within the next year, with all water users installing bore and pumping systems).

patersons.co.nz

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PO Box 5933	PO Box 2645	PO Box 283	PO Box 84	PO Box 103	Level 2	PO Box 9194
Dunedin 9054	Wakatipu	Wānaka 9343	Cromwell 9342	Alexandra 9340	19 Eden Street	Tower Junction
	Queenstown 9349				Oamaru 9400	Christchurch 8149
03 477 3245	03 441 4715	03 443 0110	03 445 1826	03 448 8775	03 443 8727	03 928 1533

- Allotments 4,5,8 and 10 were identified as areas that will not be suitable for pivot irrigation and not practical to irrigate with other means in the context of the farm operation as a whole, however they may provide for smaller rural productive areas individually.
- Topography is the main limitation for productive use in conjunction with the main farm block of allotments 4 and 5 , the slope of the sites slope makes pivot irrigation untenable, the sites are currently only irrigated through accidental water runoff. There is no productive value obtained from these areas.
- Allotment 8 is limited by the existing farm dwelling and curtilage area; a pivot will not be able to irrigate the area close to the dwelling.
- The summary of Ray Macleod's productivity assessment states: "*The shallow soils, high levels of moisture deficit experienced in a semi-arid zone, long cold winters and hot dry summers all conspire to limit highly productive growth even in the presence of good soils. Specifically, while the main farming platform will show good increases in productivity under the proposed centre pivot development the remaining lots, namely Lots , 5, 8, and 10 are limited in use within the proposed centre pivot farming platform, or surplus to ongoing requirements.*"

b) On Lot 4 -

- Ray Macleod concluded this Lot would provide greater community and economic value as a larger lifestyle block than as a pocket of dryland on a semi-extensive farming operation. There is sufficient land area available to support a locally suitable niche crop. Its sale will have no discernible impact on the farming operation and very possibly production could well increase over what it would contribute as part of the present farming platform.
- NPS Assessment: Due to the topographical limitations that prevent this allotment from forming a productive portion of the existing farm it is considered that this allotment meets policy 3.10 of the NPS-HPL. The allotment does however have the ability to retain its productive possibilities as a smaller productive allotment.

c) On Lot 5 –

- Proposed Lot 5, which fronts Ardgour Road, is not suited to centre pivot or flood irrigation, the lower area has been a receiving basin for the water runoff from flood irrigation that takes place on the land behind the line of trees to the top of photo 5 below. The area has a terrace running through it, which is the dry face running left to right across the middle of photo 5. With the advent of centre pivot irrigation this parcel of land will become quite dry and less productive as it will not receive the irrigation runoff it currently receives. Un-irrigated, and in its current state it is estimated production off the parcel will be around 3 tonnes of dry matter annually. Whilst this could carry between 8su-10su, depending on the feed quality, it effectively becomes dryland pasture and of little productive value to the farming operation.
- The disposal of Lot 5 will little discernibly impact on the productivity of the residual farming platform. The Lot has sufficient area to potentially create a

niche crop opportunity with a new owner and where development costs may be recovered. It is considered this Lot would have improved economic value and productivity as a larger lifestyle block than as a pocket of dryland on a semi-extensive farming operation.

- NPS Assessment : Due to the topographical limitations that prevent this allotment from forming a productive portion of the existing farm it is considered that this allotment meets policy 3.10 of the NPS-HPL. The allotment does however have the ability to retain its productive possibilities as a smaller productive allotment.

d) On Lot 8 –

- There is no production off the land within this proposed allotment and its subdivision and ultimate disposal is, in economic terms, of higher value to the Trevathan family and the wider community by being available for rural housing under separate ownership.
- NPS Assessment : Historically this allotment has not been productively farmed due to the location of the existing farmhouse. The location of the house and surrounding curtilage area prevents the site being irrigated and used productively. It is considered that this is a significant limitation that meets policy 3.10 of the NPS-HPL.

e) On Lot 10-

- The location of proposed Lot 10 is outside the irrigation range of the pivot that will be installed with the upgraded water infrastructure. The site is also slightly elevated and the area was described by Ray Macleod as “very boney and steep and its productive capacity limited”. The access for this proposed allotment would still be able to be grazed as the track will not cover the entirety of the leg in of the allotment.
- NPS Assessment : The area on which this allotment is located has never been productively farmed due to the existing Tarras Water Race traversing through the site, it formed the edge of the productive paddocks of the site. One the race is fully de-commissioned and the pivot irrigation is installed; the water will be unable to reach or effectively irrigate (due to the slightly elevated topography) this corner site. . It is considered that this is a significant limitation that meets policy 3.10 of the NPS-HPL.

NPS HPL Policies relevant to this application and consistent with the proposal:

3.12 Supporting appropriate productive use of highly productive land

1) Territorial authorities must include objectives, policies, and rules in their district plans that:

a. prioritise the use of highly productive land for land-based primary production over other uses; and

b. encourage opportunities that maintain or increase the productive capacity of highly productive land, but only where those opportunities are not inconsistent with:

iv. *any matter of national importance under section 6 of the Act; or*
v. *any environmental outcomes identified in accordance with the National Policy Statement for Freshwater Management 2020.*

Comment: The application has been assessed as consistent with CODC's rural objectives and policies, however, we note that the operative objectives and policies do not provide provision to allow for opportunities for subdivision that will result in an increase in productivity on the main farm block, where significant infrastructure investment is required to protect necessary access to irrigation.

When considering NPS-HPL policy 3.12 b), the application is considered to be aligned with increasing the productive capacity of highly productive land and the proposal is not inconsistent with any matter of national importance under section 6 of the Act or any environmental outcomes identified in accordance with the National Policy Statement for Freshwater Management 2020.

3.10 Exemption for highly productive land subject to permanent or long-term constraints

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*
   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*
   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.*

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.*

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 14 National Policy Statement for Highly Productive land 2022 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.*

Comment: Permanent 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. The main farm block has significant water and irrigation constraints without an upgrade of farm infrastructure to allow for the use of a bore due to the historic use of the Tarras Water Race being ceased. Without the upgrade to infrastructure the farm is not considered to be economically viable. Proposed allotments 4 and 5 have existing topographical constraints which prevent the areas from being able to be used productively for the current farming operation or in the future due to the limitations of the proposed pivot irrigation.

The proposed subdivision will avoid significant loss to productive land overall. As discussed below within this report, allotments 4,5 and 10 are still able to be used for productive activities suited for smaller allotments and do not form a productive portion of the existing farm operations. The only loss or productive areas is considered to be specifically within building platforms. Proposed Lot 8 is already not productive due to the existing dwelling and historical use of the farm not utilising this area.

The subdivision design considered not only areas that are unproductive to the farm operation but also the existing and historic pattern of residential activity along Ardgour road and the needs of the community in Tarras. While the separation of allotments 4,5,8 and 10 will result in the creation of separate titles, it is considered to be consistent with the expected pattern of development in this area and not result in unreasonable fragmentation.

A "Reverse sensitivity" consent notice is proposed to be included on the new titles of allotments 4,5 8 and 10. However, it is also considered that due to the locality and receiving environment of the existing community within Tarras, the proposed allotments are likely to be desirable to those looking to live within a rural farming community and are likely to be involved with local rural activities.

The environmental, social, cultural and economic benefits of the proposed subdivision, outweigh the long-term environmental, social, cultural and economic costs associated with the loss of highly productive land for land-based primary production. The proposed subdivision will not only enable the upgrade of critical irrigation infrastructure (without which the site is unable to be reasonably used for productive activities) but also aligns with community needs for land with ability for residential dwellings. The Tarras community has outlined within their community plan the immediate need to grow their community to protect their schools and to bring additional families and workers to their district.

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. This is largely due to the closure of the Linis Water Scheme and Tarras Race. There are no other options for the site aside from upgrading the water infrastructure to a bore system and pivot irrigator. As discussed in detail within Ray Macleod's productivity assessment, the Ardgour Road valley is sensitive to climate and rain constraints. As it stands the site is used for grazing and pastoral uses, without water the productivity will significantly decrease and result in the farm as a whole being economically unviable. No alternate use would of the land would be likely without water and with the use of the Tarras Race ending

(due to it being decommissioned) the productivity of the farm block as whole hinges on the ability to separate out portions of the site that do not contribute productively to the operation of the farm.

In Conclusion: It is clear the site has considerable limitations in both irrigation and topography that would result in longer than the 30 year limitations required through the NPS HPL. The proposed subdivision will result in a significant increase in productivity from the main farm block, in an area that may have good soil but also faces a challenging climate with a deficit in rain. The benefits from the subdivision are considered to outweigh the risks resulting from separating allotments 4 and 5 from the main productive block on the site. The subdivision is considered consistent with the requirements of the NPS HPL

f) Notwithstanding the discussion within Ray MacLeod's Productivity assessment on the proposed subdivision and the possible uses appropriate for the site, I have included some discussion below, with statistics on a possible uses for smaller rural blocks within our region. This is just one example of the level of activity that is possible on smaller productive blocks, actively supported through the industry itself. This idea has been explored in accordance with NPS-HPL 3.10 (3)c)

- Proposed allotments 4,5 and 10 could be suitable to smaller scale productive activities, separate from the overall productive farm block. Wine is used as an example below as growers do not require the same level of production facilities for all wine blocks as is required within other primary productive industries. They are able to sell their crop to existing local producers and be productive overall on a smaller scale. This is not a possibility while the blocks are contained with the primary productive farm block.
- Central Otago Region is characterised by more vineyards at smaller sizes with Majority of central Otago vineyards are smaller than 5ha.
- The conclusion here being that the proposed smaller allotments, while holding significant constraints to the continued productivity of the farm block as it exists currently are able to retain their productive ability on a smaller scale for other growing or producing activities common within the Central Otago Region.

3.2 Number of Vineyards by Size Producing Area 2023

Region	0-5ha	5.01-10ha	10.01-20ha	20.01-50ha	50.01-100ha	100.01+	National total
Northland	21	1	3	-	-	-	25
Auckland	75	7	2	-	1	-	85
Waikato / Bay of Plenty	5	-	-	-	-	-	5
Gisborne	18	22	15	10	6	1	72
Hawke's Bay	72	48	40	28	12	10	210
Wairarapa	82	21	11	9	2	1	126
Nelson	29	24	16	9	2	1	81
Marlborough	236	340	209	207	84	58	1,134
North Canterbury	45	24	10	9	4	2	94
Waitaki Valley	12	2	1	-	-	-	15
Central Otago	124	58	39	18	3	1	243
Other	-	-	-	1	-	-	1
TOTALS	719	547	346	291	114	74	2091

Figure 1 NZ Wine Growers Vineyard report - Vinyard size regional data

NZ Wine Growers Vinyard Report 2024: https://www.nzwine.com/en/media/statistics-reports/vineyard-reports/

5. NES SC - Report and assessment

a) NES -SC Site Investigation

- A HAIL report prepared by the Central Otago District Council CODC, identified an above ground diesel tank on 360 Ardgour Road as an item of concern. In order to gain consent, it was necessary to sample the soil and compare the results of the analysis against the Residential Soil Contaminant Standards ("SCS") levels for Residential (10% produce).
- An old diesel tank, on site to provide for farm equipment has been identified as HAIL activity. The diesel contaminated soil is localised to the extent that removal of the soil to the visible extent of contamination to 600 mm depth will be sufficient to remediate the site. This equates to approximately 2 m3 of soil. This quantity of disturbance of a contaminated site does not require a resource consent. Disposal should be to a location where there is no risk of contamination of a waterbody, such as the nearest land fill or a simple burial outside this proposed subdivision.
- If it is proposed to maintain the use of the diesel tank then the leak should be fixed and the tank relocated to a bunded impervious pad.
- No validation testing of the soil post excavation is proposed.
- The remediation of the diesel tank area will not result in any risk to human health or the ongoing use of the allotment for residential and associated uses.

Oli McIntosh

From: Maddy Albertson <Maddy.Albertson@patersons.co.nz>
Sent: Friday, 22 August 2025 1:31 pm
To: Oli McIntosh
Subject: RE: Updates RC240323 & RC250049
Attachments: C3002 001 000 PROPOSED PLAN OF SUBDIVISION.pdf

Hi Oli,

Please see the attached revised plan for RC240323
We have provided an access track preliminary design for proposed allotment 5. Any areas of cut will be replanted to prevent any scarring of the land. Jonny has also proposed the formation of a bund to be planted to the North of allotment 5 to further mitigate any potential effects that may arise from the building platforms. We have also revised the plan to confirm the amalgamations of the bigger lots in line with our previous discussion on achieving the intention of the NPS-HPL. Can you please confirm if there was anything else I needed to provide to you ?

Regarding 250049 – We are 90% of the way through revising the engineering design to reflect the proposed formation of the paper road. The design for 11 Hollow Street has now progressed to a proposed cul-de-sac rather than through road, so significant consideration has had to be given to ground levels and slope in relation to the reticulation of water and wastewater. I am hoping to have something back to you next week. Collaboration across 2 applicants and 2 consultancies has taken time to establish clear scope.

Please let me know if you have any questions or issues,

Kind Regards

Maddy Albertson
Planner

022 010 6236 I maddy.albertson@patersons.co.nz I patersons.co.nz

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03 448 8775
6-8 Skird Street
Alexandra 9320

Cromwell Office
03 445 1826
25 The Mall
Cromwell 9310

Please consider the environment before printing this email.

From: Oli McIntosh <oli.mcintosh@codc.govt.nz>
Sent: Thursday, 21 August 2025 3:30 pm
To: Maddy Albertson <Maddy.Albertson@patersons.co.nz>
Subject: Updates RC240323 & RC250049

Hi Maddy,

Can you please advise if progress has been made on these applications and an ETA for them to come off hold?

240323	Noel Trevathan & Margaret Trevathan
250049	Orion Developments Clyde Limited

Cheers,
Oli

Oli McIntosh
Planning Consultant

CENTRAL OTAGO DISTRICT COUNCIL

oli.mcintosh@codc.govt.nz
1 Dunorling Street, Alexandra 9320
www.codc.govt.nz

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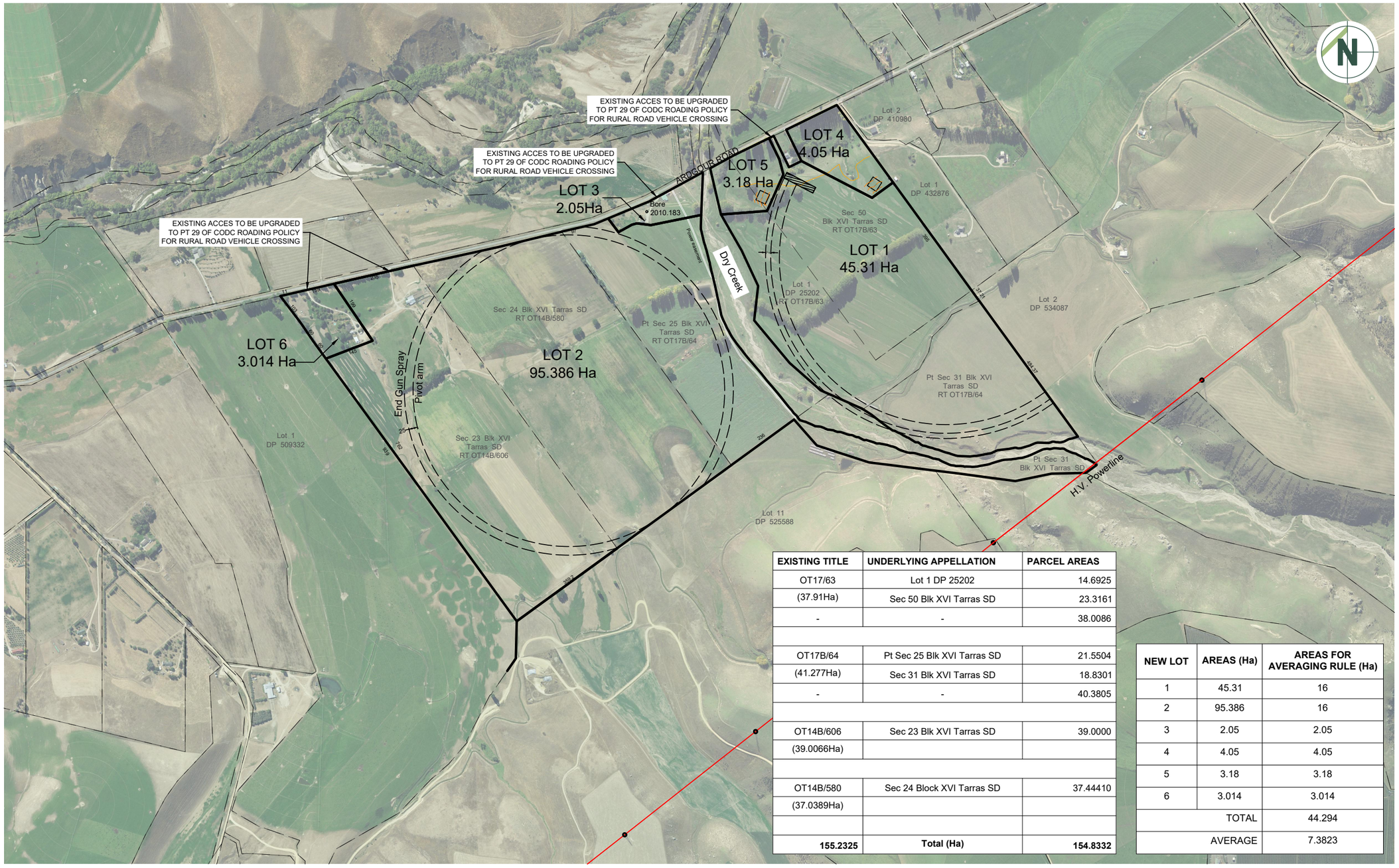

EXISTING TITLE	UNDERLYING APPELLATION	PARCEL AREAS
OT17/63	Lot 1 DP 25202	14.6925
(37.91Ha)	Sec 50 Blk XVI Tarras SD	23.3161
-	-	38.0086
OT17B/64	Pt Sec 25 Blk XVI Tarras SD	21.5504
(41.277Ha)	Sec 31 Blk XVI Tarras SD	18.8301
-	-	40.3805
OT14B/606	Sec 23 Blk XVI Tarras SD	39.0000
(39.0066Ha)		
OT14B/580	Sec 24 Block XVI Tarras SD	37.44410
(37.0389Ha)		
155.2325	**Total (Ha)**	**154.8332**

NEW LOT	AREAS (Ha)	AREAS FOR AVERAGING RULE (Ha)
1	45.31	16
2	95.386	16
3	2.05	2.05
4	4.05	4.05
5	3.18	3.18
6	3.014	3.014
	TOTAL	44.294
	AVERAGE	7.3823

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CLIENT
JONNY TREVATHAN
458 ARDGOUR ROAD
TARRAS

DRAWING TITLE
PROPOSED PLAN OF SUBDIVISION

DATUM INFORMATION
COORDINATE SYSTEM NZGD2000
LINDIS PEAK CIRCUIT
DATUM NZVD2016
ORIGIN OF COORDINATES
ORIGIN OF LEVELS

REV	DRAWN	DATE	NOTE
F	LW	16.05.25	RQUEST FURTHER INFORMATION
G	RJW	25.06.25	MULTIPLE CHANGES
H	GT	12.08.25	CORRECT TABLE

STATUS **FOR CONSENT**

SURVEYED	GP	01.10.24
DESIGNED	JT/RB	01.10.24
DRAWN	RW	25.06.25
REVIEWED	MA	25.06.25
APPROVED	WS	25.06.25

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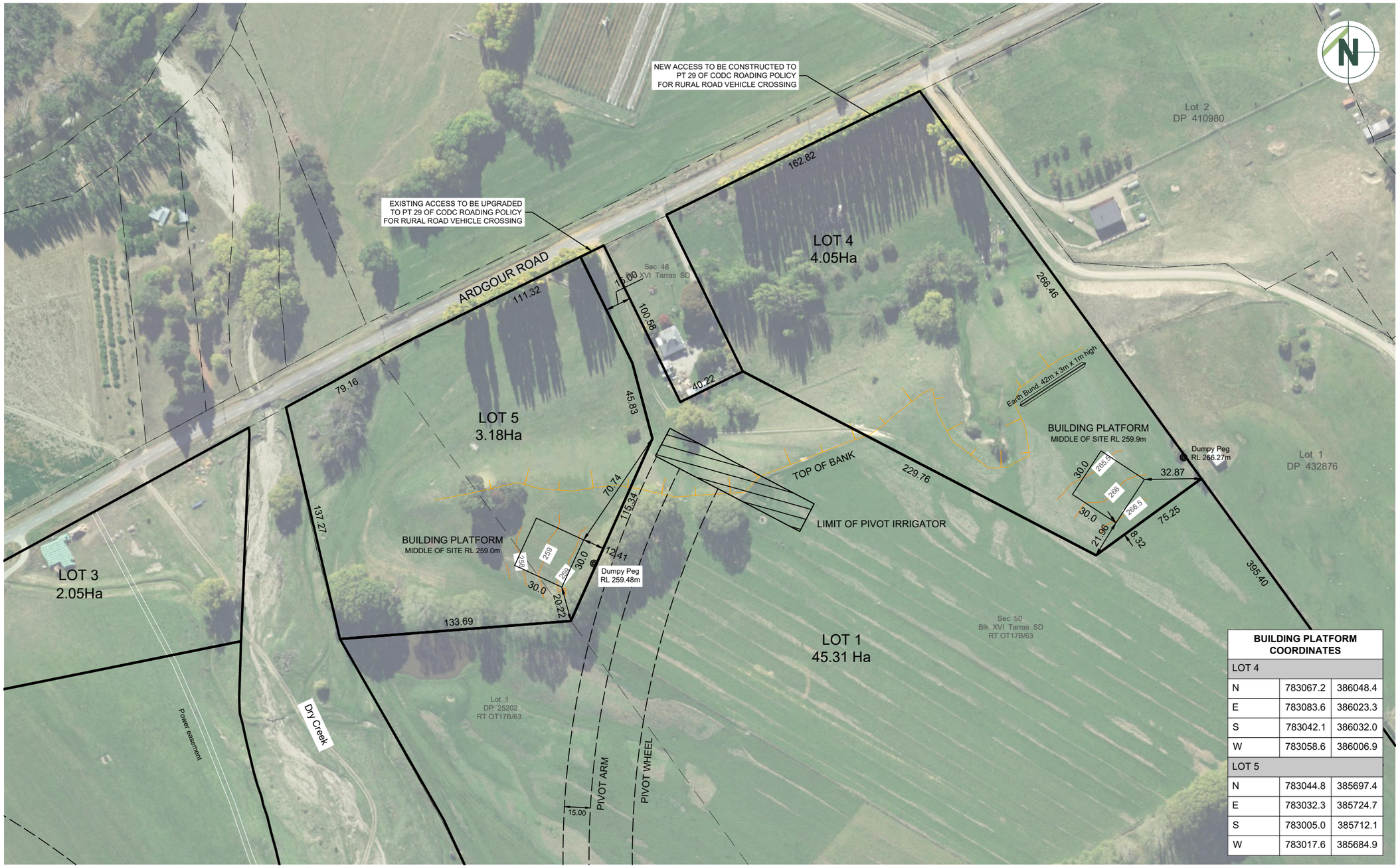
PROJECT **C3002**
DRAWING NO **001**
SHEET **101**
REVISION **H**
SCALE (A3) **1:10000**



BUILDING PLATFORM COORDINATES		
LOT 4		
N	783067.2	386048.4
E	783083.6	386023.3
S	783042.1	386032.0
W	783058.6	386006.9
LOT 5		
N	783044.8	385697.4
E	783032.3	385724.7
S	783005.0	385712.1
W	783017.6	385684.9

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CLIENT
JONNY TREVATHAN
458 ARDGOUR ROAD
TARRAS

DRAWING TITLE
PROPOSED PLAN OF SUBDIVISION
DETAIL OF LOTS 4 & 5

DATUM INFORMATION	
COORDINATE SYSTEM	NZGD2000
	LINDIS PEAK CIRCUIT
DATUM	NZVD2016
ORIGIN OF COORDINATES	
ORIGIN OF LEVELS	

REV	DRAWN	DATE	NOTE
F	LW	16.05.26	REQUEST FURTHER INFORMATION
G	RJW	25.06.25	MULTIPLE CHANGES

STATUS **FOR CONSENT**

SURVEYED	GP	01.10.24
DESIGNED	JT/RB	01.10.24
DRAWN	RW	25.06.25
REVIEWED	MA	25.06.25
APPROVED	WS	25.06.25

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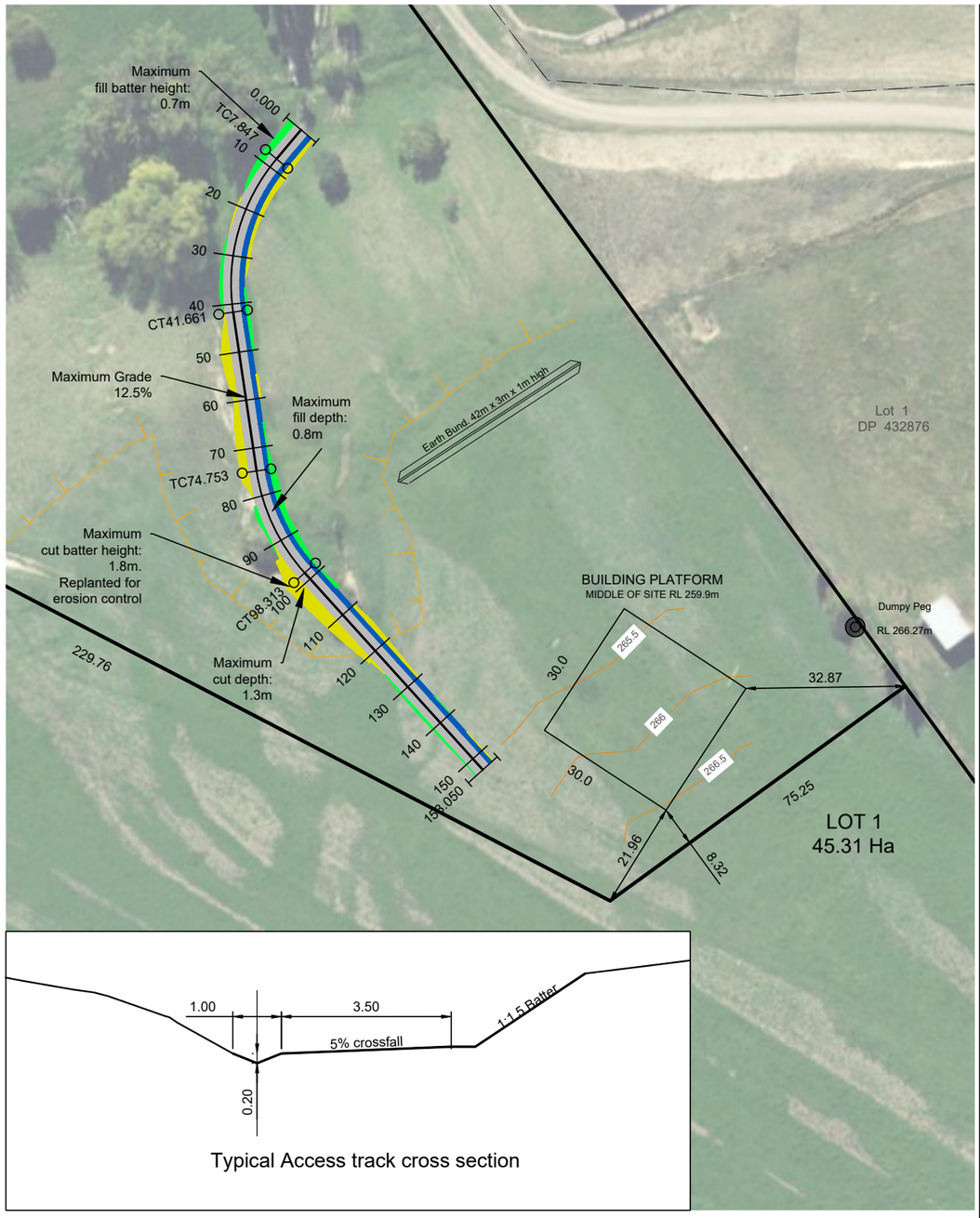
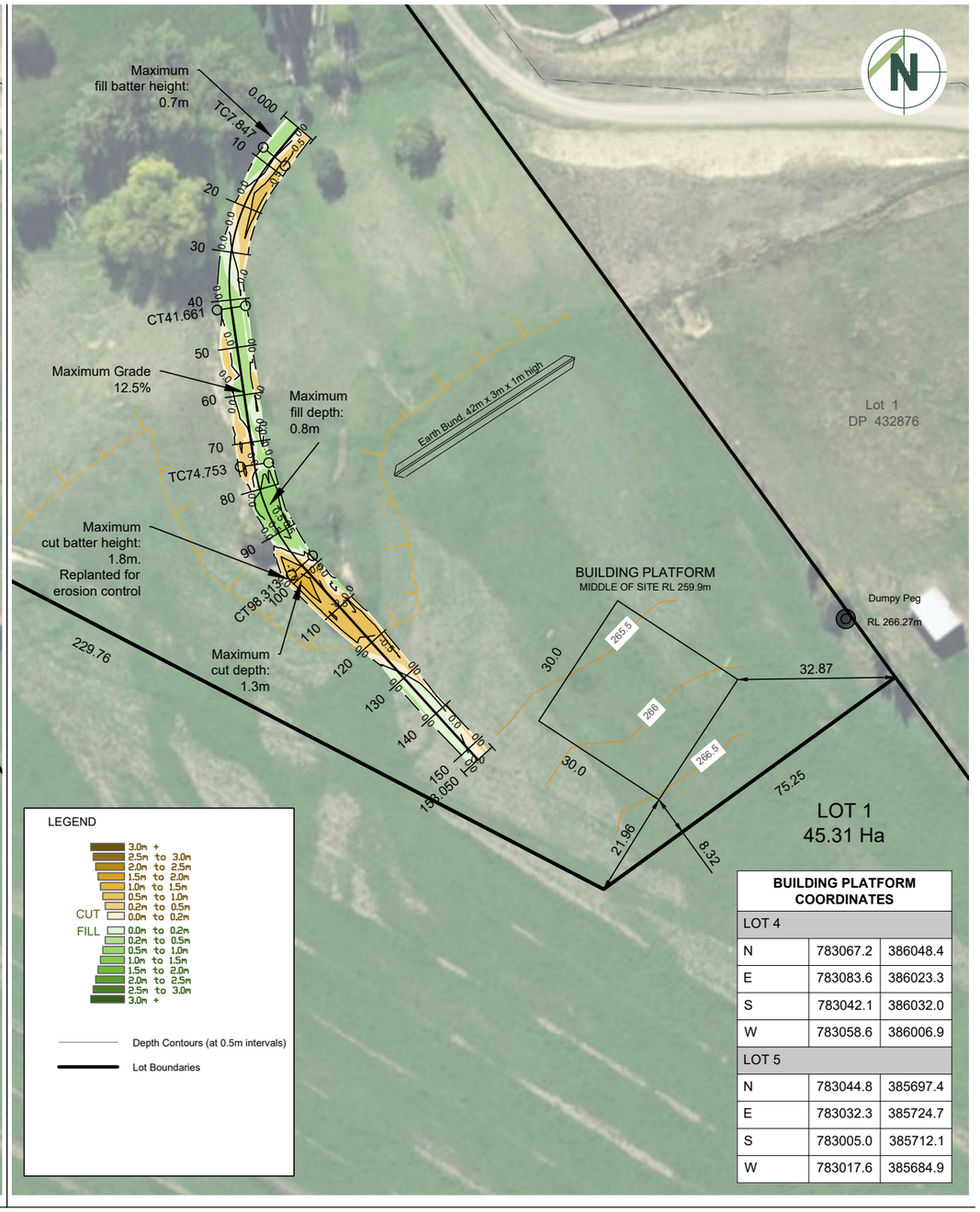
PROJECT	**C3002**
DRAWING NO	**001**
SHEET	**102**
REVISION	**G**
SCALE (A3)	**1:2000**





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E	783032.3	385724.7
S	783005.0	385712.1
W	783017.6	385684.9

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CLIENT
JONNY TREVATHAN
458 ARDGOUR ROAD
TARRAS

DRAWING TITLE
PROPOSED PLAN OF SUBDIVISION
LOT 4 BUILDING PLATFORM ACCESS

DATUM INFORMATION
COORDINATE SYSTEM NZGD2000
LINDIS PEAK CIRCUIT
DATUM NZVD2016
ORIGIN OF COORDINATES
ORIGIN OF LEVELS

REV DRAWN DATE NOTE

STATUS **FOR CONSENT**

SURVEYED	GP	01.10.24
DESIGNED	GT	12.08.25
DRAWN	GT	21.08.25
REVIEWED	WS	21.08.25
APPROVED	WS	21.08.25

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PROJECT **C3002**
DRAWING NO **001**
SHEET **103**
REVISION
SCALE (A3) **1:1000**

25.12.3 RC250169 & RC220396V4 - NEW ZEALAND CHERRY CORP (LEYSER) LP

Doc ID: 2588705

1. Purpose

A report to consider a subdivision consent for a 9-lot subdivision and land use consent to authorise the establishment of buildings on hazard prone lots at 112 & 144 Ripponvale Road, Cromwell is attached.

2. Attachments

Appendix 1 - s42A Planners Report ⇩
Appendix 2 - s95 Notification Report ⇩
Appendix 3 - Application ⇩
Appendix 4 - Revised Assessment of Environmental Affects (AEE) 4 July 2025 ⇩
Appendix 5 - Updated Appendix C - Geotechnical Assessment Report July 2025 ⇩
Appendix 6 - Engineering Advice 25 July 2025 ⇩
Appendix 7 - Landscape Peer Review 31 July 2025 ⇩

CENTRAL OTAGO DISTRICT COUNCIL
REPORT OF PLANNING CONSULTANT

APPLICATION	**RC250169 AND RC220396V4**
APPLICANT	**NEW ZEALAND CHERRY CORP (LEYSER) LP**
ADDRESS	**112 & 144 RIPPONVALE ROAD, CROMWELL**
LEGAL DESCRIPTION	**RECORD OF TITLE OT7C/632:** • **SEC 27 BLK III CROMWELL SD** • **SEC 102 BLK III CROMWELL SD** • **SEC 99 BLK III CROMWELL SD** • **SEC 28 BLK III CROMWELL SD** • **SEC 96 BLK III CROMWELL SD** **RECORD OF TITLE OT7C/633:** • **SEC 26 BLK III CROMWELL SD** • **SEC 100 BLK III CROMWELL SD** **RECORD OF TITLE OT106/99:** • **SEC 54 BLK III CROMWELL SD** **RECORD OF TITLE 126180:** • **PT SEC 25 BLK III CROMWELL SD** • **PT RUN 1201R** • **SEC 11 BLK III CROMWELL SD** • **SEC 101 BLK III CROMWELL SD** • **LOT 2 DP 330709** • **SEC 4 BLK III CROMWELL SD** • **SEC 103 BLK III CROMWELL SD** • **SEC 98 BLK III CROMWELL SD** • **PT SEC 5 BLK III CROMWELL SD**
ACTIVITY DESCRIPTION	**SUBDIVISION AND LAND USE CONSENT FOR A 9 LOT SUBDIVISION IN THE RURAL RESOURCE AREA AND LAND USE CONSENT TO AUTHORISE THE ESTABLISHMENT OF BUILDINGS ON HAZARD PRONE LOTS**
ACTIVITY STATUS	**NON-COMPLYING ACTIVITY**

BACKGROUND

The subject site comprises land at 112 and 144 Ripponvale Road, Cromwell, which is currently being developed as a rural lifestyle subdivision known as *Shannon Farm*. The development is authorised under a comprehensive suite of consents as outlined below.

Plan Change 14 (PC14)
PC14 was a privately initiated Plan Change which sought to rezone approximately 142 hectares of land to establish a new 'Rural Resource Area (5)' zone, enabling rural lifestyle development within a masterplanned site. The structure and zoning framework strategically concentrated lifestyle allotments within the lower-lying and less visually sensitive parts of the site, while maintaining productive orchard areas and protecting the more prominent upper

slopes, including those within the Outstanding Natural Landscape (ONL), from built development.

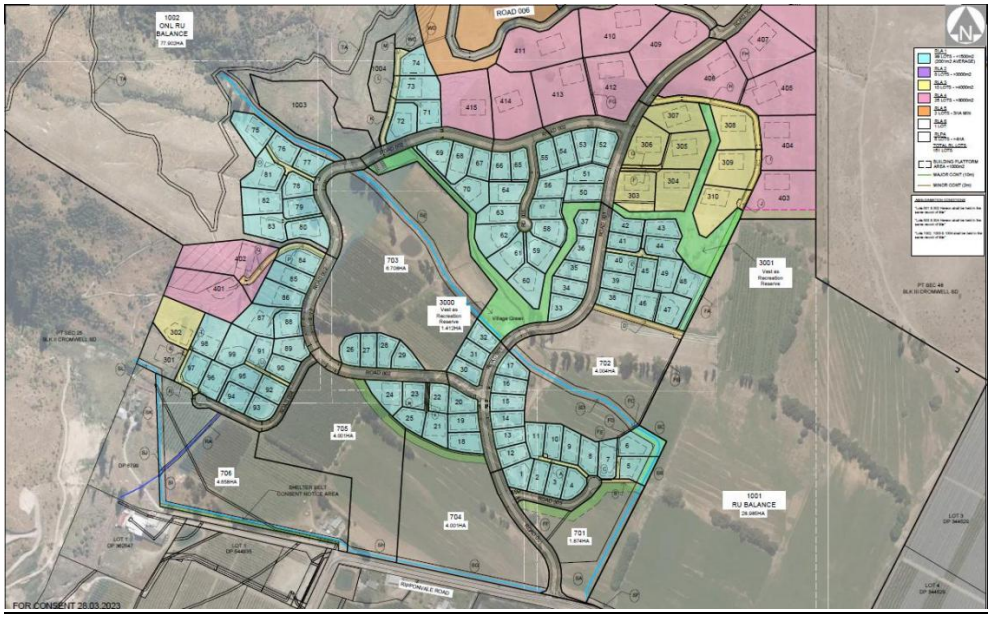
Initially declined by Council in May 2021, the plan change was ultimately approved via consent order following appeal (ENV-2021-CHC-073), with the Court issuing its decision on 8 April 2022. The approved framework introduced a structure plan (Schedule 19.23) identifying six Rural Lifestyle Areas (RLAs) with varying density controls, along with an integrated circulation plan and planting schedule. As approved, PC14 anticipated up to 160 residential allotments across RLAs 1–6, subject to compliance with specified density, landscape, and servicing provisions.

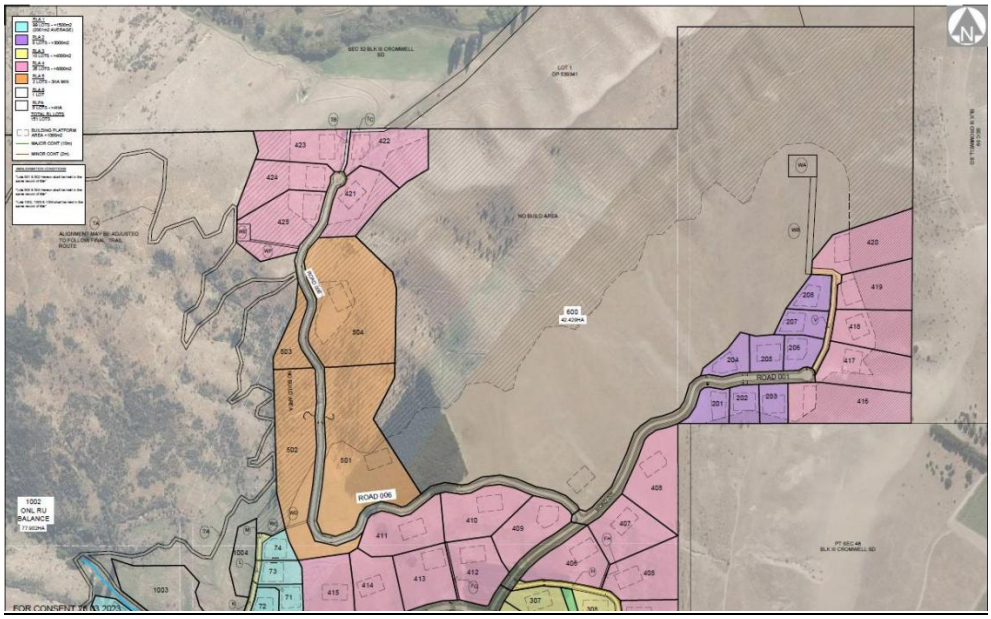
RC220396 and Variants

RC220396 was granted on 13 September 2023 and authorised a 151-lot subdivision generally in accordance with the PC14 Structure Plan. The consent also approved six lots within the Rural Productive Lifestyle Area, four larger lots in the Rural Resource Area, significant earthworks, stormwater management, and a 21-stage delivery programme. Building platforms and some minor yard breaches were approved, along with a new internal road network and connection to Council's reticulated water and wastewater systems.

Subsequent variations have included:

- RC220396V1 (Dec 2024): Amendment to conditions to allow for stormwater detention basins and integration of an existing dam into the water infrastructure strategy.
- RC220396V2 (May 2025): Realignment of staging boundaries in Stages 12–14 to facilitate more efficient construction sequencing.
- RC220396V3 & RC250155 (lodged June 2025, currently in process): Seeks to amend lot sizes within later stages to increase yield by 44 additional lots through intensification within RLAs 1, 4, and 6.





Figures 1 & 2: Extract of approved scheme plan as approved under RC220396.

RC230244 – Mountain Bike Tracks
This separate consent was granted on 13 September 2023 and authorises the construction of a mountain bike trail network within the ONL to the west of the subdivision proper.

Regional Consents
The applicant also holds a suite of regional consents (RM23.549.01 to RM23.549.07) from Otago Regional Council for activities associated with stormwater management, damming and diversion, reclamation, works in the bed of waterbodies, contaminated land disturbance, and earthworks discharges.

SITE DESCRIPTION

The subject site is well described in the application and supporting documents. The applicant's description is adopted for the purposes of this report, with the key features summarised as follows:

- The site is located at 112 and 144 Ripponvale Road, Cromwell, and forms part of the broader 'Shannon Farm' subdivision.
- The land spans part of the western and northern slopes of the site, situated on the lower foothills of the Pisa Range.
- The topography varies from gently undulating to moderately steep slopes and includes areas previously mapped as Schist Debris Landslides (SDLs).
- Historic and disused water races traverse parts of the slope, and ephemeral gullies contribute to the area's complex drainage and geomorphology.
- The parent lots (Lots 1003 and 1004 RC220396) were originally identified as potentially unsuitable for development due to slope instability, subject to further assessment being undertaken, and were consolidated under RC220396 as future development areas pending further assessment.
- Surrounding land within Shannon Farm is currently being developed in accordance with the approved 151-lot subdivision, with roads, site recontouring and infrastructure currently being undertaken throughout the underlying site.

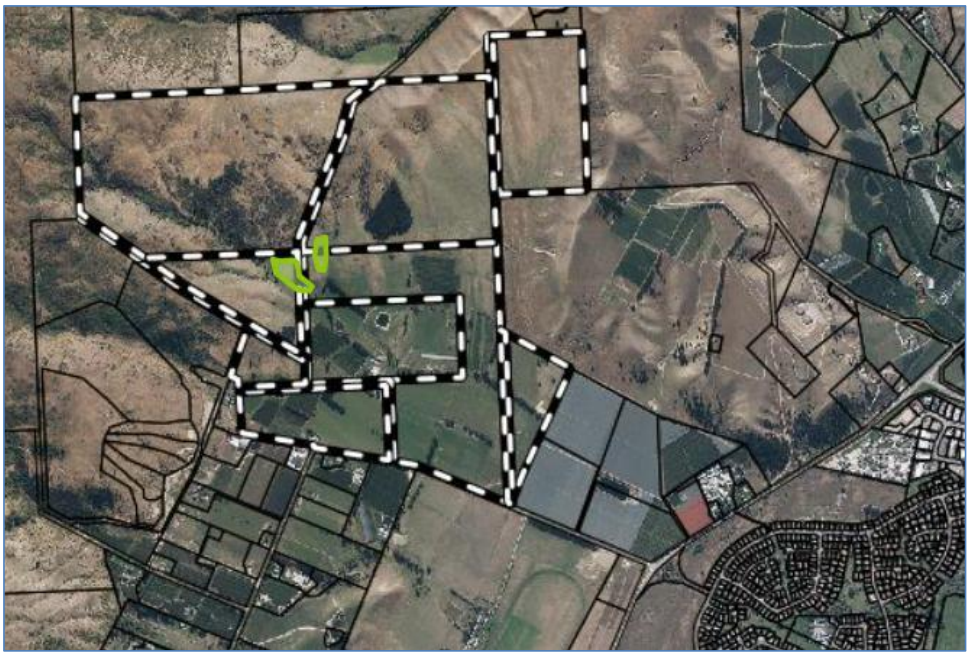


Figure 3: Aerial of the overall site outlined black and white and the approximate location of the 9 lots that are the subject of this application in as green polygons. Source: O. McIntosh.

DESCRIPTION OF ACTIVITY

The site subject to this application is located at 112 and 144 Ripponvale Road, Cromwell and spans four parcels legally defined in Record of Titles 126180, OT 106/99, OT 7C/632 and OT 7C/633. More specifically, the application seeks resource consent to subdivide Lots 1003 and 1004 of RC220396 to create nine additional rural lifestyle allotments within the Rural Resource Area (5) zone. These two parent lots were originally held as 'future development' areas under RC220396 due to preliminary geotechnical constraints, specifically the presence of Schist Debris Landslides (SDLs) on the northern and western slopes of the site.

Figure 4: Extract of approved Scheme Plan approved by RC220396 fossed on Lots 2003 and 1004.

Recent investigations by Tonkin & Taylor Ltd (July 2025) have confirmed that the land can be feasibly developed due to global slope stability being assessed as relatively benign, and subject to mitigation of identified local slope instability and debris flow hazards. The proposed subdivision will enable seven Lots within development lot 1003 and two Lots within development lot 1004. A total of nine Lots are proposed ranging in size from approximately 1,503m² to 2,025m².

Lot Number	Lot Size (m²)	Lot Number	Lot Size (m²)
167	1690	172	2000
168	2020	173	1650
169	1550	174	2020
170	1860	175	1520
171	1950	-	-

No changes to the application scope have occurred since lodgement, although the technical reporting and the AEE have been amended to incorporate additional natural hazard assessment outlined in the July 2025 Geotechnical Assessment Report by Tonkin & Taylor.

Proposed measures for building foundations

The applicant proposes that all future buildings be constructed using shallow foundation systems suited to local ground conditions, including slabs-on-grade, waffle slabs, or suspended floors on pole/pile foundations. Additional geotechnical considerations include removal or treatment of colluvium and silt deposits exceeding 1 metre in depth, and the avoidance of founding buildings across cut/fill boundaries unless site-specific design measures are implemented. Each lot will require building-stage geotechnical investigation to confirm bearing capacity and to support foundation design in accordance with NZ Building Code requirements. Residual risks, such as undetected soft pockets or settlement across fill interfaces, are considered manageable through onsite observation during construction and certified design. These requirements are to be secured by way of consent notice on all relevant titles.

Proposed Schist Debris Landslide (SDL) creep hazard mitigation

To address the potential for slow, long-term ground creep associated with underlying schist debris landslides, the applicant proposes the use of flexible foundation systems for affected lots. These include waffle slabs, reinforced gravel rafts, and ground beams similar to foundation solutions developed for TC2-class liquefaction-prone ground following the Christchurch earthquakes. The aim is to accommodate up to 100mm of differential movement without compromising building integrity and to allow for re-levelling if required. This recommendation applies to Lots 78, 79, 81, 82, 83, and Lots 171 to 175. T+T consider the risk of exceedance beyond 100mm to be low. These mitigation requirements are proposed to be secured via consent notices requiring geotechnically certified foundation design at the time of development. No specific mitigation is proposed for services or accessways, which are considered readily repairable.

Proposed stormwater and debris flow mitigation

To mitigate debris flow and overland inundation risk, the applicant proposes a combination of earth bunding and raised building platforms, if required. For Lots 171 to 173 and 175, platforms may be constructed on imported fill approximately 1 metre above surrounding ground levels to prevent water ingress and avoid cuts into the toe of natural slopes. Upslope bunds are proposed to be considered for several lots, including Lots 78, 79, 82, 83, 171, 172, 173, 174 and 175, to deflect potential debris flows into controlled secondary flow paths aligned with

accessways and lot boundaries. These measures are intended to accommodate localised gully flows and small to medium volume debris events.

The raised platform requirement is proposed to be secured via consent notice, while detailed design to confirm the risks have been addressed is to be implemented prior to s224(c) certification.

Proposed Local slope instability mitigation

T+T advises that cut slopes on individual Lots can be constructed at a maximum angle of 2H:1V and generally up to 5 m high. There is potential for cut slope movement if local landslide debris slide planes are undercut. To manage the risk of cut slope movements the following is recommended:

- Lots 167 and 168 – Limit cuts to 2 m high and develop the lots as engineered fill platforms extending onto the North Gully.
- Lots 169 and 170 – No cutting into the toe of the historic, water race triggered landslide.
- Lots 78, 80, 171 and 174 – Cuts should consider retaining walls to mitigate the risk of cut slope movements encroaching on upslope accessways and Lots. A combination of a lower wall and upper cut could be considered depending on the specific cut height and configuration.

These measures are considered most appropriately captured by way of a consent notice condition, registered on the respective Lots.

Section 127

In this case, the proposal to increase the number of allotments requires amendments to the approved scheme plan for RC220396 (as previously varied by RC220396V1 and RC220396V2). The applicant has lodged this subdivision consent as a standalone application, rather than solely as a section 127 variation, due to concerns that the scale of change may fall outside the scope of the original consent.

Notwithstanding this, the intention is for the proposal to ultimately be implemented through a variation to RC220396, ensuring all changes are consolidated within a single consent framework. To this end, a concurrent section 127 application has been lodged, seeking to amend the conditions of RC220396 as necessary to incorporate this proposal.

For efficiency and clarity, this report addresses the subdivision consent and the concurrent section 127 application together, as the two are interdependent and intended to be implemented as a single, consolidated consent.

For completeness, I note that while the applicant's application materials included track changes to Condition 1 (referencing "Revision G" and some "Revision B" plans), only one revised plan – Sheet 7, covering the subject area – was actually provided. I have already verbally raised this with the applicant, and it is anticipated they will supply a full updated suite of plans for inclusion in Appendix 1 of the amended decision. For the purposes of this report, only the revised Sheet 7 has been appended (Appendix 1). However, the decision notice itself will require the complete set of plans referenced in Condition 1 to be attached. On this basis, I have recommended updating all plan references in Condition 1 to "Revision G" for simplicity. If the final plan set submitted differs in any way, further refinement to Condition 1 may be required before the decision is finalised.

REASONS FOR APPLICATION

Central Otago District Plan
The subject site is zoned Rural Resource Area (5) under the Central Otago District Plan and is affected by Outstanding Natural Landscape (ONL) and Significant Amenity Landscape (SAL) overlays. More specifically, the proposed additional Lots will occur exclusively within 'Rural Lifestyle Area 1', as defined in the Structure Plan included in Schedule 19.23 of the District Plan.

- A **non-complying activity** pursuant to Rule 4.7.5.iii for a breach to the averaging criteria of 2,000m^2 under Rule 4.7.2.ii.b. In this case, the average allotment area under this application is 1891.4m^2 when taken in isolation or 1,989.96m^2, when considered in conjunction with the RLA1 lots already consented under RC220396.

- A **discretionary activity** pursuant to Rule 4.7.4.iii for subdivision involving land that is or is likely to be subject to material damage by erosion, falling debris, subsidence, slippage, or inundation from any source. As summarised in Figure 6, the Tonkin & Taylor geotechnical assessment confirms the proposed lots are exposed to moderate risk from landslides and moderate to high risk from flooding and debris flows.

- A **controlled activity** pursuant to Rule 4.7.2(ii)(a)(viii), where a building platform of no greater than 1,000m^2 in area is identified on the plan of subdivision.

- A **discretionary activity** pursuant to Section 127 of the Resource Management Act 1991 to amend the conditions of RC220396 (as varied) to incorporate the additional Lots sought by this application into that consent.

For completeness, I note that the applicant has identified Rule 4.7.2(vi) as also being triggered. This rule provides for subdivision in accordance with the Structure Plan in Schedule 19.23 as a controlled activity. However, Rule 4.7.2(vi) cross-references the subdivision standards set out in Rule 4.7.2(ii). In my opinion, the proposal does not meet the criteria under Rule 4.7.2(ii) due to the breach of the RLA1 density standards. Accordingly, I do not consider Rule 4.7.2(vi) to apply.

Further to the above, Rule 4.7.5.i. states *"Any building… to be erected upon land that is or is likely to be subject to material damage by erosion, falling debris, subsidence, slippage or inundation from any source is a **non-complying activity**"*. While this application does not propose any buildings and has not sought consent under this rule, it does propose the creation of lots that are intended for residential development within an area identified as being at risk from such hazards. The application includes substantial hazard mitigation recommendations and anticipates that dwellings will be constructed on these lots in future. In my view, it is appropriate that Rule 4.7.5(i) be treated as triggered and that the necessary land use consent be obtained now, rather than requiring individual consents for future dwellings.

Geotechnical hazard	Comment	Qualitative risk assessment	Mitigation required
Active Fault rupture	• Fault identified in proximity to the development, fault is not observed at the surface and has a long recurrence interval.	Low to very low	N/A
Liquefaction	• Soils at the site are cohesive or very dense granular soils with deep groundwater levels. • Liquefaction is unlikely in the low hills of the site.	Very low	N/A
Debris flow and flooding	• Active alluvial fans and flood water following large rainfall events could inundate the site.	Moderate to high risk	Mitigations options to be adopted at detail design including filled/elevated building platforms, sufficient primary and secondary flow paths with ability to pass debris as well as flood waters.
Rock fall	• Large boulders have been identified on slopes above the development, embedded in the soils. These are erosion remnants, not rockfall sourced. • Slope angles are too low to provide credible rock roll or fall mechanism.	Low risk	N/A
SDL creep movements	• Creep movement episodes (approx. 10's to 100 mm) of SDL lobes within the development resulting in damage where structures straddle a margin.	Low risk	Consider building foundation options that can tolerate some differential movement and tilt across the footprint, e.g. equivalent to TC2 liquefaction deformation.
Local landslides	• Localised slope failures in cut slopes around the development (Lot or road formation).	Moderate risk	Consider site specific assessment of cuts upslope of individual Lots at detailed design stage, consider stormwater control.

Figure 6: Qualitative geotechnical hazard risk assessment. Source: Tonkin & Taylor, pp 3-4.

Section 127

Under section 127 of the Resource Management Act 1991, an application may be made to vary the conditions of an existing resource consent. Such applications are processed as discretionary activities.

National Environmental Standards

The Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS) came into effect on 1 January 2012. The NESCS applies to any piece of land on which an activity or industry described in the current edition of the Hazardous Activities and Industries List (HAIL) is being undertaken, has been undertaken or is more likely than not to have been undertaken.

In this instance, the land involved has been assessed as a restricted discretionary activity under Regulation 10(3) of the NES-CS during the processing of RC220396 of which a suite of conditions has been imposed. A regional permit has also been obtained for disturbances to contaminated land. As such, the NESCS is not considered further under this application.

Overall Status

Where an activity requires resource consent under more than one rule, and the effects of the activity are inextricably linked, the general principle from case law is that the different components should be bundled and the most restrictive activity classification applied to the whole proposal (*Locke v Avon Motor Lodge* [1973] NZLR 97).

In this case, multiple rules are triggered and the associated effects are clearly linked. I consider it appropriate that the application be bundled and assessed as a non-complying activity, pursuant to sections 104, 104B, and 104D of the Resource Management Act 1991 ('the Act').

EFFECTS ASSESSMENT

Affected Persons

No written approvals from affected persons have been provided. A separate section 95 decision, issued under delegated authority on 5 August 2025, determined that the application would be processed on a non-notified basis.

Permitted Baseline

Under sections 95D(b) and 104(2) of the Resource Management Act 1991, the Council may disregard an adverse effect of an activity on the environment may be disregarded if the plan permits an activity with that effect. That is, an application can be assessed by comparing it to the existing environment and development that could take place on the site as of right, without a resource consent, but excluding development that is fanciful.

There are no permitted subdivisions in the Central Otago District Plan. There is no permitted baseline to be applied.

Receiving Environment

The existing and reasonably foreseeable receiving environment is made up of:

- The existing environment and associated effects from lawfully established activities;
- Effects from any consents on the subject site (not impacted by proposal) that are likely to be implemented;
- The existing environment as modified by any resource consents granted and likely to be implemented; and
- The environment as likely to be modified by activities permitted in the district plan.

For the subject site, the existing and reasonably foreseeable receiving environment comprises includes:

- The consented subdivision and associated development approved under RC220396 and its variations, including earthworks, roading, and servicing infrastructure;
- Development of building platforms and dwellings on Lots already consented under RC220396;
- The orchard operations and shelterbelt planting forming part of the Rural Resource Area (5) masterplan context.

For adjacent land, the existing and reasonably foreseeable receiving environment includes:

- The continuation of existing rural residential development within the Rural Residential Resource Area in the vicinity of Ripponvale Road to the south of the site;
- Continued operation and further development of intensive horticultural activities within the surrounding Rural and Rural Residential Resource Areas.

- The continued use of land on the south site of Ripponvale Road for public recreation activities and events associated with the Cromwell Racecourse and airfield.

Assessment Matters

As this application is being assessed as a non-complying activity, the Council's discretion is not restricted and it may consider any actual or potential effects on the environment, together with any other matter it reasonably considers relevant and necessary to determine the application, in accordance with section 104(1) of the Resource Management Act 1991.

For clarity and ease of assessment, the relevant effects have been grouped and assessed under the following subheadings:

1. Landscape and Visual Effects

The subject site is located within a broader landscape identified in the District Plan as comprising areas of Outstanding Natural Landscape (ONL), Significant Amenity Landscape (SAL), and Other Rural Landscape (ORL). The nine proposed lots are located entirely within the ORL classification, but immediately adjoin the ONL overlay which applies to the elevated western slopes of the site. Development is confined to the lower-lying terrace previously identified as suitable for lifestyle development under the Structure Plan in Schedule 19.23.

The applicant's assessment of landscape and visual effects is brief and limited in scope. No new landscape assessment has been prepared to support this application, and while a Rough & Milne Landscape Architects (RMLA) report was submitted with a separate subdivision application on the same site (RC250155), it has not been formally referenced or relied upon in the current proposal. In order to better understand the potential visual effects of the proposal, Council commissioned an independent peer review from Megan Harshey of Boffa Miskell Ltd. I rely on Ms Harshey's expert findings in forming my conclusions.

The proposed lots comply with the minimum lot size of 1,500m² and marginally fall short of the average lot size requirement (1,989.96m² vs 2,000m²). Ms Harshey considers this deviation to be "minor and not visually discernible in the context of the wider subdivision" and that the subdivision layout and existing landscape controls, incorporated into PC14, are not adversely affected by the proposal.

Ms Harshey also notes that geotechnical mitigation measures, including bunds, raised platforms, and the need for engineered foundations, are expected to be "visually unobtrusive and consistent with the rural aesthetic." She confirms that the proposed lots are located entirely within the RLA1 and do not encroach on the ONL or SAL overlays, and further notes that the proposed layout "respects the natural landform, avoids urban typologies and maintains the rural character…"

The landscape and visual effects have been independently reviewed and assessed as being "no more than low" on the Te Tangi a te Manu seven-point effects scale. This rating broadly corresponds to a level of effect between "less than minor" and "minor" in RMA terms. I agree with and adopt that conclusion. Residential amenity will be maintained through compliance with all setback requirements and the generous curtilage available on each lot, which is sufficient to accommodate future development without generating undue effects on neighbouring sites.

2. Amenity Effects

The proposed subdivision will create nine rural lifestyle allotments ranging from 1,503m² to 2,025m² within Rural Lifestyle Area 1 (RLA1), where residential use is anticipated. While the proposed lots result in a slightly increased density relative to the intended RLA1 average, this is not expected to materially compromise amenity. Each lot is of sufficient size to comfortably

accommodate a dwelling and associated curtilage while maintaining generous setbacks, open space, and privacy.

All lots are located internally within the wider site and do not directly adjoin third-party residential properties. Designated building platforms comply with the required 4.5m yard setbacks, but their main function is geotechnical rather than amenity-related. The spacious lot sizes allow flexibility for future development to occur in a manner that avoids effects of dominance, shading, or noise between lots.

Overall, the proposal is expected to provide a high standard of internal amenity and is not anticipated to give rise to any adverse effects on the amenity of neighbouring sites or future residents.

3. Transportation Effects

The proposed subdivision will create nine additional rural lifestyle lots within the internal roading network authorised by RC220396. Access to all nine lots will be via Ripponvale Road and an existing approved access spine, consistent with the layout established under the Shannon Farm Structure Plan.

Access to each lot will be provided via a combination of internal local roads and formed rights-of-way, consistent with the road hierarchy and access arrangements previously approved. No new public roads are proposed to be vested as part of this subdivision, and the internal rights-of-way will be constructed to a mixed urban–rural standard, as endorsed by Council's Environmental Engineer. In particular, I support the Engineer's recommendation that rights-of-way serving Lots 170–175 and 172–173 be constructed in accordance with the standards applied under the broader Shannon Farm subdivision.

While the application does not include a dedicated transportation assessment, I consider the traffic effects associated with nine additional residential allotments to be negligible and consistent with the scale of development anticipated under PC14. The PC14 plan change process and the original Shannon Farm masterplan explicitly contemplated development of up to 160 lots. The current proposal achieves, but does not exceed, that threshold. In that context, I consider the internal roading network to remain fit for purpose and that any requirement to upgrade Road 001 to residential collector standard would be onerous and inconsistent with the underlying consent.

I note, however, that any proposal to exceed 160 lots across the Shannon Farm site is likely to require significant roading upgrades. This 160 lot limit was made clear during the original PC14 hearings and remains a key threshold for evaluating the adequacy of the transport network as well as other services and the intended overall scale and character of the development.

Subject to conditions addressing construction standards for the internal rights-of-way, as recommended by Council's Environmental Engineer, I consider that transportation effects will be less than minor.

4. Servicing and Infrastructure

The proposed subdivision will be serviced in a manner consistent with the wider Shannon Farm development, utilising the communal three waters infrastructure and utility connections authorised under RC220396. All proposed lots are to connect to the existing reticulated wastewater and water supply networks, with stormwater managed through a combination of roadside swales and overland flow paths, as established in earlier stages of the subdivision.

Water Supply: Council's Environmental Engineer has confirmed that domestic and firefighting water supply will be provided via the new reticulation approved under the original subdivision

and will satisfy the requirements of SNZ PAS 4509:2008. As such, I recommend that the proposed lots be serviced in accordance with the existing conditions under RC220396.

Wastewater: Each lot will connect to the new sewer reticulation approved under the original subdivision. This reticulation has been designed to accommodate the full 160-lot yield contemplated by PC14. As such, I recommend that the proposed lots be serviced in accordance with the existing conditions under RC220396.

Stormwater:
Stormwater from the new lots and upstream from them will be conveyed via the overland flow system described within the final Tonkin & Taylor report. Beyond the immediate site, stormwater will be conveyed by the swales and drainage systems already established within the underlying subdivision. Council's Environmental Engineer notes that the following changes to RC220396 will be required:

- Existing Condition 22 must be changed to include Lots 167 – 175 in the listed Lots.
- Existing Condition 22.d) must be changed to include Lots 167 – 175 in the listed Lots.
- Existing Condition 22.l) must be changed to include Lots 169 - 171, 174 - 175 in the listed Lots.
- Existing Condition 22.aa) must be changed to include Lots 169 - 171, 174 - 175 in the listed Lots.
- Add condition(s) implementing the recommendations of section 8 of the Geotechnical Assessment Report prepared by Tonkin & Taylor Ltd dated July 2025.

Electricity and Telecommunications:
These services are to be provided via underground connections from the existing networks established in the earlier stages of the subdivision.

In summary, I am satisfied that the proposed subdivision can be appropriately serviced in accordance with the servicing scheme approved under RC220396, with necessary changes to the wording of the original conditions in incorporate the additional lots and with the addition of conditions reflecting the geotechnical recommendations outlined in the final Tonkin & Taylor report.

5. Natural Hazards and Geotechnical Suitability

The site is located on elevated terrain previously identified as being potentially affected by a range of slope-related natural hazards, including Schist Debris Landslides (SDLs), slope creep, and debris flow/flooding risk. During the original assessment of RC220396, Lots 1003 and 1004 were set aside as future development areas specifically due to these hazards. The current application relies on a July 2025 geotechnical assessment by Tonkin & Taylor (T+T), which describes the hazards affecting this area of the site, quantifies the level of risk they pose and provides detailed site-specific recommendations for hazard mitigation. These are summarised in Table 6.4 of the T+T Report.

For completeness, I note that the lots identified by T+T as being potentially affected by natural hazards are Lots 78, 79, 81, 82, 83 and Lots 171–175. For clarity:

- Only Lots 167–175 (excluding pre-consented lots) are new and form part of RC250169.
- Lots 78, 79, 81, 82, and 83 have already been consented under RC220396 but are yet to receive title.

Given the nature of the natural hazard concerns, I consider it prudent to incorporate the relevant T+T recommendations for these already-consented lots into the concurrent s127 variation to RC220396, ensuring appropriate conditions are applied before titles are issued.

Table 6.4: Qualitative geotechnical hazard risk assessment

Geotechnical hazard	Comment	Qualitative risk assessment	Mitigation required
Active Fault rupture	• Fault identified in proximity to the development, fault is not observed at the surface and has a long recurrence interval.	Low to very low	N/A
Liquefaction	• Soils at the site are cohesive or very dense granular soils with deep groundwater levels. • Liquefaction is unlikely in the low hills of the site.	Very low	N/A
Debris flow and flooding	• Active alluvial fans and flood water following large rainfall events could inundate the site.	Moderate to high risk	Mitigations options to be adopted at detail design including filled/elevated building platforms, sufficient primary and secondary flow paths with ability to pass debris as well as flood waters.
Rock fall	• Large boulders have been identified on slopes above the development, embedded in the soils. These are erosion remnants, not rockfall sourced. • Slope angles are too low to provide credible rock roll or fall mechanism.	Low risk	N/A
SDL creep movements	• Creep movement episodes (approx. 10's to 100 mm) of SDL lobes within the development resulting in damage where structures straddle a margin.	Low risk	Consider building foundation options that can tolerate some differential movement and tilt across the footprint, e.g. equivalent to TC2 liquefaction deformation.
Local landslides	• Localised slope failures in cut slopes around the development (Lot or road formation).	Moderate risk	Consider site specific assessment of cuts upslope of individual Lots at detailed design stage, consider stormwater control.

Landslide and Slope Instability Hazards

The Otago Regional Council as well as QMAP geological mapping identify the 9 lots proposed by this application as being located within an area that has been historically subject to Schist Debris Landslides (SDL's). According to Tonkin & Taylor;

> *Schist Debris Landslides are characterised by complex arrangements of debris, blocks of rock, shear zones, faults and compartments of pressurised groundwater. They move by very slow creep and slow episodic stick/slip occurring over many thousands of years. The complexity of materials and groundwater can lead to local slope instability, preferential erosion and debris generation in the toe areas of the landslides. Human modification of these lower slopes can trigger local slope instability and/or reactivation of larger scale slow landslide movement.*

Based on a combination of desktop and physical investigations T+T interpret that these features have been relatively close to equilibrium for approximately 150,000 years with the slide mass undergoing progressive erosion and lowering of the ground surface towards the

current levels. Notwithstanding the relative inertness of the SDL's T+T note there are additional landslide hazards potentially affecting the site;

> *These include local debris slides and flows from slope and drainage gullies upslope of Lots, as well as instability in slope cuts for building platforms. In this instance, the possible presence of locally persistent residual strength landslide shear planes may result in movement in the cut slopes, with scarps developing on the cut or behind the crest and debris being deposited on the platform.*

Assuming no mitigation measures, T+T assess the landslide risk affecting the site as outlined in Table 6.3 of their report, which is reproduced below:

Table 6.3: Landslide qualitative risk assessment summary

Hazard type	Likelihood	Consequence	Highest risk level assessed
Creep movement episodes (approx. 10s to 100 mm) of SDL lobes recognised in Figure 2 – during prolonged rainfall or earthquake events	Unlikely	Medium to minor - • Potential damage to roading, underground infrastructure and buildings where they straddle a margin of the creeping landslide lobe.	Low
Debris slides and flows of small to medium volume (<200 m^3) from slopes and drainage lines upslope of Lots	Possible	Major to minor - • Impact damage to the rear of building and possible internal inundation of buildings. • Scour damage to access ways and around retaining walls.	Moderate to High
Local landslides – 2H:1V cut slopes undercut local residual strength planes in schist debris resulting in 20 to 200 m^3 slides	Possible to Likely	Medium to minor - • Scarps encroach on upslope Lot or access by a few metres. • Debris deposits on platform damaging landscaping, drainage and possibly resting against the rear of a building.	Moderate
Retaining wall deformation and movement of land (up to 100s of mm) behind the wall due to rainfall or earthquake events	Possible to Unlikely	Minor - • Deformation or movement of an engineered retaining wall leading to access damage or cosmetic building damage.	Low

Note: The risk matrix used for this assessment is included in Appendix E.

While T+T deem the risk from SDL's to be low, they note that there is some residual risk of damage to buildings on the toe areas of the landslides, particularly where any structures or services straddle the margins of movement where differential movement will manifest. To mitigate this risk T+T recommend adopting options that have been established for TC2 liquefaction zoned ground following the Christchurch Earthquakes. This includes use of waffle slabs, reinforced gravel rafts, ground beams or other options that are designed to limit damage to the building and can allow for re-levelling should movement occur.

T+T also recommend that platforms on Lots 167–171, 174, and 175 be constructed using net imported fill to avoid excessive cutting into the natural slope toes. T+T also note that Lots 75 to 77 should include mitigation which were initially identified by the Geosolve report and subject to conditions accordingly.

Debris Flow and Overland Flow Hazards

The Otago Regional Council Natural Hazards Database identifies the site as comprising active alluvial fans, with flooding from these fans assessed as a high exposure hazard. According to T+T "flooding and possible debris flows generated in the West Gully and North Gully, and flowing out onto the alluvial fan could present a hazard to Lots 75 to 77 and Lots 167 to 170, and to lesser extent Lots 171, 174 and 175". Additionally, T+T observed the presence of "smaller alluvial fans at the toe of ephemeral gullies across the site, including 2 gullies on the West Landslide that pass through Lots 78 to 81 and gullies on the North Landslide that pass through Lots 171 to 175".

Ultimately, T+T identify that approved Lots 78, 79, 82 and 83, as well as proposed Lots 171–175, are exposed to moderate to high risk from localised debris flows and recommend:

- Lots 78, 79, 82 and 83:
    - Upslope works such as bunds to train potential flows into secondary flow paths down the accessways or boundaries between Lots 80/83, 79/82, 78/79, and 81/82.
- Lots 171 to 173 and 175:
    - Raised fill platforms nominally 1 m above surrounding land. − Upslope works such as bunds to train potential flows into secondary flow paths down the accessways or boundaries between Lots 171/172, 173/174, 170/171, and between 174/175.

With respect to the above recommendations, the applicant has opined:

> *It would be appropriate to incorporate the recommendations for debris flow management (bunds) as a prior to s224C certification condition and would enable the detailed design and consideration of adequate mitigation. The requirement of raised platforms on proposed Lots 171 to 173 and 175 can be adequately captured by way of a consent notice*

I concur that the debris flow management mitigation works should be a matter for the developer to implement 'prior to s224C'. With respect to the building platforms, however, I have considered the nature of the hazards and the proposed mitigation and disagree that these mitigation measures can be adequately capture by consent notice. I note that, in section 8.5 of their report, T+T acknowledge that;

> *Raising these Lots may influence the levels of roads and access ways and the ability to gain access onto the Lots. This can be resolved during detailed subdivision design*

Under the circumstances I consider it would be more appropriate that the developer comprehensively design and construct these platforms, as well as individual accessways to ensure that they're appropriately designed and constructed to work with and not potentially conflict with the wider stormwater drainage design and overland flow mitigation works.

Overall, the proposed subdivision is located on terrain with moderate natural hazard risk, primarily relating to slope instability, overland flow, and ground deformation. These risks have been subject to robust assessment by T+T, with a comprehensive suite of mitigations proposed.

I accept the conclusions of the T+T report, and consider that the proposal is acceptable with respect to natural hazard risk, subject to the implementation of the recommended mitigation measures and the imposition of appropriate conditions of consent, including:

- Consent notices securing engineered foundations and platform design;
- Upslope bunding and flow diversion measures;
- Professional signoff and certification of earthworks and platform formation.

6. Productive Land Use and Reverse Sensitivity

The proposed subdivision is located within RLA1 as defined by the PC14 Structure Plan and forms part of the Shannon Farm development authorised under RC220396. The site is not used for productive purposes and was identified through PC14 as suitable for lifestyle development.

The proposed lots are consistent with the land use outcomes and anticipated effects already established by RC220396. No additional reverse sensitivity effects are expected beyond those previously assessed and accepted. No further mitigation (e.g. buffer planting or consent notices) are considered necessary.

7. Ecological Effects

The proposed lots are located on previously grazed and disturbed pasture land that contains no identified ecological values. No clearance of native vegetation is proposed or required. The ecological effects of the subdivision are therefore considered negligible.

8. Cultural and Heritage Values

The site is not identified as containing any recorded archaeological sites or areas of known cultural significance. Given the modified and pastoral nature of the land and the absence of known cultural or heritage features, the proposal is not expected to give rise to adverse effects on cultural or heritage values.

9. Financial contributions

This development/financial contribution demand has been calculated in accordance with Council's Policy on Development and Financial Contributions effective from 1 July 2021.

Financial contributions have been calculated as follows:

Activity	Payment
Water Supply	$36,586.98 +GST
Wastewater	$29,754.81 +GST
Reserves	$Nil
Roading	$16,200.00 +GST
Total	**$82,541.79 +GST**

10. Amalgamations and easements

No new amalgamations are proposed or required as part of this subdivision. It is anticipated that easements for drainage and potentially other services will be required; however, no specific issues have been identified that would necessitate changes to the underlying consent conditions relating to easements. Any easements required to implement the subdivision will be identified on the survey plan and created through the s223 process, in accordance with the underlying consent requirements.

11. Other matters pursuant to sections 106 and 220 of the Act

Section 106 empowers the consent authority to refuse subdivision where the land is, or is likely to be, subject to material damage from erosion, falling debris, subsidence, slippage, or inundation, unless appropriate provision is made to avoid/mitigate the risk. Relying on Tonkin & Taylor's Geotechnical Assessment (July 2025), I accept that the identified hazards (SDL

creep, local slope instability, alluvial-fan flooding and debris flows) can be reduced to an acceptable level provided the recommended mitigation is implemented and certified.

Section 220 enables conditions addressing maters such as esplanades, bulk and location controls, floor levels, foundations, protection of land from natural hazards, easements, and amalgamation. Having regard to earlier sections of this report, I recommend (in summary)

- Hazard mitigation (prior to s224C):
  - Construct upslope bunds/flow-diversion works identified by T+T.
  - Form raised platforms (and associated individual access connections) for Lots 171–173 and 175 to the nominated levels and integrate with the approved stormwater/overland-flow design.
  - Professional engineer (CPEng) construction observation and certification of earthworks and platform formation.

- Consent notices (on affected titles):
  - Require engineered foundations for identified lots within SDL influence (e.g., waffle slabs/reinforced rafts/ground beams or equivalent), and building/platform design to be informed by site-specific geotechnical input at building consent stage.
  - Ongoing maintenance of secondary flow paths and prohibition on altering bunds/flow paths without Council approval.

- Access & roading:
  - ROWs serving Lots 170–175 and Lots 172–173 formed to the mixed urban–rural standard (consistent with RC220396).
  - No upgrade to Road 001 is required for this nine-lot proposal (the network remains fit-for-purpose up to the long-anticipated 160-lot yield). Note: any future proposal to exceed 160 lots is likely to necessitate higher-order upgrades.

- Easements:
  - Drainage and services easements as required, to be shown and created at s223 (and supported by as-built plans and legal instruments at s224(c)).
  - Overall, the lots are considered to be suitable for the purpose for which they are created.

Subject to the above, I consider the proposal meets the intent of sections 106 and 220, and that appropriate, enforceable conditions are available to manage residual risk and secure servicing and access outcomes.

12. Positive Effects

The proposal will contribute to the efficient use of zoned land identified for lifestyle development in the District Plan, advancing the staged implementation of the structure plan approved under PC14. It will increase housing choice within the district by providing additional serviced lots of a size and layout consistent with the rural–residential character anticipated for this location.

13. Conclusion

The proposal has been assessed in relation to the actual and potential effects on the environment, relevant statutory provisions, and expert technical advice. Subject to the recommended conditions, the adverse effects are anticipated to be no more than minor, and the proposal is consistent with the objectives and policies of the District Plan and relevant higher-order planning instruments. The subdivision advances the intended development pattern for the site and can be appropriately integrated with the existing consented stages. I recommend that consent be granted, subject to the conditions outlined in this report.

SUBSTANTIVE DECISION ASSESSMENT

Effects

In accordance with sections 104(1)(a) of the Resource Management Act 1991, the actual and potential adverse effects associated with the proposed activity have been assessed and outlined above. It is considered that the adverse effects on the environment arising from the proposal are no more than minor and appropriate for the receiving environment.

Offsetting or Compensation Measures

In accordance with section 104(1)(ab) of the Resource Management Act 1991, there are no offsetting or compensation measures proposed or agreed to by the applicant that need consideration.

Objectives and Policies

In accordance with section 104(1)(b) of the Resource Management Act 1991, the objectives and policies of the Central Otago District Plan were taken into account when assessing the application. The applicant has provided an assessment of the relevant objectives and policies in the application and these are adopted for the purposes of this report. The proposal is considered to be consistent with the relevant objectives and policies of the Central Otago District Plan

Operative and Proposed Regional Policy Statements

After taking into consideration the operative and proposed Regional Policy Statements for Otago, I consider that the policy direction given by the District Plan is certain and complete as it relates to this application and, as such, there is no need to revert to higher order planning instruments.

Other Matters

Section 104(1)(c) of the Resource Management Act 1991 requires the Council to have regard to any other matters considered relevant and reasonably necessary to determine the application. In this case, the matters of precedent and plan integrity are relevant.

The proposal is non-complying for two reasons. First, it falls marginally short of the average lot size requirement under Rule 19.4.3(ii) for the Rural Residential Zone (1,989.96 m² versus the required 2,000 m²). Despite this minor shortfall, all lots comply with the 1,500 m² minimum lot size and the proposal remains within the maximum number of lots anticipated for Shannon Farm under Plan Change 14.

Second, Rule 4.7.5(i) states that “any building… to be erected upon land that is or is likely to be subject to material damage by erosion, falling debris, subsidence, slippage or inundation from any source” is a non-complying activity. While the current application does not propose any buildings and has not expressly sought consent under this rule, it proposes the creation of lots intended for residential development in an area identified as being at risk from such hazards. The application includes substantial hazard mitigation measures, and it is anticipated that dwellings will be constructed on these lots in future. In my view, it is appropriate that Rule 4.7.5(i) be treated as triggered and that the necessary land use consent be granted now, rather than requiring separate consents for future dwellings.

Ms Harshey’s landscape evidence confirms that the minor average lot size shortfall is “not visually discernible in the context of the wider subdivision,” with effects assessed as low and localised. Given the small scale of non-compliance, the comprehensive hazard mitigation proposed, and the absence of any material adverse effects, approval of the application will not set an undesirable precedent or undermine the integrity of the District Plan.

Section 104D

Section 104D of the Resource Management Act 1991 specifies that resource consent for a non-complying activity must not be granted unless the proposal can meet at least one of two limbs. The limbs of section 104D require that the adverse effects on the environment will be no more than minor, or that the proposal will not be contrary to the objectives and policies of both the district plan and the proposed district plan. It is considered that the proposal meets both limbs as any adverse effects arising from this proposed activity will be no more than minor, and the activity will not be contrary to the objectives and policies of both the District Plan. Therefore, the Council can exercise its discretion under section 104D to grant consent.

Part 2

Based on the findings above, I consider that the proposal would satisfy Part 2 of the Resource Management Act 1991. Granting of consent would promote the sustainable management of District's natural and physical resources.

RECOMMENDATION

After having regard to the above planning assessment, I recommend that:

1. The Panel grant consent to the proposed activity under delegated authority in accordance with sections 104, 104B and 104D of the Resource Management Act 1991.

2. The Panel grant consent to the application under section 127 of the Resource Management Act 1991 to amend the conditions of RC220396 as set out below, to give effect to the subdivision authorised by RC250169.

3. No standalone conditions are imposed on RC250169. All necessary requirements to implement this consent are to be incorporated into the amended conditions of RC220396

Oli Monthule-McIntosh
Consultant Planner

Date: 16 September 2025

Consent Type: Subdivision and Land Use Consent

Consent Number: RC 250169

Purpose: Subdivision and land use consent for a 9 lot subdivision in the rural resource area and land use consent to authorise the establishment of buildings on hard prone lots.

Location of Activity: 112 & 144 Ripponvale Road, Cromwell

Legal Description:

RECORD OF TITLE OT7C/632:
- **SEC 27 BLK III CROMWELL SD**
- **SEC 102 BLK III CROMWELL SD**
- **SEC 99 BLK III CROMWELL SD**
- **SEC 28 BLK III CROMWELL SD**
- **SEC 96 BLK III CROMWELL SD**

RECORD OF TITLE OT7C/633:
- **SEC 26 BLK III CROMWELL SD**
- **SEC 100 BLK III CROMWELL SD**

RECORD OF TITLE OT106/99:
- **SEC 54 BLK III CROMWELL SD**

RECORD OF TITLE 126180:
- **PT SEC 25 BLK III CROMWELL SD**
- **PT RUN 1201R**
- **SEC 11 BLK III CROMWELL SD**
- **SEC 101 BLK III CROMWELL SD**
- **LOT 2 DP 330709**
- **SEC 4 BLK III CROMWELL SD**
- **SEC 103 BLK III CROMWELL SD**
- **SEC 98 BLK III CROMWELL SD**
- **PT SEC 5 BLK III CROMWELL SD**

Lapse Date: [Day and Month] 2030, unless the consent has been given effect to before this date.

SUBDIVISION CONDITIONS:

1. The proposed activity must be undertaken in general accordance with the information provided with the resource consent application received by the Council on 23 June 2025, and the conditions of consent of RC220396 (as modified by RC220396V4, or any superseding amendment).

LAND USE CONDITIONS:

2. This consent authorises the establishment of buildings within the building platforms identified for Lots 167 to 175, subject to compliance with the geotechnical, hazard mitigation, and landscape recommendations set out in the Tonkin & Taylor report dated [July 2025] and as incorporated into the amended conditions of RC220396

Consent Type: Variation to Land Use/Subdivision Consent

Consent Number: 220396 as varied by 220396V1 & 220396V2

Purpose: Change to conditions 1 and 2 of RC220396 in the rural resource area

Location of Activity: 112 & 144 RIPPONVALE ROAD, CROMWELL

Legal Description: SEC 11 BLK III CROMWELL SD (Record of Title 126180)

Lapse Date: 13 September 2028, unless the consent has been given effect to before this date.

[Additions are shown underlined and deletions shown as struck through]

Subdivision Conditions:

1. The subdivision shall be undertaken in accordance with the plans of subdivision being:

   - Shannon Farm Development Lot Layout Overview Sheets 001 and 002 Revision ~~E~~G
   - Shannon Farm Development Lot Layout Details Sheets 003 to 013 Revision ~~E~~G
   - Shannon Farm Development Staging Sheets 016 and 017 Revision ~~E~~G
   - Shannon Farm Development Typical Road Sections Sheets 018 to 021 Revision ~~E~~G
   - Shannon Farm Bulk Earthworks Layout Sheets 001 and 002 Revision ~~B~~~~C~~G
   - Shannon Farm Subdivision Water Reticulation Overview Sheets 001 and 002 Revision ~~A~~G
   - Shannon Farm Subdivision Wastewater and Stormwater Reticulation Overview Sheet 003 Revision ~~A~~G
   - Shannon Farm Subdivision Wastewater Reticulation Overview Sheet 004 Revision ~~A~~G
   - Shannon Farm Subdivision Connection to Existing Services Sheet 007 Revision ~~A~~G

   as amended by the following conditions

2. This subdivision may be staged. For the purposes of issuing approvals under Sections 223 and 224(c) of the Resource Management Act 1991, the conditions of this consent shall be applied only to the extent that they are relevant to each particular stage proposed. This consent may be progressed in the following stages:

Stage	RLA Lots	Total (RLA)	Access Lots	Open Space Lots
1	1-11	11	2000 & 2001	-
2	12-17, 18-20 & 30-32	12	2002	-
3	21-25	5	2003	-

4	33-49	17	2005	-
5	28 & 29	2	2003	-
6	26 & 27	2	2003	-
7	701	1	-	-
8	704	1	2000	-
9	706	1	-	-
10	702	1	-	-
11	92-97 & 301	7	2004 & 2011	-
12	~~50-54,303-307, 412 & 413~~ 303-307	~~12~~ 5	2006	3001
13	~~55-66 & 414~~ 50-70	~~13~~ 21	2007 & 2008	3000
14	~~67-74, 1004 & 415~~ 71-74 & 1004 167-168 (previously 1004)	~~10~~ 4	2008	-
15	76-80 & 169-175 (previously 1003)	6	2009	-
16	89-91, 98, 99 & 302	6		-
17	75 & 81-83	4	-	-
18	84 – 88, 401 & 402	7	2010	-
19	~~403-406, 409 & 308-310~~ 403-406, 409, 412 - 415 & 308-310	~~8~~ 12	2012	-
12	50-54,303-307, 412 & 413	12	2006	3001
13	55-66 & 414	13	2007	3000

14	67-74, 1004 & 415	10	2008	-
15	76-80 & 1003	6	2009	-
16	89-91, 98, 99 & 302	6		-
17	75 & 81-83	4	-	-
18	84 – 88, 401 & 402	7	2010	-
19	403-406, 409 & 308-310	8	2012	-
20	407, 408, 201-208 & 416-420	15	2013	-
21	410, 411, 421-425, 501-504 & 600	10	2014	-
22	703	1	-	-
23	705	1	-	-
24	1001	1	-	-

With the exception of Stages 9 & 24, Stage 1 must be in advance of all other Stages. Otherwise, the stages set out above may be progressed in any order, providing all necessary subdivision works, servicing, provision of formed legal access, granting or reserving of easements and all other works required to satisfy conditions of this consent are completed for each stage, prior to certification being issued as necessary under Sections 223 and 224(c) of the Resource Management Act 1991.

3. All subdivisional designs and approvals are to be in accordance with NZS 4404:2004 and the July 2008 version of the CODC Addendum, which is the Council's Code of Practice for Subdivision as modified by these conditions of consent.

4. Prior to the commencement of any subdivisional works, the consent holder must obtain the approval of Central Otago District Council's Environmental Engineering Manager for the works, in accordance with Clause 1.5 of NZS 4404:2004.

5. It is the consent holder's responsibility to obtain any necessary licences to occupy for privately owned assets within land to be vested in Central Otago District Council. Evidence of the granting of any such licences must be provided at the time a request is made for Section 224(c) certification of the relevant land.

Traffic Management

6. The consent holder shall obtain and implement a traffic management plan approved by Council prior to undertaking any works within or adjacent to Council's road reserve that affects the normal operating conditions of the road reserve through disruption, inconvenience or delay. The Traffic Management Plan shall be prepared by a certified Temporary Traffic Management Planner (TTMP) as validated on their code of practice for temporary traffic management (CoPTTM) ID certification. All contractors obligated to

implement temporary traffic management plans shall employ a qualified Site Traffic Management Supervisor (STMS) to manage the site in accordance with the requirements of the NZTA's "Traffic Control Devices Manual Part 8: Code of practice for temporary traffic management". The STMS shall implement the Traffic Management Plan. A copy of the approved plan shall be submitted to the Engineering Manager at Council prior to works commencing.

7. Prior to commencing any work on the site, the consent holder shall install a construction vehicle crossing, which all construction traffic shall use to enter and exit the site. The minimum standard for this crossing shall be a minimum compacted depth of 150mm AP40 metal that extends 6m into the site.

Earthworks

8. The EMP shall be accessible on site at all times during work under this consent.

9. The earthworks and site management shall be undertaken in accordance with the recommendations of the EMP submitted.

10. Prior to commencing any earthworks within the former farmyard areas of the site identified in Figure 6 of the Detailed Site Investigation provided as Attachment E5 to the application, the consent holder shall submit to Council for certification a Remediation Action Plan and Contaminated Site Management Plan, prepared by a Suitably Qualified Environmental Practitioner and including appropriate processes and procedures to mitigate the risk soil exposure presents to any persons undertaking earthworks on site. This Management Plan is in addition to any standard site management procedures and shall be incorporated into the general site management plan as an additional form of control.

11. The consent holder shall implement suitable measures to prevent deposition of any debris on surrounding roads by vehicles moving to and from the site. If any material is deposited on any roads, the consent holder shall take immediate action, at their expense, to clean the roads. The loading and stockpiling of earth and other materials shall be confined to the subject site.

12. No earthworks, temporary or permanent, are to breach the boundaries of the subject site, with the specific exception of earthworks required to upgrade the relevant sections of Ripponvale Road, the associated intersection to the subject site and the shared walking / cycle path within the Ripponvale Road and State Highway 6 legal corridor.

13. All earth worked and/or exposed areas created as part of the subdivision shall be top-soiled and grassed, revegetated, or otherwise stabilised as soon as practicable.

14. The consent holder shall remedy any damage to all existing road surfaces and berms that result from work carried out for this consent. The applicant is to maintain photographic records of the 'before & after' condition of all potentially affected areas of road surfaces and berms and shall produce these to Council's Monitoring staff upon request, within five (5) working days of the request.

15. The irrigation dams located on proposed allotments ~~703 and~~ 59-60 must be drained prior to the completion of any of Stages 1, 2, 3 or 4 and the consent holder shall ensure that these dams remain empty until they are backfilled prior to completion of Stage 13.

16. The irrigation dam located on proposed allotments 90-95 must be drained and backfilled prior to the completion of Stage 11.

17. Hours of operation for earthworks, shall be:

    c) Monday to Saturday (inclusive): 7.00am to 6.00pm;

    d) Sundays and Public Holidays: No Activity

    In addition, no heavy vehicles are to enter or exit the site, and no machinery shall start up or operate earlier than 7.00am. All earthworks activity on the site is to cease by 6.00pm.

18. Exposed surfaces that are not to be built upon or suitably surfaced shall be grassed as soon as practicable as works progress.

To be completed before Council approval of the Survey Plan

19. Prior to the Council signing the Survey Plan pursuant to Section 223 of the Resource Management Act 1991, the consent holder shall complete the following:

    c) All necessary easements shall be shown in the Memorandum of Easements attached to the Survey Plan to be duly granted or reserved. This shall include any easements necessary to protect rights of way or access to services.

20. The following amalgamation conditions must be shown on the face of the subdivision plan for the relevant stage

    That Lots 501 and 502 hereon be held in the same record of title (See CSN Request 1837327)

    That Lots 503 and 504 hereon be held in the same record of title (See CSN Request 1837327)

    That Lots 1002, 169-175 (previously 1003) and 167-168 (1004 previously) hereon be held in the same record of title (See CSN Request 1837327)

To be completed before issue of the section 224(c) certification

21. Prior to Section 224(c) certification, the following conditions shall be met:

    a) As-built drawings of any assets to be vested in Council or located in land to be vested with Council are to be lodged with the Chief Executive in accordance with clause 1.5.10(b) of NZS 4404:2004. The as-built drawings are to be draughted electronically and are to be compatible with a CAD system nominated by the Chief Executive. As-built drawings shall be lodged electronically and in a hard copy A3 format and shall show the location and individual meter reference number against the relevant toby box location.

Roading and Access

    b) The intersection of Road 001 and Ripponvale Road must be constructed to the requirements of Austroads Guide to Road Design and to the satisfaction of Council's Roading Manager as a requirement of section 224(c) certification for Stage 1 of the subdivision works

    c) Prior to the issue of a certificate under section 224c of the Resource Management Act 1991 for the 51st rural lifestyle allotment, the widening of the existing seal of Ripponvale Road to a formed width of 7.0m seal with 0.25m metalled shoulders, from the principal access to 144 Ripponvale Road, eastwards to the intersection with State Highway 6, shall be completed.

Note: For the avoidance of doubt, “rural lifestyle allotment” only includes those allotments in the RLA 1-6.

d) Prior to the issue of a certificate under section 224c of the Resource Management Act 1991 for the 51st rural lifestyle allotment, the provision of a 2.0m wide shared walking and cycling path within the legal corridor of Ripponvale Road from the principal access to 144 Ripponvale Road, eastwards to the intersection with the State Highway, shall be completed.

e) Prior to the issue of a certificate under section 224c of the Resource Management Act 1991 for the 51st rural lifestyle allotment, a pedestrian/cyclist underpass shall be incorporated into State Highway 6 and be operational.

f) Roads 001 (Up to and including the intersection with Road 002 opposite Lot 306) and 002 must be formed in accordance with Table 3.1 of Councils July 2008 Addendum to NZS 4404:2004, Residential Local Road classification as modified by the following:

   i) An 8.0m wide asphaltic concrete surfaced carriageway within a 20m wide legal corridor

   ii) A subgrade CBR >7

   iii) A 9.5m radius asphaltic concrete surfaced turning circle at all permanent cul de sac heads, in addition to temporary cul de sac heads where considered necessary by Council’s Roading Manager.

   iv) Flush nib kerb to provide a structural pavement edge.

   v) Stormwater from road is to be captured by mudtanks located in roadside swales and discharged to ground via soakpit.

   vi) Sealed vehicle entrances provided to adjoining lots in accordance with Part 29 of Council’s Roading Policies, January 2015 or a registered as a consent notice on the Record of Title for all lots where access has been left to the time of dwelling construction.

   vii) Cut/fill batters outside ROW boundaries with maximum 4:1 gradient to match existing ground or other as agreed by Council’s Infrastructure Manager.

g) Road 001 beyond the intersection with Road 002 opposite Lot 306 must be formed in accordance with Table 3.2(a) of Councils July 2008 Addendum to NZS 4404:2004, Rural Local Sealed classification as modified by the following:

   i) The road shall be constructed with a 6.0m width asphaltic concrete surfaced carriageway width within a 20.0m legal road corridor.

   ii) A subgrade CBR >7

   iii) A 9.5m radius asphaltic concrete surfaced turning circle at all permanent cul de sac heads, in addition to temporary cul de sac heads where considered necessary by Council’s Roading Manager

   iv) Flush nib kerb to provide a structural pavement edge.

   v) Stormwater from road is to be captured by mudtanks located in roadside swales and discharged to ground via soakpit.

   vi) Sealed vehicle entrances provided to adjoining lots in accordance with Part 29 of Council’s Roading Policies, January 2015 or registered as a consent

notice on the Record of Title for all lots where access has been left to the time of dwelling construction.

vii) Cut and fill batters outside ROW boundaries with maximum 4:1 gradient to match existing ground or other as agreed by Infrastructure Manager.

h) Roads 003, 004 and 005 must be constructed in accordance with Table 3.1 of Councils July 2008 Addendum to NZS 4404:2004, Residential Local Road classification as modified by the following

i) The road shall be constructed with a 6.0m width asphaltic concrete surfaced carriageway width within a 15.0m legal road corridor.

ii) A subgrade CBR >7

iii) A 9.5m radius asphaltic concrete surfaced turning circle at all permanent cul de sac heads, in addition to temporary cul de sac heads where considered necessary by Council's Roading Manager.

iv) Flush nib kerb to provide a structural pavement edge.

v) Stormwater from road is to be captured by mudtanks located in roadside swales and discharged to ground via soakpit.

vi) Sealed vehicle entrances provided to adjoining lots in accordance with Part 29 of Council's Roading Policies, January 2015 or registered as a consent notice on the Record of Title for all lots where access has been left to the time of dwelling construction.

vii) Cut and fill batters outside ROW boundaries with maximum 4:1 gradient to match existing ground or other as agreed by Infrastructure Manager

i) Road 006 must be constructed in accordance with Table 3.2(a) of Councils July 2008 Addendum to NZS 4404:2004, Residential Local Road classification as modified by the following

i) The road shall be constructed with a 6.0m width asphaltic concrete surfaced carriageway width within a 15.0m legal road corridor.

ii) A subgrade CBR >7

iii) A 9.5m radius asphaltic concrete surfaced turning circle at all permanent cul de sac heads, in addition to temporary cul de sac heads where considered necessary by Council's Roading Manager

iv) Stormwater from road is to be captured by mudtanks located in roadside swales and discharged to ground via soakpit.

v) Sealed vehicle entrances provided to adjoining lots in accordance with Part 29 of Council's Roading Policies, January 2015 or registered as a consent notice on the Record of Title for all lots where access has been left to the time of dwelling construction.

vi) Cut/fill batters outside ROW boundaries with maximum 2:1 gradient to match existing ground or other as agreed by Infrastructure Manager.

j) All Rights of Way within the RLA 1 must be designed and constructed in accordance with the 'Right of Way' requirements of Table 3.1 of Council's July 2008 Addendum to NZS 4404:2004, as modified by the following:

i) 6.0m ROW legal width for ROWs “A” – “C”, “E”, “O”, “R”, “S”, & “W/X” and the ROW serving Lots 170-171 and 174-175 and the ROW serving Lots 172-173.

ii) 10.0m ROW legal width for ROWs “D”, “M”, “L”, “K”& “P.

iii) 4.5m asphaltic concrete carriageway.

iv) A subgrade CBR >7

v) 4% camber to kerb and channel.

vi) Heavy duty kerb crossing at entrance constructed in accordance with Council’s Roading Policies January 2015, Part 29.

vii) Standard or mountable kerb and channel on lower side and nib kerb on higher side of the carriageway on 6.0m ROW.

viii) Cut/fill batters outside ROW boundaries with maximum 2:1 gradient to match existing ground or other as agreed by Infrastructure Manager on 10.0m ROW

ix) Mudtank collecting stormwater from ROW and discharging to soakpit within ROW.

x) Attractive low maintenance surfacing (crushed schist or similar) or mown grass along verges between carriageway and ROW boundary.

xi) Cut/fill batters outside ROW boundaries with maximum 2:1 gradient to match existing ground or other as agreed by Infrastructure Manager.

k) All Rights of Way within the RLAs 2 to 4, and RLPA must be designed and constructed in accordance with the ‘Right of Way’ requirements of Table 3.1 of Council’s July 2008 Addendum to NZS 4404:2004, as modified by the following:

i) 10.0m ROW width for ROWs “H”, “I”, “J”, “Q”, “V” & “F/G”.

ii) 4.5m wide two coat grade 3/5 chip seal, asphaltic concrete, concrete or concrete paving block surfacing.

iii) A subgrade CBR >7

iv) Stormwater from road is to be captured by mudtanks located in roadside swales and discharged to ground via soakpit.

v) Attractive low maintenance surfacing (crushed schist or similar) or mown grass along verges between carriageway and ROW boundary.

vi) Cut/fill batters outside ROW boundaries with maximum 2:1 gradient to match existing ground or other as agreed by Infrastructure Manager.

l) An asphaltic concrete, concrete or concrete paver footpath must be constructed on one side of Roads 001 to 005 with crossings at intersections to NZS4121:2001 requirements and with the following:

i) 2.0m width for Road 001 to the entry to Reserve Lot 3000

ii) 1.5m width for Road 001 & Road 002 where it services RLA 1 Areas

iii) 1.5m width for Road 001 where it services the RLA 2-4

iv) 1.5m width for Road 003 – 005 where it services RLA 1 Areas

v) 100mm depth clean topsoil between footpath and boundary formed at 4% crossfall, trimmed and grassed to a mowable standard.

vi) All necessary traffic signs and road markings

vii) Cut/fill batters outside road boundaries with maximum 4:1 gradient to match existing ground or other as agreed by Infrastructure Manager.

viii) LED street lighting in accordance with NZS 4404 and Standard 4.7.6(A)(p) with lamps to be selected from Auckland Transport approved list. Should any conflict between NZS 4404 and Standard 4.7.6(A)(p) arise, the District Plan Standard takes precedence.

ix) Tree planting to be in accordance with Council's 'District Tree Management and Operational Guideline 2011' and with automated irrigation provided, all to the requirements of Council's Parks and Reserves Manager.

x) The location of trees and streetlights shall consider the likely location of future entranceways to residential lots.

Water: Potable and Firefighting:

m) Water reticulation shall be extended from Council's network within either Waenga Drive or State Highway 6 along Ripponvale Road to serve the subdivision., including the following.

i) Updated water modelling is to be undertaken by Mott MacDonald (at the consent holder's expense) at the time of detailed engineering design if requested by Council's Three Waters Director.

ii) All works are to be designed and undertaken to the satisfaction of Councils Three Waters Director.

iii) The subdivision shall be fully reticulated from Waenga Drive, State Highway 6 or approved alternative point of connection, rider mains provided, and standard 20mm diameter connections installed to the boundary of each residential allotment. Modelling will confirm the required sizing of water mains through the development and shall ensure that the requirements of the Fire and Emergency New Zealand Fire Fighting Water Supplies Code of Practice SNZ PAS 4509:2008 are met.

iv) Council's Three Waters Director may require any part of the water supply network be upgraded to serve future development. Any upsizing of the extended reticulation, beyond the requirements of the development and approved by Council's Three Waters Director is to be funded by Council.

v) Appropriately sized and metered connections (Acuflo toby/meter assembly) must be installed 300mm from the street boundary of all lots, with the supply connection then extended at least 300mm inside the boundary

vi) Where a property has a second water supply system the property shall be considered high hazard for backflow prevention and require a RPZ backflow preventer at the point of supply from the council network

vii) Land containing water reservoirs must be vested in Council

Water: Irrigation:

n) Non-potable water reticulation shall be supplied to the allotments in the subdivision. Appropriately sized and metered connections (If metering is required by the entity managing the network) must be installed to the boundary of all lots, including the following:

i) The subdivision shall be fully reticulated from the irrigation source being either the Ripponvale Irrigation scheme or bore supply, rider mains shall be provided where necessary, and minimum 20mm diameter connections installed to the boundary of each residential allotment.

ii) A formal water supply document “Shannon Farm – Water Deed” or similar must be provided to Council to secure the supply and the daily water entitlement to each lot.

iii) Details of the management structure of the non-potable network must be provided to Council

iv) Evidence of any necessary permissions from Council’s Roading Team to install services for any part of the network within road reserve

v) For lots to vest in CODC, irrigation connections to the non-potable network must be metered and installed with backflow prevention devices where a risk of cross connection exists.

Wastewater:

o) Wastewater reticulation shall be extended from Council’s network within either Waenga Drive or State Highway 6 along Ripponvale Road to serve the subdivision to the following requirements:

i) The wastewater network is to be designed by a suitably qualified professional to adequately serve the subdivision. The minimum pipe sizes shall be DN150 gravity wastewater reticulation, or DN50 pressure mains where gravity drainage is not possible, along all subdivisional roads.

ii) Install standard DN100 laterals to all residential lots with cleaning eye installed at the street boundary. Laterals are to be extended to the buildable area of rear allotments.

iii) Council’s Three Waters Director may require any part of the wastewater network be upgraded to serve future development. Any upsizing beyond the requirements of the development and approved by Council’s Three Waters Director is to be funded by Council.

Note: The Councils preference is for gravity wastewater systems. Pumped systems will only be accepted when there is not a viable gravity wastewater solution.

Stormwater

p) The design of the stormwater channel shown on the survey plan must be undertaken by a suitably qualified and experienced person and be submitted to Council as part of engineering approval.

Power and Telecommunications

q) Operational electricity and telecommunications connections must be provided underground to the boundary of each allotment. In relation to any ‘rear allotments’ accessed by a ROW, ducting must be provided to the edge of the ‘net site area' to enable a connection to be made at the time the lots are built on.

Amenity Edges and Reserves

r) Prior to the issue of any section 224(c) certification for Stage 1, the Horticulture Amenity Edge contained within allotments 5 and 6 shall be a minimum width of

15m and planting shall be complete. Plantings in the Horticulture Amenity Edge shall predominantly consist of species elected from the Planting Schedule for the Rural Resource Area (5) contained in Schedule 19.25.

s) Prior to the issue of any section 224(c) certification for Stage 4, the Horticulture Amenity Edge contained within allotments ~~47 and~~ 48 shall be a minimum width of 10m and plantings shall predominantly consist of species elected from the Planting Schedule for the Rural Resource Area (5) contained in Schedule 19.25 and shall be planted in accordance with accepted arboriculture practices.

t) Prior to the issue of any section 224(c) certification for Stage 7, the RLPA Amenity Edge contained within allotment 701 shall be a minimum width of 15m where trees shall be planted in two rows, a 2.5m minimum height (at the time of planting), the maximum spacing between plantings in the southern row shall be 4m and the northern row 5m. All species are to be planted in accordance with accepted arboriculture practices and shall be selected from Schedule 19.25 to achieve a 3-4m growth rate within 5 years of establishment.

u) Prior to the issue of any section 224(c) certification for Stage 8, the RLPA Amenity Edge contained within allotment 704 shall be a minimum width of 15m where trees shall be planted in two rows, a 2.5 metre minimum height (at the time of planting), the maximum spacing between plantings in the southern row shall be 4m and the northern row 5m. All species are to be planted in accordance with accepted arboriculture practices and shall be selected from Schedule 19.25 to achieve a 3-4 metre growth rate within 5 years of establishment.

v) Prior to the issue of any section 224(c) certification for Stage 23, the RLPA Amenity Edge contained within allotment 705 shall be a minimum width of 15m where trees shall be planted in two rows, a 2.5 metre minimum height (at the time of planting), the maximum spacing between plantings in the southern row shall be 4m and the northern row 5m. All species are to be planted in accordance with accepted arboriculture practices and shall be selected from Schedule 19.25 to achieve a 3-4 metre growth rate within 5 years of establishment.

w) Prior to the issue of any section 224(c) certification for Stage 12:

   i) The consent holder shall obtain Council approval for the vesting of recreation reserve land (Lot 3001) and reserve improvements (where applicable) and shall show that area of land on a subdivision plan.

   ii) The Horticulture Amenity Edge contained within allotment 3001 shall be a minimum width of 10m and plantings shall predominantly consist of species elected from the Planting Schedule for the Rural Resource Area (5) contained in Schedule 19.25 and shall be planted in accordance with accepted arboriculture practices.

x) Prior to the issue of any section 224(c) certification for Stage 13, the consent holder shall obtain Council approval for the vesting of recreation reserve land (Lot 3000) and reserve improvements (where applicable) and shall show that area of land on a subdivision plan.

y) The consent holder shall submit landscaping plans for Lots 3000 and 3001 for the approval of Council's Parks and Recreation Manager. The landscape plan shall show detailed landscaping treatment within each reserve allotment.

z) Prior to the issue of any section 224(c) certification for Stage 19, the Horticulture Amenity Edge contained within allotment 403 shall be a minimum width of 15m and planting shall be complete. Plantings shall predominantly consist of species selected from the Planting Schedule for the Rural Resource Area (5) contained in Schedule 19.25.

Geotechnical Conditions

aa) Prior to the issue of any section 224(c) certification for Stages 1, 2, 3 or 4, the consent holder must provide a geotechnical certification in relation to the use of the former irrigation dam on proposed allotment 703 as a attenuation basin that has been prepared by suitably qualified geotechnical engineer as defined in Section 1.2.2 of NZS4404:2010 and demonstrates to Council that the attenuation basin on allotment 703 represents an acceptable risk in terms of any potential flooding hazard.

bb) Prior to the issue of any section 224(c) certification for Stages 15 – 18, the consent holder must provide a geotechnical completion report and a Schedule 2A "Statement of professional opinion as to suitability of land for building construction" for Lots 75, 76, 78 – 91, 98, 99, 302, 401 & 402 in accordance with Section 2.6.1 of NZS4404: 2010 that has been prepared by suitably qualified geotechnical engineer as defined in Section 1.2.2 of NZS4404:2010 and demonstrates to Council that the proposed lots are suitable for building development. In the event that the site conditions within the lots are only found to be suitable for building construction subject to certain mitigation measures and/or remedial works being carried out, then a suitably qualified and experienced professional shall submit to the Council for review and approval full details of such works. The consent holder or successor shall be responsible for implementing all necessary mitigation measures and/or remedial works required to prepare the land for building construction with a consent notice imposed in accordance with Condition 22 in relation to any remediation works not carried out prior to Section 224(c) certification.

cc) Areas of potential rockfall as identified in the GeoSolve geotechnical assessment must be inspected and remediation carried out to minimise the risk of rockfall onto building platforms. The adequacy of remediation works must be certified by a geotechnical engineer.

dd) The water race that would run through Lots 89 to 95 must be re-routed underground through either Road 004, or Lots 705 and 706, using an appropriately sized pipe

Note: Running the undergrounded water race through Road 004 is subject to the consent holder obtaining any necessary licences or permissions from Central Otago District Council's Roading Manager to locate private assets within road reserve.

ee) Prior to s224(c) certification for any stage containing Lots 75-83, 167-175, 401 and 402, the consent holder must design and construct upslope bunds (or equivalent diversion works) to deflect potential debris flows into controlled secondary flow paths, generally in accordance with the Tonkin & Taylor report dated July 2025

a. The debris flow management works must be located to intercept and convey flows down the accessways or boundaries between the following lots:

- Between Lots 80/83, 79/82, 78/79, and 81/82; and

- Between Lots 171/172, 173/174, 170/171, and 174/175.

b. The design must be certified by a Chartered Professional Engineer with experience in geotechnical and stormwater engineering.

c. On completion, the bunds must be certified by the Engineer as having been constructed in accordance with the approved design.

d. As-built plans and certification must be provided to Council prior to s224(c).

e. Appropriate easements must be in place for any stormwater flow paths through private lots.

ff) Prior to s224(c) certification for any stage containing Lots 171–173 or Lot 175, the consent holder must design and construct raised engineered fill building platforms nominally 1.0 metre above the surrounding ground level, together with associated individual accessways to those platforms

i) The design required must:

a. Integrate with the detailed subdivision design, including roading, stormwater drainage, and overland flow path mitigation;

b. Be in general accordance with the recommendations in the Tonkin & Taylor report dated July 2025; and

c. Ensure that platform levels and accessways do not conflict with or compromise the effectiveness of the wider stormwater drainage and debris flow management works.

ii) The design and construction of the works required by this condition must be:

a. Undertaken or supervised by a Chartered Professional Engineer experienced in geotechnical and civil engineering; and

b. Certified on completion as being constructed in accordance with the approved design and relevant engineering standards.

Financial Contribution

gg) Payment of a financial contribution of $156,251.78 + GST (exclusive of Goods and Services Tax) calculated in terms of Rule 15.6.1 of the Operative District Plan on the basis of 151 additional rural residential allotments in total. Payment is due upon application under the Resource Management Act 1991 for certification pursuant to Section 224(c). The payment required at the time of section 224(c) certification of any one stage is to be commensurate with the number of allotments to be certified. The Council may withhold a certificate under Section 224(c) certification of the Resource Management Act 1991 if the required Development and Financial Contributions have not been paid, pursuant to section 208 of the Local Government Act 2002 and Section 15.5.1 of the Operative District Plan.

Ongoing Conditions/Consent Notices

22. The following conditions of the consent shall be complied with in perpetuity and shall be registered on Lots 1-99, 167 – 175, 201-208, 301-310, 401-425, 501-504 and 600 by way of Consent Notice pursuant to Section 221 of the Act:

a) This lot has connections to a potable and a non-potable water network. The potable water supply servicing the allotment must only be used to supply water within buildings on the site. Any water connections to be used for irrigation or curtilage maintenance must be from the non-potable supply only. There must be no cross connections between the potable and non-potable water networks. At the time building consent is lodged for any building being connected to the potable water supply, the consent holder or successor must provide plans demonstrating compliance with this condition.

b) Lot owners must sign up and remain a party to the "Shannon Farm – Water deed for irrigation" (Or similar irrigation water deed) for supply of irrigation water to the allotment as required by the entity managing irrigation water supply to the allotment

c) Stormwater from buildings and impervious surfaces on all lots must be either disposed of to ground within the site using appropriately designed and constructed soak pits, or otherwise stored for beneficial re-use within the site

d) Residential buildings on Lots 1 to 99, 167 – 175, 201 to 208, 301 to 310, 401 to 425, 501, 504 and 600 must be located within the building platform identified on the plan of subdivision

e) For a period of 15 years from May 2023 there shall be no construction of new dwellings on allotments 701 – 706 prior to planting of a minimum of 50% of the site in horticultural or viticultural species, and for that period of 15 years, any plants that die, become diseased, or are otherwise removed, shall be replaced with the same or similar horticultural or viticultural species.

f) No residential building platforms shall be identified, and no new dwellings shall be constructed on allotments 701 – 706 prior to a Detailed Site Investigation under the National Policy Statement for Soil Contamination being submitted to Council for approval and confirming allotments 701 – 706 are suitable for residential occupation.

g) All planting contained within the RLPA Amenity Edge on allotments 701, 704 and 705 shall be maintained by the landowner.

h) All planting contained within the Shelter Belt Planting Area on allotment 706 shall be maintained by the landowner.

i) All planting contained within the Horticulture 15m Amenity Edge on allotments 5 and 6 shall be maintained by the landowner.

j) All planting contained within the Horticulture 10m Amenity Edge on allotments 47 and 48 shall be maintained by the landowner.

k) There shall be no buildings (excluding fences and retaining structures) located with the "no build" area on allotments 201 – 203, 416 – 420, 421 – 425, 401, 402, 501, 504 and 600.

l) Prior to the construction of any dwelling on Lots 5, 6, 17, 32, 75, 76, 77, 96, 97, 301 and 701, the consent holder or successor must demonstrate that the minimum floor level of the dwelling is above the 1% AEP flood level for the lot.

23. A consent notice condition must be registered on the relevant Records of Title for any lot in respect of which the Schedule 2A statement required in the context of Condition 20(z) (aa) indicates that building construction would only be suitable if specified mitigation

measures and/or remedial works were carried out at the time of construction. The consent notice condition must require that, prior to any construction work (other than work associated with geotechnical investigation), the owner of such a lot must submit to council for certification, plans prepared by a suitably qualified engineer detailing the proposed mitigation measures and/or remedial works and require the owner to implement all such measures prior to occupation of any building.

24. The consent holder will register a no complaints covenant in relation to the effects of rural productive activities over all saleable Records of Title (excluding reserves and utility allotments) for all Rural Lifestyle Area allotments in favour of Lots 1-4 DP 344529. The covenant will be in a form approved by Council (acting reasonably). A solicitor's undertaking to register such covenant will be required before issue of a s224(c) certificate for the relevant stage of the development. The covenant required by this clause may be registered in the same legal instrument as other developer covenants.

25. The following conditions of the consent shall be complied with in perpetuity and shall be registered on Lots 71 – 83, 167 – 175, 401 and 402 by way of Consent Notice pursuant to Section 221 of the Act:

    a) All debris flow management works and hazard mitigation measures located within any of the lots hereon, including any bunds, diversion channels, engineered fill platforms, or associated structures, must be retained and maintained in good working order in perpetuity by the respective lot owners.

    b) Prior to the issue of building consent for any building, a site specific geotechnical investigation must be undertaken by a suitably qualified and experienced Chartered Professional Engineer to confirm bearing capacity, identify any localised geotechnical hazards, and certify that the proposed foundation design is appropriate for the site in accordance with the New Zealand Building Code.

    c) Where colluvium and/or silt deposits exceeding 1 metre in depth are present, they must be removed or appropriately treated prior to foundation construction

    d) All buildings must be constructed using flexible foundation systems capable of accommodating up to 100mm of differential movement without compromising structural integrity. Suitable systems include waffle slabs, reinforced gravel rafts, or ground beams of the type developed for TC2-class liquefaction-prone ground following the Christchurch earthquakes, or other equivalent solutions recommended by a Chartered Professional Engineer (Civil or Geotechnical).

    e) The foundation design must be certified by a Chartered Professional Engineer as meeting the above performance requirement prior to the issue of building consent.

    f) Foundation systems must be designed to allow for re-levelling if required.

    g) This all cut slopes must be constructed at a maximum slope angle of 2H:1V (horizontal to vertical) and generally up to a maximum height of 5 metres, unless otherwise certified by a suitably qualified and experienced Chartered Professional Engineer.

    h) Cut slope design and construction must be carried out in a manner that avoids undercutting any local landslide debris slide planes.

    i) Lot-Specific Height and Development Restrictions

        i) Lots 167 and 168 – Cuts must be limited to a maximum height of 2 metres. These lots must be developed on engineered fill platforms extending onto

the North Gully in accordance with a design certified by a Chartered Professional Engineer.

ii) Lots 169 and 170 – No cutting is permitted into the toe of the historic, water race–triggered landslide.

iii) Lots 78, 80, 171, and 174 – Where cuts are proposed, retaining walls must be incorporated as necessary to mitigate the risk of cut slope movements encroaching on upslope accessways or adjoining lots. A combination of a lower retaining wall and upper cut may be used depending on the specific cut height and configuration, subject to engineering certification.

Building Platform Land Use Conditions

1. Building platforms must be shown on the face of the survey plan for the relevant lots in general accordance with those shown on the plans attached as Appendix One.

2. Buildings within the consented building platforms on Lots 208, 401, 402, 403, 404, 406, 408, 409, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425 and 501 may breach the minimum yards provided they are located within the building platforms identified on the lots on the plans attached as Appendix One.

NES-CS Land Use Conditions

1. Prior to the commencement of earthworks, a Site Management Plan (SMP) and Remediation Action Plan (RAP) must be developed by a suitably qualified and experienced person. The SMP and RAP may be incorporated into a single document. Both plans must take into consideration the recommendations of the WSP Detailed Site Investigation dated October 2022 and provided in support of the application. At a minimum the SMP and RAP must include the following:

   a. Procedures to minimise risk of exposure to persons on the site.

   b. Approaches to managing and remediating earthworks involving contaminated soils including but not limited to the areas identified in Figure Seven of the Detailed Site Investigation

   c. An accidental discovery protocol to be followed in the event that unanticipated areas with potential soil contamination are identified during subdivisional works.

2. A copy of the SMP and RAP must be provided to Central Otago District Council at least 10 working days prior to the commencement of works. CODC may recommend changes be made to either document at least 5 working days before the commencement of works.

3. The SMP and RAP must be implemented at all times during construction works associated with the approved subdivision.

4. A copy of the SMP and RAP must be accessible on site at all times.

5. If any potentially contaminated soils from areas identified in yellow in Figure 7 of the WSP Detailed Site Investigation are to be removed from the site, the soils must be tested for heavy metals and, where soil is not able to be considered cleanfill, disposed of to an appropriately accredited landfill facility.

6. In accordance with Section 128 of the Resource Management Act 1991, the conditions of this consent may be reviewed on and in the period within 6 (six) months upon each

anniversary of the date of this consent, if, on reasonable grounds, the consent authority finds that:

a. There is or is likely to be an adverse environmental effect as a result of the exercise of this consent, which was unforeseen when the consent was granted;

b. Monitoring of the exercise of the consent has revealed that there is or is likely to be an adverse environmental effect; or

c. There has been a change in the circumstances and the conditions of consent are no longer appropriate in terms of the purpose of the Act.

Advice Notes:

1. *Any change of use of Lots 701 and 706 has not been assessed as part of this application in terms of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2011 (The NES-CS). Any change of use of these lots will need to consider the NES-CS.*

2. *Further resource consent under Rule 4.7.2(ib) of the Operative Central Otago District Plan 2008 or any superseding rule will be required prior to the establishment of residential activity on any lot in the Rural Lifestyle Areas or Rural Production Lifestyle Area.*

3. *Potable water use within the subdivision will be metered and charged according to Council's fees and charges and any policies related to the supply of potable water.*

4. *Development contributions of $509,128.21, $412,165.07 and $225,696.68 (exclusive of goods and services tax) are payable for water, wastewater and roading respectively pursuant to the Council's Policy on Development and Financial Contributions contained in the Long Term Council Community Plan. Payment is due upon application under the Resource Management Act 1991 for certification pursuant to section 224(c). The Council may withhold a certificate under section 224(c) of the Resource Management Act 1991 if the required Development and Financial Contributions have not been paid, pursuant to section 208 of the Local Government Act 2002 and Section 15.5.1 of the Operative District Plan.* The payment required at the time of section 224(c) certification of any one stage is to be commensurate with the number of allotments to be certified.

5. *In addition to the conditions of a resource consent, the Resource Management Act 1991 establishes through sections 16 and 17 a duty for all persons to avoid unreasonable noise, and to avoid, remedy or mitigate any adverse effect created from an activity they undertake.*

6. *Resource consents are not personal property. The ability to exercise this consent is not restricted to the party who applied and/or paid for the consent application.*

7. *It is the responsibility of any party exercising this consent to comply with any conditions imposed on the resource consent prior to and during (as applicable) exercising the resource consent. Failure to comply with the conditions may result in prosecution, the penalties for which are outlined in section 339 of the Resource Management Act 1991.*

8. *The lapse period specified above may be extended on application to the Council pursuant to section 125 of the Resource Management Act 1991.*

9. *This is a resource consent. Please contact the Council's Building Services Department, about any building consent requirements for the work.*

~~Issued at Central Otago on 13 September 2023~~

Reissued at Central Otago on 23 May 2025 pursuant to Section 127(1) of the Resource Management Act 1991

<Officer Name>
<Position>

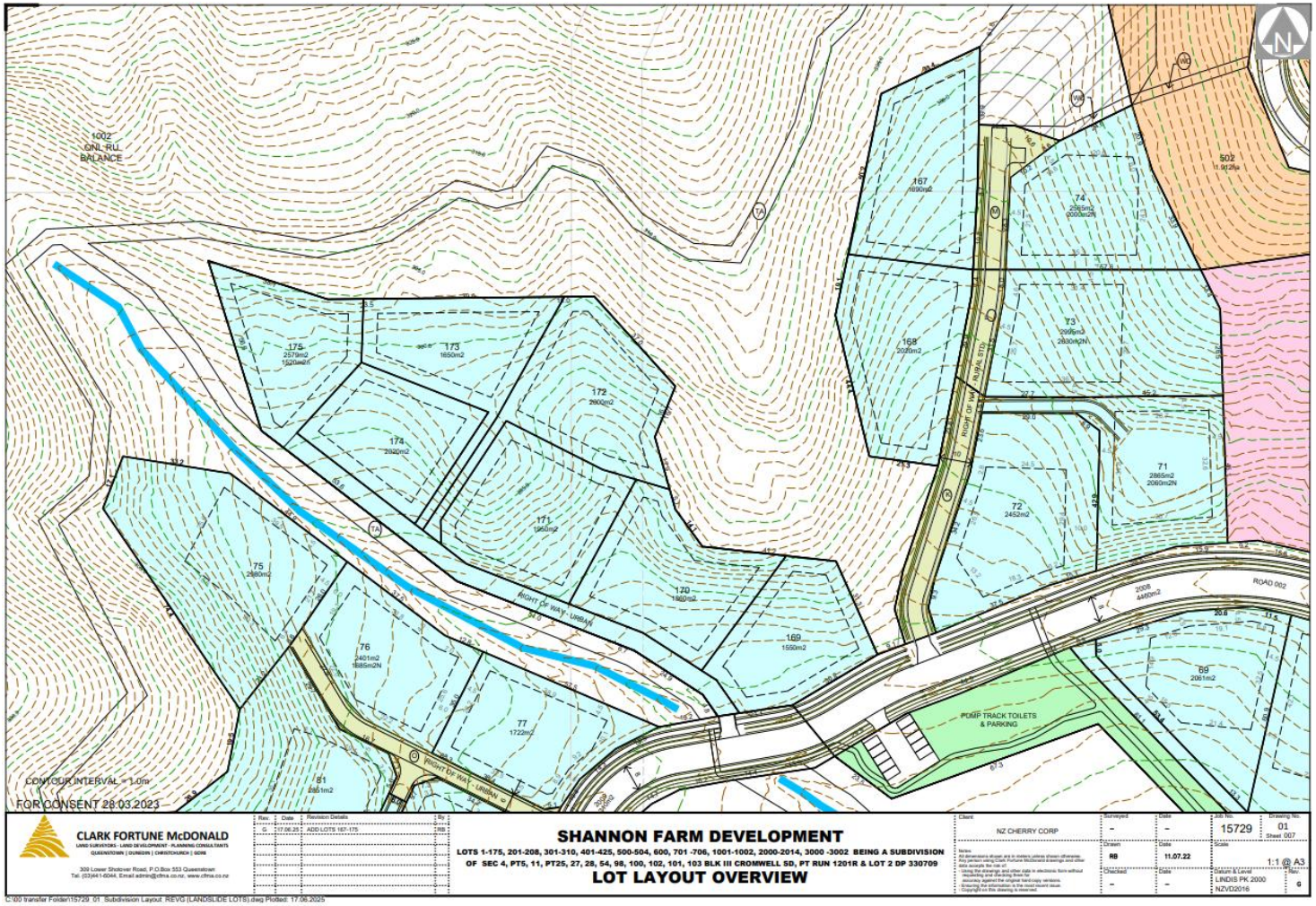
Conditions 21(s), 22(j) and 23 corrected pursuant to Section 133A of the Resource Management Act 1991. Original decision dated 13 September 2023

Conditions 1 and 15 amended, and new Condition 21(aa) added, pursuant to Section 127(1) of the Resource Management Act 1991

Conditions 1 and 2 amended, pursuant to Section 127(1) of the Resource Management Act

Conditions 1, 2, 21, 22 and 25 amended, pursuant to Section 127(1) of the Resource Management Act

Appendix One: Approved Plan/s for RC 250169 (as amended by RC220396V4) (scanned image(s), not to scale)



CENTRAL OTAGO DISTRICT COUNCIL
S95A-F DECISION FOR RC250169
112 & 144 Ripponvale Road, Cromwell

INTRODUCTION

BACKGROUND

The subject site comprises land at 112 and 144 Ripponvale Road, Cromwell, which is currently being developed as a rural lifestyle subdivision known as *Shannon Farm*. The development is authorised under a comprehensive suite of consents as outlined below.

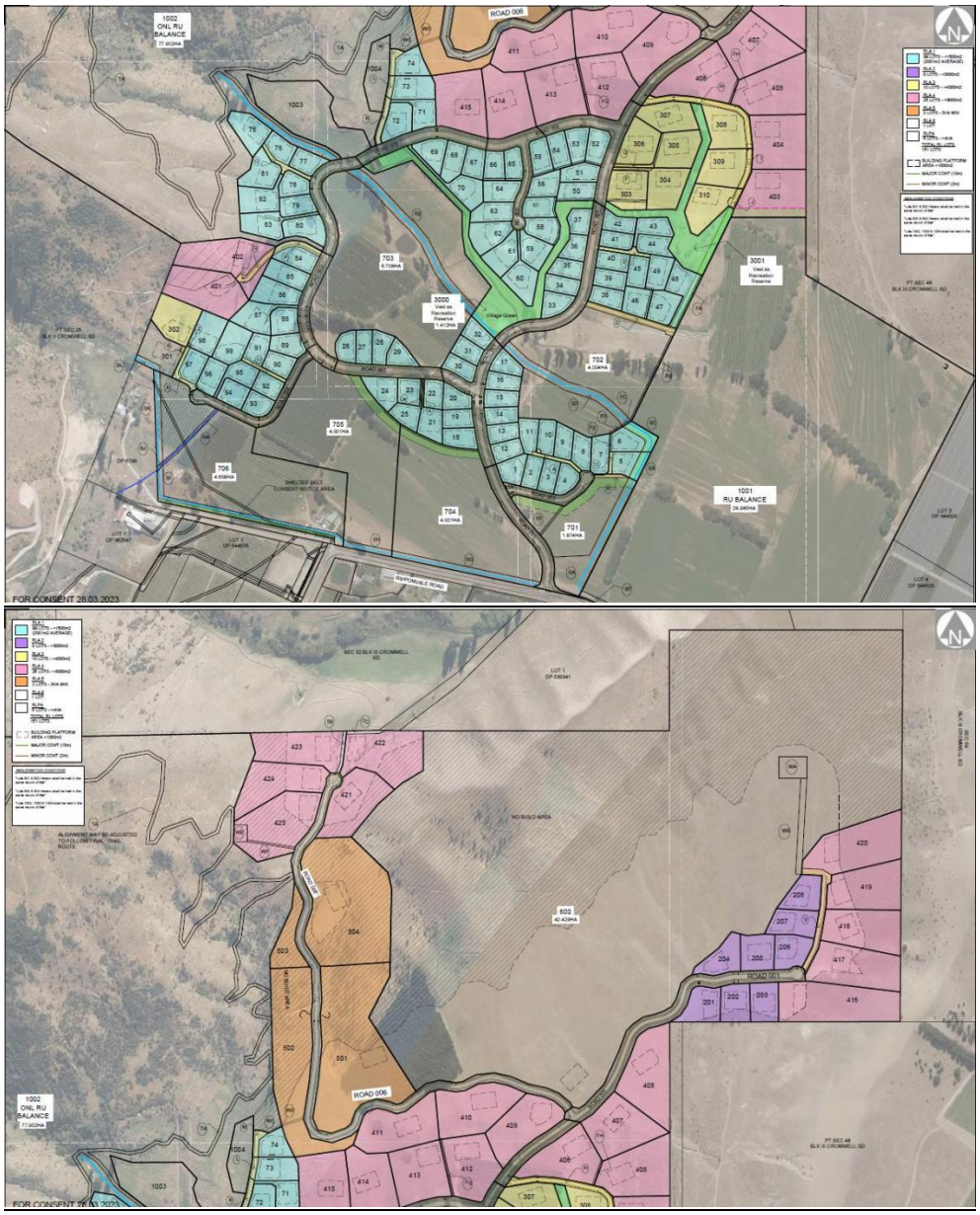
Plan Change 14 (PC14)
PC14 was a privately initiated Plan Change which sought to rezone approximately 142 hectares of land to establish a new 'Rural Resource Area (5)' zone, enabling rural lifestyle development within a masterplanned site. The structure and zoning framework strategically concentrated lifestyle allotments within the lower-lying and less visually sensitive parts of the site, while maintaining productive orchard areas and protecting the more prominent upper slopes, including those within the Outstanding Natural Landscape (ONL), from built development.

Initially declined by Council in May 2021, the plan change was ultimately approved via consent order following appeal (ENV-2021-CHC-073), with the Court issuing its decision on 8 April 2022. The approved framework introduced a structure plan (Schedule 19.23) identifying six Rural Lifestyle Areas (RLAs) with varying density controls, along with an integrated circulation plan and planting schedule. As approved, PC14 anticipated up to 160 residential allotments across RLAs 1–6, subject to compliance with specified density, landscape, and servicing provisions.

RC220396 and Variants
RC220396 was granted on 13 September 2023 and authorised a 151-lot subdivision generally in accordance with the PC14 Structure Plan. The consent also approved six lots within the Rural Productive Lifestyle Area, four larger lots in the Rural Resource Area, significant earthworks, stormwater management, and a 21-stage delivery programme. Building platforms and some minor yard breaches were approved, along with a new internal road network and connection to Council's reticulated water and wastewater systems.

Subsequent variations have included:

- RC220396V1 (Dec 2024): Amendment to conditions to allow for stormwater detention basins and integration of an existing dam into the water infrastructure strategy.
- RC220396V2 (May 2025): Realignment of staging boundaries in Stages 12–14 to facilitate more efficient construction sequencing.
- RC220396V3 & RC250155 (lodged June 2025, currently in process): Seeks to amend lot sizes within later stages to increase yield by 44 additional lots through intensification within RLAs 1, 4, and 6.



Figures 1 & 2: Extract of approved scheme plan as approved under RC220396.

RC230244 – Mountain Bike Tracks
This separate consent was granted on 13 September 2023 and authorises the construction of a mountain bike trail network within the ONL to the west of the subdivision proper.

Regional Consents
The applicant also holds a suite of regional consents (RM23.549.01 to RM23.549.07) from Otago Regional Council for activities associated with stormwater management, damming

and diversion, reclamation, works in the bed of waterbodies, contaminated land disturbance, and earthworks discharges.

SITE DESCRIPTION

The subject site is well described in the application and supporting documents. The applicant's description is adopted for the purposes of this report, with the key features summarised as follows:

- The site is located at 112 and 144 Ripponvale Road, Cromwell, and forms part of the broader 'Shannon Farm' subdivision.
- The land spans part of the western and northern slopes of the site, situated on the lower foothills of the Pisa Range.
- The topography varies from gently undulating to moderately steep slopes and includes areas previously mapped as Schist Debris Landslides (SDLs).
- Historic and disused water races traverse parts of the slope, and ephemeral gullies contribute to the area's complex drainage and geomorphology.
- The parent lots (Lots 1003 and 1004 RC220396) were originally identified as unsuitable for development due to slope instability and were consolidated under RC220396 as future development areas pending further assessment.
- Surrounding land within Shannon Farm is currently being developed in accordance with the approved 151-lot subdivision, with roads, site recontouring and infrastructure currently being undertaken throughout the underlying site.

Figure 3: Aerial of the overall site outlined black and white and the approximate location of the 9 lots that are the subject of this application in as green polygons. Source: O. McIntosh.

DESCRIPTION OF ACTIVITY

The site subject to this application is located at 112 and 144 Ripponvale Road, Cromwell and spans four parcels legally defined in Record of Titles 126180, OT 106/99, OT 7C/632 and OT 7C/633. More specifically, the application seeks resource consent to subdivide Lots 1003 and 1004 of RC220396 to create nine additional rural lifestyle allotments within the Rural Resource Area (5) zone. These two parent lots were originally held as 'future development' areas under RC220396 due to preliminary geotechnical constraints, specifically the presence of Schist Debris Landslides (SDLs) on the northern and western slopes of the site.

Figure 4: Extract of approved Scheme Plan approved by RC220396 fossed on Lots 2003 and 1004.

Recent investigations by Tonkin & Taylor Ltd (July 2025) have confirmed that the land can be feasibly developed subject to mitigation of identified slope instability and debris flow hazards. The proposed subdivision will enable seven Lots within development lot 1003 and two Lots within development lot 1004. A total of nine Lots are proposed ranging in size from approximately 1,503m² to 2,025m².

Lot Number	Lot Size (m²)	Lot Number	Lot Size (m²)
167	1690	172	2000
168	2020	173	1650
169	1550	174	2020
170	1860	175	1520
171	1950	-	-

No changes to the application scope have occurred since lodgement, although the technical reporting and the AEE have been amended to incorporate additional natural hazard assessment outlined in the July 2025 Geotechnical Assessment Report by Tonkin & Taylor.

Proposed measures for building foundations

The applicant proposes that all future buildings be constructed using shallow foundation systems suited to local ground conditions, including slabs-on-grade, waffle slabs, or suspended floors on pole/pile foundations. Additional geotechnical considerations include removal or treatment of colluvium and silt deposits exceeding 1 metre in depth, and the avoidance of founding buildings across cut/fill boundaries unless site-specific design measures are implemented. Each lot will require building-stage geotechnical investigation to confirm bearing capacity and to support foundation design in accordance with NZ Building Code requirements. Residual risks, such as undetected soft pockets or settlement across fill interfaces, are considered manageable through onsite observation during construction and certified design. These requirements are to be secured by way of consent notice on all relevant titles.

Proposed Schist Debris Landslide (SDL) creep hazard mitigation

To address the potential for slow, long-term ground creep associated with underlying schist debris landslides, the applicant proposes the use of flexible foundation systems for affected lots. These include waffle slabs, reinforced gravel rafts, and ground beams similar to foundation solutions developed for TC2-class liquefaction-prone ground following the Christchurch earthquakes. The aim is to accommodate up to 100mm of differential movement without compromising building integrity and to allow for re-levelling if required. This recommendation applies to Lots 78, 79, 81, 82, 83, and Lots 171 to 175. T+T consider the risk of exceedance beyond 100mm to be low. These mitigation requirements are proposed to be secured via consent notices requiring geotechnically certified foundation design at the time of development. No specific mitigation is proposed for services or accessways, which are considered readily repairable.

Proposed stormwater and debris flow mitigation

To mitigate debris flow and overland inundation risk, the applicant proposes a combination of earth bunding and raised building platforms. For Lots 171 to 173 and 175, platforms are to be constructed on imported fill approximately 1 metre above surrounding ground levels to prevent water ingress and avoid cuts into the toe of natural slopes. Upslope bunds are proposed for several lots, including Lots 78, 79, 82, 83, 171, 172, 173, 174 and 175, to deflect potential debris flows into controlled secondary flow paths aligned with accessways and lot boundaries. These measures are intended to accommodate localised gully flows and small to medium volume debris events.

The raised platform requirement is proposed to be secured via consent notice, while detailed bund design is to be implemented prior to s224(c) certification..

Proposed Local slope instability mitigation

T+T advises that cut slopes on individual Lots can be constructed at a maximum angle of 2H:1V and generally up to 5 m high. There is potential for cut slope movement if local landslide debris slide planes are undercut. To manage the risk of cut slope movements the following is recommended:

- Lots 167 and 168 – Limit cuts to 2 m high and develop the lots as engineered fill platforms extending onto the North Gully.
- Lots 169 and 170 – No cutting into the toe of the historic, water race triggered landslide.
- Lots 78, 80, 171 and 174 – Cuts should consider retaining walls to mitigate the risk of cut slope movements encroaching on upslope accessways and Lots. A combination of a lower wall and upper cut could be considered depending on the specific cut height and configuration.

These measures are considered most appropriately captured by way of a consent notice condition, registered on the respective Lots.

Section 127

Pursuant to Section 127 of the Resource Management Act 1991, an application can be made to Council to vary the conditions attached to a resource consent. Such an application is to be treated as if it were a discretionary activity. In this case, the proposal to intensify and add additional allotments necessitates the need to vary the underlying approved scheme plan as consented under RC220396 (and as subsequently varied by RC220396V1 and RC220396V2). It is proposed to amend the conditions of RC220396 as follows (added text underlined. Deleted text struckthrough):

1. The subdivision shall be undertaken in accordance with the plans of subdivision being:
   - Shannon Farm Development Lot Layout Overview Sheets 001 and 002 Revision ~~E~~**G**
   - Shannon Farm Development Lot Layout Details Sheets 003 to 013 Revision ~~E~~**G**
   - Variation to RC220396: 144 Ripponvale Road, Cromwell Page 2 of 9
   - Shannon Farm Development Staging Sheets 016 and 017 Revision ~~EF~~ **G**
   - Shannon Farm Development Typical Road Sections Sheets 018 to 021 Revision ~~E~~**G**
   - Shannon Farm Bulk Earthworks Layout Sheets 001 and 002 Revision C
   - Shannon Farm Subdivision Water Reticulation Overview Sheets 001 and 002 Revision ~~A~~ **B.**
   - Shannon Farm Subdivision Wastewater and Stormwater Reticulation Overview Sheet 003 Revision ~~A~~ **B.**
   - Shannon Farm Subdivision Wastewater Reticulation Overview Sheet 004 Revision ~~A~~ **B.**
   - Shannon Farm Subdivision Connection to Existing Services Sheet 007 Revision A

as amended by the following conditions

REASONS FOR APPLICATION

Central Otago District Plan
The subject site is zoned Rural Resource Area (5) under the Central Otago District Plan and is affected by Outstanding Natural Landscape (ONL) and Significant Amenity Landscape (SAL) overlays. More specifically, the proposed additional Lots will occur exclusively within 'Rural Lifestyle Area 1', as defined in the Structure Plan included in Schedule 19.23 of the District Plan.

- A **non-complying activity** pursuant to Rule 4.7.5.iii for a breach to the averaging criteria of 2,000m^2 under Rule 4.7.2.ii.b. In this case, the average allotment area under this application is 1891.4m^2 when taken in isolation or 1,989.96m^2, when considered in conjunction with the RLA1 lots already consented under RC220396.

- A **discretionary activity** pursuant to Rule 4.7.4.iii for subdivision involving land that is or is likely to be subject to material damage by erosion, falling debris, subsidence, slippage, or inundation from any source. As summarised in Figure 6, the Tonkin & Taylor geotechnical assessment confirms the proposed lots are exposed to moderate risk from landslides and moderate to high risk from flooding and debris flows.

- A **controlled activity** pursuant to Rule 4.7.2(ii)(a)(viii), where a building platform of no greater than 1,000m^2 in area is identified on the plan of subdivision.

- A **discretionary activity** pursuant to Section 127 of the Resource Management Act 1991 to amend the conditions of RC220396 (as varied) to incorporate the additional Lots sought by this application into that consent.

For completeness, I note that the applicant has identified Rule 4.7.2(vi) as also being triggered. This rule provides for subdivision in accordance with the Structure Plan in Schedule 19.23 as a controlled activity. However, Rule 4.7.2(vi) cross-references the subdivision standards set out in Rule 4.7.2(ii). In my opinion, the proposal does not meet the criteria under Rule 4.7.2(ii) due to the breach of the RLA1 density standards. Accordingly, I do not consider Rule 4.7.2(vi) to apply.

Further to the above, Rule 4.7.5.i. states *"Any building… to be erected upon land that is or is likely to be subject to material damage by erosion, falling debris, subsidence, slippage or inundation from any source is a **non-complying activity**"*. While this application does not propose any buildings and has not sought consent under this rule, it does propose the creation of lots that are intended for residential development within an area identified as being at risk from such hazards. The application includes substantial hazard mitigation recommendations and anticipates that dwellings will be constructed on these lots in future. In my view, it is appropriate that Rule 4.7.5(i) be treated as triggered and that the necessary land use consent be obtained now, rather than requiring individual consents for future dwellings.

Geotechnical hazard	Comment	Qualitative risk assessment	Mitigation required
Active Fault rupture	• Fault identified in proximity to the development, fault is not observed at the surface and has a long recurrence interval.	Low to very low	N/A
Liquefaction	• Soils at the site are cohesive or very dense granular soils with deep groundwater levels. • Liquefaction is unlikely in the low hills of the site.	Very low	N/A
Debris flow and flooding	• Active alluvial fans and flood water following large rainfall events could inundate the site.	Moderate to high risk	Mitigations options to be adopted at detail design including filled/elevated building platforms, sufficient primary and secondary flow paths with ability to pass debris as well as flood waters.
Rock fall	• Large boulders have been identified on slopes above the development, embedded in the soils. These are erosion remnants, not rockfall sourced. • Slope angles are too low to provide credible rock roll or fall mechanism.	Low risk	N/A
SDL creep movements	• Creep movement episodes (approx. 10's to 100 mm) of SDL lobes within the development resulting in damage where structures straddle a margin.	Low risk	Consider building foundation options that can tolerate some differential movement and tilt across the footprint, e.g. equivalent to TC2 liquefaction deformation.
Local landslides	• Localised slope failures in cut slopes around the development (Lot or road formation).	Moderate risk	Consider site specific assessment of cuts upslope of individual Lots at detailed design stage, consider stormwater control.

Figure 6: Qualitative geotechnical hazard risk assessment. Source: Tonkin & Taylor, pp 3-4.

National Environmental Standards

The Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS) came into effect on 1 January 2012. The NESCS applies to any piece of land on which an activity or industry described in the current edition of the Hazardous Activities and Industries List (HAIL) is being undertaken, has been undertaken or is more likely than not to have been undertaken.

In this instance, the land involved has been assessed as a restricted discretionary activity under Regulation 10(3) of the NES-CS during the processing of RC220396 of which a suite of conditions has been imposed. A regional permit has also been obtained for disturbances to contaminated land. As such, the NESCS is not considered further under this application.

Overall Status

Where an activity requires resource consent under more than one rule, and the effects of the activity are inextricably linked, the general principle from case law is that the different components should be bundled and the most restrictive activity classification applied to the whole proposal (*Locke v Avon Motor Lodge* [1973] NZLR 97).

In this case, multiple rules are triggered and the associated effects are clearly linked. I consider it appropriate that the application be bundled and assessed as a non-complying activity, pursuant to sections 104, 104B, and 104D of the Resource Management Act 1991 ('the Act').

EFFECTS ASSESSMENT

Affected Persons

No written affected persons approvals provided.

Permitted Baseline

Under sections 95D(b) and 104(2) of the Resource Management Act 1991, the Council may disregard an adverse effect of an activity on the environment may be disregarded if the plan permits an activity with that effect. That is, an application can be assessed by comparing it to the existing environment and development that could take place on the site as of right, without a resource consent, but excluding development that is fanciful.

There are no permitted subdivisions in the Central Otago District Plan. There is no permitted baseline to be applied.

Receiving Environment

The existing and reasonably foreseeable receiving environment is made up of:

- The existing environment and associated effects from lawfully established activities;
- Effects from any consents on the subject site (not impacted by proposal) that are likely to be implemented;
- The existing environment as modified by any resource consents granted and likely to be implemented; and
- The environment as likely to be modified by activities permitted in the district plan.

For the subject site, the existing and reasonably foreseeable receiving environment comprises includes:

- The consented subdivision and associated development approved under RC220396 and its variations, including earthworks, roading, and servicing infrastructure;
- Development of building platforms and dwellings on Lots already consented under RC220396;
- The orchard operations and shelterbelt planting forming part of the Rural Resource Area (5) masterplan context.

For adjacent land, the existing and reasonably foreseeable receiving environment includes:

- The continuation of existing rural residential development within the Rural Residential Resource Area in the vicinity of Ripponvale Road to the south of the site;

- Continued operation and further development of intensive horticultural activities within the surrounding Rural and Rural Residential Resource Areas.
- The continued use of land on the south site of Ripponvale Road for public recreation activities and events associated with the Cromwell Racecourse and airfield.

Assessment Matters

As this application is being assessed as a non-complying activity, the Council's discretion is not restricted and it may consider any actual or potential effects on the environment, together with any other matter it reasonably considers relevant and necessary to determine the application, in accordance with section 104(1) of the Resource Management Act 1991.

For clarity and ease of assessment, the relevant effects have been grouped and assessed under the following subheadings:

1. Landscape and Visual Effects

The subject site is located within a broader landscape identified in the District Plan as comprising areas of Outstanding Natural Landscape (ONL), Significant Amenity Landscape (SAL), and Other Rural Landscape (ORL). The nine proposed lots are located entirely within the ORL classification, but immediately adjoin the ONL overlay which applies to the elevated western slopes of the site. Development is confined to the lower-lying terrace previously identified as suitable for lifestyle development under the Structure Plan in Schedule 19.23.

The applicant's assessment of landscape and visual effects is brief and limited in scope. No new landscape assessment has been prepared to support this application, and while a Rough & Milne Landscape Architects (RMLA) report was submitted with a separate subdivision application on the same site (RC250155), it has not been formally referenced or relied upon in the current proposal. Council has commissioned an independent peer review from Megan Harshey of Boffa Miskell Ltd. I rely on Ms Harshey's expert findings in forming my conclusions.

The proposed lots comply with the minimum lot size of 1,500m² and marginally fall short of the average lot size requirement (1,989.96m² vs 2,000m²). Ms Harshey considers this deviation to be "minor and not visually discernible in the context of the wider subdivision" and that the subdivision layout and existing landscape controls, incorporated into PC14, are not adversely affected by the proposal.

Ms Harshey also notes that geotechnical mitigation measures, including bunds, raised platforms, and the need for engineered foundations, are expected to be "visually unobtrusive and consistent with the rural aesthetic."

Ms Harshey confirms that the proposed lots are located entirely within the RLA1 and do not encroach on the ONL or SAL overlays. She goes on to note that the proposed layout "respects the natural landform, avoids urban typologies and maintains the rural character…"

Ultimately Ms Harshey assesses the landscape and visual effects of the proposal will be "*no more than low*". I agree with and adopt this conclusion.

2. Amenity Effects

The proposed subdivision will create nine rural lifestyle allotments ranging from 1,503m² to 2,025m² within Rural Lifestyle Area 1 (RLA1), where residential use is anticipated. While the proposed lots result in a slightly increased density relative to the intended RLA1 average, this is not expected to materially compromise amenity. Each lot is of sufficient size to

comfortably accommodate a dwelling and associated curtilage while maintaining generous setbacks, open space, and privacy.

All lots are located internally within the wider site and do not directly adjoin third-party residential properties. Designated building platforms comply with the required 4.5m yard setbacks, but their main function is geotechnical rather than amenity-related. The spacious lot sizes allow flexibility for future development to occur in a manner that avoids effects of dominance, shading, or noise between lots.

Overall, the proposal is expected to provide a high standard of internal amenity and is not anticipated to give rise to any adverse effects on the amenity of neighbouring sites or future residents.

3. Transportation Effects

The proposed subdivision will create nine additional rural lifestyle lots within the internal roading network authorised by RC220396. Access to all nine lots will be via Ripponvale Road and an existing approved access spine, consistent with the layout established under the Shannon Farm Structure Plan.

Access to each lot will be provided via a combination of internal local roads and formed rights-of-way, consistent with the road hierarchy and access arrangements previously approved. No new public roads are proposed to be vested as part of this subdivision, and the internal rights-of-way will be constructed to a mixed urban–rural standard, as endorsed by Council's Environmental Engineer. In particular, I support the Engineer's recommendation that rights-of-way serving Lots 170–175 and 172–173 be constructed in accordance with the standards applied under the broader Shannon Farm subdivision.

While the application does not include a dedicated transportation assessment, I consider the traffic effects associated with nine additional residential allotments to be negligible and consistent with the scale of development anticipated under PC14. The PC14 plan change process and the original Shannon Farm masterplan explicitly contemplated development of up to 160 lots. The current proposal achieves, but does not exceed, that threshold. In that context, I consider the internal roading network to remain fit for purpose. I note, however, that any proposal to exceed 160 lots across the Shannon Farm site is likely to require significant roading upgrades. This 160 lot limit was made clear during the original PC14 hearings and remains a key threshold for evaluating the adequacy of the transport network as well as other services and the intended overall scale and character of the development.

Overall, I consider that transportation effects of the proposal will be less than minor.

4. Servicing and Infrastructure

The proposed subdivision will be serviced in a manner consistent with the wider Shannon Farm development, utilising the communal three waters infrastructure and utility connections authorised under RC220396. All proposed lots are to connect to the existing reticulated wastewater and water supply networks, with stormwater managed through a combination of roadside swales and overland flow paths, as established in earlier stages of the subdivision.

Water Supply: Council's Environmental Engineer has confirmed that domestic and firefighting water supply will be provided via the new reticulation approved under the original subdivision and will satisfy the requirements of SNZ PAS 4509:2008. As such, I recommend that the proposed lots be serviced in accordance with the existing conditions under RC220396.

Wastewater: Each lot will connect to the new sewer reticulation approved under the original subdivision. This reticulation has been designed to accommodate the full 160-lot yield contemplated by PC14. As such, I recommend that the proposed lots be serviced in accordance with the existing conditions under RC220396.

Stormwater:
Stormwater from the new lots and upstream from them will be conveyed via the overland flow system described within the final Tonkin & Taylor report. Beyond the immediate site, stormwater will be conveyed by the swales and drainage systems already established within the underlying subdivision. Subject to the recommendations outlined in the final Tonkin & Taylor Report (which have been adopted by the applicant), I am satisfied that stormwater will be satisfactorily managed and effects that could potentially arise as a consequence of overland flow, will be adequately mitigated.

Electricity and Telecommunications:
These services are to be provided via underground connections from the existing networks established in the earlier stages of the subdivision.

In summary, I am satisfied that the proposed subdivision can be appropriately serviced in accordance with the servicing scheme approved under RC220396, with necessary changes to the wording of the original conditions in incorporate the additional lots and with the addition of conditions reflecting the geotechnical recommendations outlined in the final Tonkin & Taylor report.

5. Natural Hazards and Geotechnical Suitability

The site is located on elevated terrain previously identified as being potentially affected by a range of slope-related natural hazards, including Schist Debris Landslides (SDLs), slope creep, and debris flow/flooding risk. During the original assessment of RC220396, Lots 1003 and 1004 were set aside as future development areas specifically due to these hazards. The current application relies on a July 2025 geotechnical assessment by Tonkin & Taylor (T & T), which describes the hazards affecting this area of the site, quantifies the level of risk they pose and provides detailed site-specific recommendations for hazard mitigation. These are summarised in Table 6.4 of the T & T Report.

Table 6.4: Qualitative geotechnical hazard risk assessment

Geotechnical hazard	Comment	Qualitative risk assessment	Mitigation required
Active Fault rupture	• Fault identified in proximity to the development, fault is not observed at the surface and has a long recurrence interval.	Low to very low	N/A
Liquefaction	• Soils at the site are cohesive or very dense granular soils with deep groundwater levels. • Liquefaction is unlikely in the low hills of the site.	Very low	N/A
Debris flow and flooding	• Active alluvial fans and flood water following large rainfall events could inundate the site.	Moderate to high risk	Mitigations options to be adopted at detail design including filled/elevated building platforms, sufficient primary and secondary flow paths with ability to pass debris as well as flood waters.
Rock fall	• Large boulders have been identified on slopes above the development, embedded in the soils. These are erosion remnants, not rockfall sourced. • Slope angles are too low to provide credible rock roll or fall mechanism.	Low risk	N/A
SDL creep movements	• Creep movement episodes (approx. 10's to 100 mm) of SDL lobes within the development resulting in damage where structures straddle a margin.	Low risk	Consider building foundation options that can tolerate some differential movement and tilt across the footprint, e.g. equivalent to TC2 liquefaction deformation.
Local landslides	• Localised slope failures in cut slopes around the development (Lot or road formation).	Moderate risk	Consider site specific assessment of cuts upslope of individual Lots at detailed design stage, consider stormwater control.

- *Landslide and Slope Instability Hazards*

The Otago Regional Council as well as QMAP geological mapping identify the 9 lots proposed by this application as being located within an area that has been historically subject to Schist Debris Landslides (SDL's). According to Tonkin & Taylor;

> *Schist Debris Landslides are characterised by complex arrangements of debris, blocks of rock, shear zones, faults and compartments of pressurised groundwater. They move by very slow creep and slow episodic stick/slip occurring over many thousands of years. The complexity of materials and groundwater can lead to local slope instability, preferential erosion and debris generation in the toe areas of the landslides. Human modification of these lower slopes can trigger local slope instability and/or reactivation of larger scale slow landslide movement.*

Based on a combination of desktop and physical investigations T & T interpret that these features have been relatively close to equilibrium for approximately 150,000 years with the slide mass undergoing progressive erosion and lowering of the ground surface towards the current levels. Notwithstanding the relative inertness of the SDL's T & T note there are additional landslide hazards potentially affecting the site;

These include local debris slides and flows from slope and drainage gullies upslope of Lots, as well as instability in slope cuts for building platforms. In this instance, the possible presence of locally persistent residual strength landslide shear planes may result in movement in the cut slopes, with scarps developing on the cut or behind the crest and debris being deposited on the platform.

Assuming no mitigation measures, T & T assess the landslide risk affecting the site as outlined in Table 6.3 of their report, which is reproduced below:

Table 6.3: Landslide qualitative risk assessment summary

Hazard type	Likelihood	Consequence	Highest risk level assessed
Creep movement episodes (approx. 10s to 100 mm) of SDL lobes recognised in Figure 2 – during prolonged rainfall or earthquake events	Unlikely	Medium to minor - • Potential damage to roading, underground infrastructure and buildings where they straddle a margin of the creeping landslide lobe.	Low
Debris slides and flows of small to medium volume (<200 m^3) from slopes and drainage lines upslope of Lots	Possible	Major to minor - • Impact damage to the rear of building and possible internal inundation of buildings. • Scour damage to access ways and around retaining walls.	Moderate to High
Local landslides – 2H:1V cut slopes undercut local residual strength planes in schist debris resulting in 20 to 200 m^3 slides	Possible to Likely	Medium to minor - • Scarps encroach on upslope Lot or access by a few metres. • Debris deposits on platform damaging landscaping, drainage and possibly resting against the rear of a building.	Moderate
Retaining wall deformation and movement of land (up to 100s of mm) behind the wall due to rainfall or earthquake events	Possible to Unlikely	Minor - • Deformation or movement of an engineered retaining wall leading to access damage or cosmetic building damage.	Low

Note: The risk matrix used for this assessment is included in Appendix E.

While T & T deem the risk from SDL's to be low, they note that there is some residual risk of damage to buildings on the toe areas of the landslides, particularly where any structures or services straddle the margins of movement where differential movement will manifest. To mitigate this risk T & T recommend adopting options that have been established for TC2 liquefaction zoned ground following the Christchurch Earthquakes. This includes use of waffle slabs, reinforced gravel rafts, ground beams or other options that are designed to limit damage to the building and can allow for re-levelling should movement occur. Additionally any platforms on Lots 167 to 171, Lots 174 and 175 should be constructed by net imported fill to avoid excessive cuts into the toe of natural slopes.

- *Debris Flow and Overland Flow Hazards*

The site is identified in the ORC Natural Hazards Database as comprising active alluvial fans and identifies flooding from these fans as a high exposure for the area. According to T & T "flooding and possible debris flows generated in the West Gully and North Gully, and flowing out onto the alluvial fan could present a hazard to Lots 75 to 77 and Lots 167 to 170, and to

lesser extent Lots 171, 174 and 175". Additionally, T & T observed the presence of "smaller alluvial fans at the toe of ephemeral gullies across the site, including 2 gullies on the West Landslide that pass through Lots 78 to 81 and gullies on the North Landslide that pass through Lots 171 to 175".

Ultimately, T+T identifies that approved Lots 78, 79, 82 and 83 (to the west of the proposed lots) as well as proposed Lots 171–175 are exposed to moderate to high risk from localised debris flows and make the following recommendations:

- Lots 78, 79, 82 and 83:
    - Upslope works such as bunds to train potential flows into secondary flow paths down the accessways or boundaries between Lots 80, 83 and 79, 82, and between 78-79, and 81-82.

      Note: The geotechnical report includes recommendations that apply to some lots already consented but not yet titled. The applicant has lodged a concurrent section 127 application with the intention that this current proposal may be processed independently of RC220396. However, it is ultimately intended that the proposal will be implemented as a variation to RC220396 via the s127 process. This provides a mechanism for incorporating the relevant geotechnical recommendations for the already consented lots.
- Lots 171 to 173 and 175:
    - Raised fill platforms nominally 1 m above surrounding land. − Upslope works such as bunds to train potential flows into secondary flow paths down the accessways or boundaries between Lots 171-172 and 173-174, between 170 and 171, and between 174 and 175.

With respect to the above recommendations, the applicant has opined:

> *It would be appropriate to incorporate the recommendations for debris flow management (bunds) as a prior to s224C certification condition and would enable the detailed design and consideration of adequate mitigation. The requirement of raised platforms on proposed Lots 171 to 173 and 175 can be adequately captured by way of a consent notice*

I concur that the debris flow management mitigation works should be a matter for the developer to implement 'prior to s224C'. With respect to the building platforms, however, I have considered the nature of the hazards and the proposed mitigation and disagree that these mitigation measures can be adequately capture by consent notice. I note that, in section 8.5 of their report, T & T acknowledge that;

> *Raising these Lots may influence the levels of roads and access ways and the ability to gain access onto the Lots. This can be resolved during detailed subdivision design*

Under the circumstances I consider it would be more appropriate that the developer comprehensively design and construct these platforms, as well as individual accessways to ensure that they're appropriately designed and constructed to work with and not potentially conflict with the wider stormwater drainage design and overland flow mitigation works.

Overall, the proposed subdivision is located on terrain with moderate natural hazard risk, primarily relating to slope instability, overland flow, and ground deformation. These risks have been subject to robust assessment by T+T, with a comprehensive suite of mitigations proposed.

I accept the conclusions of the T+T report, and consider that the proposal is acceptable with respect to natural hazard risk, subject to the implementation of the recommended mitigation measures, including:

- Consent notices securing engineered foundations and platform design;
- Upslope bunding and flow diversion measures;
- Professional signoff and certification of earthworks and platform formation.

6. Productive Land Use and Reverse Sensitivity

The proposed subdivision is located within RLA1 as defined by the PC14 Structure Plan and forms part of the Shannon Farm development authorised under RC220396. The site is not used for productive purposes and was identified through PC14 as suitable for lifestyle development.
The proposed lots are consistent with the land use outcomes and anticipated effects already established by RC220396. No additional reverse sensitivity effects are expected beyond those previously assessed and accepted. No further mitigation (e.g. buffer planting or consent notices) are considered necessary.

7. Ecological Effects

The proposed lots are located on previously grazed and disturbed pasture land that contains no identified ecological values. No clearance of native vegetation is proposed or required. The ecological effects of the subdivision are therefore considered negligible.

8. Cultural and Heritage Values

The site is not identified as containing any recorded archaeological sites or areas of known cultural significance. Given the modified and pastoral nature of the land and the absence of known cultural or heritage features, the proposal is not expected to give rise to adverse effects on cultural or heritage values.

9. Conclusion – Overall Effects

The proposal seeks to create nine additional rural lifestyle allotments within Rural Lifestyle Area 1 (RLA1) of the Shannon Farm Structure Plan area. While the subdivision results in a minor breach of the average lot size standard for RLA1, this is marginal in scale and does not materially alter the form, pattern, or character of development anticipated under Plan Change 14 (PC14). Importantly, the proposal remains consistent with the overall maximum development yield of 160 lots envisaged by PC14.

The landscape and visual effects have been independently reviewed and assessed as being ‘no more than low’ on the Te Tangi a te Manu seven-point effects scale. This rating broadly corresponds to a level of effect between ‘less than minor’ and ‘minor’ in RMA terms, and I adopt that conclusion. Residential amenity will be maintained through compliance with all setback requirements and the generous curtilage available on each lot, which is sufficient to accommodate future development without generating undue effects on neighbouring sites.

Access and servicing arrangements align with the existing consented roading and infrastructure layout. The cumulative traffic and infrastructure demand associated with this proposal remains within the parameters considered and accepted under RC220396. Council’s Development Engineer supports the proposed servicing and roading arrangements subject to standard conditions.

The subdivision will not result in the loss of productive land and does not give rise to significant ecological, cultural, or heritage effects.

Overall, I consider the adverse effects of the proposal will be no more than minor and that the proposal remains consistent with the expectations of PC14 and the pattern of development previously authorised under RC220396.

SECTION 95A NOTIFICATION

Step 1 – Mandatory public notification
Public notification has not been requested. (s95A(3)(a)).

There has been no failure or refusal to provide further information or the commissioning of a report under section 92(2)(b) of the Act (s95A(3)(b).

The application does not involve the exchange of recreation reserve land under section 15AA of the Reserves Act 1977 (s95A(3)(c).

Step 2 – Public notification precluded
There are no rules or national environmental standards precluding public notification (s95A(5)(a)).

The proposal is not exclusively for controlled activities and/or boundary activities (s95A(5)(b)).

Step 3 – If not precluded by Step 2, public notification is required in certain circumstances

The application is not for a resource consent for one or more activities, where those activities are subject to a rule or national environmental standard that requires public notification (s95A(8)(a).

A consent authority must publicly notify an application if it decides under s95D(8)(b) that the activity will have or is likely to have adverse effects on the environment that are more than minor (s95A(2)(a)). An assessment under s95D is therefore made above.

DECISION: EFFECTS ON THE ENVIRONMENT (S95A(2))

Overall the proposed activity is not likely to have adverse effects on the wider environment that are more than minor. Therefore, public notification is not required under Step 3.

Step 4 – Public Notification in Special Circumstances
Public notification is required if the consent authority decides such special circumstances exist as to warrant the application being publicly notified (s95(9)(a)).

Current case law has defined 'special circumstances' as those *"outside the common run of things which is exceptional, abnormal or unusual, but they may be less than extraordinary or unique."* The court has also found that special circumstances are deemed to apply where there is likely to be high public interest in the proposal [*Murray v Whakatane DC [(1997) NZRMA 433 (HC), Urban Auckland v Auckland Council [(2015) NZHC 1382, (2015) NZRMA 235*].

There is nothing exceptional or unusual about the application that makes public notification desirable in this particular instance. As such, there are no special circumstances that warrant the application being publicly notified.

OVERALL DECISION - S95A NOTIFICATION

Pursuant to 95A(5)(b)(i), public notification is not required as identified in the assessment above.

EFFECTS ON PERSONS

Section 95B(1) requires a decision whether there are any affected persons (under s95E). The following steps set out in this section, in the order given, are used to determine whether to give limited notification of an application for a resource consent, if the application is not publicly notified under section 95A.

Step 1: certain affected groups and affected persons must be notified

Limited notification is not required under Step 1 as the proposal does not affect customary rights groups, customary marine title groups nor is it on, adjacent to or may affect land subject to a statutory acknowledgement.

Step 2: if not required by step 1, limited notification precluded in certain circumstances

Limited notification is not precluded under Step 2 as the proposal is not subject to a rule in the District Plan or is not subject to a NES that precludes notification.

Limited notification is not precluded under Step 2 as the proposal is not exclusively for a controlled land use activity.

Step 3: if not precluded by step 2, certain other affected persons must be notified

Limited notification is not required under Step 3 as the proposal is not a boundary activity where the owner of an infringed boundary has not provided their approval, and it is not a prescribed activity.

Limited notification is not required under Step 3 as the proposal falls into the 'any other activity' category and the effects of the proposal on persons are assessed below.

PERMITTED BASELINE (s95E(2)(a))

Under Section 95E(2)(a) of the RMA, an adverse effect of the activity on persons may be disregarded if the plan permits an activity with that effect. The permitted baseline has been established above.

ASSESSMENT: EFFECTS ON PERSONS

The proposal has been assessed as generating no more than minor adverse effects on the environment overall. However, in terms of effects on any individual persons, I consider that these will be less than minor for the following reasons:

- **Location of Lots:** All nine proposed lots are located internally within the wider Shannon Farm development and do not directly adjoin any third-party residential properties.
- **Compliance with Standards:** All proposed lots comply with the minimum yard setbacks required under the Rural Lifestyle Area 1 (RLA1) rules. There are no anticipated breaches that would give rise to privacy, dominance, or shading effects on neighbouring landowners.

- **Anticipated Pattern of Development:** The layout, size, and overall number of lots of the proposed subdivision is consistent with the expectations established under Plan Change 14 and the existing subdivision consent (RC220396).
- **Expert Review of Landscape Effects:** The minor breach of the minimum average lot size has been assessed as being not visually discernible in the context of the broader subdivision.

On this basis, no person is considered to be adversely affected to a degree that is minor or more, and limited notification is not required.

Step 4: Further limited notification in special circumstances

Special circumstances do not apply that require limited notification.

DECISION: EFFECTS ON PERSONS (s95B(1))

In terms of Section 95E of the RMA, no person is considered affected by this proposal.

OVERALL NOTIFICATION DETERMINATION

Given the decisions made under s95A and s95B, the application is able to be processed on a non-notified basis. It is noted that the determination, as to whether an application should be notified or not, is separate from the issues to be considered in making a decision on the application itself.

Prepared by:

Oli Monthule-McIntosh Date: 1 August 2025
Consultant Planner

Approved under Delegated Authority by:

Tanya Copeland Date: 5 August 2025
Team Leader – Planning

Application for a resource consent - Form 9

APP250650163

1 Dunorling Street
PO Box 122, Alexandra 9340
New Zealand
03 440 0056
Info@codc.govt.nz
www.codc.govt.nz

Date and Time Created	19/06/2025 04:16
Submitted to Council	19/06/2025 04:22

To cross reference Datacom with MAGIQ please click Here. to add the Resource Consent number.

Property Details

Property Address	112 and 144 Ripponvale Road, Cromwell
Record of Title Number	126180, OT 106/99, OT 7C/632 and OT 7C/633
Legal Description(s) of the specific parcels that the resource consent application is for	Section 54 Block III Cromwell Survey District, Section 26, 100 Block III Cromwell Survey District, Section 27-28, 96, 99, 102 Block III Cromwell Survey District, Lot 2 Deposited Plan 330709 and Section 4, 11, 98, 101, 103 Block III Cromwell Survey District and Part Section 5, 25 Block III Cromwell Survey District and Part Run 1201R

What is your role in this application?	Agent acting on behalf of the applicant

Agent details

An agent acts on behalf of the applicant in the submission and processing of the application.

Organisation	JPW Consulting Ltd
First name	Jake
Last name	Woodward
Phone number	0223158370
Email address	jake@jakewoodward.co.nz

Note that the applicant will also receive a copy of all correspondence.

Postal address:	PO Box 190, Cromwell 9342
Confirm that you have approval to act on behalf of the applicant	Yes

The applicant is the person(s) or organisation making the application.

Applicant details

Is this applicant an individual or an organisation?	Business / organisation
Organisation	New Zealand Cherry Corp (Leyser) LP

Contact Person

First name	Jerome
Last name	O'Sullivan
Phone number	034430099
Email address	josullivan@infinitywanaka.com
Postal address:	258 Stuart Street, Dunedin 9016

Authority to apply on behalf

Confirm that the applicant is authorised to apply on behalf of the organisation	Yes

Invoicing

Who is paying the invoice?	Applicant

DETAILS

Activity or works proposed

Application type	Land use and subdivision consent
Short description of your proposal	9-lot subdivision in Rural Resource Area 5.

Provide a detailed description in the Assessment of Environmental Effects (AEE) or other document.

Assessment of Environmental Effects (AEE)

An application cannot be accepted for processing by the Council under Section 88 of the Resource Management Act 1991, without an Assessment of Environmental Effects (AEE).

Refer to the guidelines for Assessment of Environmental Effects.

JW22058 - New Zealand Cherry Corp (Leyser) Limited Partnership - 9 Lots - AEE - FINAL.pdf (2 mb)

Assessment of the activity

You may need to provide an assessment of the activity against the following provisions:

- **The matters set out in Schedule 4 of the Resource Management Act 1991.**
- **Any relevant objectives, policies, or rules in a document.**
- **Any relevant requirements, conditions, or permissions in any rules in a document.**
- **Any other relevant requirements in a document (e.g. in a national environmental standard or other regulation).**

Please do not load the same document that you loaded for AEE above

Other activities

Other applications

Are you required to apply for any other resource consents for this project?	Yes
Provide a brief summary of the other consents required	Variation to RC220396 to accommodate additional Lots. Form 10 included
Is this project related to a building consent?	No

Pre-application information

Have you discussed this proposal with Council staff prior to this application?	No prior discussion

Site visit requirements

Who is the site contact?	Applicant

Affected party approvals

All affected property owners, including trustees where properties are held in a trust, must sign written approval forms AND a copy of your plans.

- **If an affected party does not give approval to your proposal this may impact on the way that the application is processed.**
- **Council's duty planner can provide you with advice on which parties may be affected by your proposal.**

Download an affected party approval template form.

Do you need affected party approval?	No
Reason	Refer AEE
National Environmental Standard – Contaminated Soil - option selected	A review has been undertaken of District and Regional Council records and no records have been found suggesting an activity on the HAIL has taken place on the piece of land which is subject to this application. NOTE: depending on the scale and nature of your proposal you may be required to provide details of the records reviewed and the details found.

LIST OF FILES

JW22058 - New Zealand Cherry Corp (Leyser) Limited Partnership - 9 Lots - AEE - FINAL.pdf (2 mb)
Appendix [D] - Scheme Plan.pdf (326 kb)
Appendix [C] - Updated Geotech Letter.pdf (353 kb)
Appendix [B] - Geotechnical Report from RC220396.pdf (68 mb)
Appendix [E] - Calculation of average for Lots in RLA 1.pdf (94 kb)
Appendix [A] - RT 126180.pdf (138 kb)
Appendix [A] - RT OT7C_632.pdf (131 kb)
Appendix [A] - RT OT7C_633.pdf (132 kb)
Appendix [A] - RT OT106_99.pdf (133 kb)

ASSESSMENT OF ENVIRONMENTAL EFFECTS

112 and 144 Ripponvale Road, Cromwell

New Zealand Cherry Corp (Leyser) Limited Partnership

Our Reference: JW22058

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APPENDICES

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Appendix [B]	Preliminary Geotechnical Advice from RC220396
Appendix [C]	Updated Geotechnical Advice
Appendix [D]	Updated subdivision scheme plan
Appendix [E]	Calculation of average for Lots in RLA 1

1 THE APPLICANT AND PROPERTY DETAILS

Client	New Zealand Cherry Corp (Leyser) Limited Partnership
Address for service	JPW Consulting Limited Jake Woodward jake@jakewoodward.co.nz 022 315 8370
Property Address	112 and 144 Ripponvale Road, Cromwell
Project Description	Variation to RC220396 pursuant to Section 127 of the Resource Management Act 1991 to update the approved scheme plan to allow for additional allotments within Lots 1003 and 1004 Subdivision consent under the provisions of the Central Otago District Plan to establish nine additional allotments within the Rural Lifestyle 1 Area of the Rural Resource Area (5).
Our Reference	JW22058
Date	19 June 2025
Version	1

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2 EXECUTIVE SUMMARY

The applicant holds a comprehensive suite of resource consents to develop land at 112 and 144 Ripponvale Road, Cromwell for a 151-Lot rural residential development, in line with the Rural Resource Area (5) provisions (incorporated by way of Plan Change 14 (PC14)) of the Central Otago District Plan. The subdivision is referred to as Shannon Farm.

PC14, as approved, contemplates the establishment of 160 residential allotments within the designated Rural Lifestyle Areas of the Rural Resource Area (5). However, during the preparation of the underlying subdivision application (RC220396), preliminary geotechnical investigations identified that nine of these 160 allotments were currently unsuitable for residential development due to potential landslide risk. These Lots were subsequently consolidated into Lots 1003 and 1004 as future development Lots as presented under RC220396.

Tonkin & Taylor Limited (T+T) is presently undertaking further geotechnical investigation and assessment of the northern and western slopes of the Shannon Farm development, including Lots 1003 and 1004. The objective of this work is to evaluate slope stability and identify any limitations on development, particularly in areas mapped as large schist debris landslides.

Initial observations suggest that surficial deposits and landslide debris on the toe slopes are relatively shallow and overlie massive Pleistocene gravels that appear deformed or tilted against the Pisa Fault. Groundwater levels, based on current observations, are low (though this is subject to confirmation via piezometer data). These early findings tentatively indicate that the large-scale schist debris landslides are relatively benign in terms of presenting hazards to future development. While some attention will be needed to manage localised slope instability triggered by earthworks, T+T consider these risks are expected to be addressed through standard hillside geotechnical engineering practices, common in residential slope development with specific conditions to be informed by T+T upon completion of their investigations.

While T+T continues its assessment of landslide risk, it is proposed to seek subdivision consent to subdivide Lots 1003 and 1004 into nine Lots, consistent with the underlying Rural Lifestyle Area 1 zoning. These new Lots would be subject to a condition requiring a final geotechnical assessment and certification confirming that landslide risk has been adequately addressed and/or recommendations for future development to be confirmed, prior to issuing Section 224(c) certification.

It is considered that the provision of a certification condition will adequately manage the natural hazard risk in that it will require the Lots to be verified as safe for development prior to the issue of Title.

From a policy standpoint, PC14 introduced two key provisions to the District Plan; Objective 4.3.10 and Policy 4.4.18. The proposal, which seeks to develop Lots 1003 and 1004 in line with the densities contemplated in the Rural Lifestyle 1 Area, will be entirely consistent with the broader outcomes sought by these provisions.

The proposal is consistent with the outcomes sought under Part 2 of the Resource Management Act 1991.

3 SITE DESCRIPTION

3.1 SITE DESCRIPTION

The site subject to this application is located at 112 and 144 Ripponvale Road, Cromwell and spans four parcels legally defined in Record of Titles 126180, OT 106/99, OT 7C/632 and OT 7C/633. A copy of the Titles are attached in **Appendix [A]**.

The site is that of the Shannon Farm subdivision, established under Plan Change 14 (PC14) of the Central Otago District Plan. The site is currently under development for 151 residential allotments.

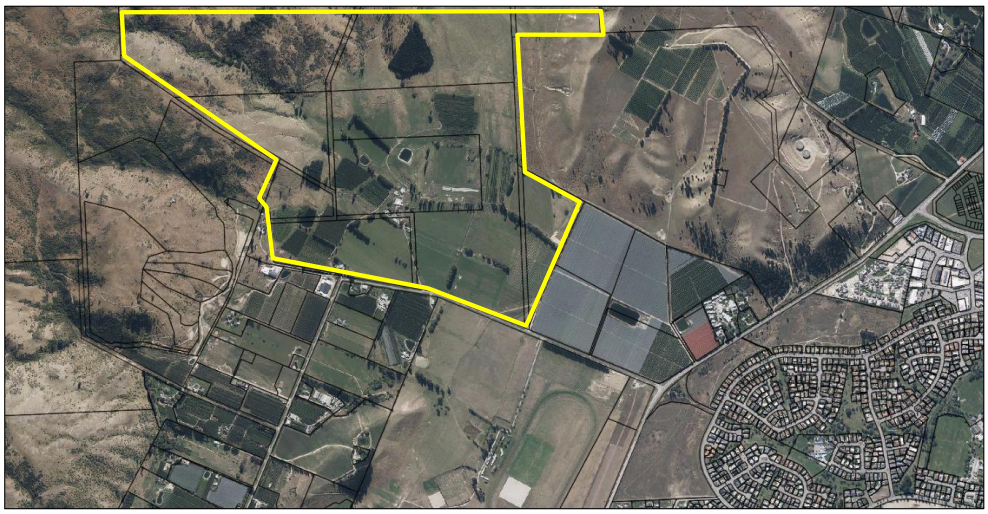


Figure 1: Aerial image of subject site (Image Source: CODC GIS).

3.2 SURROUNDING ENVIRONMENT

The surrounding environment is characterised by a range of land uses and activities.

To the west is that of the Pisa Range and is characterised by an Outstanding Natural Landscape Overlay (ONL). A resource consent (RC230244) was approved to enable the establishment of an extensive mountain-biking trail network across the ONL (as illustrated in Figure 2 below).

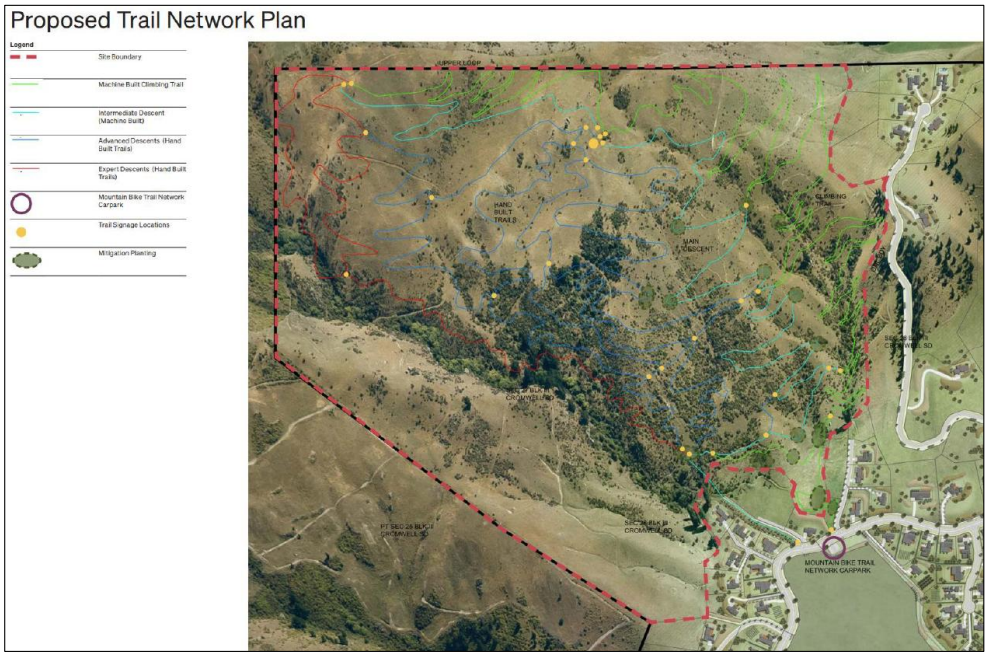


Figure 2: Extract of approved (RC230244) mountain bike trails within the ONL above the subject site.

To the south is the Ripponvale Road area which is characterised by pastoral farmland, vineyards, orchards, and large lifestyle lots. The NZ Cherry Corp orchard lies adjacent to the south-east of the site. Other land uses in the locality include the Cromwell Racecourse and the Cromwell Aerodrome to the south-east of the site, and Rockburn Winery to the southwest.

Ripponvale Road meets State Highway 6 at two intersections, at the western edge of the Cromwell township and also in the south near to the entrance to Kawarau Gorge.

As noted to the immediate south-east of the site is that of the Cromwell Racecourse. Discussion has been taking place for the past few months at the Cromwell Community Board (CCB) about utilising the 93.49-hectare reserve on Ripponvale Road (Cromwell Racecourse Reserve), to meet the future recreational needs of sustained population growth in Cromwell.

The Cromwell Reserves Supply and Demand Assessment (2022) concluded that the current provision of sports fields in Cromwell is insufficient to meet projected population growth and growing participation in field sports. This growth is expected to place significant pressure on existing reserves and infrastructure.

In response to this, Council have notified the Draft Cromwell Racecourse Reserve Management Plan which details possible relocation of the Cromwell sports and recreation areas to the Cromwell Racecourse. Council have preempted this approach through coordinating with the applicant to upsize infrastructure for the Shannon Farm development in anticipation for future growth in the area. An extract of the proposed site plan is reproduced in the following figure:

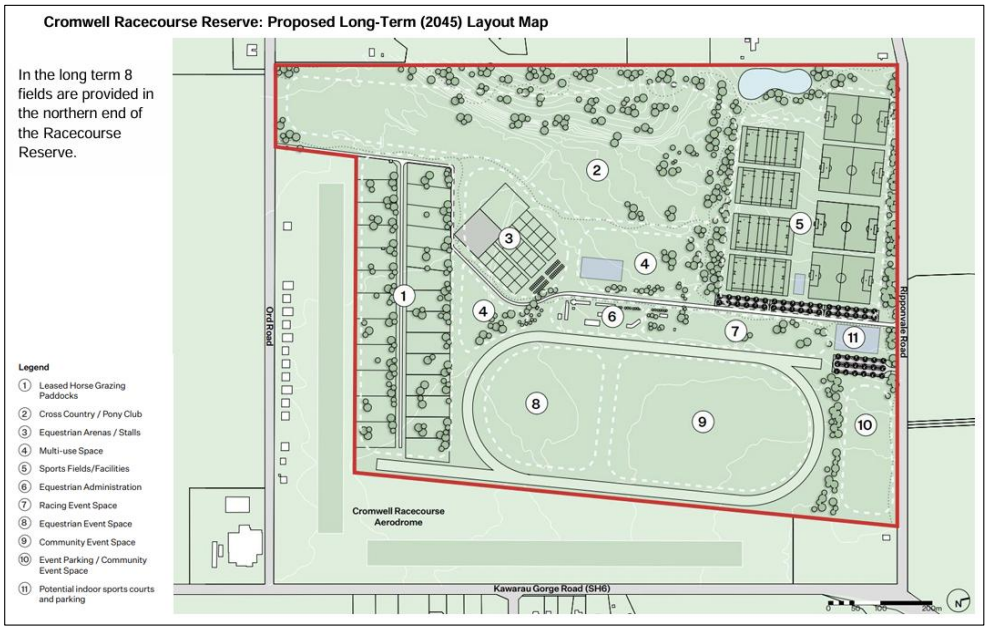


Figure 3: Extract of proposed Long-Term (2045) Layout Map (Source: Draft Cromwell Racecourse Reserve Management Plan).

Beyond the racecourse, there is a steady pattern of subdivision activity along Ripponvale Road, primarily focused on enabling residential lifestyle development in accordance with the Rural Residential subdivision framework of the District Plan, which does not prescribe a minimum allotment size for subdivision. This is evident by the number of resource consent applications that have been approved and steady supply of Lots being created and marketed for sale in recent months.

3.3 RECORD OF TITLE

The sites are legally defined in Record of Titles 126180, OT 106/99, OT 7C/632 and OT 7C/633. A copy of the Titles is attached in **Appendix [A]**. There are no consent notices registered on the Title that are of relevance to this application.

4 RESOURCE MANAGEMENT BACKGROUND

4.1 PLAN CHANGE HISTORY

4.1.1 Plan Change 14

The applicant requested a change to the Central Otago District Plan (Operative District Plan) on 29 May 2019 that was accepted by Council on 14 August 2019 and recorded as Plan Change 14 (PC14).

PC14 sought to enable the subdivision, use and development of approximately 142 hectares of land in the centre of the site to provide for rural lifestyle development, by rezoning to a new Rural Resource Area (5) (RRA(5)).

The Plan Change included a Structure Plan (Schedule 19.23 in the District Plan), identifying varying rural lifestyle density areas, location of primary roads, and 'no build' areas on the higher and more visible hill slopes. Rural lifestyle density areas were proposed primarily to address landscape and visual effects considerations, with higher density development on lower areas in the centre of the site, and lower density development for hill slopes. All residential activity would require resource consent, to enable development controls specific to the proposed development.

PC14 also sought to recognise and provide for the natural landscape values of the Pisa Range through extending the ONL notation, and providing public access to the ONL area (both existing and new). Between the rural lifestyle development and the existing cherry orchard, PC14 would facilitate use of a further 29 ha for horticultural development, as an extension to the existing cherry orchard. Both the ONL and Horticulture Area are included within the Structure Plan and are subject to additional district plan provisions, although they retain their underlying Rural Resource Area zoning.

PC14 was notified on 16 November 2019 and submissions closed 18 December 2020.

The hearing was held remotely over three separate sessions commencing on 25 May 2020 until being adjourned 28 May 2020, reconvened on 9 June 2020 and 5 November 2020. The Commissioners recommendation was issued 3 May 2021 concluding that PC14 not be approved and this recommendation was adopted in its entirety by Council on 6 May 2021.

Subsequently, the applicant appealed Council's decision to the Environment Court (ENV-2021- CHC-073). This appeal was resolved by a joint memorandum that confirmed agreement between parties to:

- Rezone approximately 142 hectares of land to Rural Resource Area (5) to enable rural lifestyle development.
- Provision of Rural Lifestyle Areas with the following densities:

Table 1: Outline of approved minimum and average allotment areas for each of the respective Rural Lifestyle Areas.

RURAL LIFESTYLE ALLOTMENT AREAS	
Rural Lifestyle Area	**Allotment Area**
Rural Lifestyle Area 1	Minimum 1,500m^2 Maximum 3,000m^2 Minimum average[1] 2,000m^2
Rural Lifestyle Area 2	Minimum 3,000m^2
Rural Lifestyle Area 3	Minimum 4,000m^2
Rural Lifestyle Area 4	Minimum 8,000m^2
Rural Lifestyle Area 5	Minimum 3 ha

[1] The calculation of average allotment size in Rural Lifestyle Area 1 shall not include any open space, access way, trail, private road or public road, but shall include any private way. For the purposes of this rule, the terms access way, private road, public road and private way are as defined in section 315 of the Local Government Act 1974.

Rural Lifestyle Area 6	To be held as one allotment
Rural Lifestyle Production Area	Minimum 4 ha, with the exception of the land to the east of the main access road, which shall be held as a single allotment

- Amendment to the Outstanding Natural Landscape and Significant Amenity Landscape notations within the site.
- Insertion of a Structure Plan, Circulation Plan and Planting Schedule in the District Plan appendices.
- Within District Plan Section 4: Rural Resource Area, a new objective and a new policy for Rural Resource Area (5).
- Within District Plan Section 4: Rural Resource Area, new rules and associated provisions for activities within the Structure Plan area.
- Corresponding amendments to the planning maps.

Based upon the terms of agreement above, the appeal was allowed, and a consent order was issued by the Court on 8 April 2022. An extract of the updated planning maps illustrating the extent of the now operative Rural Resource Area (5) and subsequent approved Structure Plan is as follows:

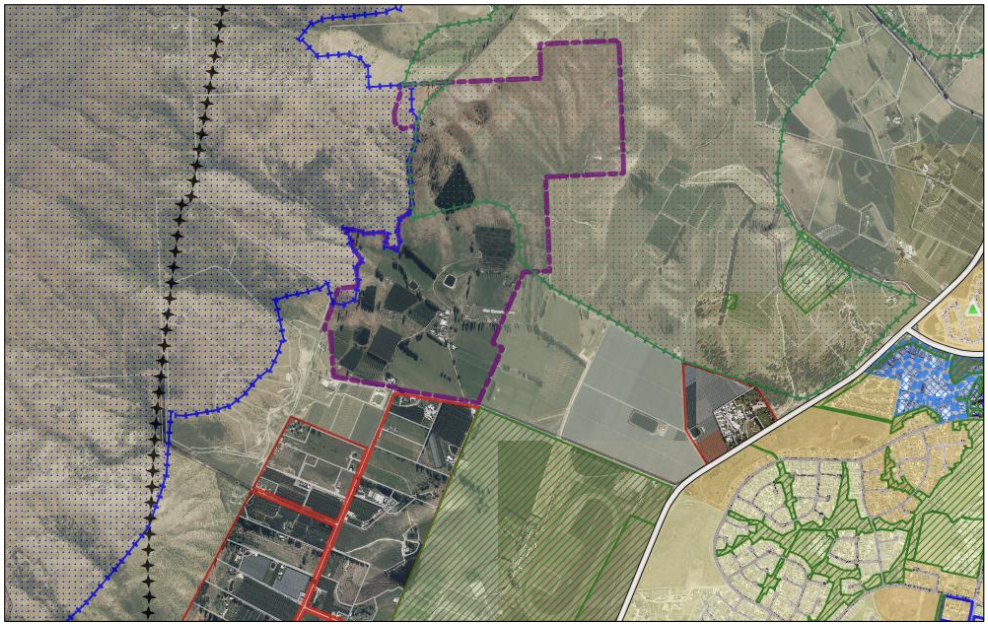


Figure 4: Extent of the Rural Resource Area (5) zone as rezoned by PC14 (Image Source: CODC GIS Planning Maps as at 26 May 2025).

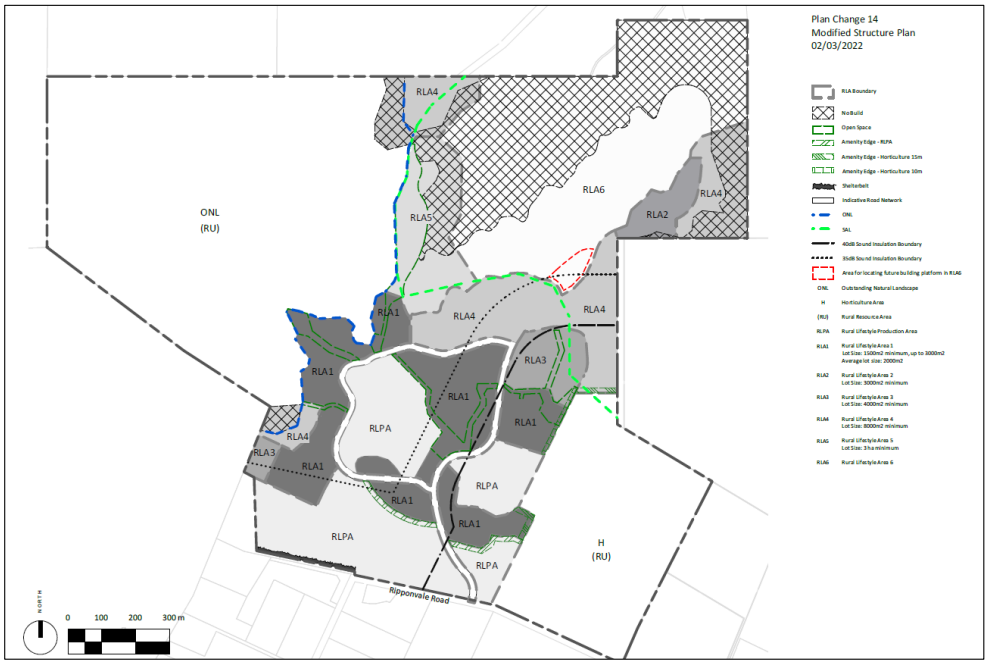


Figure 5: Extract of approved Structure Plan for the Rural Resource Area (5) as attached in Schedule 19.23 of the Central Otago District Plan.

4.1.2 Plan Change 19

Plan Change 19 (PC19) was a major update to the Central Otago District Plan and was driven by the direction set out in the Vincent and Cromwell Spatial Plans. The spatial plans were prepared by Central Otago District Council to respond to demand for residential land and housing affordability concerns in the District, and to plan for the anticipated growth over the next 30 years.

In implementing the direction set out in the two spatial plans, PC19 involved rezoning new land for residential use, identifying some areas for future growth, aligning existing residential zoning with the proposed new zones, and includes new provisions for managing land use and subdivisions within the residential zones.

PC19 was declared partially operative on 7 November 2024 although with a few specific provisions still under appeal.

Within the Cromwell Ward, PC19 authorised the re-zoning of some rural areas of land to different residential densities in the Bannockburn, Lowburn and Pisa Moorings area. The densities approved under PC19 are summarised as follows:

- Medium Density Residential being 200m^2
- Low Density Residential being 400m^2 (although currently under appeal to reduce to 250m^2)
- Large Lot Residential being 1,500m^2 (although currently under appeal to reduce to 1,000m^2)

- Large Lot Residential Precinct 1 being 1,000m^2
- Large Lot Residential Precinct 2 being 3,000m^2; and
- Large Lot Residential Precinct 3 being 5,000m^2 (although currently under appeal to reduce to 4,000m^2).

PC19 does not affect the subject site specifically, but is of relevance to the understanding of the wider planning framework that pertains to the residential areas of the Central Otago District and Cromwell more specifically.

4.1.3 Rural Resource Area District Plan Review

Central Otago District Council are currently in the process of considering the Rural Resource Area chapter of the Central Otago District Plan and have recently begun consultation with key stakeholders, industry groups and the wider community (through community sessions). Council anticipates the formal notification of the Rural Resource Area chapter review in mid to late 2026 which is expected to consider the Ripponvale area surrounding the subject site.

4.2 RESOURCE CONSENTS HISTORY

There are a number of resource consent applications noted on the property file for the site. The following resource consents are considered most relevant and are summarised accordingly.

4.2.1 RC220396

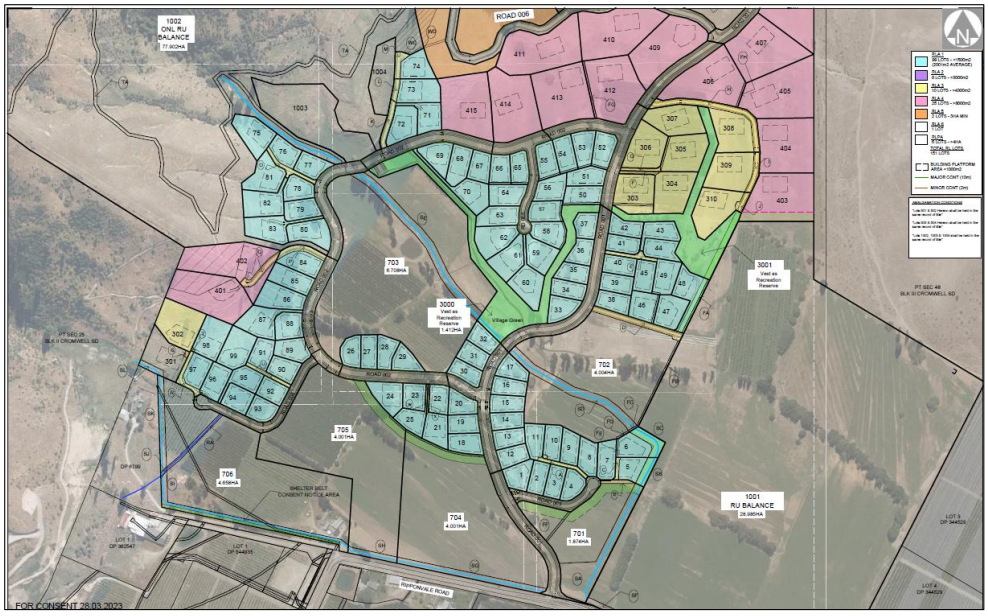
Following the implementation of PC14, the applicant sought a resource consent (RC220396) to undertake a subdivision of the site in accordance with the Structure Plan. The proposal sought approval for 151[2] residential allotments across the site, in line with the Structure Plan. A summary description of the proposal as sought under RC220396 was included in the Council's decision document, which is reproduced as follows:

- 151 allotments within the RLAs (1) to (6)
- All allotments comply with relevant minimum lot sizes
- 151 building platforms, one on each of the above lots
- Building platforms on Lots 208, 402, 403, 404, 409, 413, 414, 415, 416, 417, 418, 419, 420 422 and 501 would breach minimum yards
- 6 allotments within the RPLA
- 4 allotments in the Rural Resource Area
- Access off Ripponvale Road to six subdivisional roads
- Provision for a new footpath and underpass along Ripponvale Road and below State Highway 6
- Water and wastewater from Council's existing reticulated networks in Cromwell using new connections installed along Ripponvale Road

[2] 160 Lots were initially intended however nine Lots are required to undergo further geotechnical and hazard monitoring which has resulted in these Lots being converted to future development Lots 1003 and 1004. Otherwise, while 151 Lots have been approved, all infrastructure and roading was assessed on the basis of 160 Lots.

- Up to 123,100m^2 of cut and 100,300m^3 of fill across the site to establish roads, stormwater flow paths and land stabilisation
- Provision of landscaping generally in accordance with Schedule 19.23, using species identified in Schedule 19.25 of the CODP.
- The development is proposed to be undertaken in 21 stages. A proposed staging plan has been provided with the application

Consent was approved on 13 September 2023 and an extract of the approved subdivision scheme plan is attached:



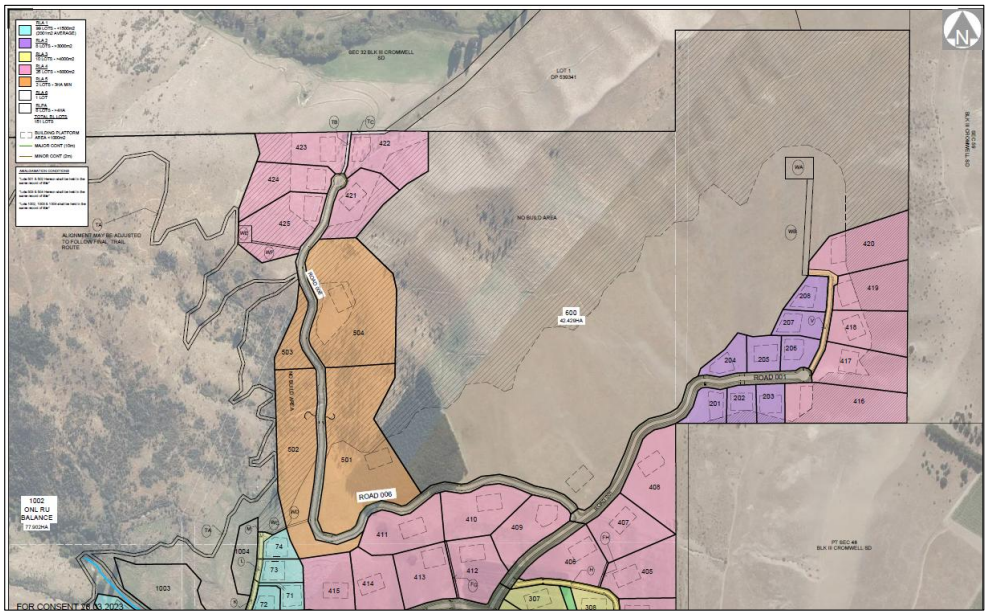


Figure 6: Extract of approved scheme plan as approved under RC220396.

4.2.2 RC220396V1

RC220396V1, approved on 13 December 2024 was an application to vary Conditions 1, 15 and 21 of RC 220396 to provide for the construction of two new stormwater and sediment retention ponds within Section 101 Block III Cromwell SD (to become Lots 701 and 704) and to allow for one of the existing dams on proposed Lot 703 to be retained. The larger of the basins on Lot 701 is intended to be used to treat stormwater during Stage 1 of the development, then would be repurposed as an irrigation/frost fighting pond to service future horticultural activities. The others would be integrated into the stormwater management system of the subdivision on a permanent basis.

4.2.3 RC220396V2

RC220396V2, approved on 23 May 2025, sought to amend the grouping of allotments within RC220396 Stages 12 to 14 so that certain allotments can be progressed to completion in a timelier manner.

4.2.4 RC230244

RC230244, approved on 13 September 2023 authorises the establishment of a mountain bike track within the Outstanding Natural Landscape land being the slopes to the west of the Shannon Farm subdivision proper.

4.2.5 RC250155 and RC220396V3

Lodged on 9 June 2025, resource consent RC250155 and RC220396V3 is an application seeking to intensify the later stages of the subdivision by reducing the minimum allotment

areas of already consented Lots, resulting in a net increase of another 44 Lots within the confines of the wider Shannon Farm extent.

The additional Lots will be provided by way of:

- An additional six allotments are proposed within RLA. The lots will range in size from 1770m^2 to 3530m^2 with an average allotment size of 2385m^2.
- An additional 22 Lots are proposed within an area of RLA 4. The intensified lots within RLA 4 will range in size from 1895m^2 to 6895m^2 with an average allotment size of 3115m^2.
- An additional 16 residential allotments (from one original allotment) are proposed within RLA 6**.** The residential allotments will range in size from 2290m^2 to 5150m^2 with an average allotment size of 3400m^2. The balance lot of RLA 6 (approximately 36Ha) will be kept as open pastureland and amalgamated with Lot 166. Each residential lot will have a building platform no greater than 1000m^2.

The proposal remains in processing.

4.2.6 Regional Consents

The applicant also holds a suite of consents from the Otago Regional Council for the following activities:

- RM.23.549.01 – Water Permit – Diversion and Damming
- RM.23.549.02 – Land use Consent – Reclamation
- RM.23.549.03 – Land Use Consent – Alter the bed and place structures
- RM.23.549.04 – Land Use Consent – Defence against water
- RM.23.549.05 – Land Use Consent - Earthworks
- RM.23.549.06 – Discharge Permit - Earthworks
- RM.23.549.07 – Land Use Consent – Contaminated Land

5 PROPOSAL

5.1 OVERVIEW

PC14, as approved, contemplated the establishment of 160 residential allotments within the designated Rural Lifestyle Areas of the Rural Resource Area (5). However, during the preparation of the underlying subdivision application (RC220396), preliminary geotechnical investigations identified that nine of these 160 allotments were currently unsuitable for residential development due to potential landslide risk. These Lots, located within the area marked “purple” in the geotechnical report (refer to the figure below), led the applicant to consolidate Lots 1003 and 1004 as future development Lots. A copy of the geotechnical report informing this outcome is attached in **Appendix [B].**

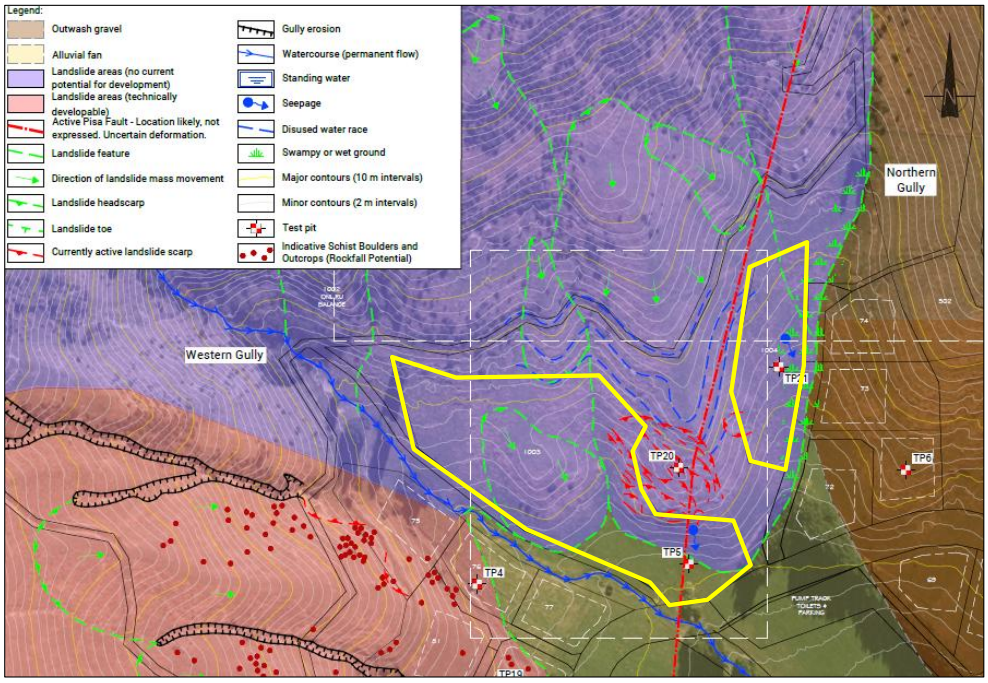


Figure 7: Extract of "Appendix A, Figurer 1c" of Geotechnical Report detailing extent of landslide area. Lots 1003 and 1004 identified in yellow (approximate).

Tonkin & Taylor Limited (T+T) is presently undertaking further geotechnical investigation and assessment of the northern and western slopes of the Shannon Farm development, including Lots 1003 and 1004. The objective of this work is to evaluate slope stability and identify any limitations on development, particularly in areas mapped as large schist debris landslides.

Initial observations as detailed in their letter (attached in **Appendix [C]**) suggest that surficial deposits and landslide debris on the toe slopes are relatively shallow and overlie massive Pleistocene gravels that appear deformed or tilted against the Pisa Fault. Groundwater levels, based on current observations, are low (though this is subject to confirmation via piezometer data).

These early findings tentatively indicate that the large-scale schist debris landslides are relatively benign in terms of presenting hazards to future development. While some attention will be needed to manage localised slope instability triggered by earthworks, these risks are expected to be addressed through standard hillside geotechnical engineering practices, common in residential slope development, and will be confirmed on completion of further and final geotechnical reporting.

While T+T continues its assessment of landslide risk, it is proposed to seek subdivision consent to subdivide Lots 1003 and 1004 into nine Lots, consistent with the underlying Rural Lifestyle Area 1 zoning. These new Lots would be subject to a condition requiring a final geotechnical assessment and certification confirming that landslide risk has been adequately addressed prior to issuing Section 224(c) certification, and may include conditions and/or

recommendations that would be best implemented as a consent notice on the respective Titles. It is proposed to add the following condition:

> ***21(ff) Prior to the issue of any section 224(c) certification for Lots 167 to 175, as shown on "Sheet 007", ref 15729 prepared by CFMA, the consent holder must provide a geotechnical report to Council, prepared by suitably qualified geotechnical engineer as defined in Section 1.2.2 of NZS4404:2010, outlining specific recommendations to be implemented by the consent holder and/or future Lot Owners to mitigate the landslide risk on future residential development, use and occupation of the Lots. These recommendations are to be enshrined as a consent notice on the respective Lots.***

5.1.1 Updated Scheme Plan

An updated scheme plan detailing the location (effectively the reinstatement) of these Lots has been prepared by Clark Fortune McDonald Ltd (CFMA) and is attached in **Appendix [D]**.

In essence, it is proposed to enable seven Lots within development lot 1003 and two Lots within development lot 1004. A total of nine Lots are proposed.

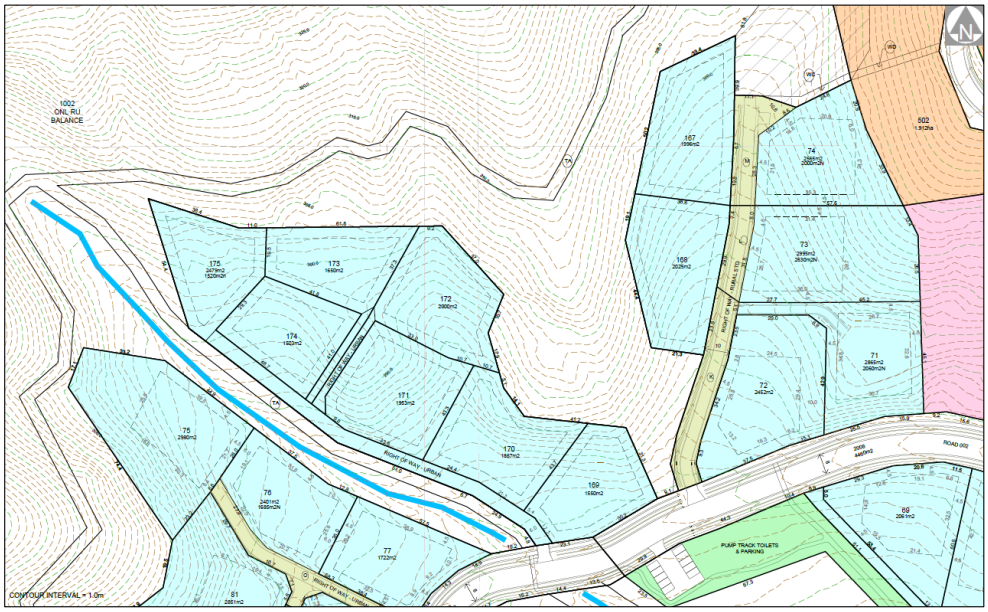


Figure 8: Extract of proposed scheme plan.

It is proposed to amend condition 1 of RC220396 to reflect the addition of a new plan detailing the location of Lots 165 to 175 (conditions highlighted ***blue*** are subject to a current application under RC250155 and RC220396V3).

1. *The subdivision shall be undertaken in accordance with the plans of subdivision being:*
   - *Shannon Farm Development Lot Layout Overview Sheets 001 and 002 Revision ~~E~~ G*

- *Shannon Farm Development Lot Layout Details Sheets 003 to 013 Revision ~~E~~G*
- *Variation to RC220396: 144 Ripponvale Road, Cromwell Page 2 of 9*
- *Shannon Farm Development Staging Sheets 016 and 017 Revision ~~E~~F G*
- *Shannon Farm Development Typical Road Sections Sheets 018 to 021 Revision ~~E~~G*
- *Shannon Farm Bulk Earthworks Layout Sheets 001 and 002 Revision C*
- *Shannon Farm Subdivision Water Reticulation Overview Sheets 001 and 002 Revision ~~A~~ B.*
- *Shannon Farm Subdivision Wastewater and Stormwater Reticulation Overview Sheet 003 Revision ~~A~~ B.*
- *Shannon Farm Subdivision Wastewater Reticulation Overview Sheet 004 Revision ~~A~~ B.*
- *Shannon Farm Subdivision Connection to Existing Services Sheet 007 Revision A*
- ***Shannon Farm Development Lot Layout Overview. Sheet 007, Rev E***

6 STATUTORY CONSIDERATIONS

6.1 CENTRAL OTAGO DISTRICT PLAN

The wider site is located in the **Rural Resource Area (5)** of the Central Otago District Plan. More specifically, the proposed additional Lots will occur exclusively within **Rural Lifestyle Area 1.**

The wider site is characterised by the following additional Overlays:

- Outstanding Natural Landscape (West of the site)
- Significant Amenity Landscape (North of the site)
- Rural Resource Area (5) Rural Lifestyle Areas (1) to (6)
- Rural Resource Area (5) Rural Production Lifestyle Area
- Rural Resource Area (5) Amenity Edges
- Rural Resource Area (5) No Build Area
- Rural Resource Area (5) Open Space Notation

An extract of the Council's Planning Map is as follows:

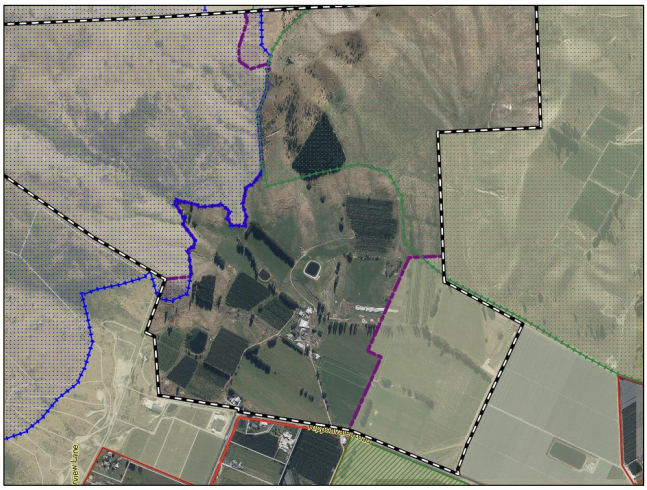


Figure 9: Extract of CODC GIS Planning Map.

The proposal requires consideration of the following rules:

- Pursuant to Rule 4.7.2.ii.a.i, subdivision in the Rural Lifestyle Areas as detailed in the Structure Plan in Schedule 19.23 must accord with the relevant minimum and averaging requirements to be considered as a controlled activity. In this case, the proposed additional Lots accord to the minimum allotment areas (1,500m^2) as it relates to Rural Lifestyle Area 1, but does not comply with the average of 2,000m^2. As such, the proposal will be considered as a **non-complying activity** pursuant to Rule 4.7.5.iii. The Lots are summarised as follows:

Table 2: Proposed allotment sizes for Lots 167 to 175.

Lot Number	Lot Size (m^2)	Lot Number	Lot Size (m^2)
167	1690	172	2000
168	2020	173	1650
169	1550	174	2020
170	1860	175	1520
171	1950	-	-

A full summary of the Total Lots within the Rural Lifestyle 1 Area (RLA1) is included in **Appendix [E]**. The average of these allotments in the context of the consented Lots in the RLA 1 will be 1,989.96m^2.

- Pursuant to Rule 4.7.2.ii.a.vi, subdivision in the area identified as Rural Resource Area (5) shall be undertaken in accordance with the Structure Plan contained in Schedule 19.23 and the application shall include all of the information/components listed below in order to be considered as a **controlled activity** under Rule 4.7.2.ii.

A comprehensive outline of the compliance to Rule 4.7.2.ii.a.vi was completed in the application for RC220396, of which this proposal does not seek to amend. Rather, this proposal seeks to incorporate the final nine allotments in accordance with the Structure Plan and RLA 1 that were initially omitted under RC220396. A summary of the relevant components of Rule 4.7.2.ii.a.vi is as follows:

Table 3: Assessment of Rule 4.7.2.ii.a.vi.

		Compliance
Subdivision in the area identified as Rural Resource Area (5) shall be undertaken in accordance with the Structure Plan contained in Schedule 19.23 and the application shall include all of the information/components listed below in order to be considered as a controlled activity under Rule 4.7.2(ii):		
A	Staging details for subdivision;	All staging has been detailed and consented under RC220396V2. No changes are proposed to the staging.
B	Areas of open space that are precluded from development in general accordance with the locations shown on the Structure Plan;	The proposed allotments are all located within RLA 1 and does not affect the open space.
C	A condition requiring the establishment of the Horticulture 15m Amenity Edge, Horticulture 10m Amenity Edge, RLPA Amenity Edge and Shelterbelt planting prior to the issue of a certificate under section 224c of the Resource Management Act 1991, with the following parameters: i. The RLPA and Horticulture 15m Amenity Edges shall have a width of 15 metres. ii. The Horticulture 10m Amenity Edge shall have a width of 10 metres. iii. Rural Lifestyle Area allotments adjoining the Horticulture 10m Amenity Edge shall provide a private accessway of at least 4.5m in width immediately adjoining the Amenity Edge. iv. Plantings shall predominantly consist of species identified in the Planting Schedule for the Rural Resource Area (5) in Schedule 19.25. v. Trees within the RLPA Amenity Edge shall be planted in two rows. At the time of planting these trees shall be at least 2.5 metres in height and shall have an anticipated growth rate of 3- 4 metres within 5 years. The trees to be planted shall consist of species identified in the Planting Schedule for the RLPA Amenity Edge in Schedule 19.25. The front row of planting (adjacent to the Rural Lifestyle Production Area) shall have a maximum spacing of 4 metres between trees and the back row (adjacent to Rural Lifestyle Area 1) shall have a maximum spacing of 5 metres. iv. Small-medium shrubs within the Horticulture 15m and 10m Amenity Edges shall be at least 1 metre high at the time of planting and trees and large shrubs within the Horticulture 15m and 10m Amenity Edges adjacent to the Horticulture Area shall at the time of planting be at least 2 metres in height and shall consist of species identified in the Planting Schedule for the Horticulture Block Amenity Edge in Schedule 19.25.	Already captured under Conditions 21(r) to (v).
D	A condition to be specified in a consent notice, or other appropriate legal instrument registered against the record of title for the land, over the allotments that contain the open space preventing buildings in those areas;	All open space areas are to be vested to Council so no proposed allotments contain any areas identified on the Structure Plan as

		Open Space. No changes proposed.
E	Public pedestrian and cycling connections through the Outstanding Natural Landscape area and connecting to the Local Road, protected by way of easements in gross or other appropriate legal instruments registered against the records of title for the land. The connections shall be in general accordance with the location and extent shown on the Circulation Plan in Schedule 19.24. The route of may be altered by the landowner(s) under the terms of easement or instrument, provided that the extent of the connections is not materially diminished;	As depicted on the approved scheme plan for RC220396, an easement (in gross) is allocated over the indicative public pedestrian and cycle connection which extends through the Outstanding Natural Landscape area to the Local Road. This proposal does not affect this easement.
F	A condition to be specified in a consent notice, or other appropriate legal instrument recorded against the record of title for the land in favour of Council, over the allotments in the Rural Lifestyle Production Area, "requiring that for a period of 15 years there shall be no construction of new dwellings on the allotment prior to planting of a minimum of 50% of the site in horticultural or viticultural species, and for that period of 15 years, any plants that die, become diseased, or are otherwise removed, shall be replaced with the same or similar horticultural or viticultural species".	Already subject to conditions of RC220396. Condition 22(e)
G	A condition to be specified in a consent notice, or other appropriate legal instrument recorded against the record of title for the land, over the allotment(s) that contain the RLPA Amenity Edge, Horticulture 10m Amenity Edge, Horticulture 15m Amenity Edge and Shelter Belt to ensure that the planting is maintained.	Already subject to conditions of RC220396. Condition 22(g) to (j)
H	A condition specified in a consent notice, or other appropriate legal instrument recorded against the record of title for the land, over the allotments that contain the "no build" area preventing buildings (excluding fences and retaining) on that area;	Already subject to conditions of RC220396. Condition 22(5)
I	A condition to be specified in a consent notice, or other appropriate legal instrument recorded against the record of title for the land, recording requirements for acoustic insulation in accordance with Rule 4.7.6E(e);	No consent notice provided however Rule 4.7.6E(c) requires consideration as a non-complying consent if the standard is not complied with.
J	A condition requiring the registration of non-complaints covenants in relation to the effects of rural productive activities in the surrounding Rural Resource Area. The covenants are to be registered against the title of all rural lifestyle allotments, in favour of Lots 1-4 DP 344529, the title to the Horticulture Block shown on the Structure Plan, and lots within Rural Lifestyle Production Area.	Already subject to conditions of RC220396. Condition 24
K	Roading layout, having regard to the indicative roading layout on the Structure Plan;	Already detailed on the approved subdivision plans for RC220396.
L	Prior to the issue of a certificate under section 224c of the Resource Management Act 1991 for the 51st rural lifestyle allotment, the "widening of the existing seal of Ripponvale Road to a formed width of 7.0m seal with 0.25m metalled shoulders, from the principal access to 144 Ripponvale Road, eastwards to the intersection with the State Highway", shall be completed.	These matters are encapsulated by Condition
M	Prior to the issue of a certificate under section 224c of the Resource Management Act 1991:	

	The provision of a 2.0m wide shared walking and cycling path within the legal corridor of Ripponvale Road from the principal access to 144 Ripponvale Road, eastwards to the intersection with the State Highway, shall be completed.	
N	Prior to the issue of a certificate under section 224c of the Resource Management Act 1991 for the 51st rural lifestyle allotment, a pedestrian/cyclist underpass shall be incorporated into State Highway 6 and be operational.	
O	Road and Open Space planting details in general accordance with the planting schedule contained in Schedule 19.25.	No changes are proposed to the approved landscape package under RC220396.

- Pursuant to Rule 4.7.2(ii)(a)(viii), a **controlled activity** applies where a building platform of no greater than 1,000m^2 in area is identified on the plan of subdivision. In this case, a platform is shown on all Lots.

6.2 RESOURCE MANAGEMENT ACT 1991

Pursuant to Section 127 of the Resource Management Act 1991, an application can be made to Council to vary the conditions attached to a resource consent. Such an application is to be treated as if it were a **discretionary activity.**

In this case, the proposal to reinstate the proposed allotments necessitates the need to vary the underlying approved scheme plan as consented under RC220396 (and as subsequently varied by RC220396V1 and RC220396V2). It is proposed to amend the conditions of RC220396 as follows (added text **underlined**. Deleted text ~~struckthrough~~):

Table 4: Proposed changes to conditions.

Proposed Change	Reason for Change
1. *The subdivision shall be undertaken in accordance with the plans of subdivision being:* • *Shannon Farm Development Lot Layout Overview Sheets 001 and 002 Revision ~~E~~ G* • *Shannon Farm Development Lot Layout Details Sheets 003 to 013 Revision ~~E~~ G* • *Variation to RC220396: 144 Ripponvale Road, Cromwell Page 2 of 9* • *Shannon Farm Development Staging Sheets 016 and 017 Revision ~~E~~ E G* • *Shannon Farm Development Typical Road Sections Sheets 018 to 021 Revision ~~E~~ G* • *Shannon Farm Bulk Earthworks Layout Sheets 001 and 002 Revision C* • *Shannon Farm Subdivision Water Reticulation Overview Sheets 001 and 002 Revision ~~A~~ B.* • *Shannon Farm Subdivision Wastewater and Stormwater Reticulation Overview Sheet 003 Revision ~~A~~ B.* • *Shannon Farm Subdivision Wastewater Reticulation Overview Sheet 004 Revision ~~A~~ B.*	Add the updated scheme plan showing the proposed additional Lots to the list of approved plans.

• *Shannon Farm Subdivision Connection to Existing Services Sheet 007 Revision A* • ***Shannon Farm Development Lot Layout Overview. Sheet 007, Rev E***	
21(ff) Prior to the issue of any section 224(c) certification for Lots 167 to 175, as shown on "Sheet 007", ref 15729 prepared by CFMA, the consent holder must provide a geotechnical report to Council, prepared by suitably qualified geotechnical engineer as defined in Section 1.2.2 of NZS4404:2010, outlining specific recommendations to be implemented by the consent holder and/or future Lot Owners to mitigate the landslide risk on future residential development, use and occupation of the Lots. These recommendations are to be enshrined as a consent notice on the respective Lots.	Add condition (22ff) requiring the certification of Lots 167 to 175 prior to 224C certification confirming that the landslide hazard no longer poses a risk to development.
20. The following amalgamation conditions must be shown on the face of the subdivision plan for the relevant stage: *That Lots 501 and 502 hereon be held in the same record of title (See CSN Request 1837327)* *That Lots 503 and 504 hereon be held in the same record of title (See CSN Request 1837327)* ~~*That Lots 1002, 1003 and 1004 hereon be held in the same record of title (See CSN Request 1837327)*~~	Condition 20 can be amended to remove the requirement to amalgamate 1002, 1003 and 1004 which would no longer be required once they are Titled into fee simple allotments.
*22. The following conditions of the consent shall be complied with in perpetuity and shall be registered on Lots 1-99, 201-208, 301-310, 401-425, 501-504****, 165-175*** *and 600 by way of Consent Notice pursuant to Section 221 of the Act:* *…* *d) Residential buildings on Lots 1 to 99, 201 to 208, 301 to 310, 401 to 425, 501, 504****, 165-175*** *and 600 must be located within the building platform identified on the plan of subdivision*	Update condition 22 and 22(d) to require the relevant ongoing consent notice requirements to apply to the new Lots.

6.3 NATIONAL ENVIRONMENTAL STANDARDS

The Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS) came into effect on 1 January 2012. The NESCS applies to any piece of land on which an activity or industry described in the current edition of the Hazardous Activities and Industries List (HAIL) is being undertaken, has been undertaken or is more likely than not to have been undertaken.

In this instance, the land involved has been assessed as a restricted discretionary activity under Regulation 10(3) of the NES-CS during the processing of RC220396 of which a suite

of conditions has been imposed. Regional permit[3] have also been obtained for disturbances to contaminated land. As such, the NESCS is not considered further under this application.

6.4 OVERALL ACTIVITY STATUS

Overall, the proposal requires the following consents:

- A **non-complying activity** pursuant to Rule 4.7.5.iii.A for a breach to the averaging criteria of 2,000m^2. In this case, the average equates to 1,991m^2.
- A **controlled activity** pursuant to Rule 4.7.2.ii.a.vi for subdivision undertaken in accordance with the Structure Plan contained in Schedule 19.23.
- A **controlled activity** pursuant to Rule 4.7.2(ii)(a)(viii), where a building platform of no greater than 1,000m^2 in area is identified on the plan of subdivision.
- A **discretionary activity** pursuant to Section 127 of the Resource Management Act 1991 to amend the conditions of RC220396 (as varied) to accommodate the additional Lots.

The proposal is assessed overall as a **non-complying activity.**

7 PERMITTED BASELINE

7.1 PERMITTED BASELINE

The consent authority may disregard an adverse effect of the activity if a rule or national environmental standard permits an activity with that effect.

In this case, all subdivision in the Rural Resource Area (5) requires resource consent and therefore the permitted baseline is considered of little relevance to this application.

7.2 RECEIVING ENVIRONMENT

The receiving environment is characterised by the existing resource consents held for the site that is currently being implemented (site and civil works are underway for the first few stages). Specifically, RC220396 contemplates the implementation of 151 residential allotments and is currently under construction.

[3] RM.23.549.07

8 ASSESSMENT OF EFFECTS

8.1 OVERVIEW

Schedule 4 of the Resource Management Act 1991 (RMA) details the information required to be included in an assessment of environmental effects. An assessment in this regard as it accords to Clause 6 of Schedule 4 is included as follows:

8.1.1 EFFECTS ON THE ENVIRONMENT

> *If it is likely that the activity will result in any significant adverse effect on the environment, a description of any possible alternative locations or methods for undertaking the activity:*

The proposed activity will not result in any significant adverse effects on the environment. Any effects there are, will be adequately remedied and mitigated. Alternative locations are therefore not considered necessary.

> *An assessment of the actual or potential effect on the environment of the proposed activity.*

The following effects on the environment are considered most relevant:

- Effects on landscape and visual amenity values;
- Effects on open space and recreation;
- Transportation effects;
- Effects on servicing infrastructure;
- Productive capacity;
- Reverse sensitivity;
- Earthworks;
- Geotechnical;
- Ecological;
- Heritage and cultural values; and
- Positive effects.

8.1.2 Effects on landscape and visual amenity values

The proposal seeks to develop areas within the wider Rural Resource Area (5) already identified for residential purposes. The proposed allotment sizes are consistent with the minimum density requirements for the RLA1. While the proposal does not accord to the averaging criteria of 2,000m^2, it is noted that the breach only amounts to 10m^2. This minor non-compliance will not be distinguishable in the context of the entire subdivision and mitigated by the fact that the sites adjoin the open space of the Rural Resource Area. As such, landscape and visual amenity effects will be less than minor.

8.1.3 Effects on open space and recreation

The proposal does not alter the existing approved network of greenspaces nor does it compromise the consents associated with the establishment of the mountain bike track. No effects on open space and recreation are considered to arise from the proposal.

8.1.4 Effects on roading infrastructure

The roading layout for RC220396 was designed to take account of the eventual development of Lots 1003 and 1004. As such, no additional effects on roading infrastructure will result.

8.1.5 Effects associated with servicing

The infrastructural loading and reticulation layout for RC220396 was designed to take account of the eventual development of Lots 1003 and 1004. As such, no additional effects on servicing infrastructure will result.

8.1.6 Effects on productive land

The proposal seeks to develop Lots 1003 and 1004 which provide for residential activities under the RLA1. As such, no adverse effects on productive land will result.

8.1.7 Effects on reverse sensitivity

Reverse sensitivity effects of the overall development of the site were extensively canvassed through the PC14 proceedings recognising that reverse sensitivity represented one of the key limbs for the initial refusal of the Plan Change request. Through mediation, the following additional provisions were inserted into the District Plan to address reverse sensitivity within the Rural Resource Area (5):

> (a) Standards requiring that no audible bird scaring devices are used in the Horticulture Area (rule 4.7.6E(b)). The cherry orchard extension will be netted, consistent with the appellant's existing operation;
>
> (b) Standards requiring that there be no fixed wind machines within the RLPA, with provision made for portable machines only (rule 4.7.6E(c)); and
>
> (c) Standards prescribing the number, location and model of wind machines for frost control to be placed in the Horticulture Area (rule 4.7.6E(c)).

In addition, it is noted that the introduction of the RLPA in the south of the site provides a further buffer between existing rural uses and the majority of the proposed rural lifestyle development.

Through the implementation of the controls above, it was determined that the implementation of PC14 as per the Structure Plan would alleviate reverse sensitivity effects.

The proposal seeks to develop lots that are already contemplated for residential development. No further reverse sensitivity effects are contemplated.

8.1.8 Earthworks effects

The site is already subject to a comprehensive EMP and a suite of consents from ORC. Any additional works are considered to be appropriately absorbed within the consented framework of the site and will not give rise to additional adverse effects on the environment over and above what has already been assessed and managed.

8.1.9 Geotechnical effects

The sites were previously assessed in terms of natural hazards and were determined at the time of RC220396 as not suitable for residential development without further monitoring. Further investigations from T+T have since been undertaken. This include recently completing 5 cored boreholes to a maximum depth of 50m, with installation of piezometers, and the excavation of 10 test pits. An assessment of possible ground displacement in the area from InSAR satellite information between 2014 and 2025 was undertaken by 3Vgeomatics. T+T are in the process of compiling the information collected from the investigations.

Interpretation of the investigation results and development of geological models is ongoing and will inform the recommendations for future Lot development. Geotechnical recommendations may include but not be limited to:

- The final number, size and shape of Lots.
- Limitations on building envelopes within each Lot and/or limits on cut to fill. Placement of imported engineered fill platforms may be recommended to improve slope stability and raise floor levels relative to local stormwater and debris flow paths.
- Geotechnical parameters for cuts, fills and inground structures (e.g. retaining walls).
- Possible requirements for foundation design to accommodate a small amount of subsidence.

Based on observations to date however, T+T notes that surficial deposits and landslide debris are relatively thin on the toe slopes, overlying massive Pleistocene gravels which are deformed/tilted against the Pisa fault. In addition, groundwater is almost absent from the investigation observations (to be confirmed by piezometer information).

This initial observations/assessment would suggest that the larger scale Schist Debris Landslides are relatively benign in terms of hazards to the proposed development. Attention will be required to the triggering of local slope instability by modification of the slopes during lot development, but most geotechnical issues are likely to be accommodated by “good hillside geotechnical engineering practices”. This is normal practice with residential development on any slope.

In effect, the initial assessments suggest that the large-scale landslide risk is low, and that recommendations around final location of the Lots, specific foundation requirements and parameters around cut/fill will inform future development on these Lots. As such, it is considered that the proposed additional conditions which requires the Titling of the Lots to be withheld until further recommendations are provided by T+T to inform development parameters, is an appropriate measure. Subject to confirmation from T+T that the sites can be appropriately mitigated through site specific recommendations, natural hazard effects will be no more than minor.

8.1.10 Ecological Effects

The site was not identified as consisting of any particular ecological value during the re-zoning and subsequent resource consent process. Rather, it was determined that PC14 would have some minor positive effect in terms of extending the ONL part of the site that has

some ecological value[4]. The proposal does not extend into these areas and therefore no further ecological effects will arise.

8.1.11 Heritage and cultural effects

Heritage and cultural values were considered during the establishment of the site under PC14 where it was concluded that subject to conditions in relation to adherence to the Heritage New Zealand Pouhere Taonga Archaeological Discovery Protocol through the matters of control for subdivision and the requirement for an archaeological authority where relevant to any changes to existing water races, the Commission determined that any adverse effects in terms of effects on heritage values will be no more than minor and there will be no particular effects on cultural values.[5] The proposal does not result in any development beyond the areas deemed appropriate.

8.1.12 Positive effects

The primary positive effects of the proposal relate to the increase in residential allotments at a density that reflects the underlying Rural Lifestyle Area.

8.1.13 Summary of effects

In considering all of the above, it is considered that the proposal will generate no more than minor adverse effects on the wider environment.

8.2 EFFECTS ON PERSONS

Identification of the persons affected by the activity, any consultation undertaken, and any response to the views of any person consulted

8.2.1 Consultation

No consultation has been undertaken with regard to this application.

8.2.2 Effects on persons

The proposed additional Lots are anticipated by the underlying Zoning for the site which contemplates Lots consistent with the RLA 1 area. The density of development complies to the minimum requirements of the RLA 1 area and simply seeks to reinstate what was intended to be applied for during the processing of RC220396. As such, no person is considered to be adversely affected by the proposal to develop Lots 1003 and 1004 in line with the prevailing RLA 1 Zone.

[4] Paragraph 4.132, decision of the Commission, PC14, dated 3 May 2021.
[5] Paragraphs 4.133 to 4.135, decision of the Commission, PC14, dated 3 May 2021.

9 SECTION 95 NOTIFICATION

9.1 PUBLIC NOTIFICATION

Section 95A gives a council discretion to decide whether to publicly notify an application or not. There are a total of four steps that are to be followed to publicly notify consent applications under Sections 95A (2) to 95A (9). These steps are addressed in the Table below.

Test	Yes/No	Comments
Step 1: Mandatory notification in certain circumstances – section 95A(3)		
Has the applicant requested that the application be publicly notified?	No	
Is public notification required under s95C (following a request for further information or commissioning of report)?	No	
Is the application made jointly with an application to exchange reserve land?	No	
Step 2: If not required by Step 1, notification is precluded if any of these circumstances apply – section 95A(5)		
Does a rule or NES preclude public notification for all aspects of the application?	No	
Is the application a controlled activity?	No	
Is the application a restricted discretionary or discretionary activity for a subdivision?	No	
Is the application a restricted discretionary or discretionary activity for residential activity?	No	
Is the application a boundary activity (other than a controlled activity)?	No	
Step 3: Notification required in certain circumstances if not precluded by Step 2 – section 95A(8)		
Does a rule or NES require public notification?	No	
Will the activity have, or is it likely to have, adverse effects on the environment that are more than minor?	No	As per the effects assessment contained herein, effects on the environment are considered to be no more than minor.
Step 4: Relevant to all applications that don't already require notification – section 95A(9)		
Do special circumstances exist that warrant the application being publicly notified?	No	The proposal is not considered to be unique or out of the ordinary in this context and is entirely consistent with the scale of development that characterises the surrounding environment.

9.2 LIMITED NOTIFICATION

Section 95B gives a council discretion for limited notification of consent application. Similar to public notification, there are a total of four steps that are to be followed for limited

notification consent applications under Sections 95B (2) to 95A (10). These steps are addressed in the below Table:

Test	Yes/No	Comments
Step 1: Certain affected groups/persons must be notified – sections 95B(2) and (3)		
Are there any affected protected customary rights groups or customary marine title groups?	No	
If the activity will be on, adjacent to, or might affect land subject to a statutory acknowledgement - is there an affected person in this regard?	No	
Step 2: If not required by Step 1, notification is precluded if any of the following apply – section 95B(6)		
Does a rule or NES preclude limited notification for all aspects of the application?	No	
Is the application a controlled activity?	No	
Step 3: Notification of other persons if not precluded by Step 2 – sections 95B(7) and (8)		
In the case of a boundary activity, is the owner of an allotment with an infringed boundary considered affected under s95E?	No	
Are there any other affected persons under s95E, i.e. persons on whom the effects are minor or more than minor, and who have not given written approval?	No	As per the effects on persons, the proposal is considered to result in less than minor effects on persons.
Step 4: Notification in special circumstances – section 95B(10)		
Do special circumstances exist that warrant the application being notified to any persons not identified above?	No	

9.3 NOTIFICATION CONCLUSION

Based on the assessment above, it is considered that the proposal does not warrant notification in that the adverse effects of the proposal on the wider environment will be no more than minor as concluded in Section 8.1.13.

In addition, the proposal is not considered to warrant limited notification in that no person(s) are considered to be adversely affected by the proposed activities as per the conclusions met in Section 8.2.2 of this report.

10 SECTION 104(1)(b) ASSESSMENT

10.1 OVERVIEW

Clause 2(1)(g) of Schedule 4 of the Resource Management Act 1991 requires an assessment against any relevant planning documents that are referred to in Section 104(1)(b) (of the RMA). This includes;

- A national environmental standard
- Other regulations
- A national policy statement

- A New Zealand coastal policy statement
- A regional policy statement or proposed regional policy statement
- A plan or proposed plan

10.2 NATIONAL POLICY STATEMENTS

10.2.1 National Policy Statement for Highly Productive Land 2022

The National Policy Statement for Highly Productive Land (NPS-HPL) is intended to improve the way highly productive land is managed under the RMA[6]. The NPS-HPL was gazetted on 19 September 2022 and became operative on 17 October 2022.

The NPS-HPL requires regional councils and territorial authorities to identify highly productive land, and manage the effects of subdivision, use, and development of highly productive land, in an integrated way and require the extensive mapping of highly productive land through the use of a standardise categorisation system.

Where area specific assessment and identification of high value soils have not been undertaken, the NPS-HPL directs Council to consider Land Use Classification (LUC) 1, 2 and 3 soils as being highly productive. In this case, the areas of the site identified as RLA (1) to (6) and RPLA are considered rural lifestyle zones and are not considered to be within the scope of the NPS-HPL as the RLA (1) to (6) are not general rural or rural production areas. As such, the NPS-HPL is not considered to apply, and consistent with the conclusions reached under RC220396.

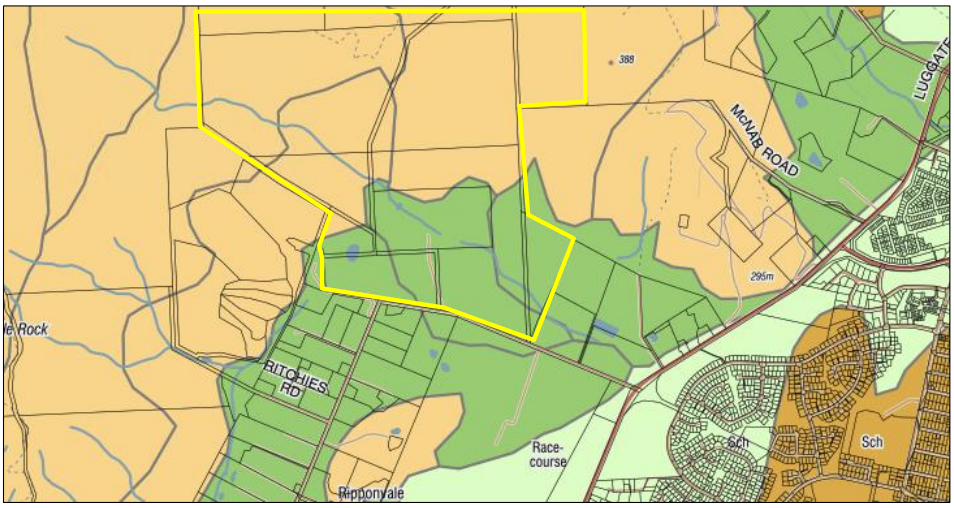


Figure 10: Extract of NZLRI GIS.

[6] https://www.mpi.govt.nz/dmsdocument/36621-Valuing-highly-productive-land-a-summary

10.3 REGIONAL POLICY STATEMENTS

10.3.1 Operative and Proposed Regional Policy Statements

The relevant regional policy statements includes:

- The Partially Operative Regional Policy Statement 2019; and
- The Proposed Regional Policy Statement 2021.

As will be assessed in Section 10.4.1 below, the proposal is deemed entirely consistent with the provisions of the District Plan. The District Plan is required to give effect to the higher order Regional Policy Statements and therefore it is considered that the proposal will remain consistent with the relevant provisions of the Regional Policy Statement.

10.4 DISTRICT PLAN

10.4.1 Central Otago District Plan

The Central Otago District Plan includes a suite of objectives and policies to manage a range of issues that threaten to degrade the environmental and amenity qualities that have been identified as important attributes to the region. There are two key provisions that were inserted into the Central Otago District Plan as a result of the PC14 proceedings; Objective 4.3.10 and Policy 4.4.18. These two provisions are assessed in detail as follows, while any remaining policies of the District Plan considered relevant are assessed in Table 9.

Objective (4.3.10) for the Rural Resource Area (5) seeks to:

> *"Provide for a range of rural living opportunities on lots of varied sizes and shapes, integrated with rural productive uses and recreational opportunities, and in a way that protects the Outstanding Natural Landscape, maintains the values of the Significant Amenity Landscape, provides for rural amenity, is appropriately serviced, and manages potential effects on surrounding rural uses."*

The proposal is considered to remain consistent with this objective, for the following reasons:

- **Provision of rural living opportunities**: The subdivision provides for a diverse range of rural living opportunities consistent with the minimum allotment sizes for the RLA 1 Zone as promoted by this Objective.
- **Integration with rural productive and recreational uses**: The development layout avoids compromising surrounding productive land uses and retains access to recreational areas. The productive capacity of the subject land has been assessed and secured during the initial re-zoning of the site and no changes or intensification is sought within the productive areas of the site.
- **Protection of the Outstanding Natural Landscape (ONL)**: No part of the proposed additional development extends into the ONL. The proposal respects the identified ONL boundaries and avoids adverse effects on these values through careful siting and existing design controls.

- **Maintenance of Significant Amenity Landscape (SAL) values**: The new lots are located within the RLA 1 area which contemplates allotments already. Effects on the SAL are therefore no greater than what is contemplated under the District Plan.
- **Provision for rural amenity**: The proposal builds upon an already consented rural-residential character, reinforcing the existing and anticipated amenity of the receiving environment. The spatial pattern, density, and design standards continue to reflect a rural lifestyle setting rather than an urban typology.
- **Servicing**: The site is appropriately serviced without placing an undue burden on public infrastructure. No servicing constraints have been identified that would compromise the zone's intent or broader environmental outcomes.
- **Management of effects on surrounding rural uses**: The site is contained within a defined development node, bordered by similar or compatible land uses. The proposal avoids reverse sensitivity issues and maintains a respectful interface with neighbouring rural properties.

Overall, the proposal is considered consistent to the relevant objective insofar as the proposal seeks to develop Lots 1003 and 1004 in line with the planning framework and densities already determined under PC14.

In relation to Policy 4.4.18, this policy seeks to provide for rural lifestyle subdivision and development while avoiding, remedying or mitigating adverse effects on the environment by:

a. Requiring subdivision and development to be undertaken in general accordance with the Structure Plan in Schedule 19.23;

b. Integrating a range of complementary activities within the rural setting, including:
   • Rural living
   • Farming and agriculture
   • Horticulture
   • Recreation and Open Space

c. Adhering to minimum and average allotment sizes for subdivision;

d. Ensuring that subdivision is designed to:

   i. facilitate convenient, safe, efficient and easy access for vehicles, pedestrians and cyclists; and

   ii. facilitate the safe and efficient operation and the economic provision of roading and network utility services to secure an appropriate, integrated and planned development; and

   iii. have regard to the natural landform in Rural Lifestyle Areas 1-6, including through the alignment of lot boundaries and roading, and landscaping and planting design within public spaces;

e. Ensuring that the subdivision layout within each contiguous area of RLA1 provides for a range of allotment sizes and shapes and comprises pockets of smaller lots offset by larger lots and open space;

f. Encouraging the extent of earthworks to not exceed that required for the installation of services, access and building platforms, while recognising that the contouring of land may either be required for, or limited by, geotechnical and/or aesthetic considerations;

g. Managing the character and amenity values of the Rural Resource Area (5) and surrounding areas by controlling land use activities, avoiding building within the no build areas shown on the Structure Plan, and avoiding urban forms of subdivision and development;

h. Minimising adverse effects of built form resulting from inappropriate building scale, location and external appearance;

i. Enhancing landscape values through the implementation of planting schemes tailored to specific areas within the Rural Resource Area (5);

j. Providing for an efficient access and open space network;

k. Providing adequate infrastructure to service development while minimising adverse effects;

l. Avoiding building in high risk natural hazard areas;

m. Managing the potential for reverse sensitivity effects on adjoining rural land uses;

n. Maintaining the productive potential of the Rural Lifestyle Production Area through ensuring that the allotment sizes and location of residential activity within the Rural Lifestyle Production Area do not prevent or significantly inhibit its productive use;

o. Ensuring the Rural Lifestyle Production Area is used for productive purposes alongside providing for rural living by requiring 50% of each allotment to be planted for productive purposes prior to the establishment of residential activity;

p. Complementing, rather than competing with, urban areas in the district by providing a focus on rural living activities.

q. Maintaining the open and natural character and legibility of Rural Lifestyle Area 6 by:

    i. Avoiding subdivision and building in the No Build Area;

    ii. Enabling building within the "Area for Future Building Platform" provided it is well integrated into the landscape;

    iii. Other than as provided in ii, avoiding building in the area outside of the No Build Area unless it be demonstrated that the legibility and open and natural character of the Rural Lifestyle Area 6 will be maintained;

    iv. Avoiding subdivision in the area outside of the No Build Area unless:

a. the creation of additional lots is necessary to facilitate rural activity or ecological restoration and use of the land is restricted to such purpose in perpetuity through a legal mechanism; or

b. a dwelling has been approved under Rule 4.7.4.xi on each of the lots proposed to be created; and

c. in respect of a and b the subdivision will avoid adverse effects on, and maintain, the legibility and open and natural character of the Rural Lifestyle Area 6 and will not result in delineation of boundaries through fencing or planting.

v. Requiring that any planting is natural in design and avoids any linear or geometric forms and comprises only native species endemic to the area except for low height producing grass species such as browntop;

vi. Requiring that any roads are largely enclosed by planting.

An assessment of this policy more specifically is as follows:

Table 5: Specific assessment of Policy 4.4.18.

Provision	Description	Assessment
a	Requiring subdivision and development to be undertaken in general accordance with the Structure Plan in Schedule 19.23;	The proposed additional Lots are entirely consistent with the RLA 1 criteria.
b	Integrating a range of complementary activities within the rural setting, including: • Rural living • Farming and agriculture • Horticulture • Recreation and Open Space	The proposal achieves the overall intent of the Zone through the provision of rural residential living in a holistic and master planned development that accommodates farming, agriculture, horticulture and open space, all the while avoiding ad hoc and fragmented development. The proposal is **consistent** with this policy.
c	Adhering to minimum and average allotment sizes for subdivision	The proposed allotments comply with the minimum allotment sizes for the RLA 1 Zone but only marginally breaches the averaging criteria by 10m^2 (2,000m^2 average required and only 1,989m^2 provided). The minor nature of this infringement is not considered to compromise the overall integrity or outcomes sought for the RLA1 area and will not be materially noticeable in the context of the entire subdivision. The proposed Lots are consistent with the minimum densities and no person will be able to determine the extent of the breach given the minor nature of the non-compliance. As such, while the

		proposal is not entirely consistent with the averaging, the marginal nature is such that the proposal is **not contrary** to the overall intent of the policy.
d	Ensuring that subdivision is designed to: i. facilitate convenient, safe, efficient and easy access for vehicles, pedestrians and cyclists; and ii. facilitate the safe and efficient operation and the economic provision of roading and network utility services to secure an appropriate, integrated and planned development; and iii. have regard to the natural landform in Rural Lifestyle Areas 1-6, including through the alignment of lot boundaries and roading, and landscaping and planting design within public spaces;	The proposed additional Lots are able to be serviced in terms of transport and access requirements and were initially accounted for in terms of access requirements during the processing of RC220396. The proposal is entirely **consistent** with this provision.
e	Ensuring that the subdivision layout within each contiguous area of RLA1 provides for a range of allotment sizes and shapes and comprises pockets of smaller lots offset by larger lots and open space;	The proposed allotment sizes within Lots 1003 and 1004 provides a combination and variation of allotment sizes to cater for different demands. The proposal is entirely **consistent** with this provision.
f	Encouraging the extent of earthworks to not exceed that required for the installation of services, access and building platforms, while recognising that the contouring of land may either be required for, or limited by, geotechnical and/or aesthetic considerations;	Minimal additional earthworks are required for the purposes of additional access. Otherwise, the site is subject to an approved EMP which manages effects of earthworks. The proposed additional works can be integrated within this framework. The proposal is **consistent** with this provision.
g	Managing the character and amenity values of the Rural Resource Area (5) and surrounding areas by controlling land use activities, avoiding building within the no build areas shown on the Structure Plan, and avoiding urban forms of subdivision and development;	The proposal appropriately manages the character and amenity values of the Rural Resource Area (5) by maintaining consistency with the Structure Plan in terms of the location of the additional Lots and densities. The subdivision layout avoids any urban form or pattern of development, with Lots designed to follow landform and integrate with the surrounding rural lifestyle context. The proposal maintains a sense of openness and rural character as reinforced through the continued use of controls on building location, design, and landscaping. Accordingly, the proposal is **consistent** with this policy by avoiding development in the No Build Area, controlling land use in a manner that respects the landscape, and maintaining a

		clear distinction from urban subdivision patterns.
h	Minimising adverse effects of built form resulting from inappropriate building scale, location and external appearance;	Existing Rules in the District Plan requiring consents for new builds will continue to remain unchanged. The proposal is **consistent** with this provision.
i	Enhancing landscape values through the implementation of planting schemes tailored to specific areas within the Rural Resource Area (5);	No changes are proposed to the planting framework and therefore the proposal remains **consistent** with this provision.
j	Providing for an efficient access and open space network	No changes are proposed to the open space network that is to be afforded to the public. The proposal is **consistent** with this provision.
k	Providing adequate infrastructure to service development while minimising adverse effects	Infrastructure capacity and feasibility was assessed and provided for by the existing infrastructure provided under RC220396. The proposal is **consistent** with this provision.
l	Avoiding building in high risk natural hazard areas	The proposed Lots were deferred from the processing of RC220396 in order to allow for further testing. Preliminary findings would suggest that the landslide risk is relatively benign however further testing is required to conclusively quantify the risk of developing Lots 1003 and 1004. The mechanism of a condition requiring the deferral of these Lots until formal certification is provided is considered to sufficiently mitigate the risk of natural hazards. The proposal is **consistent** with this provision.
m	Managing the potential for reverse sensitivity effects on adjoining rural land uses;	Existing controls in the District Plan as it relates to reverse sensitivity remains unchanged and includes: • Standards requiring that no audible bird scaring devices are used in the Horticulture Area (rule 4.7.6E(b)). The cherry orchard extension will be netted, consistent with the appellant's existing operation; • Standards requiring that there be no fixed wind machines within the RLPA,

		with provision made for portable machines only (rule 4.7.6E(c)); and • Standards prescribing the number, location and model of wind machines for frost control to be placed in the Horticulture Area (rule 4.7.6E(c)). The proposal is **consistent** with this provision.
n	Maintaining the productive potential of the Rural Lifestyle Production Area through ensuring that the allotment sizes and location of residential activity within the Rural Lifestyle Production Area do not prevent or significantly inhibit its productive use;	No changes are proposed to the RLPA and therefore this provision is **not relevant.**
o	Ensuring the Rural Lifestyle Production Area is used for productive purposes alongside providing for rural living by requiring 50% of each allotment to be planted for productive purposes prior to the establishment of residential activity;	No changes are proposed to the RLPA and therefore this provision is **not relevant.**
p	Complementing, rather than competing with, urban areas in the district by providing a focus on rural living activities.	The proposal reinforces the rural living character of the zone and does not compete with urban zones. The typology remains distinct from urban forms and complements the broader district settlement pattern.
q	Maintaining the open and natural character and legibility of Rural Lifestyle Area 6 by: i. Avoiding subdivision and building in the No Build Area; ii. Enabling building within the "Area for Future Building Platform" provided it is well integrated into the landscape; iii. Other than as provided in ii, avoiding building in the area outside of the No Build Area unless it be demonstrated that the legibility and open and natural character of the Rural Lifestyle Area 6 will be maintained; iv. Avoiding subdivision in the area outside of the No Build Area unless: a. the creation of additional lots is necessary to facilitate rural activity or ecological restoration and use of the land is restricted to such purpose in perpetuity through a legal mechanism; or b. a dwelling has been approved under Rule 4.7.4.xi on each of the lots proposed to be created; and c. in respect of a and b the subdivision will avoid adverse effects on, and maintain, the legibility and open and natural character of the Rural Lifestyle Area 6 and will not result in delineation of boundaries through fencing or planting. v. Requiring that any planting is natural in design and avoids any linear or geometric forms and	Not applicable to this proposal.

	comprises only native species endemic to the area except for low height producing grass species such as browntop; vi. Requiring that any roads are largely enclosed by planting.	

In considering Policy 4.4.18 overall, the additional Lots are designed to remain consistent with the outcomes anticipated by Policy 4.4.18. The development integrates with the established pattern of rural living in this bespoke zone, provides appropriate intensification in order to meet market demands, and preserves key landscape and amenity values. The policy provides a broad and detailed framework for managing growth in this area, and the proposal is aligned with that framework in both intent and implementation. As such, the proposal is **not contrary** to these provisions.

In terms of any other relevant provisions of the Central Otago District Plan, these are assessed as follows:

Table 6: Assessment of relevant objectives and policies of the Central Otago District Plan.

Provision	Description	Assessment
4.3.1	Objective - Needs of the District's People and Communities To recognise that communities need to provide for their social, economic and cultural wellbeing, and for their health and safety at the same time as ensuring environmental quality is maintained and enhanced.	The proposal responds positively to this objective by providing additional rural lifestyle living opportunities meeting an identifiable market demand that support the social and economic wellbeing of the community, through expanded housing choice to respond to the desired demand and efficient use of zoned land. The development integrates with existing infrastructure and maintains key environmental outcomes through appropriate landscape design, protection of significant landforms, and adherence to servicing and design controls. As such, the proposal strikes an appropriate balance between enabling community wellbeing and maintaining environmental quality. The proposal is overall considered to be **consistent** with this policy.
4.3.3	Objective - Landscape and Amenity Values To maintain and where practicable enhance rural amenity values created by the open space, landscape, natural character and built environment values of the District's rural environment, and to maintain the open natural character of the hills and ranges.	The proposal seeks to develop Lots 1003 and 1004 in line with the already determined minimum allotment sizes as confirmed through PC14. It follows that effects on landscape character and amenity values have already been appropriately accounted for in the rezoning of the site. Accordingly, the proposal is **consistent** with this Objective.
4.4.2	Policy– Landscape and Amenity Values	

	To manage the effects of land use activities and subdivision to ensure that adverse effects on the open space, landscape, natural character and amenity values of the rural environment are avoided, remedied or mitigated through: (a) The design and location of structures and works, particularly in respect of the open natural character of hills and ranges, skylines, prominent places and natural features, (b) Development which is compatible with the surrounding environment including the amenity values of adjoining properties, (c) The ability to adequately dispose of effluent on site, (d) Controlling the generation of noise in back country areas, (e) The location of tree planting, particularly in respect of landscape values, natural features and ecological values, (f) Controlling the spread of wilding trees. (g) Encouraging the location and design of buildings to maintain the open natural character of hills and ranges without compromising the landscape and amenity values of prominent hillsides and terraces.	
4.4.8	Policy - Adverse Effects on the Amenity Values of Neighbouring Properties. To ensure that the effects associated with some activities including (but not limited to): (a) Noise (including noise associated with traffic generation, night time operations), and vibration, (b) The generation of a high level of traffic, in particular heavy vehicles, (c) Glare, particularly from building finish, (d) A reduction in visual amenity due to excessive signage and the storage of goods or waste products on the site, (e) The generation of odour, dusts, wastes and hazardous substances, and (f) The use and/or storage of hazardous goods or substances do not significantly adversely affect the amenity values and privacy of neighbouring properties or the safe and efficient operation of the roading network.	The adverse effects on adjacent properties have been thoroughly canvassed in the underlying PC14 proceeding and through the subsequent establishment of the Zone and Rural Lifestyle Areas. The proposal seeks to develop the Lots in line with the densities anticipated for the RLA 1. As such, effects on neighbouring properties are considered to be less than minor. As such, the proposal is **consistent** with this policy.
4.4.9	Policy - Effects of Rural Activities To recognise that some rural activities, particularly those of a short duration or seasonal nature, often generate noise and other effects that can disturb neighbours by ensuring that new developments locating near such activities recognise and accept the prevailing environmental characteristics associated with production and other activities found in the Rural Resource Area.	Within the Rural Resource Area (5) Zone, Rule 4.7.6.E(b), (c) and (e) have been updated to apply to future residential activities within the Zone, in order to safeguard legitimate rural activities in the area to operate unimpeded, and manage reverse sensitivity effects. These rules will equally apply to the additional Lots. Recognising that the proposed allotments are to sit within the

		context of an established (in terms of baseline) residential context, the proposal is not considered to give rise to additional effects on rural activities. The proposal is therefore **consistent** with this provision.
4.3.7	Objective - Soil Resource To maintain the life-supporting capacity of the District's soil resource to ensure that the needs of present and future generations are met.	The intensification is occurring within existing established (in terms of the consented baseline) Rural Lifestyle Areas and does not affect the RLPA which has identified soils that are suited for primary production. The proposal is therefore not considered to compromise the life-supporting capacity of the District's soil resource and is therefore **consistent** with this policy.
16.3.1	To ensure that subdivision avoids, remedies, or mitigates adverse effects on the safe and efficient operation of the districts roading network.	The additional Lots will not adversely affect the safe and efficient operation of the roading network. The proposal is therefore **consistent** with this policy.
16.3.2	To ensure that subdivisions provide all necessary services and infrastructure without adversely affecting the public interest and the ongoing viability of those services and infrastructure.	The proposed additional Lots can be accommodated within the consented infrastructure framework without adversely affecting the public interest and the ongoing viability of those services and infrastructure. The proposal is therefore **consistent** with this policy.

In considering the assessment above, it is considered that the proposal is not contrary with the relevant objectives and policies of the District Plan.

10.5 SECTION 106

Pursuant to Section 106 of the RMA, a consent authority may refuse to grant a subdivision consent, or may grant a subdivision consent subject to conditions, if it considers that the land is or is likely to be subject to, or is likely to accelerate material damage from natural hazards, or where sufficient provision for legal and physical access to each allotment has not been made.

In this case, access to the proposed allotments have been demonstrated to which easements will ensure legal access is maintained.

The natural hazards have been considered further by T+T with preliminary advice suggesting that the larger scale Schist Debris Landslides are relatively benign in terms of hazards to the proposed development. Attention will be required to the triggering of local slope instability by modification of the slopes during lot development, but most geotechnical issues are likely to be accommodated by "good hillside geotechnical engineering practices". The requirement for certification confirming the risk is suitably managed is considered to be

sufficient in ensuring development on the Lots do not occur until formal certification from a suitably qualified person.

10.6 SECTION 104D

When dealing with non-complying activities, before granting an application a council must be satisfied that either the adverse effects of the activity on the environment will be minor (s104D(1)(a)), or the proposed activity will not be contrary to the objectives and policies of a proposed plan and/or plan (s104D(1)(b)).

With respect to the assessment above, the first gateway test for a non-complying activity required under section 104D(1)(a) has been met in that the application will not have an adverse effect on the environment which is more than minor. I conclude the effects are no more than minor for my reasons set out above.

With respect to the second gateway test under section 104D(1)(b), the application is considered broadly consistent with the relevant policies and objectives of the Rural Resource Area (5). While there is a minor inconsistency as it relates to the averaging criteria, I consider that overall, the proposal is not at odds with the core intent of the Zone, and therefore is **not contrary** to this intent.

Accordingly, as the application has passed both of the gateway tests in s104D, I consider consent can be granted for this non-complying activity.

11 PART 2 ASSESSMENT

11.1 OVERVIEW

The proposal is consistent with Part 2 of the Act, being the sustainable management of natural and physical resources, whilst also protecting the life supporting capacity of ecosystems, and avoiding, remedying or mitigating adverse effects on the environment.

11.1.1 SECTION 5

The purpose of the Act as stated in s5(1) of the RMA is, “to promote the sustainable management of natural and physical resources”.

Section 5(2) of the Act defines “sustainable management” as:

> *… managing the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well being and for their health and safety while –*
>
> *Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
>
> *Avoiding, remedying, or mitigating any adverse effects of activities on the environment.”*

The proposal supports this purpose by enabling a form of rural lifestyle development that responds to clear market demand while protecting key environmental values. It avoids development in sensitive landscape areas (ONL and upper SAL), respects productive land capacities, and is integrated with existing infrastructure without generating more than minor adverse effects. Appropriate mitigation measures are in place to manage any potential effects on landscape, amenity, and the rural-residential interface. As such, the proposal provides for the social and economic well-being of the community while safeguarding environmental resources.

11.1.2 SECTION 6

Section 6 relates to matters of national importance. The most relevant is that of Section 6(b) which seeks the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development.

The proposal avoids any development within the ONL, and the more sensitive upper areas of the SAL are similarly avoided. The integrity of these landscapes is therefore maintained.

Heritage and archaeological values have been addressed through the existing PC14 framework and remain protected via conditions that require adherence to the Heritage New Zealand Pouhere Taonga protocols. No new effects on cultural or heritage values are anticipated.

No identified sites of significance to tangata whenua are affected by this proposal, and the development remains within the areas previously determined as appropriate under PC14.

11.1.3 SECTION 7

Section 7 relates to ‘other matters’. The matters of relevance are considered to be as follows:

> *(b) the efficient use and development of natural and physical resources*
>
> *(c) the maintenance and enhancement of amenity values*
>
> *(f) maintenance and enhancement of the quality of the environment*

The proposal reflects an efficient use of zoned land by providing additional rural lifestyle opportunities within a structure already consented and serviced, without generating demand for further land re-zoning or infrastructure expansion.

Amenity values are preserved through the site of Lots within the RLA 1 at a density contemplated in this area.

The quality of the environment is maintained by avoiding sensitive landscape features and ensuring that infrastructure, transportation, and servicing remain within existing capacities.

Productive land has been comprehensively assessed and appropriately managed through the RLPA designation, ensuring that finite soil resources are recognised and their values upheld.

On balance, the proposal is considered consistent with Section 7 of the RMA.

11.1.4 SECTION 8

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi.

The proposal does not impact any identified Māori land, sites of significance, or cultural values. Cultural effects were assessed through the PC14 process, with appropriate mechanisms (e.g., archaeological protocols) embedded within the consent framework.

There is no evidence that the proposed intensification compromises any principles of partnership, participation, or protection under the Treaty.

11.1.5 CONCLUSION

The proposed subdivision intensification is consistent with the purpose and principles of Part 2 of the RMA. It promotes sustainable management by enabling a high-demand form of rural residential living within a framework that maintains environmental integrity, protects significant landscape and cultural values, uses infrastructure efficiently, and upholds amenity values. The effects are no more than minor, and the proposal appropriately balances the use, development, and protection of natural and physical resources in line with the RMA's purpose.

12 SUMMARY

The applicant holds a comprehensive suite of resource consents to develop land at 112 and 144 Ripponvale Road, Cromwell for a 151-Lot rural residential development, in line with the Rural Resource Area (5) provisions (incorporated by way of Plan Change 14 (PC14)) of the Central Otago District Plan.

Consent is now sought to subdivide development Lots 1003 and 1004 into nine allotments in accordance with the underlying RLA 1 density. The sites were initially deferred due to inconclusive information relating to landslide hazards.

Based on further observations to date, surficial deposits and landslide debris are relatively thin on the toe slopes, overlying massive Pleistocene gravels which are deformed/tilted against the Pisa fault. Groundwater is almost absent from the investigation observations (to be confirmed by piezometer information). This suggests, tentatively, that the larger scale Schist Debris Landslides are relatively benign in terms of hazards to the proposed development. While T+T continues its assessment of landslide risk, it is proposed to seek subdivision consent to subdivide Lots 1003 and 1004 into nine Lots, consistent with the underlying Rural Lifestyle Area 1 zoning. These new Lots would be subject to a condition requiring a final geotechnical assessment and certification confirming that landslide risk has been adequately addressed prior to issuing Section 224(c) certification.

Overall, the activity is assessed as a **non-complying activity.**

The actual and potential effects on the environment have been outlined in section 8 of this report where it is concluded that the proposed activity is not likely to have any adverse effects on the environment that are more than minor.

The proposal is considered consistent with the relevant objectives and policies of the District Plan and meets the purpose and principles of the Resource Management Act 1991.

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Cromwell, 9342
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RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Guaranteed Search Copy issued under Section 60 of the Land Transfer Act 2017

R.W. Muir
Registrar-General
of Land

Identifier	**126180**
Land Registration District	**Otago**
Date Issued	05 August 2004

Prior References
OT109/201 OT7C/631

Estate	Fee Simple
Area	93.0792 hectares more or less
Legal Description	Lot 2 Deposited Plan 330709 and Section 4, 11, 98, 101, 103 Block III Cromwell Survey District and Part Section 5, 25 Block III Cromwell Survey District and Part Run 1201R

Registered Owners
New Zealand Cherry Corp (Leyser) LP

Interests

Excepting and reserving from Sections 4 and 11 and the part Section 5 herein to Her Majesty the Queen all minerals, mineral oil, gas, metals, coal and valuable stone under the surface of the land

Subject to Section 8 Mining Act 1971 (affects Sections 98, 101 and 103 Block III Cromwell Survey District)

Subject to Section 168A Coal Mines Act 1925 (affects Sections 98, 101 and 103 Block III Cromwell Survey District)

Lot 2 on DP 330709 is subject to interests, easements and rights under the laws relating to Mining, Mines and Minerals.

Subject to Section 241(2) Resource Management Act 1991 (affects DP 330709)

Subject to a right to convey water over part Section 11 marked A DP 344529,over part Section 98 marked B DP 344529 and over part lot 2 DP 330709 marked C DP 344529 created by asement Instrument 6264801.4 - 23.12.2004 at 9:00 am

The easements created by Easement Instrument 6264801.4 are subject to Section 243 (a) Resource Management Act 1991

Subject to a right to convey water over part marked A, B and C on DP 344529 created by Easement Instrument 7073932.4 - 17.10.2006 at 9:00 am

Subject to a right (in gross) to convey electricity over part Part Section 5 marked A, Section 103 marked B, Section 11 marked C and D and Section 98 Block III Cromwell Survey District marked E and the right to transform electricity over part Section 11 Block III Cromwell Survey District marked D on DP 524841 in favour of Aurora Energy Limited created by Easement Instrument 11175490.2 - 6.8.2018 at 7:29 am

11211780.3 Mortgage to Bank of New Zealand - 31.8.2018 at 4:12 pm

13078798.2 Variation of Mortgage 11211780.3 - 22.8.2024 at 4:51 pm

13113009.1 CAVEAT BY AURORA ENERGY LIMITED - 17.9.2024 at 11:40 am

Identifier **126180**

Title Diagram 126180
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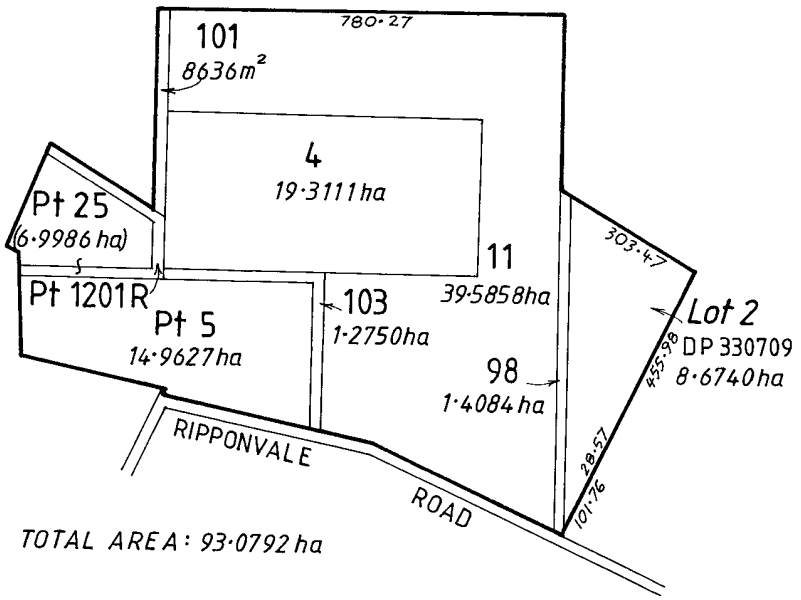

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UNDER LAND TRANSFER ACT 2017
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R.W. Muir
Registrar-General
of Land

Identifier	**OT7C/632**
Land Registration District	**Otago**
Date Issued	12 September 1978

Prior References
OT73/239 OT7C/630

Estate	Fee Simple
Area	113.0835 hectares more or less
Legal Description	Section 27-28, 96, 99, 102 Block III Cromwell Survey District

Registered Owners
New Zealand Cherry Corp (Leyser) LP

Interests

Sections 96, 99 and 102 are Subject to Section 8 Mining Act 1971

Sections 96, 99 and 102 are Subject to Section 168A Coal Mines Act 1925

11211780.3 Mortgage to Bank of New Zealand - 31.8.2018 at 4:12 pm

13078798.2 Variation of Mortgage 11211780.3 - 22.8.2024 at 4:51 pm

Identifier **OT7C/632**

Title Diagram Title Diagı
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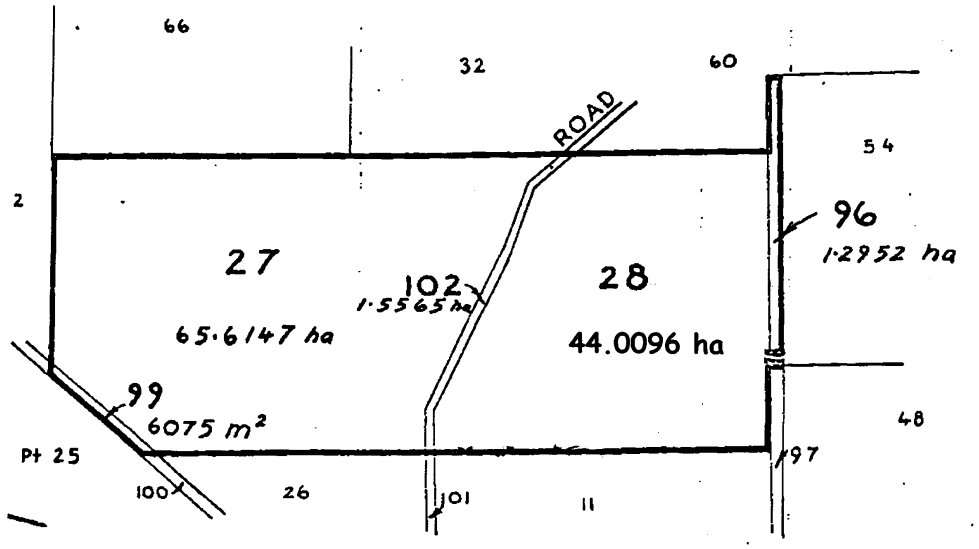

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UNDER LAND TRANSFER ACT 2017
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R.W. Muir
Registrar-General
of Land

Identifier	**OT7C/633**
Land Registration District	**Otago**
Date Issued	12 September 1978

Prior References
OT109/200 OT7C/630

Estate	Fee Simple
Area	14.7306 hectares more or less
Legal Description	Section 26, 100 Block III Cromwell Survey District

Registered Owners
New Zealand Cherry Corp (Leyser) LP

Interests

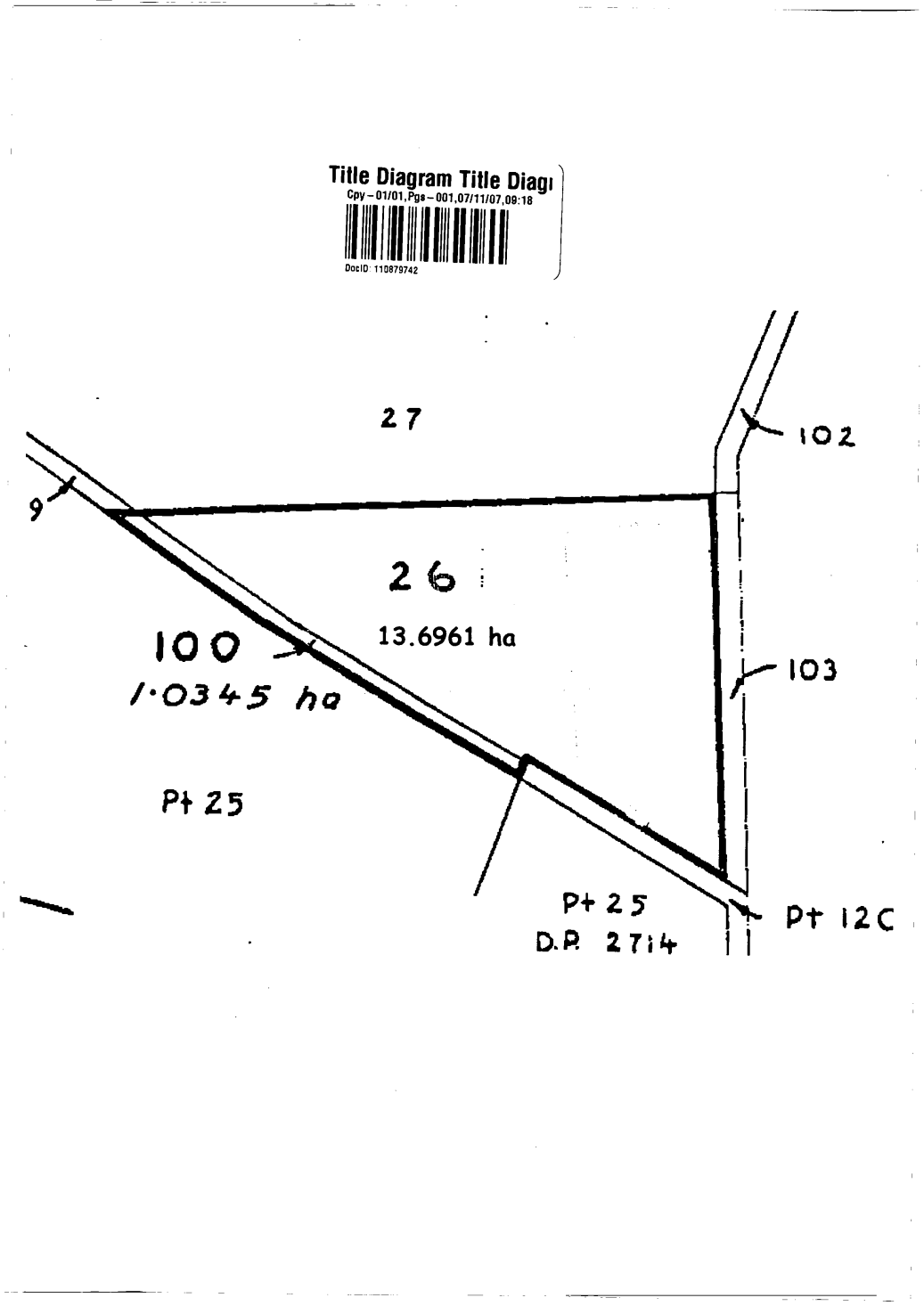
Section 100 is Subject to Section 8 Mining Act 1971

Section 100 is Subject to Section 168A Coal Mines Act 1925

11211780.3 Mortgage to Bank of New Zealand - 31.8.2018 at 4:12 pm

13078798.2 Variation of Mortgage 11211780.3 - 22.8.2024 at 4:51 pm

Identifier **OT7C/633**



RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Guaranteed Search Copy issued under Section 60 of the Land Transfer Act 2017

R.W. Muir
Registrar-General
of Land

Identifier	**OT106/99**
Land Registration District	**Otago**
Date Issued	23 July 1895

Prior References
WA 3/8

Estate	Fee Simple
Area	23.4718 hectares more or less
Legal Description	Section 54 Block III Cromwell Survey District

Registered Owners
New Zealand Cherry Corp (Leyser) LP

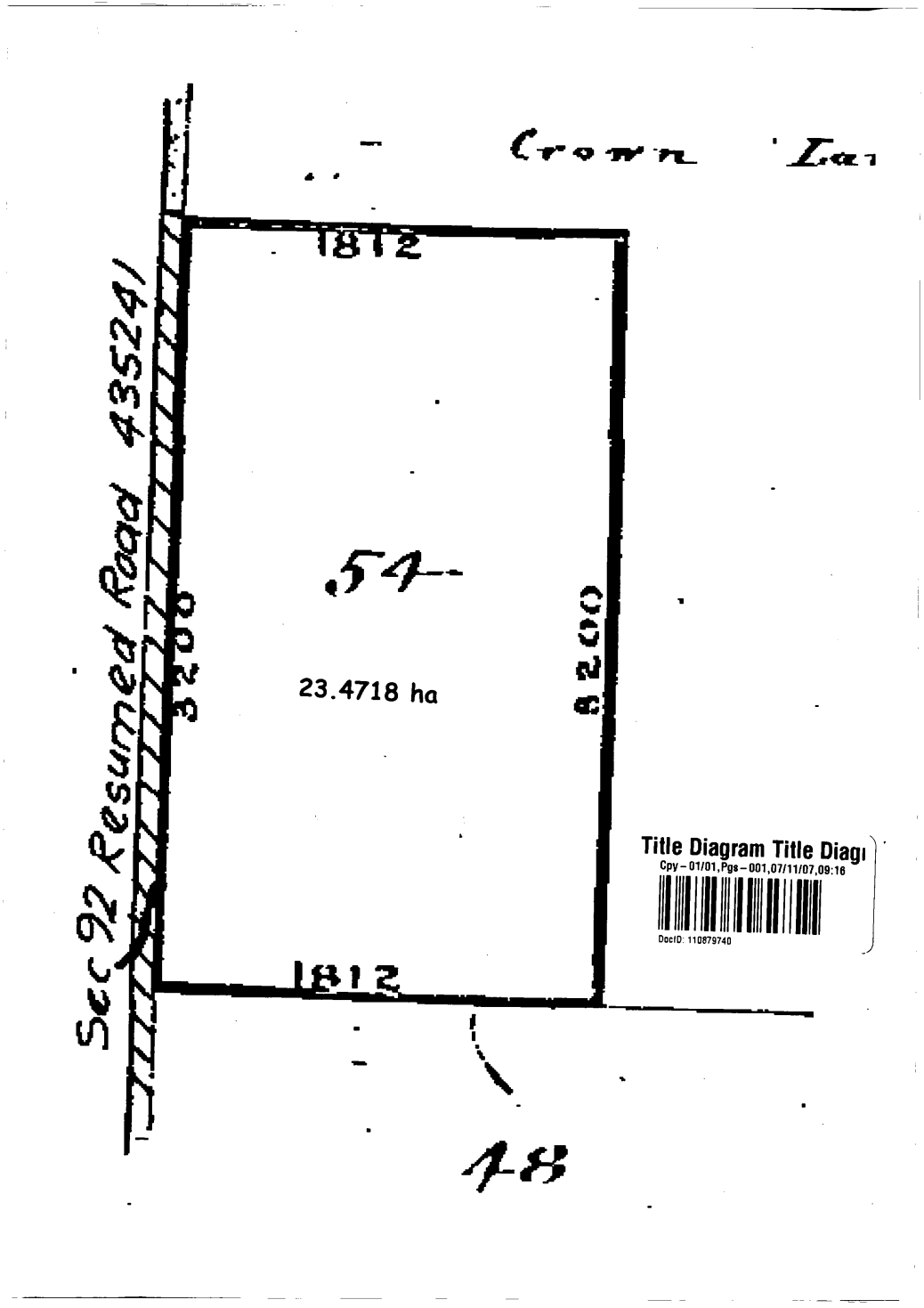
Interests

The abovementioned land is subject to interests, easments and rights under the Land relating to mining, mines and minerals

11211780.3 Mortgage to Bank of New Zealand - 31.8.2018 at 4:12 pm

13078798.2 Variation of Mortgage 11211780.3 - 22.8.2024 at 4:51 pm

Identifier **OT106/99**



GEOSOLVE
GEOTECHNICAL
WATER RESOURCES
PAVEMENTS

GEOSOLVE

Geotechnical Report for Resource Consent

Shannon Farm Subdivision

112 & 144 Ripponvale Road,

Cromwell

Report prepared for:

New Zealand Cherry Corp (Leyser) GP Limited

Report prepared by:

GeoSolve Limited

Distribution:

New Zealand Cherry Corp (Leyser) GP Limited

Clarke Fortune McDonald & Associates (CFMA)

GeoSolve Limited (File)

November 2022

GeoSolve Ref: 180137.03

Revision	Issue Date	Purpose	Author	Reviewed
1	28/10/2022	Draft issue for client review	JAS	FAW/CEM
2	10/11/2022	Final issue to client	JAS	FAW/CEM

GEOTECHNICAL WATER RESOURCES PAVEMENTS

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1 Introduction

1.1 General

This report presents the results of a geotechnical investigation and assessment carried out by GeoSolve Ltd for Shannon Farm Subdivision, Cromwell. A natural hazards review has been completed to determine the suitability of the proposed building platforms with respect to the current scheme plan. Generic design parameters and geotechnical recommendations are also provided for preliminary engineering design. This report is intended to support a resource consent application for subdivision to the council authority.

Photo 1. Aerial photograph indicating the subdivision boundaries at 112 & 144 Ripponvale Road, Cromwell.

The investigations were carried out for New Zealand Cherry Corp (Leyser) GP Limited in accordance with the terms and conditions outlined in GeoSolve Ltd.'s proposal, Ref No. 180137.03 and dated 19th of September 2022.

1.2 Proposed Development

The private plan change application to council for rezoning of the subdivision area, as reported on previously by GeoSolve, has been successful. It is now proposed to apply for subdivision resource consent. The development comprises an extensive rural residential subdivision, being a subdivision of several existing farmed allotments.

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A subdivision scheme plan, produced by Clark Fortune McDonald and Associates (CFMA), is provided in Appendix A, Figure 1a which outlines the extent and layout of the proposed development. An earthworks plan indicating proposed cut and fill profiles is also provided in Appendix A, Figures 2a & 2b. Two of the existing farm irrigation dams are designated for residential development which will require a combination of undercut and backfilling with certified engineered fill.

2 Site Description

2.1 General

The subdivision area is located northwest of Cromwell Township off Ripponvale Road, as shown on Figure 1 below.

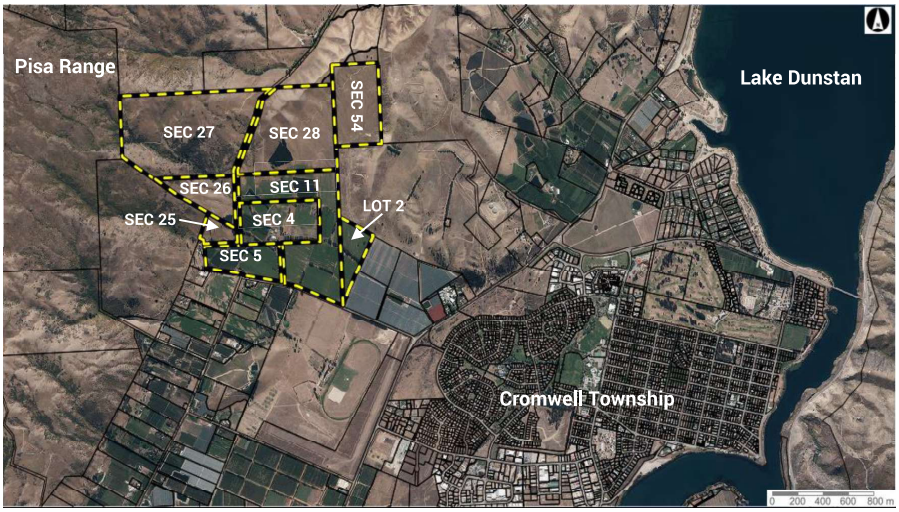

Figure 1. Site location relative to Cromwell Township.

The site is accessed from Ripponvale Road and lies at the base of the Pisa Range. The subdivision area currently comprises nine legal property titles indicated above on Figure 1.

The site is currently a working farm which comprises a range of existing buildings, orchards, irrigation dams and water races. Vegetation cover comprises pasture, trees, and scrub. Some areas of tree stumps from recently milled forestry are also present.

The property is bounded by Ripponvale Road to the south, farmland to the west, north, and east and cherry orchards to the southeast.

2.2 Topography and Surface Drainage

LiDAR contour data is available for the subdivision area and is presented in Appendix A. The southern portion of the property is sub-horizontal to gently inclined while moderate to

steeply inclined slopes and ridgelines surround the development from the southwest through to the northeast, as shown on Photo 1.

Four large unnamed gullies are located within or discharge into the subdivision area, here termed the Southwestern, Western, Northern, and Eastern gullies. Small streams run down the steep Southwestern and Western gullies and discharge into the site. The more subdued Northern and Eastern gullies are ephemeral and do not contain active stream flows. In addition, numerous dry gullies are present on the bounding slopes surrounding the development which will only convey flows during heavy rainfall. Several active groundwater seepages are also mapped within the subdivision.

Several historic disused and currently active water races are present within the property as well as three irrigation dams. Hummocky ground and scouring caused by erosion from historic blowouts or seepage are common downslope of the water races, as indicated in Photo 2 below. Several notable examples of gully erosion caused by race water blowouts can be observed. Two of the irrigation dams are fed by intermittent stream flows from the Southwestern and Western gullies.

Photo 2. Looking northeast towards Lots 72-74. Note the disused water races on the hillside and associated downslope scouring.

Refer to Appendix A, Figures 1a-1e for the mapped topographic and surface drainage features discussed above.

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3 Geotechnical Investigations

An engineering geological site assessment and mapping has been undertaken in conjunction with localised subsurface investigation. The following geotechnical investigations were completed over September and October of 2022:

- Desktop review of natural hazard planning maps, geological maps, historic stereopair aerial photographs and more recent aerial imagery for the subdivision and wider area prior to undertaking fieldwork;
- Detailed geological, geomorphological and natural hazards field mapping of the site and surrounding area by an engineering geologist;
- 21 test pits (TP1-21) located in key areas across the subdivision, extending to a maximum depth of 4.8 m below ground level (bgl) to produce geological logs of the subsoils; and,
- 8 Scala penetrometer tests adjacent to test pit excavations to assess the relative density of the shallow subsoils.

Detailed field mapping is presented in Appendix A while investigation locations and logs are presented in Appendices A and B respectively. Additional subsurface investigation and assessment will be required for detailed engineering design.

4 Subsurface Conditions

4.1 Geological Setting

The site is underlain by the regionally extensive Haast Schist. Schist bedrock forms the Pisa Range to the west and underlies the development at depth. Dunstan Formation quartz gravels and over consolidated Bannockburn Formation lake sediment of the Manuherikia Group overlies the schist and is present locally at the ground surface. Glacial outwash gravels derived from former glacial periods form prominent terraces within the subdivision and overlie the older formations. Extensive schist debris landslides developed during the Pleistocene on the slopes of the Pisa Range while more recent alluvial fans have developed away from the range front. Superficial deposits of post-glacial loess and colluvium commonly blanket the ground surface.

The active Pisa Fault is located at the foot of the Pisa Range. Published geological maps indicate the fault trace runs through the western extents of the subdivision. However, due to the estimated 30,000 years average return period for earthquakes on this fault, the seismic risk is considered relatively low. The Alpine Fault, located approximately 120 km to the northwest, runs along the West Coast of the South Island, and is likely to present a more significant seismic risk. There is a high probability that a major earthquake of Mw 8 or greater will occur along the Alpine Fault within the next 50 years. Such a rupture is likely to result in strong and prolonged ground shaking in the vicinity of Cromwell.

Further commentary regarding the Pisa Fault is provided in Section 5.3.

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4.2 Stratigraphy

The subsurface stratigraphy observed in localised test pits (TP1-21) around the subdivision varies significantly. The purpose of the test pitting was to provide a broad overview of subsurface conditions and was used to further refine the field mapping. The subsurface stratigraphy observed in test pits comprises the following in order of geologic age:

- **Uncontrolled fill, topsoil/buried topsoil, loess** and **colluvium**;
- **Alluvial fan sediment**;
- **Outwash gravel**;
- **Landslide debris**;
- **Manuherikia Group**; and,
- **Schist bedrock**.

Uncontrolled fill was observed at the surface of TP5 associated with the construction of an adjacent farm track. Uncontrolled filling can also be expected in association with water races and irrigation dams. Several backfilled rubbish holes are present around the existing farm buildings although others are likely owing to the existing land use.

Superficial deposits of **topsoil, loess** and **colluvium** will be common across the subdivision but will vary in depth and extent depending on the local setting. Windblown loess typically blankets the ground surface below the topsoil horizon but tends to be thicker in the lee of adjacent slopes. Colluvium is the product of proximal erosion and develops on the surface or margin of adjacent slopes.

Alluvial fan sediment was observed in TP1, 4, 5 and 21 overlying landslide debris. The fan sediment comprises layers of alluvial silt, sand, and gravel typical of the alluvial environment. The layers are separated into distinct sub-horizontal beds with definable contacts. No discernible deformation caused by the underlying landslides was observed within the alluvial sediment.

Outwash gravel was observed in TP2, 6, 8, 10, 11 and 14-18 and comprises the most extensive geologic unit likely to be encountered within the subdivision development. The gravels are derived from the former outwash of an advancing glacier further up valley. Outwash gravels are interpreted to overly schist debris landslides on the southwestern corner of the subdivision at an unconfirmed depth.

Landslide debris was observed in TP3-5, 9, 12, 13, 19 and 20 either at the ground surface or underlying alluvial fan sediment. The landslide debris comprises a range of soil and rock types depending on what parent formation has been deformed by the overall mass movement. Within this site the parent formations primarily comprise mobilised schist bedrock and the overlying Manuherikia Group. The presence of landslide debris underlying alluvial fan sediment and outwash gravel on the southwestern edge of the subdivision indicates the landslides are an older process and continue to an unconfirmed depth.

Manuherikia Group was observed in TP5, 8, 9 and 20 either at the ground surface or underlying alluvial fan sediment or outwash gravel. The Manuherikia Group encountered in test pits comprises both the fluviatile Dunstan Formation and the overlying lacustrine Bannockburn Formation. As expected, Dunstan Formation was encountered on the western

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edge of the subdivision along the base of the range while Bannockburn Formation was encountered on the subdivisions north-eastern edge beneath outwash gravel terraces. The Dunstan Formation observed in test pits is being deformed by the underlying schist debris landslides and forms the toe of the overall slide mass. Part of the Bannockburn Formation is also being deformed by landsliding (i.e., TP9) on the subdivisions north-eastern edge, although in-situ (undisturbed) Bannockburn Formation was observed in TP8 beneath outwash gravel.

Undisturbed **schist bedrock** was not specifically encountered in test pits; however, schist bedrock forms the Pisa Range along the western edge of the subdivision. Schist also underlies the development at an unconfirmed depth beneath Manuherikia Group. The extensive schist debris landslides present on the bounding slopes along the subdivisions western edge have initiated within formerly undisturbed schist bedrock.

Full details of the observed subsurface stratigraphy can be found within the test pit logs contained in Appendix B. Additional test pitting is required at the detailed design stage.

4.3 Groundwater

An ORC registered water bore located on the south-eastern corner of the property (F41/0247) encountered the regional groundwater table at 33 m bgl. This substantial depth to regional groundwater is expected to be typical of the wider subdivision. The groundwater table was not encountered in recent test pitting, but a light seepage was observed in TP21 in the base of the northern gully. Several active groundwater seepages are also observed within the subdivision issuing from adjacent slopes. Streams on the western side of the site and farm irrigation ponds will have a local influence on the underlying groundwater regime.

5 Natural Hazards Assessment

Detailed geomorphological and natural hazards field mapping of the subdivision area has been completed by an engineering geologist with respect to the current scheme plan. Existing natural hazard features identified in the preliminary geotechnical assessment for plan change have been refined.

5.1 Landslides

As reported previously, schist debris landslides are present along the western edge of the subdivision on the lower slopes of the Pisa Range. Additional landslides within Bannockburn Formation have also been identified on the subdivisions north-eastern edge. Appendix A, Figures 1a-1e indicate the location and extent of landsliding relative to the development.

5.1.1 Western Landslides

Detailed mapping and test pitting was used to refine the toe of the landslides along the sites western edge. At the toe of the slides there is a marked change in topography from the hummocky hillside with a distributed surface of schist boulders to the adjacent in-situ formations. The presence of schist boulders, with varying foliation attitudes, helps define the distal boundary of the landslides. Currently active scarps are also readily identified.

The schist debris landslides are the result of dip-slope failure and are a common occurrence around Central Otago. Slope angle and groundwater primarily control the rate of movement within these slides. Groundwater is usually present in the form of multiple perched aquifers and sometimes as sub-artesian or artesian systems. Large schist debris landslides like these typically have a small depth to length ratio (less than 0.1) which on the lower slopes of the Pisa Range provides for thicknesses of many tens of metres to the "basal" shear surface separating slide debris from gently inclined schist bedrock. As mapped on Appendix A, Figures 1a-1c, multiple slide lobes tend to develop, which may be superposed with depth, and/or contiguous in plan view. Each individual shear surface becomes progressively weaker from attrition during movement and through the mineralogical decomposition of fines. For these reasons, creep movements tend to be ongoing even though many of the slides in the area have been dated with ages of many hundreds of thousands of years.

The residual strength of schist defects is controlled by the friction angle. The friction angle of landslide gouge on shear surfaces studied during the Cromwell Gorge stabilisation program typically ranged from 23˚ to 28˚. Therefore, slopes of around 20˚ or less in ancient yet inactive landslide debris with limited upslope surcharge and sufficient toe buttressing can be considered for potential development and is discussed further in Section 6.1. On the discrete shear surfaces, the slide "gouge" becomes several orders of magnitude less permeable than the bulk slide debris, and therefore acts as an aquiclude for infiltrating rainfall, enabling perched aquifers to develop. These tend to induce periodic "stick/slip" creep movements of lobes following prolonged wet periods with no or minimal movement in between. Adding to the complexity in this instance the schist debris landslides are

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deforming the overlying Manuherikia Group along the base of the range (refer TP logs 5 and 20). The active landslide scarps mapped on Appendix A, Figure 1d have initiated within Dunstan Formation sediments.

5.1.2 North-Eastern Landslides

Detailed field mapping and test pitting identified additional landslides within Bannockburn Formation on the developments north-eastern edge. Multiple slide lobes and eroded hummocks can be identified at the ground surface typical of this slide type. The landslide scarps are subdued features, with no visible evidence of recent movement. They are therefore interpreted to be dormant historic features. Owing to their geologic setting and smaller backslope surcharge the mechanism of movement is less complex than the landslides mapped on the sites western edge. The interaction of groundwater with highly plastic clays of the Bannockburn Formation is often the primary trigger for landslides of this type. A significant groundwater seepage is present in the base of the gully at the toe of the landslides (refer Appendix A, Figure 1e).

5.2 Alluvial Fans and Flooding

The CODC District Plan hazard mapping does not identify any part of the site as flood prone.

However, as reported previously, several converging alluvial fans are present within the boundaries of the property. The ORC hazards regional scale database indicates these include ‘active debris-dominated’, and ‘active floodwater-dominated’ alluvial fans confined to the lower areas of the site, although these classifications are of coarse resolution and are therefore broad-brush in their applicability. Higher resolution supplementary work by GNS (2009) did not support the ‘active’ classifications, instead identifying the relevant fans as generally ‘less recently active’, ‘unspecified’ or ‘undifferentiated’.

Alluvial fan boundaries have been refined further based on site-specific geomorphology interpretation and observations from test pits. Fan surfaces are subdued and range from gently inclined at their apex but becoming sub-horizontal towards the southeast. TP1, 4, 5 and 21 intercepted alluvial fan sediment comprising interbedded layers of alluvial silt, sand, and gravel. Soil grading is expected to become increasingly fine towards the southeast away from fan apexes.

No evidence of recent alluvial fan activity was identified during the desktop review or field inspections. Topsoil layers observed in test pits at the fan apexes range from 300-500 mm thick, and there is no evidence of surface gravel deposits indicating an extended period of quiescence. Fan surfaces are consistently smooth and there is no geomorphic evidence to suggest debris flow deposits are present, furthermore little evidence was observed in test pits. The numerous ephemeral gullies mapped within the subdivision are only expected to pose a shallow sheet flooding risk during heavy rainfall.

A preliminary flood hazard assessment report was prepared by GeoSolve to support the plan change request. The flooding hazard is discussed further in the updated flood hazard assessment report attached in Appendix D.

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5.3 Seismic Hazard

The active trace of the Pisa Fault is inferred to run through the western extents of the subdivision, as shown on Appendix A, Figures 1a-1d. The fault location is classed as "likely, not expressed (uncertain)" fault complexity on published geological mapping. Furthermore, no active fault scarps were observed during our field inspections.

GeoSolve has completed an assessment of the risk posed by the Pisa Fault using guidelines provided by the Ministry for the Environment for subdividing and developing land close to active faults. For the assessment the Pisa Fault has been categorised with a return period of 30,000 years (GNS Science, Active Faults Database), and the location is assessed as uncertain, as indicated on published geological mapping by Geological and Nuclear Science (GNS).

Following the Ministry for the Environment guidelines provided in Section 11 "Taking a Risk Based Approach to Resource Consent", building importance category structures 1 to 3 are a permitted activity. We understand the proposed buildings and structures onsite are generally expected to be category (Importance Level) 1 and 2 structures, although some category 3 infrastructure such as reservoir tanks or power installations may also be constructed.

In conclusion, given the substantial return period for earthquakes on the Pisa Fault (30,000 years), the Alpine fault, with a return period for major earthquakes of 300-350 years, and predicted ground accelerations an order of magnitude higher than the Pisa, is considered to provide the governing seismic risk for the development.

5.4 Liquefaction

As reported previously, liquefaction risk for the development is considered very low. The substantial depth to regional groundwater recorded in the onsite water bore is expected to be typical of the wider subdivision, hence any mechanism for widespread liquefaction can be discounted. Perched groundwater seepages may be present locally after sustained rainfall, but saturated soils highly susceptible to liquefaction (i.e., loose uniform sands) are not expected to be widespread. Of note, although TP1, 4 and 5 were excavated at the fan apexes within 30 m of the active creek channels no groundwater was encountered.

5.5 Rockfall

Schist boulders are present on the lower part of the hillside that borders the western edge of the subdivision. The extent of mapped boulders which pose a rockfall risk is shown on Appendix A, Figures 1b & 1c. Boulders are present within areas described as having 'Potential for Development'. Site photographs 3 & 4 below show general field views of the boulders. Key observations are described as follows:

- The source of the boulders is assessed to be a combination of localised rockfall from landslide outcrops, and exposures of rafted landslide debris. The latter is not considered to be true rockfall, however schist occurs at the surface with the appearance of boulders.

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- The outcrop source areas are relatively few and relatively low in height (3-4 m).
- Boulders are partially embedded in most cases, preventing rock-roll.
- Boulders are typically 1 to 2 m in diameter.
- The shape of the boulders is typically slab like and/or angular and not conducive to mobilisation, the potential to roll downslope is therefore limited.
- The boulder field and associated landslide outcrops appear relatively settled. There are no indications of imminent or recent failure of significant volume.
- No evidence of historic rock-roll is present on the ground surface within allotments at the base of the slopes nor was any evidence observed in TP1, 4 or 7.

The trigger for rockfall from outcrops is expected to be gradual weathering and seismic shaking. Severe seismic shaking may mobilise boulders present on the surface in some cases.

The boulder fields and outcrops are present within the applicant's land and therefore access is available to remediate any areas of concern. For example, removal of loose areas from outcrops and repositioning/relocating boulders of concern can be readily undertaken.

In accordance with Otago Regional Council, Proposed Otago Policy Statement June 2021, a risk assessment has been undertaken in accordance with the APP6 methodology presented in Appendix C. Based on this methodology, and the above observations, a qualitative assessment of the risk has been undertaken and is summarised as follows:

- The likelihood of rockfall occurrence from the source areas is considered 'Possible' or 'Unlikely';
- The severity of impact is considered 'Insignificant'; and,
- The consequences are considered 'Insignificant or Minor'.

Based on the above, the risk to the development from rockfall is described in APP6 as 'Acceptable'.

A significant risk is not considered to be present, and a quantitative risk assessment is not considered necessary.

Risk assessments can be subjective, however, given the ability to remediate any areas of concern higher risk descriptions e.g., tolerable, or significant, are not warranted. Locally remediating individual outcrops and boulders, as described above, is considered to be a one-off measure completed during subdivision construction. No ongoing maintenance or repeat works are expected.

Photos 3 & 4. Boulders and outcrops scattered across the schist debris landslides upslope of Lot 82 (above) and Lots 424-425 (below).

The outwash gravel terraces on the northern and eastern sides of the site afford no potential for rockfall owing to the absence of surface boulders or rock outcrops.

6 Natural Hazard Considerations

The primary natural hazards to be considered with respect to residential development include the landslide, alluvial fan, and flooding hazards discussed below.

6.1 Western Landslides

As reported previously, the schist debris landslides mapped on the western edge of the subdivision have been categorised based on their potential for residential development. Areas shaded purple on Appendix A, Figures 1a-1d have been assessed as having no current potential for residential development, while areas shaded orange are technically developable subject to the additional work noted below.

Development on the purple landslide areas has been ruled out at this time owing to the steeper gradients, large backslope surcharge, evidence of recent scarps/current movement and the split geological model between schist debris and Manuherikia Group. However, because the mechanics of schist debris landslides is now well understood, enhancing the stability of landslide slopes around 20˚ or less with a limited backslope surcharge and sufficient toe buttress, i.e., the orange shaded areas, can be effectively achieved. It is possible to control the primary trigger, fluctuating aquifer levels, through drainage or other methods. Stabilisation is feasible, particularly where prime lots (i.e., sections with elevated views) are influenced by an aquifer readily accessible by trenching and/or horizontal drilling. Contour analysis of slopes within the orange shaded areas using CAD indicates the mean slope angle is around 20˚. Some steeper outlying angles greater than 20˚ are present, however the overall slope affected by mass movement is generally 20˚ or less. Building platforms within the orange shaded areas are therefore developable subject to further investigations and assessment and completing appropriate remedial works if deemed to be required.

To quantify and design remedial measures the orange landslide areas will require borehole investigation and establishment of cross-section ground models. Survey monitoring of any long-term creep movement will be required as part of this and is required to be set up as soon as possible, in advance of development of those allotments. It is understood that the information obtained by further investigation will inform future staged development of the affected lots. This approach can be facilitated alongside subdivision staging by initially establishing lots elsewhere, while for the longer term, lots on the existing landslides can be monitored for any movement in conjunction with borehole piezometric installations to quantify groundwater fluctuations. This approach enables a decision on remedial measures to be more informed and/or deferred until cost/benefit is established by the client.

6.2 North-Eastern Landslides

The subdued surface gradients, smaller backslope surcharge and the inferred geologic model of the north-eastern landslides makes them more amenable to remediation to enable residential development. A large groundwater seepage is also present in the base of the gully at the toe of the landslides which should be readily controlled via subsurface drainage

with deep trenching. As above, borehole piezometric installations would be required prior to installing subsurface drainage measures to quantify groundwater fluctuations and to confirm a factor of safety.

Risk assessments of the landslide areas can be made once further information is obtained following detailed investigation.

6.3 Alluvial Fans and Flooding

A large portion of the development area is situated on several converging alluvial fans. However, there is no evidence of recent activity, and the risk of future debris flows or debris floods is generally considered low. Mitigation measures to address surface water flooding will also be sufficient to mitigate alluvial fan activity for residential development.

A preliminary flood hazard assessment report was prepared by GeoSolve to support the plan change request. This report was reviewed and endorsed by Council's consultant, and no submissions in opposition were received on flood hazard grounds. Flooding mitigation measures with respect to the current scheme plan are discussed in the flood hazard assessment report attached in Appendix D.

7 Preliminary Engineering Considerations

7.1 General

The preliminary recommendations and opinions contained in this report are based upon field mapping observations, localised subsurface investigation and historical information held on the GeoSolve database. The nature and continuity of subsoil conditions away from the investigation locations is inferred and cannot be guaranteed.

Additional subsurface investigations are required at the detailed design phase of the project to confirm all recommendations provided in this report.

7.2 Site Preparation and Earthworks

During subdivision earthwork's operations all topsoil/buried topsoil, organic matter, uncontrolled fill, and other unsuitable soils should be removed from the construction areas in accordance with the recommendations of NZS 4431:2022.

Robust, shallow graded sediment control measures should be instigated during construction where rainwater and drainage run-off over exposed soils is anticipated.

Exposure to the elements should be limited for all subgrade soils and covering the soils with gravel engineered fill, polythene sheeting or site concrete will reduce degradation due to wind, rain, and surface run-off. Fine-grained silt or sand soils will weaken if subject to rainfall, frost, or trafficking. Free draining gravels are much less susceptible to the effects of moisture.

Water should not be allowed to pond or collect near or under a foundation slab or engineered fill footprints. Positive grading of the subgrade should be undertaken to prevent water ingress or ponding.

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All engineered fill that is utilised as bearing for foundations or roads should be placed and compacted in accordance with the recommendations of NZS 4431:2022 and certification provided to that effect (during good weather and in accordance with an earthfill specification).

Subgrade benching should also be completed for all fill placed on sloping ground. Topsoil/buried topsoil, organic matter, uncontrolled fill, and other unsuitable soils will not be suitable for reuse as engineered fill and needs to be kept separate from all engineered fill sources. Unsuitable soils should be stockpiled separately for reuse as landscaping fill, topsoiling and bunding.

Considering the scale and longevity of the project a designated borrow pit for fill source materials and the use of an onsite mobile screening plant could be considered. This would ensure that fill source materials remained consistent throughout earthwork's construction for certification purposes. In all cases, cobbles, and boulders over 100 mm in size will need to be screened from engineered fill sources. The outwash gravel will afford the most logical place to establish a borrow pit, although it would need to be sited in a suitable location to not affect future lot development. Specific laboratory testing will be required prior to reuse to confirm soil grading and compaction criteria. Alternatively, fill can be imported to site from nearby quarries. Earthfill specifications can be provided by GeoSolve upon request.

The soils present at the site are prone to erosion, both by wind and water, and should be protected by hardfill capping or re-topsoiled/mulched and re-vegetated as soon as the finished batter or subgrade levels are achieved. We recommend topsoil stripping and subsequent earthworks be undertaken only when a suitable interval of fair weather is expected, or during the earthwork's construction season.

7.3 Excavations/Earthworks Plan Review

Earthworks plans for the subdivision showing bulk cut and fill depths have been supplied by CFMA and are presented in Appendix A, Figures 2a and 2b. Geotechnical review of all proposed earthworks is required prior to commencement and some variation from the current earthworks plan may be required to achieve stable building platforms. Cut and fill areas are not expected to increase slope instability provided all earthworks are completed in accordance with the recommendations of this report. Engineered backfill of the irrigation dam and road alignments on the southwestern corner of the subdivision will have a positive effect on slope stability by forming a buttress along the toe of the adjacent landslides.

Generic recommendations for temporary and permanent slope batters based on geological mapping and test pit observations are described in the following sections. Slopes that are required to be steeper than those described below should be structurally retained or subject to specific geotechnical design.

All slopes should be periodically monitored during construction for signs of instability and excessive erosion, and, where necessary, corrective measures should be implemented to the satisfaction of a geotechnical engineer or engineering geologist.

A deep water bore on the property encountered the regional groundwater table at 33 m bgl which is expected to be typical of the wider subdivision. The groundwater table was not encountered in recent test pitting, but a light seepage was observed in TP21 in the base of the Northern gully. Several active groundwater seepages are also present within the subdivision issuing from adjacent slopes. The potential for groundwater seepage should be expected wherever the soil to rock contact is intercepted by cuts particularly at the outwash gravel to Bannockburn Formation contact. Where necessary subsoil drainage measures should be installed beneath engineered fill to prevent excess pore water pressures from developing. This will be particularly important for the 7.8 m thick backfill within the Northern gully. A geotechnical practitioner should inspect any seepage, spring flow or under-runners that may be encountered during construction.

The subsurface soils will be relatively straight forward to excavate by conventional methods; large boulders are likely to be rare. Owing to the weathered nature of schist landside debris encountered in test pits and the absence of near surface in-situ schist bedrock, large scale rock breaking or ripping is unlikely to be required.

7.3.1 Cut Slopes in Site Soils

Table 2 below summarises the recommended maximum batter slope angles for temporary and permanent soil slopes in dry ground only, expected to be encountered during earthworks construction.

Table 1. Recommended Maximum Batters for Cut Slopes in Site Soils Less than 6.5 m High in Dry Ground.

Soil Type	Recommended Maximum Batters for Temporary Cut Slopes Formed in Dry Soil (horizontal to vertical)	Recommended Maximum Batters for Permanent Cut Slopes Formed in Dry Soil (horizontal to vertical)
Topsoil/Buried Topsoil, Uncontrolled Fill, Loess and Colluvium	2.0H: 1.0V	3H: 1.0V
Alluvial Fan Sediment (Silt, Sand, and Gravel)	1.5H: 1.0V	2.5H: 1.0V
Landslide Debris*	1.5H: 1.0V	2.0H: 1.0V
Outwash Gravel and Manuherikia Group	1.0H: 1.0V	2.0H: 1.0V**
Engineered Fill	NA	2.0H: 1.0V

* The cutting of batters in landslide debris i.e., Lots 416-420 should only occur following stabilisation of the wider slide mass and be assessed on a case-by-case basis.

** Steeper permanent batters of up to 1.5H: 1.0V may be possible for outwash gravel and Manuherikia Group provided the slopes are dry and are protected with erosion reinforcement matting and revegetated as soon as possible (refer Section 7.3.1.1 below).

However, at this slope angle movement is possible during seismic events and future maintenance may be required.

If wet slopes are encountered, they should be inspected on a case-by-case basis by a geotechnical engineer/engineering geologist to confirm any specific recommendations e.g., drainage installation or retaining.

7.3.1.1 Erosion Protection for Permanent Cut Soil Slopes

All permanent batters should be promptly treated to prevent erosion as soon as practical e.g., by establishing topsoil and vegetation or use of erosion protection matting products. Options for erosion reinforcement matting where steeper batters are required include Enkamat, Fortrac, ECC3, Vmax 350, Duramat RF (or an approved equivalent). Batter slopes can be protected with erosion protection matting to protect the slope whilst vegetation becomes established i.e., hydroseeding.

7.3.2 Cut Slopes in Rock

The stability of cut slopes in rock are typically governed by defects present within the rock mass and generally require more consideration than for soils. However, cuts in schist bedrock are unlikely to occur owing to the absence of near surface in-situ schist beneath the subdivision footprint.

Bannockburn Formation encountered on the north-eastern edge of the subdivision in TP8 & 9 comprises very weak claystone and sandstone but is expected to behave like a very dense soil provided steeply dipping bedding defects aren't encountered in cuts. Only faint sub-horizontal laminations were noted within sandstone in TP9. Further subsurface investigation at detailed design will confirm the wider bedding attitudes within Bannockburn Formation and potential stability issues.

The schist landside debris encountered in test pits ranges from moderately to highly weathered so is expected to behave like a soil rather than rock following stabilisation.

7.4 Generic Foundation Considerations

Owing to the size of the development, variable stratigraphy, and the required earthworks foundation bearing conditions for each building platform will vary significantly across the site. Topsoil/buried topsoil, organic matter, uncontrolled fill, and other unsuitable soils including tree roots and stumps will not provide adequate support for building foundations and need to be undercut from beneath building and engineered fill footprints.

Undisturbed Manuherikia Group Sediment, medium dense to dense outwash gravel and engineered fill overlying the same typically meets the minimum design requirements for NZS 3604:2011 "good ground" conditions, i.e., 300 kPa geotechnical ultimate bearing capacity or 100 kPa allowable bearing capacity for standard residential foundations on flat lots.

Alluvial fan sediment, colluvium, and loess soils typically provide a reduced bearing capacity for foundations with respect to 'good ground' and specific engineering design (SED) will be required on these soil types. However, if required, shallow ground

improvement options are available to achieve 'good ground' bearing through the partial undercut of building foundations or footing alignments and replacement with granular engineered fill.

Foundation bearing capacity on sloping ground will also require specific engineering design (SED).

All unsuitable soils identified in foundation excavations, particularly those softened by exposure to water, should be undercut and replaced with engineered fill or site concrete during construction. Foundation and engineered fill subgrade undercut requirements will also need to be considered during backfilling of the existing irrigation dams for future building platforms. Where site levels are required to be re-established, fill that is utilised as bearing for foundations should be placed and compacted in accordance with NZS 4431:2022 and certified by a chartered geotechnical engineer during earthworks construction.

To minimise the effects of freeze-thaw cycles on footings founded on soil, all shallow strip footing foundations should be founded a minimum of 400 mm below the adjacent finished ground surface.

It is recommended that all foundation and engineered fill subgrade be inspected, and Scala penetrometer tested by a suitably qualified and experienced geotechnical practitioner to confirm the conditions are in accordance with the assumptions and recommendations provided in this report. Depending on the final consent conditions, lot specific guidance with respect to foundation bearing capacity, or other geotechnical issues, can be provided as part of Geotechnical Completion Reporting following completion of subdivision earthworks.

7.5 Groundwater Issues

Onsite groundwater seepage observations indicate that dewatering and other groundwater-related construction issues will be localised to specific areas of the subdivision. Numerous spring flows are mapped onsite, and seepages can be expected wherever the soil to rock contact is encountered in cuts particularly at the outwash gravel to Bannockburn Formation contact. Intercepting confined aquifers and the establishment of subsoil drainage measures will also be required for landslide stabilisation.

It is important that a geotechnical practitioner inspect any seepage, spring flow or under-runners that may be encountered during construction.

7.5.1 Subsoil Drainage

Subsoil drainage works will be required to control groundwater seepages on the north-eastern edge of the subdivision to facilitate landslide remediation for development. The location, design and extent of subsoil drainage will need to be confirmed during the detailed design or construction phase following further investigation or inspection. De-watering and subsoil drainage works for the schist debris landslides on the western edge of the subdivision will be confirmed following further investigation for feasibility.

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Wherever groundwater seepages are encountered beneath engineered fill subsoil drainage measures should be installed to prevent excess pore water pressures from developing.

The outflows from subsoil drainage typically need to be incorporated into the developments permanent piped stormwater system. Subsoil drainage on the north-eastern edge of the site is likely to discharge into the neighbouring property following the course of existing groundwater outflow down the Eastern Gully.

7.6 Site Subsoil Category

Owing to the variable subsurface geology and topography present across the site a range of seismic design classes will be required for detailed design.

Shallow test pits (i.e., TP8 & 9) observed very weak rock at or near the ground surface while deep water bore data onsite indicates soils to a confirmed depth of at least 38.5 m bgl. Therefore, subsoil categories will range between Class B, C and D conditions in accordance with NZS 1170.5:2004. Further refinement of seismic design classes is required and can be confirmed with additional investigation at the detailed design stage.

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8 Neighbouring Structures/Hazards

Natural Hazards: A risk of seismic activity is present in the region from the Alpine Fault, as discussed in Section 4. Appropriate allowance should be made for seismic loading during detailed design of any future buildings, foundations, earthworks and retaining walls.

Natural hazards affecting the proposed development are described in Section 5.

The proposed development is not expected to exacerbate any natural hazards or increase the risk to other neighbouring properties.

Distances to adjoining structures: The proposed development is located within an undeveloped rural area. Existing farm buildings within the site are owned by the developer and will be demolished as part of the development. No adverse effects on neighbouring buildings are considered likely provided standard dust and noise control measures are instigated during construction by the earthwork's contractor.

Aquifers: The regional groundwater table is expected to lie well below earthworks and foundation subgrade levels and no ORC mapped aquifer resource is expected to be adversely affected by the proposed development. Local groundwater seepages will need to be controlled with subsoil drainage to enable earthworks and foundation construction onsite and dewatering of confined aquifers will be required for landslide stabilisation.

Erosion and Sediment Control: Owing to the underlying geology, slope gradients and proposed earthworks, the site has potential to generate silt runoff, and this would naturally drain downslope. Effective systems for erosion control are runoff diversion drains and contour drains, while for sediment control, options are earth bunds, silt fences, vegetation buffer strips and sediment ponds. Only the least amount of subsoil should be exposed at any stage and surfacing established as soon as practical. A sediment control plan will need to be designed by a suitably qualified professional and implemented during site earthworks.

Noise: It is expected that conventional earthmoving equipment, such as excavators, trucks, rollers, and plate compactors will be required during earthworks construction. The proposed construction areas are offset sufficiently from existing neighbouring buildings to stay below standard noise level thresholds.

Dust: Soils present at this site have the potential to generate dust. The earthworks contractor should take appropriate measures to control dust in accordance with CODC requirements. Regular dampening with sprinklers is expected to be an effective measure to control airborne dust during earthworks construction.

Vibration: The effects of vibrations from heavy vibrating plate compactors and rollers on adjacent structures will need to be considered if engineered fill is to be placed and compacted within 20 m of an existing structure. This is only likely to be an issue as the proposed subdivision stages are progressed.

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9 Conclusions and Recommendations

- The generalised stratigraphy beneath the proposed development in order of geologic age comprises superficial uncontrolled fill, topsoil/buried topsoil, loess, and colluvium overlying alluvial fan sediment, outwash gravel, landslide debris and Manuherikia Group which is intern underlain by schist bedrock.
- An onsite water bore encountered the regional groundwater table at 33 m bgl. This substantial depth to regional groundwater is expected to be typical of the wider subdivision area. The groundwater table was not encountered in recent test pitting, but a light seepage was observed in TP21. Several active groundwater seepages are mapped within the subdivision area issuing from adjacent slopes.
- Natural hazards are reviewed in Section 5 and 6 of this report. Additional investigations and assessment are required to establish feasibility of development on the orange shaded areas shown on Appendix A, Figures 1a-1c.
- Undisturbed Manuherikia Group Sediment, medium dense to dense outwash gravel and engineered fill overlying the same typically meets the minimum design requirements for NZS 3604:2011 “good ground” conditions, i.e., 300 kPa geotechnical ultimate bearing capacity or 100 kPa allowable bearing capacity for standard residential foundations on flat lots.
- Alluvial fan sediment, colluvium, and loess soils typically afford a reduced bearing capacity for foundations with respect to ‘good ground’ and specific engineering design (SED) will be required on these soil types. Foundation bearing capacity on sloping ground will also require SED.
- If required, shallow ground improvement options are available to achieve ‘good ground’ bearing through the partial undercut of building foundations or footing alignments and replacement with granular engineered fill.
- All unsuitable soils identified in foundation excavations, particularly topsoil/buried topsoil, uncontrolled fill, and soils softened by exposure to water, should be undercut and replaced with engineered fill or site concrete during construction.
- Recommendations for temporary and permanent batter slopes are described in Table 1. Slopes that are required to be steeper than those described should be structurally retained or subject to specific geotechnical design.
- Any fill that is utilised as bearing for foundations should be placed and compacted in accordance with NZS 4431:2022 and certification provided to that effect.
- Owing to the variable subsurface geology and topography present across the site a range of seismic design classes will be required for detailed design. Subsoil categories will range between Class B, C and D conditions in accordance with NZS 1170.5:2004.
- Inspections of the earthworks, foundation and engineered fill subgrade and cut excavations should be completed during construction by a suitably qualified geotechnical engineer or engineering geologist to confirm geotechnical conditions are in accordance with the recommendations provided in this report.
- Additionally, a geotechnical practitioner should inspect any seepage, spring flow or under-runners that may be encountered during construction.

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10 Applicability

This report has been prepared for the benefit of our client, New Zealand Cherry Corp (Leyser) GP Limited, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.

Further geotechnical investigation and assessment will be required at the detailed engineering design phase for the subdivision.

Report prepared by:

.....

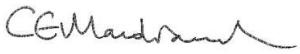
James Stewart
Engineering Geologist

Reviewed for GeoSolve Ltd by:

.....

Fraser Wilson
Senior Engineering Geologist

Authorised for GeoSolve Ltd by:



.....

Colin Macdiarmid
Senior Geotechnical Engineer, CPEng

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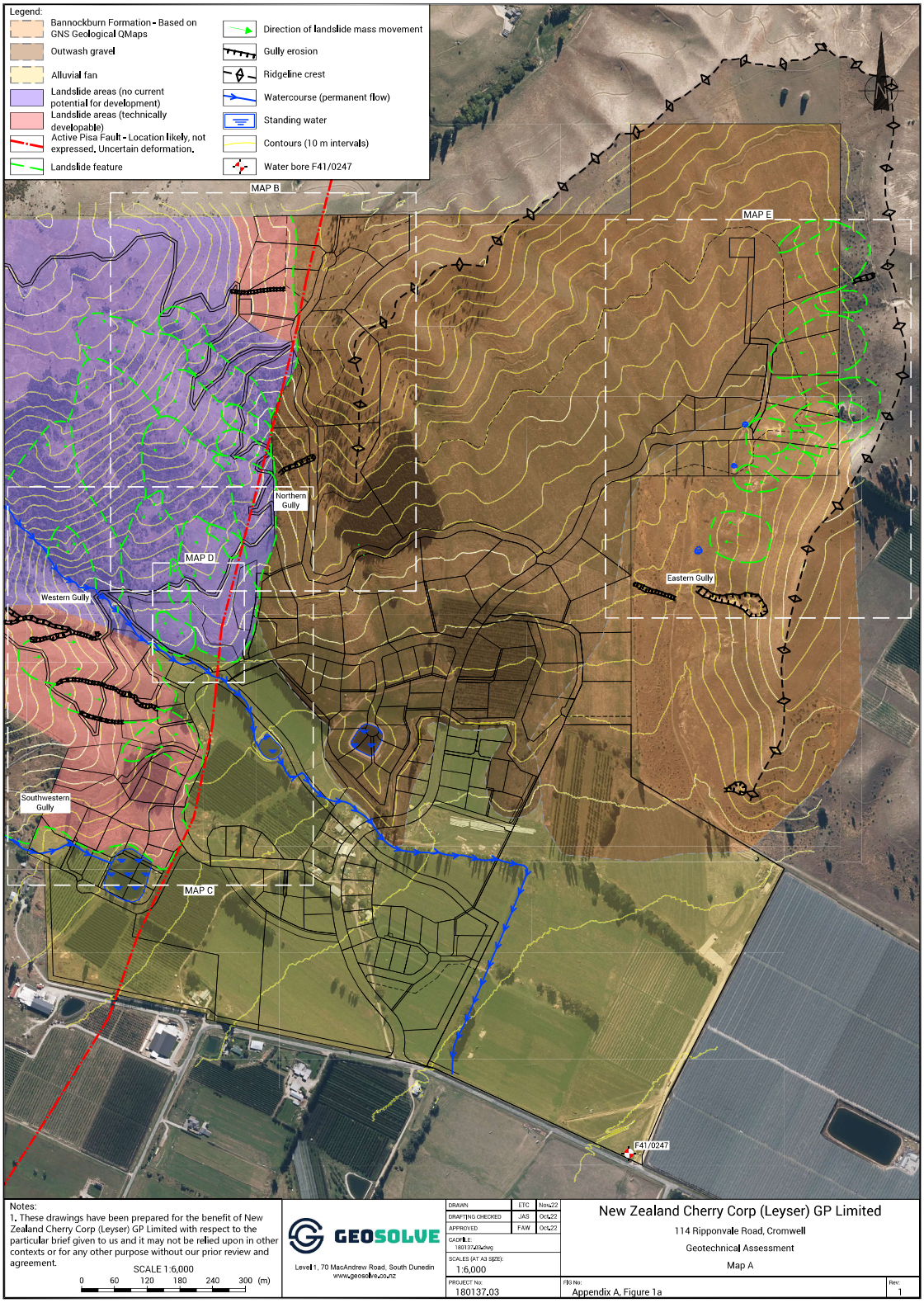
Appendix A: Site Investigation and Field Mapping Plans, Proposed Earthworks Plans


Legend:
Bannockburn Formation - Based on GNS Geological QMaps
Outwash gravel
Alluvial fan
Landslide areas (no current potential for development)
Landslide areas (technically developable)
Active Pisa Fault - Location likely, not expressed. Uncertain deformation.
Landslide feature
Direction of landslide mass movement
Gully erosion
Ridgeline crest
Watercourse (permanent flow)
Standing water
Contours (10 m intervals)
Water bore F41/0247
MAP B
MAP E
MAP D
MAP C
Northern Gully
Western Gully
Eastern Gully
Southwestern Gully
F41/0247
Notes:
1. These drawings have been prepared for the benefit of New Zealand Cherry Corp (Leyser) GP Limited with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.
SCALE 1:6,000
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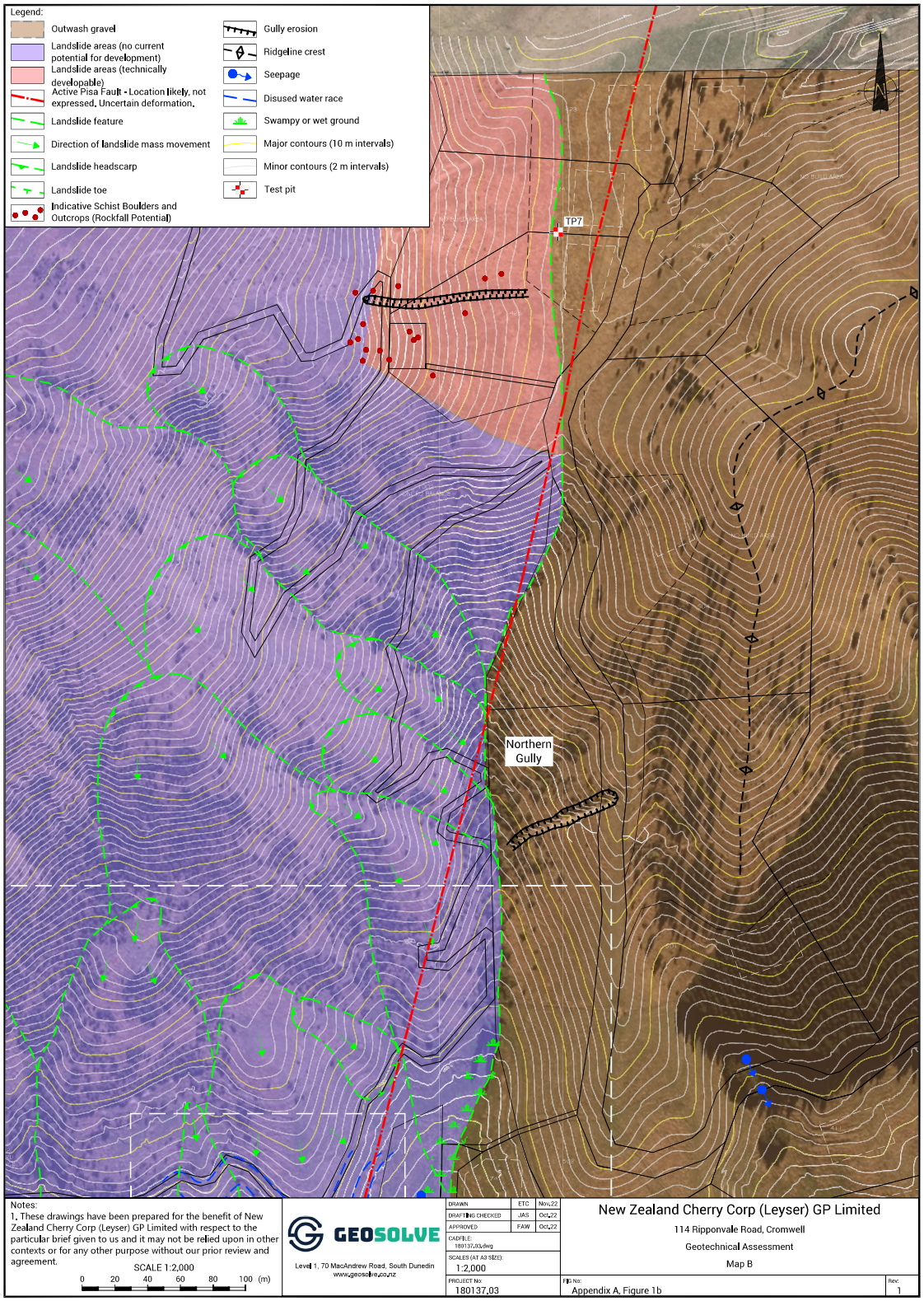
GEOSOLVE
Level 1, 70 MacAndrew Road, South Dunedin
www.geosolve.co.nz
DRAWN ETC Nov22
DRAFTING CHECKED JAS Oct22
APPROVED FAW Oct22
CADFILE: 180137d5x3wg
SCALES (AT A3 SIZE): 1:6,000
PROJECT No: 180137.03
FIG No: Appendix A, Figure 1a
Rev: 1
New Zealand Cherry Corp (Leyser) GP Limited
114 Ripponvale Road, Cromwell
Geotechnical Assessment
Map A


Legend:
Outwash gravel
Landslide areas (no current potential for development)
Landslide areas (technically developable)
Active Pisa Fault - Location likely, not expressed. Uncertain deformation.
Landslide feature
Direction of landslide mass movement
Landslide headscarp
Landslide toe
Indicative Schist Boulders and Outcrops (Rockfall Potential)
Gully erosion
Ridgeline crest
Seepage
Disused water race
Swampy or wet ground
Major contours (10 m intervals)
Minor contours (2 m intervals)
Test pit
TP7
Northern Gully
Notes:
1. These drawings have been prepared for the benefit of New Zealand Cherry Corp (Leyser) GP Limited with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.
SCALE 1:2,000
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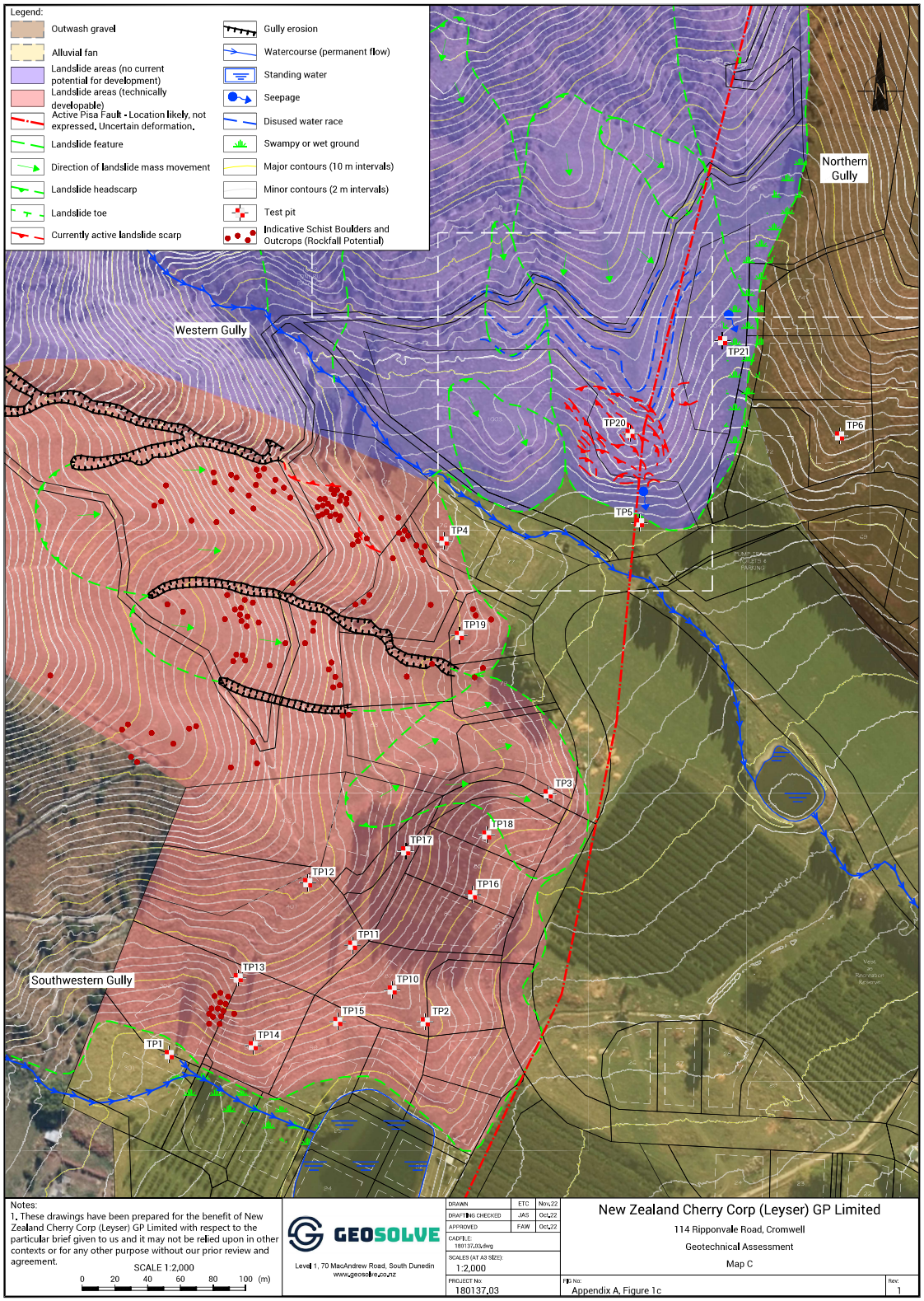
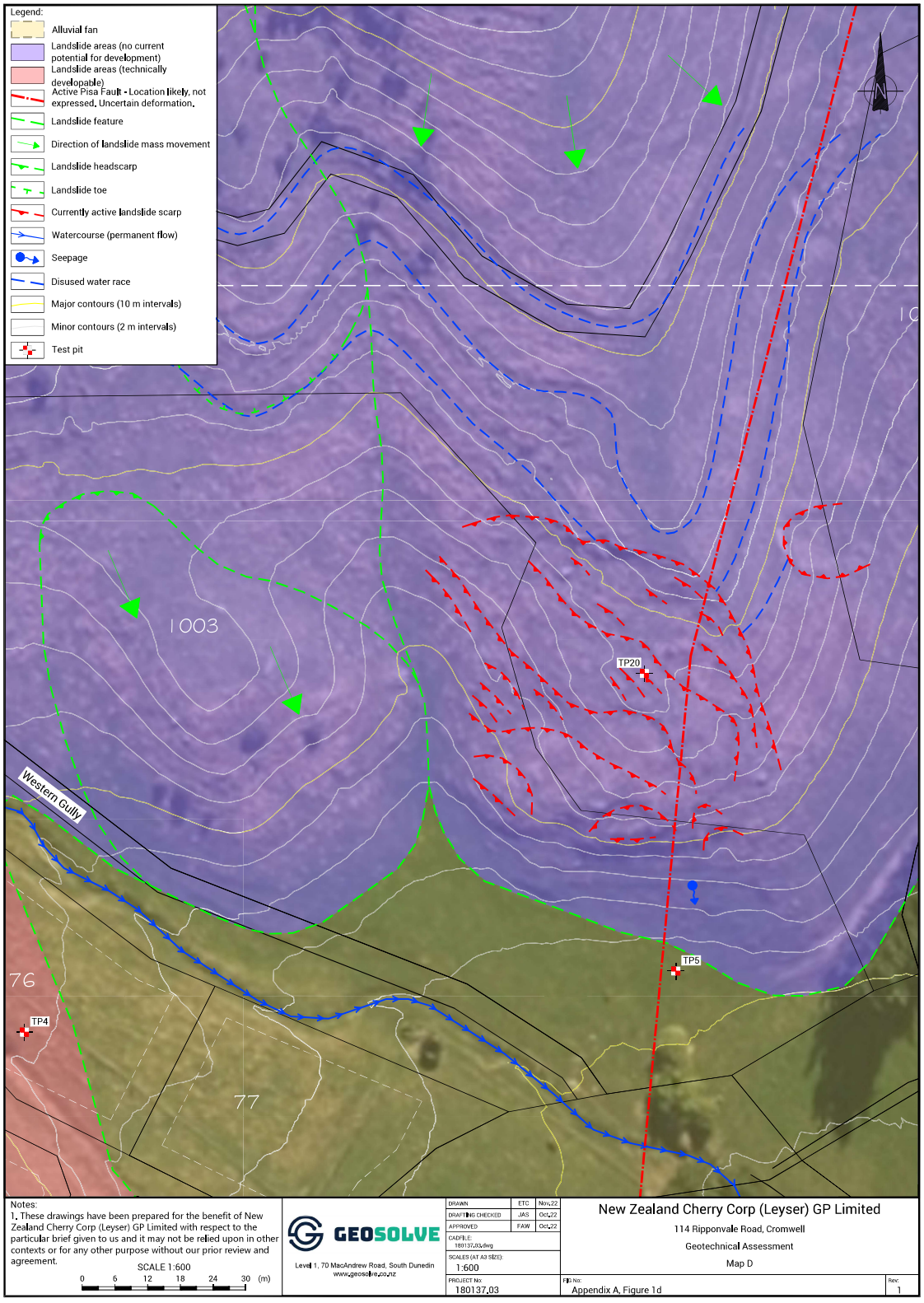
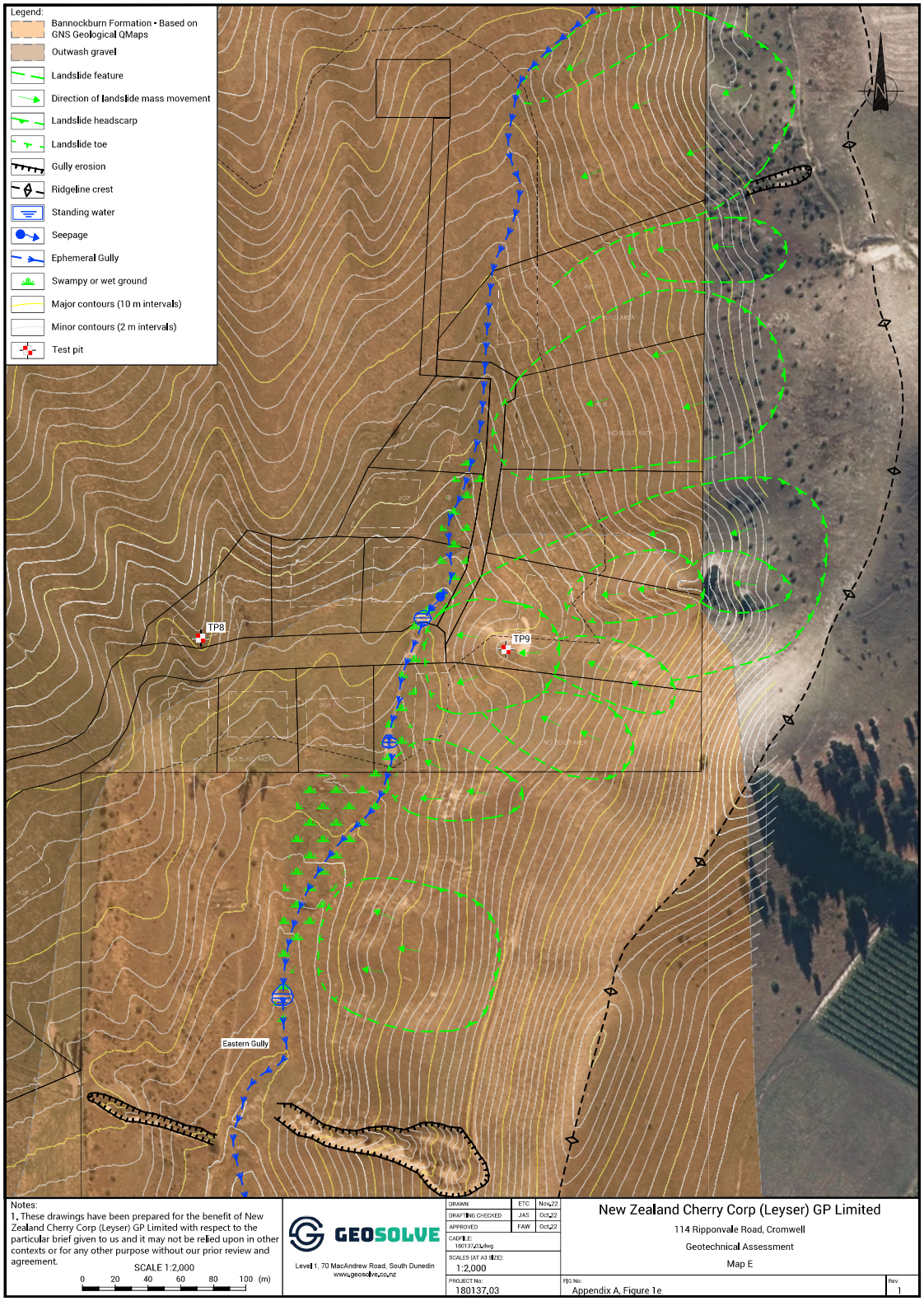
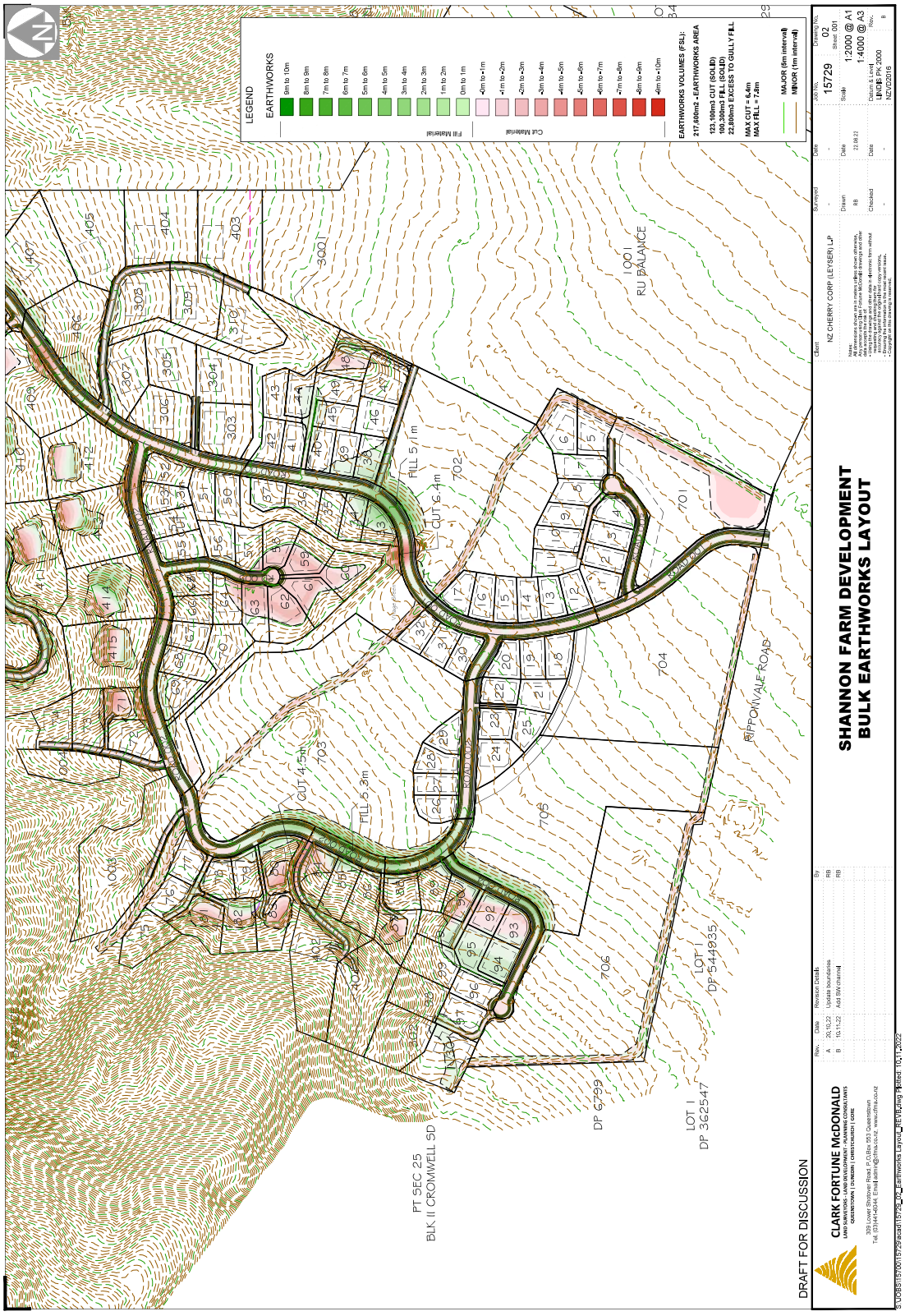
GEOSOLVE
Level 1, 70 MacAndrew Road, South Dunedin
www.geosolve.co.nz
DRAWN ETC Nov,22
DRAFTING CHECKED JAS Oct,22
APPROVED FAW Oct,22
CADFILE: 180137.03.dwg
SCALES (AT A3 SIZE): 1:2,000
PROJECT No: 180137.03
Fig No: Appendix A, Figure 1b
Rev: 1
New Zealand Cherry Corp (Leyser) GP Limited
114 Ripponvale Road, Cromwell
Geotechnical Assessment
Map B


Legend:
Outwash gravel
Alluvial fan
Landslide areas (no current potential for development)
Landslide areas (technically developable)
Active Pisa Fault - Location likely, not expressed. Uncertain deformation.
Landslide feature
Direction of landslide mass movement
Landslide headscarp
Landslide toe
Currently active landslide scarp
Gully erosion
Watercourse (permanent flow)
Standing water
Seepage
Disused water race
Swampy or wet ground
Major contours (10 m intervals)
Minor contours (2 m intervals)
Test pit
Indicative Schist Boulders and Outcrops (Rockfall Potential)
Northern Gully
Western Gully
Southwestern Gully
TP1
TP2
TP3
TP4
TP5
TP6
TP10
TP11
TP12
TP13
TP14
TP15
TP16
TP17
TP18
TP19
TP20
TP21
Notes:
1. These drawings have been prepared for the benefit of New Zealand Cherry Corp (Leyser) GP Limited with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.
SCALE 1:2,000
0 20 40 60 80 100 (m)
GEOSOLVE
Level 1, 70 MacAndrew Road, South Dunedin
www.geosolve.co.nz
DRAWN ETC Nov,22
DRAFTING CHECKED JAS Oct,22
APPROVED FAW Oct,22
CADFILE: 180137.03.dwg
SCALES (AT A3 SIZE): 1:2,000
PROJECT No: 180137.03
New Zealand Cherry Corp (Leyser) GP Limited
114 Ripponvale Road, Cromwell
Geotechnical Assessment
Map C
Fig No: Appendix A, Figure 1c
Rev: 1

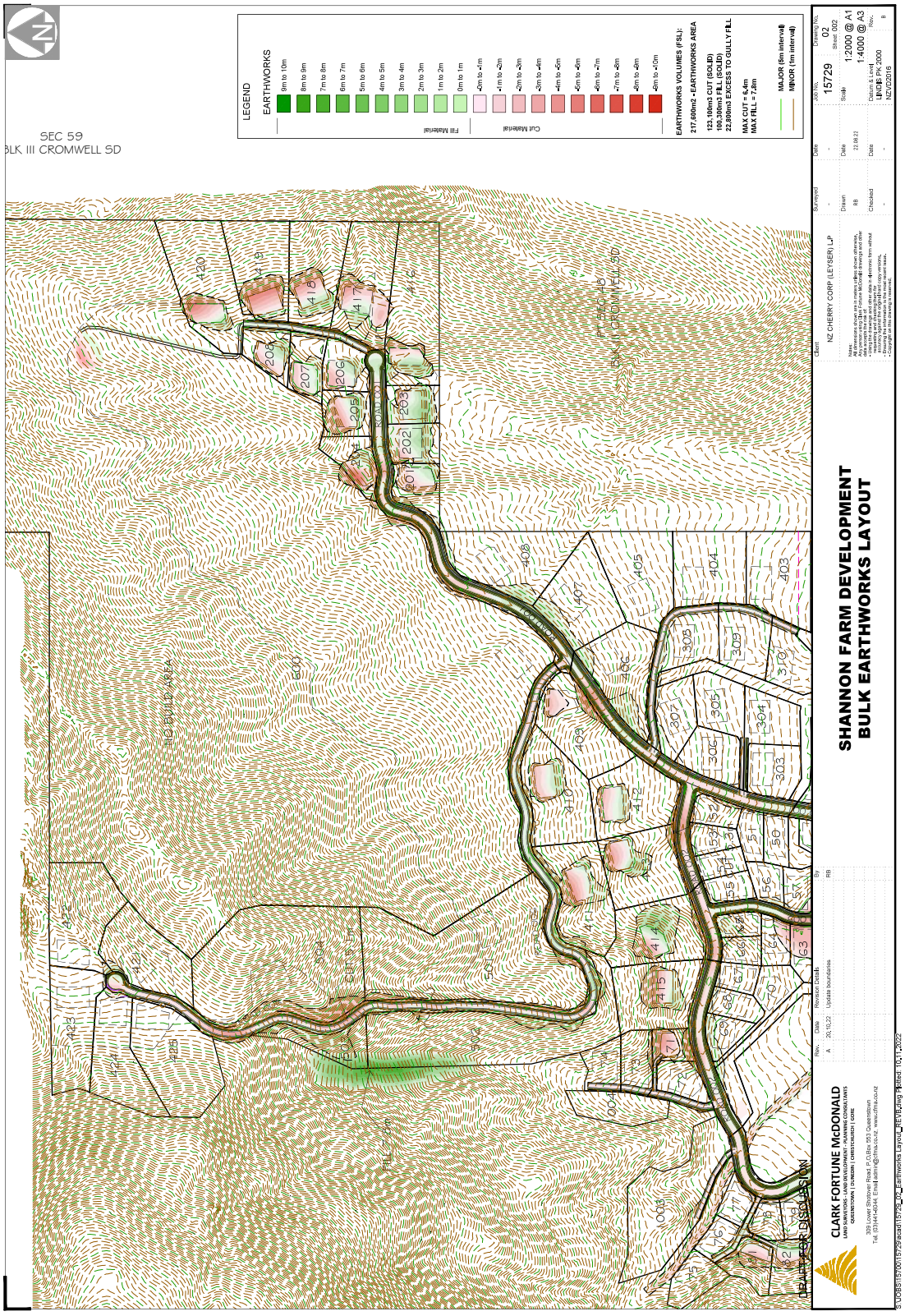

Legend:
Alluvial fan
Landslide areas (no current potential for development)
Landslide areas (technically developable)
Active Pisa Fault - Location likely, not expressed. Uncertain deformation.
Landslide feature
Direction of landslide mass movement
Landslide headscarp
Landslide toe
Currently active landslide scarp
Watercourse (permanent flow)
Seepage
Disused water race
Major contours (10 m intervals)
Minor contours (2 m intervals)
Test pit
1003
Western Gully
TP20
TP5
TP4
76
77
Notes:
1. These drawings have been prepared for the benefit of New Zealand Cherry Corp (Leyser) GP Limited with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.
SCALE 1:600
0 6 12 18 24 30 (m)
GEOSOLVE
Level 1, 70 MacAndrew Road, South Dunedin
www.geosolve.co.nz
DRAWN ETC Nov,22
DRAFTING CHECKED JAS Oct,22
APPROVED FAW Oct,22
CADFILE: 180137.03.dwg
SCALES (AT A3 SIZE): 1:600
PROJECT No: 180137.03
New Zealand Cherry Corp (Leyser) GP Limited
114 Ripponvale Road, Cromwell
Geotechnical Assessment
Map D
Fig No: Appendix A, Figure 1d
Rev: 1


Legend:
Bannockburn Formation - Based on GNS Geological QMaps
Outwash gravel
Landslide feature
Direction of landslide mass movement
Landslide headscarp
Landslide toe
Gully erosion
Ridgeline crest
Standing water
Seepage
Ephemeral Gully
Swampy or wet ground
Major contours (10 m intervals)
Minor contours (2 m intervals)
Test pit
TP8
TP9
Eastern Gully
NO BUILD AREA
Notes:
1. These drawings have been prepared for the benefit of New Zealand Cherry Corp (Leyser) GP Limited with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.
SCALE 1:2,000
0 20 40 60 80 100 (m)
GEOSOLVE
Level 1, 70 MacAndrew Road, South Dunedin
www.geosolve.co.nz
DRAWN ETC Nov,22
DRAFTING CHECKED JAS Oct,22
APPROVED FAW Oct,22
CADFILE: 180137-04.dwg
SCALES (AT A3 SIZE): 1:2,000
PROJECT No: 180137.03
FIG No: Appendix A, Figure 1e
Rev: 1
New Zealand Cherry Corp (Leyser) GP Limited
114 Ripponvale Road, Cromwell
Geotechnical Assessment
Map E

Appendix A, Figure 2a



Appendix A, Figure 2b



Appendix B: Site Investigation Data

GEOSOLVE
ENGINEERING CONSULTANTS

TEST PIT LOG

EXCAVATION NUMBER: **TP 1**

PROJECT:	Shannon Farm Subdivision, Ripponvale			JOB NUMBER:	180137.03
LOCATION:	See Site Plan	INCLINATION:	Vertical		

EASTING:		EQUIPMENT:	8 T Excavator	OPERATOR:	Alex
NORTHING:		COORD. SYSTEM:		COMPANY:	Find It Geosystems
ELEVATION:		EXCAV. DATUM:		HOLE STARTED:	28/09/2022
METHOD:	Aerial Photography	ACCURACY:		HOLE FINISHED:	28/09/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm)
TOPSOIL	Organic SILT with trace of gravel; dark brown. Soft to firm; moist; gravel, fine to coarse. 0m – 0.35m		0.0 – 0.3		0 5 10 15
ALLUVIAL FAN SEDIMENT	Silty sandy fine to coarse GRAVEL; grey, bedded sub-horizontal. Loose; moist; sand, fine to coarse; gravel, subangular. 0.65m		0.4 – 0.6		
ALLUVIAL FAN SEDIMENT	Sandy SILT to SILT with minor gravel; light grey, massive (no distortion). Firm; moist; sand, fine; gravel, fine to medium. 2.4m		0.7 – 2.3		
ALLUVIAL FAN SEDIMENT	Silty sandy fine to coarse GRAVEL with trace to minor cobbles; grey, bedded sub-horizontal. Medium dense; moist; sand, fine to coarse; gravel, subangular. 4.3m		2.4 – 4.3	NO SEEPAGE	

Total Excavation Depth = 4.3 m

COMMENT:	No water level. TP is located approximately 15 m north of creek channel.	LOGGED BY:	JAS
		CHECKED DATE:	13/10/2022
		SHEET:	1 of 1

GEOSOLVE ENGINEERING CONSULTANTS

TEST PIT LOG

EXCAVATION NUMBER: **TP 2**

PROJECT:	Shannon Farm Subdivision, Ripponvale			JOB NUMBER:	180137.03
LOCATION:	See Site Plan	INCLINATION:	Vertical		

EASTING:		EQUIPMENT:	8 T Excavator	OPERATOR:	Alex
NORTHING:		COORD. SYSTEM:		COMPANY:	Find It Geosystems
ELEVATION:		EXCAV. DATUM:		HOLE STARTED:	28/09/2022
METHOD:	Aerial Photography	ACCURACY:		HOLE FINISHED:	28/09/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm) 0 5 10 15
TOPSOIL	Organic SILT; brown. Soft to firm; dry. 0m		0.0		
OUTWASH GRAVEL	Silty sandy fine to coarse GRAVEL with some cobbles; light brown/orange, bedded sub-horizontal. Dense; dry; very tightly packed; gravel, subrounded to rounded; sand, fine to coarse. 0.15m		0.1 – 3.5	NO SEEPAGE	
	3.5m		3.5		

Total Excavation Depth = 3.5 m

COMMENT:	No water level. Difficult to excavate. TP refusal met at 3.5 m bgl.	LOGGED BY:	JAS
		CHECKED DATE:	13/10/2022
		SHEET:	1 of 1

GEOSOLVE ENGINEERING CONSULTANTS

TEST PIT LOG

EXCAVATION NUMBER: **TP 3**

PROJECT:	Shannon Farm Subdivision, Ripponvale			JOB NUMBER:	180137.03
LOCATION:	See Site Plan	INCLINATION:	Vertical		

EASTING:		EQUIPMENT:	8 T Excavator	OPERATOR:	Alex
NORTHING:		COORD. SYSTEM:		COMPANY:	Find It Geosystems
ELEVATION:		EXCAV. DATUM:		HOLE STARTED:	28/09/2022
METHOD:	Aerial Photography	ACCURACY:		HOLE FINISHED:	28/09/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm) 0 5 10 15
TOPSOIL	Organic SILT; dark brown. Soft to firm; dry. 0m		0.0		
TOPSOIL/ COLLUVIUM	Gravelly organic SILT; dark brown, massive. Soft to firm; dry; gravel, fine to coarse, angular to rounded. 0.05m		0.1		
SCHIST LANDSLIDE DEBRIS	Psammitic SCHIST; grey/brown (mottled orange), chaotic structure. Extremely weak to very weak; dry to moist; highly weathered, micaceous (clayey SILT). Contains slightly weathered angular corestones up to 800 mm diameter. 0.25m		0.2 – 3.2	NO SEEPAGE	

Total Excavation Depth = 3.2 m

COMMENT:	No water level.	LOGGED BY:	JAS
		CHECKED DATE:	13/10/2022
		SHEET:	1 of 1

GEOSOLVE ENGINEERING CONSULTANTS

TEST PIT LOG

EXCAVATION NUMBER: **TP 4**

PROJECT:	Shannon Farm Subdivision, Ripponvale			JOB NUMBER:	180137.03
LOCATION:	See Site Plan	INCLINATION:	Vertical		

EASTING:		EQUIPMENT:	8 T Excavator	OPERATOR:	Alex
NORTHING:		COORD. SYSTEM:		COMPANY:	Find It Geosystems
ELEVATION:		EXCAV. DATUM:		HOLE STARTED:	28/09/2022
METHOD:	Aerial Photography	ACCURACY:		HOLE FINISHED:	28/09/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm)
TOPSOIL	Organic SILT; dark brown. Soft to firm; moist. 0m – 0.5m		0.0 – 0.5		
ALLUVIAL FAN SEDIMENT	Silty fine to medium SAND to sandy SILT with trace of gravel and cobbles; brown, massive (no distortion). Loose/firm; moist; gravel, fine to coarse; bio-turbated (worms). 0.5m – 1.8m		0.5 – 1.8		
ALLUVIAL FAN SEDIMENT	Silty sandy fine to coarse GRAVEL with trace of cobbles, boulders and lenses of silty SAND; brown, bedded sub-horizontal. Loose to medium dense; moist; gravel, subangular to subrounded; sand, fine to coarse; boulders, up to 400 mm diameter. 1.8m – 3.3m		1.8 – 3.3		
ALLUVIAL FAN SEDIMENT	Sandy cobbly fine to coarse GRAVEL with trace of boulders; brown/grey, bedded sub-horizontal. Medium dense; moist; gravel, subangular to subrounded; sand, fine to coarse; boulders, up to 500 mm diameter. 3.3m – 3.7m		3.3 – 3.7		
SCHIST LANDSLIDE DEBRIS	Psammitic SCHIST; white/grey, chaotic structure. Extremely weak to very weak; moist; highly weathered, micaceous (clayey SILT). 3.7m – 4.2m		3.7 – 4.2	NO SEEPAGE	

Total Excavation Depth = 4.2 m

COMMENT:	No water level.	LOGGED BY:	JAS
		CHECKED DATE:	13/10/2022
		SHEET:	1 of 1

GEOSOLVE
ENGINEERING CONSULTANTS

TEST PIT LOG

EXCAVATION NUMBER: **TP 5**

PROJECT:	Shannon Farm Subdivision, Ripponvale			JOB NUMBER:	180137.03
LOCATION:	See Site Plan	INCLINATION:	Vertical		

EASTING:		EQUIPMENT:	8 T Excavator	OPERATOR:	Alex
NORTHING:		COORD. SYSTEM:		COMPANY:	Find It Geosystems
ELEVATION:		EXCAV. DATUM:		HOLE STARTED:	28/09/2022
METHOD:	Aerial Photography	ACCURACY:		HOLE FINISHED:	28/09/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm)
UNCONTROLLED FILL	Silty fine to medium SAND with some organic SILT; light brown, massive (no distortion). Loose; dry to moist.	0m – 0.3m	0.0 – 0.3		
BURIED TOPSOIL	Organic SILT; dark brown, massive (no distortion). Soft to firm; moist.	0.3m – 0.65m	0.3 – 0.6		
ALLUVIAL FAN SEDIMENT	Sandy SILT; light brown, massive (no distortion). Firm; moist; sand, fine; bio-turbated (worms).	0.65m – 2m	0.6 – 2.0		
ALLUVIAL FAN SEDIMENT	Silty fine to medium SAND; grey, massive (no distortion). Loose; moist.	2m – 3.2m	2.0 – 3.2		
LANDSLIDE DEBRIS	Gravelly silty fine to medium SAND with some cobbles and trace of boulders; grey, chaotic structure. Loose to medium dense; moist; gravel, fine to coarse, angular; boulders, up to 800 mm diameter.	3.2m – 3.5m	3.2 – 3.5		
LANDSLIDE DEBRIS (DUNSTAN FORMATION)	Silty sandy fine to coarse GRAVEL; orange, chaotic structure. Loose to medium dense; moist; feO staining; gravel, subrounded to rounded, quartz; sand, fine to coarse.	3.5m – 4.2m	3.5 – 4.2	NO SEEPAGE	0 5 10 15

Total Excavation Depth = 4.2 m

COMMENT:	No water level. Less than 50 mm of topsoil at surface of TP.	LOGGED BY:	JAS
		CHECKED DATE:	13/10/2022
		SHEET:	1 of 1

GEOSOLVE
ENGINEERING CONSULTANTS

TEST PIT LOG

EXCAVATION NUMBER: **TP 6**

PROJECT:	Shannon Farm Subdivision, Ripponvale			JOB NUMBER:	180137.03
LOCATION:	See Site Plan	INCLINATION:	Vertical		

EASTING:		EQUIPMENT:	8 T Excavator	OPERATOR:	Alex
NORTHING:		COORD. SYSTEM:		COMPANY:	Find It Geosystems
ELEVATION:		EXCAV. DATUM:		HOLE STARTED:	28/09/2022
METHOD:	Aerial Photography	ACCURACY:		HOLE FINISHED:	28/09/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm) 0 5 10 15
TOPSOIL	Organic SILT; dark brown. Soft to firm; moist. 0m – 0.25m		0.0		
COLLUVIUM	Silty fine to coarse SAND with minor gravel and trace of rootlets; light brown, massive. Medium dense; moist; gravel, fine to medium, subrounded; bio-turbated (worms). 0.25m – 0.55m		0.1 – 0.5		
OUTWASH GRAVEL	Sandy cobbly fine to coarse GRAVEL with some silt and trace of boulders; brown, bedded sub-horizontal. Medium dense; moist; tightly packed; gravel, subrounded to rounded; sand, fine to coarse; boulders, up to 400 mm diameter. 0.55m – 3.5m		0.6 – 3.5	NO SEEPAGE	

Total Excavation Depth = 3.5 m

COMMENT:	No water level.	LOGGED BY:	JAS
		CHECKED DATE:	13/10/2022
		SHEET:	1 of 1

GEOSOLVE ENGINEERING CONSULTANTS

TEST PIT LOG

EXCAVATION NUMBER: **TP 7**

PROJECT:	Shannon Farm Subdivision, Ripponvale			JOB NUMBER:	180137.03
LOCATION:	See Site Plan	INCLINATION:	Vertical		

EASTING:		EQUIPMENT:	8 T Excavator	OPERATOR:	Alex
NORTHING:		COORD. SYSTEM:		COMPANY:	Find It Geosystems
ELEVATION:		EXCAV. DATUM:		HOLE STARTED:	28/09/2022
METHOD:	Aerial Photography	ACCURACY:		HOLE FINISHED:	28/09/2022

Soil / Rock Type	Description	Depth
TOPSOIL	Organic SILT; dark brown. Soft to firm; moist.	0m – 0.2m
LOESS	Sandy SILT with trace of gravel and rootlets; light brown, massive (no distortion). Firm; moist; gravel, fine to medium; bio-turbated (worms).	0.2m – 1.15m
COLLUVIUM	Sandy fine to coarse GRAVEL; grey/brown, bedded downslope. Loose to medium dense; dry; gravel, subangular to subrounded; sand, fine to coarse.	1.15m – 1.5m
COLLUVIUM	Silty fine to medium SAND with trace of gravel, cobbles and interbedded lenses of sandy fine to coarse GRAVEL; light brown (mottled white), bedded downslope. Medium dense; dry; contains rootlet voids.	1.5m – 3.6m
COLLUVIUM	Sandy fine to coarse GRAVEL with trace of cobbles; brown, bedded downslope. Medium dense; dry; gravel, rounded; sand, fine to coarse.	3.6m – 3.9m

Graphic Log

Depth (m): 0.0, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 2.0, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.0, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9

Groundwater / Seepage: NO SEEPAGE

Scala Penetrometer (Blows per 100mm): 0 5 10 15

Total Excavation Depth = 3.9 m

COMMENT:	No water level.	LOGGED BY:	JAS
		CHECKED DATE:	13/10/2022
		SHEET:	1 of 1

GEOSOLVE
ENGINEERING CONSULTANTS

TEST PIT LOG

EXCAVATION NUMBER: **TP 8**

PROJECT:	Shannon Farm Subdivision, Ripponvale			JOB NUMBER:	180137.03
LOCATION:	See Site Plan	INCLINATION:	Vertical		

EASTING:		EQUIPMENT:	8 T Excavator	OPERATOR:	Alex
NORTHING:		COORD. SYSTEM:		COMPANY:	Find It Geosystems
ELEVATION:		EXCAV. DATUM:		HOLE STARTED:	28/09/2022
METHOD:	Aerial Photography	ACCURACY:		HOLE FINISHED:	28/09/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm) 0 5 10 15
TOPSOIL	Organic SILT; dark brown. Soft to firm; dry. 0m – 0.25m		0.0 – 0.1 – 0.2		
OUTWASH GRAVEL	Sandy fine to coarse GRAVEL with minor cobbles; light brown/orange, bedded sub-horizontal. Medium dense; moist, becoming wet towards base of TP; gravel, subrounded to rounded; sand, fine to coarse. – 2.2m		0.3 – 2.1		
BANNOCKBURN FORMATION	CLAYSTONE; light brown/light grey, laminated. Very weak; dry; slightly weathered. – 3.3m		2.2 – 3.3	NO SEEPAGE	

Total Excavation Depth = 3.3 m

COMMENT:	No water level. TP refusal met at 3.3 m bgl.	LOGGED BY:	JAS
		CHECKED DATE:	13/10/2022
		SHEET:	1 of 1

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TEST PIT LOG

EXCAVATION NUMBER: **TP 9**

PROJECT:	Shannon Farm Subdivision, Ripponvale			JOB NUMBER:	180137.03
LOCATION:	See Site Plan	INCLINATION:	Vertical		

EASTING:		EQUIPMENT:	8 T Excavator	OPERATOR:	Alex
NORTHING:		COORD. SYSTEM:		COMPANY:	Find It Geosystems
ELEVATION:		EXCAV. DATUM:		HOLE STARTED:	28/09/2022
METHOD:	Aerial Photography	ACCURACY:		HOLE FINISHED:	28/09/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm)
COLLUVIUM	Silty fine to medium SAND with minor gravel and trace of rootlets; light brown, massive. Loose to medium dense; dry; sand, fine to medium. (0m – 0.3m)		0.0 – 0.3	NO SEEPAGE	0 5 10 15
LANDSLIDE DEBRIS (BANNOCKBURN FORMATION)	SANDSTONE; light grey, laminated. Very weak; dry; sand, fine to medium; slightly weathered. (0.3m – 1.5m)		0.3 – 1.5		

Total Excavation Depth = 1.5 m

COMMENT:	No water level. Less than 50 mm of topsoil at surface of TP.	LOGGED BY:	JAS
		CHECKED DATE:	13/10/2022
		SHEET:	1 of 1

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TEST PIT LOG

EXCAVATION NUMBER: **TP 10**

PROJECT:	Shannon Farm Subdivision, Ripponvale			JOB NUMBER:	180137.03
LOCATION:	See Site Plan	INCLINATION:	Vertical		

EASTING:		EQUIPMENT:	8 T Excavator	OPERATOR:	Joe
NORTHING:		COORD. SYSTEM:		COMPANY:	Find It Geosystems
ELEVATION:		EXCAV. DATUM:		HOLE STARTED:	03/10/2022
METHOD:	Aerial Photography	ACCURACY:		HOLE FINISHED:	03/10/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm) 0 5 10 15
TOPSOIL	Organic SILT; dark brown. Soft to firm; dry. 0m		0.0		
	0.3m		0.3		
COLLUVIUM	Silty fine to coarse SAND with minor cobbles; brown, bedded downslope. Medium dense; moist; gravel, fine to coarse, angular to rounded.		0.4 – 1.0		
	1.1m		1.1		
OUTWASH SAND	Silty fine to coarse SAND with trace of gravel; light brown, bedded sub-horizontal (thins downslope). Medium dense to dense; moist; gravel, fine.		1.2 – 1.6		
	1.7m		1.7		
OUTWASH GRAVEL	Silty sandy fine to coarse GRAVEL with some cobbles; brown/orange, bedded sub-horizontal. Medium dense to dense; moist; tightly packed; gravel, subrounded to rounded; sand, fine to coarse; weathered.		1.8 – 4.2	NO SEEPAGE	
	4.3m		4.3		

Total Excavation Depth = 4.3 m

COMMENT:	No water level.	LOGGED BY:	JAS
		CHECKED DATE:	13/10/2022
		SHEET:	1 of 1

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TEST PIT LOG

EXCAVATION NUMBER: **TP 11**

PROJECT:	Shannon Farm Subdivision, Ripponvale			JOB NUMBER:	180137.03
LOCATION:	See Site Plan	INCLINATION:	Vertical		

EASTING:		EQUIPMENT:	8 T Excavator	OPERATOR:	Joe
NORTHING:		COORD. SYSTEM:		COMPANY:	Find It Geosystems
ELEVATION:		EXCAV. DATUM:		HOLE STARTED:	03/10/2022
METHOD:	Aerial Photography	ACCURACY:		HOLE FINISHED:	03/10/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm) 0 5 10 15
TOPSOIL	Organic SILT; dark brown. Soft to firm; moist. 0m – 0.3m		0.0 – 0.3		
COLLUVIUM	Silty gravelly fine to coarse SAND with minor cobbles and organic SILT; dark brown, bedded downslope. Loose to medium dense; moist; gravel, fine to coarse. 0.3m – 1m		0.3 – 1.0		
OUTWASH GRAVEL	Silty sandy fine to coarse GRAVEL with some cobbles; orange/brown, bedded sub-horizontal. Medium dense; moist; tightly packed; gravel, subrounded to rounded; sand, fine to coarse; weathered. 1m – 4.8m		1.0 – 4.8	NO SEEPAGE	

Total Excavation Depth = 4.8 m

COMMENT:	No water level.	LOGGED BY:	JAS
		CHECKED DATE:	13/10/2022
		SHEET:	1 of 1

GEOSOLVE ENGINEERING CONSULTANTS

TEST PIT LOG

EXCAVATION NUMBER: **TP 12**

PROJECT:	Shannon Farm Subdivision, Ripponvale			JOB NUMBER:	180137.03
LOCATION:	See Site Plan	INCLINATION:	Vertical		

EASTING:		EQUIPMENT:	8 T Excavator	OPERATOR:	Joe
NORTHING:		COORD. SYSTEM:		COMPANY:	Find It Geosystems
ELEVATION:		EXCAV. DATUM:		HOLE STARTED:	03/10/2022
METHOD:	Aerial Photography	ACCURACY:		HOLE FINISHED:	03/10/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm) 0 5 10 15
TOPSOIL	Organic SILT; dark brown. Soft to firm; moist. 0m – 0.2m		0.0–0.2		
LOESS	Sandy SILT with trace of gravel and cobbles; light brown, massive. Firm; moist; sand, fine; gravel, fine to coarse, angular; bio-turbated (worms). 0.2m – 0.7m		0.2–0.7		
SCHIST LANDSLIDE DEBRIS	Silty sandy fine to coarse GRAVEL with minor cobbles; brown, chaotic structure. Medium dense; moist; gravel, angular; sand, fine to coarse. 0.7m – 1.1m		0.7–1.1		
SCHIST LANDSLIDE DEBRIS	Psammitic SCHIST; white/grey, chaotic structure. Very weak; moist; moderately to highly weathered; micaceous (clayey SILT). 1.1m – 3.6m		1.1–3.6	NO SEEPAGE	

Total Excavation Depth = 3.6 m

COMMENT:	No water level.	LOGGED BY:	JAS
		CHECKED DATE:	13/10/2022
		SHEET:	1 of 1

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TEST PIT LOG

EXCAVATION NUMBER: **TP 13**

PROJECT:	Shannon Farm Subdivision, Ripponvale			JOB NUMBER:	180137.03
LOCATION:	See Site Plan	INCLINATION:	Vertical		

EASTING:		EQUIPMENT:	8 T Excavator	OPERATOR:	Joe
NORTHING:		COORD. SYSTEM:		COMPANY:	Find It Geosystems
ELEVATION:		EXCAV. DATUM:		HOLE STARTED:	03/10/2022
METHOD:	Aerial Photography	ACCURACY:		HOLE FINISHED:	03/10/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm) 0 5 10 15
TOPSOIL	Organic SILT; dark brown. Soft to firm; moist. 0m – 0.2m		0.0		
SCHIST LANDSLIDE DEBRIS	Silty sandy fine to coarse GRAVEL with some cobbles and trace of boulders; grey/brown (occasionally mottled white), chaotic structure. Medium dense; moist; gravel, angular; sand, fine to coarse; boulders, up to 600 mm diameter; micaceous. 3.5m		0.1 – 3.5	NO SEEPAGE	

Total Excavation Depth = 3.5 m

COMMENT:	No water level.	LOGGED BY:	JAS
		CHECKED DATE:	13/10/2022
		SHEET:	1 of 1

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TEST PIT LOG

EXCAVATION NUMBER: **TP 14**

PROJECT:	Shannon Farm Subdivision, Ripponvale			JOB NUMBER:	180137.03
LOCATION:	See Site Plan	INCLINATION:	Vertical		

EASTING:		EQUIPMENT:	8 T Excavator	OPERATOR:	Joe
NORTHING:		COORD. SYSTEM:		COMPANY:	Find It Geosystems
ELEVATION:		EXCAV. DATUM:		HOLE STARTED:	03/10/2022
METHOD:	Aerial Photography	ACCURACY:		HOLE FINISHED:	03/10/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm) 0 5 10 15
TOPSOIL	Organic SILT; dark brown. Soft to firm; moist. 0m – 0.25m		0.0		
LOESS	Sandy SILT with trace of gravel; light brown, massive. Firm; moist; sand, fine; gravel, fine to medium, angular; bio-turbated (worms). 0.7m		0.7		
OUTWASH GRAVEL	Silty sandy fine to coarse GRAVEL with minor cobbles and trace of boulders; orange/brown, bedded sub-horizontal. Medium dense; moist; tightly packed; gravel, subrounded to rounded; sand, fine to coarse; boulders, up to 400 mm diameter; weathered. 3.7m		3.7	NO SEEPAGE	

Total Excavation Depth = 3.7 m

COMMENT:	No water level.	LOGGED BY:	JAS
		CHECKED DATE:	13/10/2022
		SHEET:	1 of 1

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TEST PIT LOG

EXCAVATION NUMBER: **TP 15**

PROJECT:	Shannon Farm Subdivision, Ripponvale			JOB NUMBER:	180137.03
LOCATION:	See Site Plan	INCLINATION:	Vertical		

EASTING:		EQUIPMENT:	8 T Excavator	OPERATOR:	Joe
NORTHING:		COORD. SYSTEM:		COMPANY:	Find It Geosystems
ELEVATION:		EXCAV. DATUM:		HOLE STARTED:	03/10/2022
METHOD:	Aerial Photography	ACCURACY:		HOLE FINISHED:	03/10/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm)
TOPSOIL	Organic SILT; dark brown. Soft to firm; moist. 0m – 0.3m		0.0 – 0.3		0 5 10 15
LOESS	Silty fine SAND; light brown, massive. Loose; moist; bio-turbated (worms). 0.3m – 1.7m		0.3 – 1.7		
OUTWASH GRAVEL	Silty sandy fine to coarse GRAVEL with minor cobbles; brown/orange, bedded sub-horizontal. Medium dense; moist; tightly packed; gravel, subrouneded to rounded; sand, fine to coarse. 1.7m – 4m		1.7 – 4.0	NO SEEPAGE	

Total Excavation Depth = 4.0 m

COMMENT:	No water level.	LOGGED BY:	JAS
		CHECKED DATE:	13/10/2022
		SHEET:	1 of 1

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TEST PIT LOG

EXCAVATION NUMBER: **TP 16**

PROJECT:	Shannon Farm Subdivision, Ripponvale			JOB NUMBER:	180137.03
LOCATION:	See Site Plan	INCLINATION:	Vertical		

EASTING:		EQUIPMENT:	8 T Excavator	OPERATOR:	Joe
NORTHING:		COORD. SYSTEM:		COMPANY:	Find It Geosystems
ELEVATION:		EXCAV. DATUM:		HOLE STARTED:	03/10/2022
METHOD:	Aerial Photography	ACCURACY:		HOLE FINISHED:	03/10/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm) 0 5 10 15
TOPSOIL	Organic SILT; dark brown. Soft to firm; moist. 0m – 0.4m		0.0 – 0.4		
OUTWASH GRAVEL	Silty sandy fine to coarse GRAVEL with some cobbles; orange/brown, bedded sub-horizontal. Medium dense; dry to moist; tightly packed; gravel, subrounded to rounded; sand, fine to coarse. 0.4m – 3.8m		0.4 – 3.8	NO SEEPAGE	

Total Excavation Depth = 3.8 m

COMMENT:	No water level.	LOGGED BY:	JAS
		CHECKED DATE:	13/10/2022
		SHEET:	1 of 1

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TEST PIT LOG

EXCAVATION NUMBER: **TP 17**

PROJECT:	Shannon Farm Subdivision, Ripponvale			JOB NUMBER:	180137.03
LOCATION:	See Site Plan	INCLINATION:	Vertical		

EASTING:		EQUIPMENT:	8 T Excavator	OPERATOR:	Joe
NORTHING:		COORD. SYSTEM:		COMPANY:	Find It Geosystems
ELEVATION:		EXCAV. DATUM:		HOLE STARTED:	03/10/2022
METHOD:	Aerial Photography	ACCURACY:		HOLE FINISHED:	03/10/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm) 0 5 10 15
TOPSOIL/ COLLUVIUM	Gravelly organic SILT with trace of cobbles; dark brown. Soft to firm; dry to moist; gravel, fine to coarse, angular to rounded. 0m – 0.4m		0.0 – 0.4		
OUTWASH GRAVEL	Silty sandy fine to coarse GRAVEL with some cobbles and trace of boulders; orange/brown, bedded sub-horizontal. Medium dense to dense; dry; very tightly packed; gravel, subrounded to rounded; sand, fine to coarse; boulders up to 300 mm diameter. 0.4m – 3.7m		0.4 – 3.7	NO SEEPAGE	

Total Excavation Depth = 3.7 m

COMMENT:	No water level. Hard digging with excavator.	LOGGED BY:	JAS
		CHECKED DATE:	13/10/2022
		SHEET:	1 of 1

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TEST PIT LOG

EXCAVATION NUMBER: **TP 18**

PROJECT:	Shannon Farm Subdivision, Ripponvale			JOB NUMBER:	180137.03
LOCATION:	See Site Plan	INCLINATION:	Vertical		

EASTING:		EQUIPMENT:	8 T Excavator	OPERATOR:	Joe
NORTHING:		COORD. SYSTEM:		COMPANY:	Find It Geosystems
ELEVATION:		EXCAV. DATUM:		HOLE STARTED:	03/10/2022
METHOD:	Aerial Photography	ACCURACY:		HOLE FINISHED:	03/10/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm)
TOPSOIL	Organic SILT; dark brown. Soft to firm; moist. 0m – 0.3m		0.0 – 0.3		0 5 10 15
LOESS	Silty fine SAND with trace of gravel and cobbles; light brown, massive. Loose to medium dense; moist; gravel, fine to coarse, angular to rounded. 1.9m		0.3 – 1.9		
OUTWASH GRAVEL	Silty sandy fine to coarse GRAVEL with minor cobbles and trace of boulders; orange/brown, bedded sub-horizontal. Medium dense; dry; tightly packed; gravel, subrounded to rounded; sand, fine to coarse; boulders, up to 400 mm diameter; weathered. 3.9m		1.9 – 3.9	NO SEEPAGE	

Total Excavation Depth = 3.9 m

COMMENT:	No water level.	LOGGED BY:	JAS
		CHECKED DATE:	13/10/2022
		SHEET:	1 of 1

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TEST PIT LOG

EXCAVATION NUMBER: **TP 19**

PROJECT:	Shannon Farm Subdivision, Ripponvale			JOB NUMBER:	180137.03
LOCATION:	See Site Plan	INCLINATION:	Vertical		

EASTING:		EQUIPMENT:	8 T Excavator	OPERATOR:	Joe
NORTHING:		COORD. SYSTEM:		COMPANY:	Find It Geosystems
ELEVATION:		EXCAV. DATUM:		HOLE STARTED:	03/10/2022
METHOD:	Aerial Photography	ACCURACY:		HOLE FINISHED:	03/10/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm) 0 5 10 15
TOPSOIL	Organic SILT; dark brown. Soft to firm; moist. 0m – 0.2m		0.0	NO SEEPAGE	
LOESS	Silty fine SAND; light brown, massive. Loose to medium dense; moist; bio-turbated (worms). 0.5m		0.5		
SCHIST LANDSLIDE DEBRIS	Psammitic SCHIST; grey, chaotic structure. Extremely weak to very weak; moist; highly weathered, micaceous (clayey SILT). 3.2m		3.2		

Total Excavation Depth = 3.2 m

COMMENT:	No water level.	LOGGED BY:	JAS
		CHECKED DATE:	13/10/2022
		SHEET:	1 of 1

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TEST PIT LOG

EXCAVATION NUMBER: **TP 20**

PROJECT:	Shannon Farm Subdivision, Ripponvale			JOB NUMBER:	180137.03
LOCATION:	See Site Plan	INCLINATION:	Vertical		

EASTING:		EQUIPMENT:	8 T Excavator	OPERATOR:	Joe
NORTHING:		COORD. SYSTEM:		COMPANY:	Find It Geosystems
ELEVATION:		EXCAV. DATUM:		HOLE STARTED:	03/10/2022
METHOD:	Aerial Photography	ACCURACY:		HOLE FINISHED:	03/10/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm) 0 5 10 15
TOPSOIL	0m Organic SILT; dark brown. Soft to firm; moist. 0.4m		0.0 0.1 0.2 0.3		
LANDSLIDE DEBRIS (DUNSTAN FORMATION)	Silty sandy fine to coarse GRAVEL; orange/brown, chaotic structure. Loose to medium; moist; gravel, subrounded to rounded, quartz; sand, fine to coarse. 3m		0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3.0	NO SEEPAGE	

Total Excavation Depth = 3.0 m

COMMENT:	No water level. Soft digging with excavator.	LOGGED BY:	JAS
		CHECKED DATE:	13/10/2022
		SHEET:	1 of 1

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TEST PIT LOG

EXCAVATION NUMBER: **TP 21**

PROJECT:	Shannon Farm Subdivision, Ripponvale			JOB NUMBER:	180137.03
LOCATION:	See Site Plan	INCLINATION:	Vertical		

EASTING:		EQUIPMENT:	8 T Excavator	OPERATOR:	Joe
NORTHING:		COORD. SYSTEM:		COMPANY:	Find It Geosystems
ELEVATION:		EXCAV. DATUM:		HOLE STARTED:	03/10/2022
METHOD:	Aerial Photography	ACCURACY:		HOLE FINISHED:	03/10/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm)
TOPSOIL	Organic SILT; grey. Soft to firm; moist. 0m – 0.3m		0.0 – 0.3		0 5 10 15
ALLUVIAL FAN SEDIMENT	SILT; light grey/light brown, massive. Firm; moist; silt, low plasticity. 0.3m – 1.5m		0.3 – 1.5	light seepage	
ALLUVIAL FAN SEDIMENT	Gravelly silty fine to coarse SAND with trace of cobbles; grey. Loose to medium dense; wet; gravel, fine to coarse, subrounded to rounded. Contains quartz gravels. 1.5m – 2.3m		1.5 – 2.3		
ALLUVIAL FAN SEDIMENT	Silty fine to medium SAND with lenses of gravelly SAND; grey. Loose to medium dense; wet; gravel, fine to coarse. 2.3m – 3.7m		2.3 – 3.7		

Total Excavation Depth = 3.7 m

COMMENT:		LOGGED BY:	JAS
		CHECKED DATE:	13/10/2022
		SHEET:	1 of 1

Appendix C: APP6 – Methodology for Natural Hazard Risk Assessment

APP6 – Methodology for *natural hazard risk* assessment

Undertake the following four step process to determine the *natural hazard risk*.

Step 1 – Determine the likelihood

Using Table 6, assess the likelihood of three *natural hazard* scenarios occurring, representing a high likelihood, median likelihood, and the maximum credible event, using the best available information:

Table 6: Likelihood scale

Likelihood	Indicative frequency
Almost certain	Up to once every 50 years (2% AEP)
Likely	Once every 51 – 100 years (2 – 1% AEP)
Possible	Once every 101 – 1,000 years (1 – 0.11% AEP)
Unlikely	Once every 1,001 – 2,500 years (0.1 – 0.04% AEP)
Rare	2,501 years plus (<0.04% AEP)

Step 2 – *Natural hazard* consequence

Using Table 7 and the matters listed in (1) to (10) below, assess the consequence (catastrophic, major, moderate, minor, or insignificant) of the *natural hazard* scenarios identified in step 1 considering:

(1) the nature of activities in the area,

(2) individual and community vulnerability,

(3) impacts on individual and community health and safety,

(4) impacts on social, cultural and economic well-being,

(5) impacts on *infrastructure* and property, including access and services,

(6) available and viable *risk* reduction and hazard mitigation measures,

(7) *lifeline utilities*, essential and emergency services, and their co-dependence,

(8) implications for civil defence agencies and emergency services,

(9) the changing *natural hazard* environment,

(10) cumulative *effects* including *multiple* and *cascading hazards,* where present, and

(11) factors that may exacerbate a *natural hazard* event including the *effects* of *climate change*.

Table 7: Consequence table

Severity of Impact	Built				Health & Safety
	Social/Cultural	*Buildings*	Critical *Buildings*	Lifelines	
Catastrophic (V)	≥25% of *buildings* of social/cultural significance within hazard zone have functionality compromised	≥50% of affected *buildings* within hazard zone have functionality compromised	≥25% of critical facilities within hazard zone have functionality compromised	Out of service for > 1 month (affecting ≥20% of the town/city population) OR suburbs out of service for > 6 months (affecting < 20% of the town/city population)	> 101 dead and/or > 1001 injured
Major (IV)	11-24% of *buildings* of social/cultural significance within hazard zone have functionality compromised	21-49% of *buildings* within hazard zone have functionality compromised	11-24% of *buildings* within hazard zone have functionality compromised	Out of service for 1 week – 1 month (affecting ≥20% of the town/city population) OR suburbs out of service for 6 weeks to 6 months (affecting < 20% of the town/city population)	11 – 100 dead and/or 101 – 1000 injured
Moderate (III)	6-10% of *buildings* of social/cultural significance within hazard zone have functionality compromised	11-20% of *buildings* within hazard zone have functionality compromised	6-10% of *buildings* within hazard zone have functionality compromised	Out of service for 1 day to 1 week (affecting ≥20% of the town/city population) OR suburbs out of service for 1 week to 6 weeks (affecting < 20% of the town/city population)	2 – 20 dead and/or 11 – 100 injured
Minor (II)	1-5% of *buildings* of social/cultural significance within hazard zone have functionality compromised	2-10% of *buildings* within hazard zone have functionality compromised	1-5% of *buildings* within hazard zone have functionality compromised	Out of service for 2 hours to 1 day (affecting ≥20% of the town/city population) OR suburbs out of service for 1 day to 1 week (affecting < 20% of the town/city population	1 dead and/or 1 – 10 injured
Insignificant (I)	No *buildings* of social/cultural significance within hazard zone have functionality compromised	< 1% of affected *buildings* within hazard zone have functionality compromised	No damage within hazard zone, fully functional	Out of service for up to 2 hours (affecting ≥20% of the town/city population) OR suburbs out of service for up to 1 day (affecting < 20% of the town/city population	No dead No injured

When assessing consequences within this matrix, the final level of impact is assessed on the 'first past the post' principle, in that the consequence with the highest severity of impact applies. For example, if a *natural hazard* event resulted in moderate severity of impact across all of the categories, with the exception of critical *buildings* which had a 'major' severity of impact, the major impact is what the proposal would be assessed on. If a *natural hazard* event resulted in all of the consequences being at the same level (for example, all of the consequences are rated moderate), then the level of consequence is considered to be moderate.

When this assessment is being undertaken in accordance with HAZ-NH-M3(7)(a) or HAZ-NH-M4(7)(a) the text within Step 2 shall guide the assessment of *natural hazard* consequence.

Step 3 – Assessing activities for *natural hazard risk*

Using the information within steps 1 and 2 above, and Table 8, assess whether the *natural hazard* scenarios will have an acceptable, tolerable, or significant *risk* to people, property and communities, by considering:

(1) the *natural hazard risk* identified, including *residual risk*,

(2) any measures to avoid, remedy or mitigate those *risks*, including relocation and recovery methods,

(3) the long-term viability and affordability of those measures,

(4) flow on *effects* of the *risk* to other activities, individuals and communities, and

(5) the availability of, and ability to provide, *lifeline utilities*, and essential and emergency services, during and after a *natural hazard* event.

Table 8: Risk table

Likelihood	**Consequences**				
	Insignificant	Minor	Moderate	Major	Catastrophic
Almost certain					
Likely					
Possible					
Unlikely					
Rare					
Green, Acceptable *Risk*: Yellow, Tolerable *Risk*: Red, Significant *Risk*					

Notes:

Table 8 above has been included as a region-wide baseline. As set out in HAZ–NH–M2(1) *local authorities* are required to undertake a consultation process with communities, stakeholders and partners regarding *risk* levels thresholds and develop a *risk* table at a district or community scale. This region-wide baseline is to be used in the absence of a district or community scale *risk* table being developed.

When this assessment is being undertaken in accordance with HAZ-NH-M3(7)(a) or HAZ-NH-M4(7)(a) the text within Step 3 shall guide the assessment of *natural hazard risk*.

Step 4 – Undertake a quantitative *risk* assessment

While Steps 1-3 will qualitatively categorise *natural hazard risk* based on a community's understanding and acceptance level of *risk*, it will not provide quantitative understanding of the *risk* a *natural hazard* presents to the built environment, or health and safety.

If the assessment undertaken in Steps 1-3 determines that one of the three *natural hazard* scenarios generate *risk* that is significant, undertake a quantitative *risk* assessment utilising the following methodology:

(1) Based on the likelihood of a *natural hazard* event within the hazard zone (see Step 1), and including the potential impacts of *climate change* and sea level rise, select a representative range

of at least five hazard scenarios with varying likelihoods to model,[50] including the maximum credible event.

(2) Model the Annual Individual Fatality Risk (AIFR)[51] and Annual Property Risk (APR)[52] for the range of hazard scenarios across the hazard zone, and create loss exceedance distributions.

(3) Analyse loss exceedance distributions and determine losses.

(4) Implementing a first-past-the-post principle for the AIFR and APR:

(a) for areas of new development where the greatest AIFR or APR is:

(i) less than 1×10^{-6} per year, the *risk* is re-categorised as acceptable,

(ii) between 1×10^{-6} and 1×10^{-5} per year, the *risk* is re-categorised as tolerable, or

(iii) greater than 1×10^{-5} per year, the *risk* is re-categorised as significant.

(b) for areas with existing development, where the greatest AIFR or APR is:

(i) less than 1×10^{-5} per year, the *risk* is re-categorised as acceptable;

(ii) between 1×10^{-5} and 1×10^{-4} per year, the *risk* is re-categorised as tolerable; or

(iii) greater than 1×10^{-4} per year, the *risk* is re-categorised as significant.

(5) Following the quantitative *risk* assessment, a *risk* level is assigned to the hazard area.

AIFR and APR are the selected *risk* metrics as they represent the likely consequences of a wide range of *natural hazards*. For example, some *natural hazards*, generally, do not have the capacity to cause fatalities, but may result in widespread damage to property, while other *natural hazards* have a high capacity to cause fatalities. A first-past-the-post principle to the re-categorisation of *risk* is applied to ensure that decisions are based on the greatest *risk* present between the two metrics.

If the level of knowledge or uncertainty regarding the likelihood or consequences of a *natural hazard* event precludes the use of Step 4, then a precautionary approach to assessing and managing the *risk* should be applied, as set out in HAZ–NH–P5.

[50] The model should include an analysis of uncertainty
[51] Annual probability that an individual most at risk is killed in any one year as a result of the hazards occurring
[52] Annual probability of total property loss (relating to permanent structures) as a result of the hazards occurring

Appendix D: Flood Hazard Assessment Report

GEOSOLVE

Flood Hazard Assessment for Resource Consent

Shannon Farm Subdivision

112 & 144 Ripponvale Road,

Cromwell

Report prepared for:

New Zealand Cherry Corp (Leyser) GP Limited

Report prepared by:

GeoSolve Limited

Distribution:

New Zealand Cherry Corp (Leyser) GP Limited

Clarke Fortune McDonald & Associates (CFMA)

GeoSolve Limited (File)

November 2022

GeoSolve Ref: 180137.03

Revision	Issue Date	Purpose	Author	Reviewed
1	09/10/2018	DRAFT for Client review	DAH	EGM
2	25/10/2018	FINAL	DAH/EGM	
3	31/10/2018	Updated following site meeting with Paterson Pitts	DAH	EGM
4	25/03/2019	FINAL issue to client	DAH/EGM	
5	24/05/2019	Updated with new structure plan	DAH/EGM	
6	10/11/2022	Updated for resource consent	DAH/EGM/JAS	HS

GEOTECHNICAL WATER RESOURCES PAVEMENTS

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1 Introduction

1.1 General

This report presents the results of a flood hazard assessment carried out by GeoSolve Ltd for Shannon Farm Subdivision, Cromwell. This report is an update of GeoSolve report, Ref No.180137.01 and dated May 2019, which was prepared to inform the private Plan Change (PC14) application. The purpose of this updated report is to evaluate flooding potential at the site with respect to the current scheme plan and is intended to support a resource consent application for subdivision to the Council authority.

Photo 1. Aerial photograph indicating the subdivision boundaries at 112 & 144 Ripponvale Road, Cromwell.

The assessment was carried out for New Zealand Cherry Corp (Leyser) GP Limited in accordance with the terms and conditions outlined in GeoSolve Ltd.'s proposal, Ref No. 180137.03 and dated 19th of September 2022.

Our assessment involved the following:

- A walkover inspection of the site by a senior water resources engineer;
- Evaluation of catchment areas and hydrological parameters;
- Estimation of design rainfall intensities and flood flows;
- Identification of areas potentially affected by flooding; and,
- Discussion of possible mitigation options as required.

This report should be read in conjunction with the resource consent geotechnical report.

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1.2 Site and Proposed Development

The subject property is located immediately north of Ripponvale Road northwest of Cromwell Township.

The plan change application to council for rezoning of the subdivision area, as reported on previously by GeoSolve, has been successful. It is now proposed to apply for subdivision resource consent. The development comprises an extensive rural residential subdivision, being a subdivision of several existing farmed allotments.

A subdivision scheme and earthworks plan with lot numbers, produced by Clark Fortune McDonald Associates (CFMA), are provided in Appendix A which outline the extent and layout of the proposed development. Two of the existing farm irrigation dams are designated for residential development and will be decommissioned and backfilled with certified engineered fill.

The southern portion of the property is sub-horizontal to gently inclined while moderate to steeply inclined slopes and ridgelines surround the development from the southwest through to the northeast, as shown on Photo 1.

The present land use consists of a working farm with the flatter land irrigated by border-dykes and spray irrigation. There are several orchard blocks that are generally spray irrigated. Most of the irrigation water is supplied by the Ripponvale Irrigation Company (RIC) water race which utilises pumped supply from the Kawarau River. Several historic disused and currently active water races are present within the property which can intercept runoff from land above and divert this to other parts of the property. Such runoff could be irrigation water or overland flow during heavy rainfall.

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2 Catchments

There are four main catchments here termed the Southwestern, Western, Northern, and Eastern gullies. Catchment boundaries, together with smaller internal catchment areas, are shown in Figure 1 on the following page.

Table 1. Catchment particulars.

Catchment	Area (ha)	Length (m)	Max Elevation (mRL)	Outlet Elevation (mRL)	Elevation Difference (m)	Average Slope (%)	Soil Type
Southwestern	73	1,850	790	300	490	26	Arrow
Western	131	2,675	872	278	594	22	Arrow + Annan
Northern	20	825	520	290	230	28	Shallow sandy
Eastern	72	1,435	410	250	160	11	Clare & Letts shallow sand-sandy loam
SW above race Abattoir	8	400	420	295	125	31	Annan mod deep fine sandy loam
NE above race	65	500	420	300	120	24	Clare & Letts shallow sand-sandy loam
Border dyked paddocks per ha	1					5	Annan & Waenga sandy loam

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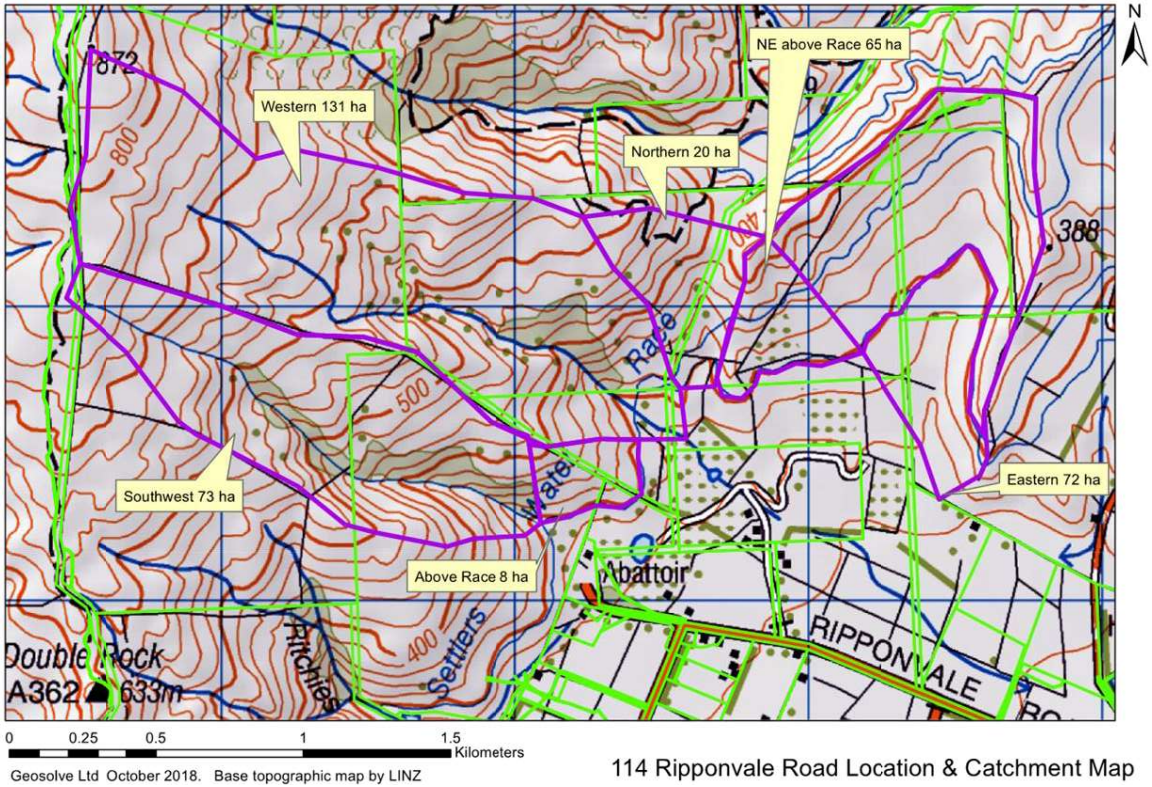

Figure 1. Location and catchment map.

3 Design Floods

3.1 Previous Flood Observations

During flooding in November 1999, the property owner, who had been on the property since the early 1970's, estimated that he observed [at an unspecified location] a peak flow of approximately 15 heads (0.4 m^3/s) down the Western gully which is considerably less than that estimated in Table 2. We have no way of verifying the accuracy of these observations or whether flows had already reduced by some mechanism upslope, i.e., via overspill or diversion.

It is considered that these observations are anomalously low, considering that peak floods in Central Otago catchments are typically in the order of 1 m^3/s per km^2 but are variable. Although the 1999 flood, generally accepted to be the flood of record, was in the order of a 100-year flood in major catchments (owing to snowmelt etc.), this did not necessarily apply in smaller catchments such as on this site. For this event the short-duration, high-intensity floods that will generate large peak runoffs were not particularly high during this event either, hence greater flows are likely to apply for a design 100-year flood.

Where there are defined hill catchments leading to a valley floor the pattern of drainage and therefore flood flow is self-evident and could be observed on site. Once however, floodwater is captured by water races the exit point, if such races reach full capacity, can vary depending on what state the races have been maintained and managed prior.

Gate structures can be altered, and flows distributed in several directions. Branches, debris, dead animals, etc. can accumulate and block culverts resulting in overspill. If purposefully manipulated however, the flows could be spread out to minimise concentrated flows at any one point (as apparently occurred during the 1999 floods) – refer photos 2 & 3 on the following page.

Floods would have normally been actively managed in this manner under the previous land use, by sharing flood flows between the dams and upslope water races to reduce flooding effects downslope. However, this is unlikely to be available following subdivision development. Furthermore, the pattern of flooding will be modified depending on the final road and earthworks layout.

Capacity of the sidling water race heading northeast past the main farm buildings is estimated to be 1.5 m^3/s on a much flatter gradient S=0.0063, bottom width 0.6 m, top width 2.5 m and 0.9 m deep. We understand this water race will be retained and will remain active following completion of the subdivision to supply the neighbouring cherry orchards to the southeast. 450 mm diameter concrete culverts within the water races will have a capacity of approximately 110-170 l/s (~4 to 6 heads in irrigation terms) depending on slope and may choke with debris or attenuate incoming flows. It is proposed to transfer the existing water race alignment around Lots 89-95 via a below ground pipeline, as indicated on the subdivision scheme plan attached in Appendix A.

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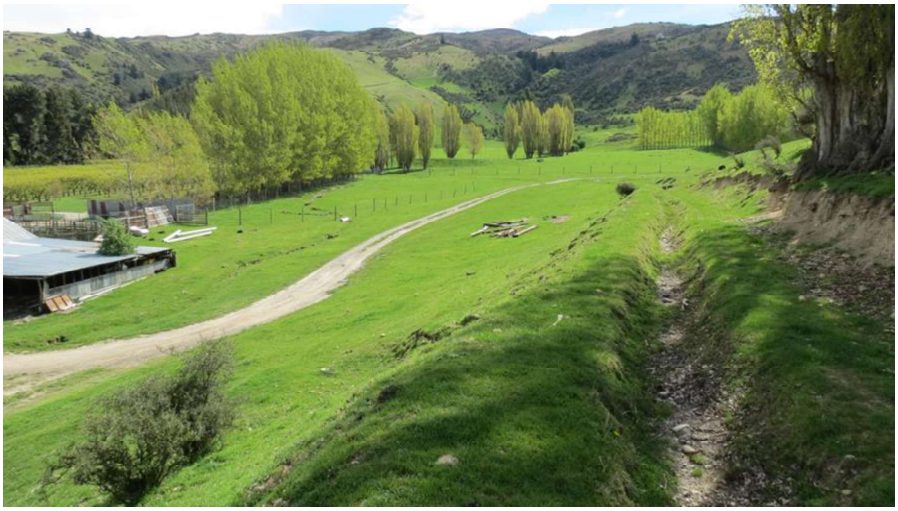

Photo 2. Looking along the northeast sidling water race up the western gully, irrigation dam in middle distance. The flood flow path runs between the road and farm building on the left of image.

Photo 3. Water race downstream of the western gully outflow. The 450 mm diameter culvert shown in image could block with debris and overtop.

3.2 Flood Parameters

The NZ Building Code Clause E1.3.2 Surface Water requires that *"Surface water, resulting from an event having a 2% probability of occurring annually, shall not to enter buildings."* This applies to housing, communal residential and communal non-residential buildings.

NZS 4404:2010: Land Development and Subdivision Engineering clause 4.3.5.2 states:

"4.3.5.2 Freeboard The minimum freeboard height additional to the computed top water flood level of the 1% AEP design storm should be as follows or as specified in the district or regional plan:

	Minimum Height Freeboard
Habitable dwellings (including attached garages)	*0.5 m*
Commercial and industrial buildings	*0.3 m*
Non-habitable residential buildings and detached garages	*0.2 m*

The minimum freeboard shall be measured from the top water level to the building platform level or the underside of the floor joists or underside of the floor slab, whichever is applicable."

The Standard also states in Table 4.1 that the recommended annual exceedance probability (AEP) for primary systems where no secondary flow path is available should be the 1% AEP flood event.

For the purposes of this report the 1% AEP event has been used. An allowance for climate change has also been provided based on an 8% increase in high intensity rainfall per degree Celsius rise in predicted mean annual temperature.

3.3 High Intensity Rainfall

The National Institute of Water and Atmospheric Research (NIWA) provides information through their web application High Intensity Rainfall Design System (HIRDS)[1]. The rainfall Depth-Duration-Frequency information has been obtained for the climate change scenario of a 2-degree rise in mean annual temperature.

The rainfall for durations of up to one hour are plotted for the 1% AEP event. This is shown in Figure 2 below.

[1] https://hirds.niwa.co.nz/

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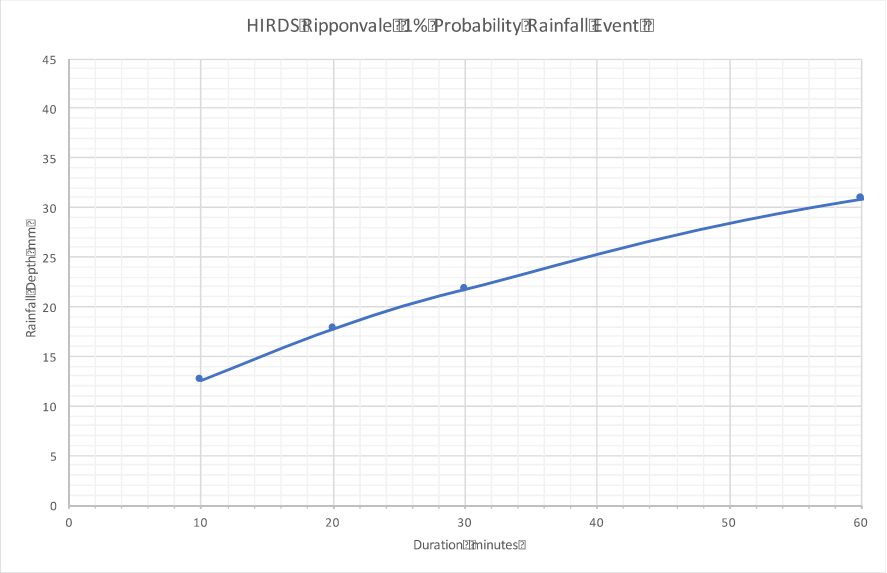

Figure 2. High Intensity Rainfall data for 1% AEP event (Source: https://hirds.niwa.co.nz/).

3.4 Design Flood Flows

One method to estimate flood flows for a design storm is the Rational Method which is based on a runoff coefficient C, time of concentration and rainfall intensity. The time of concentration represents the time it takes for the entire catchment area to be full contributing to the flood flow and is estimated using catchment characteristics such as surface cover, soil types, length of catchment and slope.

A second method available is using Stream Explorer[2] software from NIWA and the Pearson Method (1991). This has derived specific discharge figures of 1.4 to 2.4 $m^3/s/km^2$ that are generally lower than the Rational method even though they have also been adjusted for the 2-degree climate change scenario. The higher Pearson method figure has been used. For the purposes of this report the two method estimates have been averaged as shown in the last column of Table 2.

Table 2 shows the derivation of the flood flows for the catchments in Table 1.

A check has been made using the most up-to-date Henderson & Collins (2018) method developed by NIWA, accessible through the web-based application on the NIWA website[2]. Results indicate the adopted flood estimates are conservative, which is appropriate in this context.

[2] *New Zealand River Flood Statistics, based on the Henderson & Collins 2018 Method:* https://niwa.maps.arcgis.com/apps/webappviewer/index.html?id=933e8f24fe9140f99dfb57173087f27d

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Table 2. Flood estimates for 1% AEP flood including allowances for climate change.

Catchment	Area (ha)	Rational Method including 2° climate change					Peason (1991) Method Q m^3/s	Average Q m^3/s	Check[1]
		Runoff Coefficient c	Time of concentration Tc minutes	Rainfall Depth (mm)	Rainfall intensity i mm/hr	Flood Flow Q m^3/s			
Southwestern	73	0.4	27	20.8	47	3.81	2.03	2.92	0.78
Western	131	0.4	35	23.5	40	5.85	3.65	4.74	1.12
Northern	20	0.4	19	17.2	56	1.23	0.56	0.90	
Eastern	72	0.35	27	20.8	46	3.22	2.00	2.61	0.73
SW above race Abbattoir	8	0.4	15	14.8	61	0.54	0.22	0.38	
NE above race	65	0.4	16	15.8	58	4.16	1.81	2.98	
Border dyked paddocks per ha	1	0.3	13	13	59	0.05	0.03	0.04	

[1]Check based on the web-based "Regional Flood Estimation Tool" developed by Henderson & Collins (2018) correlating relative catchment areas A_1/A_2^0.8 and including a 25% factor for climate change
https://niwa.maps.arcgis.com/apps/webappviewer/index.html?id=933e8f24fe9140f99dfb57173087f27d

Design flood flow estimates are considered to allow for sediment entrainment within floodwater.

4 Areas Potentially Affected by Flooding

4.1 General

We have updated this report based on the current scheme plan for the subdivision. The original development Structure Plan for the plan change application, showed a no-build "open space and stormwater corridor" at least 20 m wide. GeoSolve recommended that flood channels should be formed within this corridor, with minimum dimensions as below. The current scheme plan generally provides for this corridor, although its width has been reduced to around 15 m (refer Appendix A). The reduced width is considered acceptable as it is still sufficient to accommodate the recommended channel dimensions of a 3 m bottom width channel, 0.6 m deep with 2.0: 1.0 (horizontal to vertical) batters plus a substantial berm on either side. This is a designated no-build zone and culvert sizes should be as recommended in this report. Culverts on this main channel should be designed to accommodate 5.6 m^3/s (Western plus the Northern catchments) so should be a nominal 1600 mm to 1800 mm diameter pipe, depending on depth of cover. The Northern catchment flood channel zone can be formed with a nominal 1 m bottom width and 0.5 m deep grassed swale, although we note an access road for Lots 72-74 is proposed in the base of the gully. Design of this road will need to account for the conveyance of upstream stormwater runoff.

A formed floodwater channel previously existed along the south-eastern property boundary within the newly formed cherry orchard. This channel will be translated approximately 430 m to the northwest along the south-eastern edge of the residential subdivision, as indicated on Figure 3 below and Appendix A. The proposed flood channel zone will discharge into a stormwater retention basin then overflow into the swale along Ripponvale Road so that original outflow locations from the property will remain relatively similar. The construction of a floodwater channel is also proposed to divert flows from the Southwestern gully around Lots 96, 97 and 301 along Ripponvale Road (refer Appendix A). Further analysis and engineering assessment of stormwater retention basins will be required during detailed design.

Appendix A presents the existing flows paths and areas potentially subject to inundation. As part of the development, water race structures including culverts will need to be cleaned out and maintained.

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Figure 3. Previous and proposed flood channel discharge points from the property.

In general, it will be possible to elevate building platforms above active watercourses. Accordingly, most lots will only require a minimal level of flood protection to deal with localised shallow runoff, such as establishing minimum floor levels above surrounding ground as outlined in Section 3.2. The CODC minimum floor level is 300 mm above natural ground, but in some cases, this will need to be greater. Additional measures such as instream channel deepening, training and bunding works will also be required at the Southwestern and Western fan apexes to safely convey flood flows past building platforms on Lots 75-77, 96, 97 and 301. Further details of these works will be provided during the detailed design phase.

Those building platforms situated at the base of slopes or on slopes requiring excavation (cut and fill) should incorporate a stormwater catch drain upslope of the dwelling to divert slope runoff. This is particularly important for any dwellings situated at the base of an ephemeral flow path i.e., the building platforms on the north-eastern edge of subdivision.

As previously noted, the old water races around the hill slopes can intercept runoff from the slopes above and redirect those flows. It is recommended that lowered sections of the downstream race bank be formed and grassed at larger watercourses so that if the old races become full, they can overflow at known and manageable locations. If dwellings are sited away from flood flow paths, then this will reduce the chances of them being affected by breakout at unexpected locations.

Shallow, grassed swales and roadside stormwater drains are expected in these rural type subdivisions to deal with shallow runoff. Roadside culverts and drainage infrastructure should be designed to accommodate any upstream catchment as is standard practice.

Confirmation of the final earthworks plan and building platform locations could be assisted by the development of a hydraulic model during detailed design to ensure that conveyance systems and minimum floor levels are appropriately set.

4.2 Specific Issue – Downstream of Irrigation Dams

Three irrigation dams of note are present on the site as illustrated below on Figure 4. These dams will be decommissioned and backfilled as part of the development.

Figure 4. Location of three existing irrigation dams to be removed, circled in red.

It is recommended that backfilling of the dams occurs at the beginning of subdivision earthworks. If these dams were to fail either during normal operation via piping or an extreme weather event, they could initially present a temporary short-term flood hazard to the land and subdivision Stages 1-4 immediately downstream prior to being backfilled (refer Appendix A). This flood hazard would be additional to the hazard from stormwater runoff discussed previously, although the incremental increase in hazard may only be small.

The largest of the dams is located at the base of the Southwestern catchment and is fed by the RIC water race as well as natural outflow from the gully.

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Depending on when these dams are backfilled, future building sites immediately downstream may initially require specific engineering works to manage flood risk. Conceptually, this may involve a flood diversion swale and bund upstream of building sites and/or a suitable minimum flood level established above the potential floodplain level to accommodate shallow flows arising from a potential dam failure. Final solutions should be confirmed during the detailed design stage if necessary.

5 Conclusions

Four main catchments are identified at the site. Flood flows from these catchments were estimated for a 1% AEP flood event using the Pearson (1991) method and Rational Method, with a check using the new Henderson & Collins (2018) method.

The current scheme plan allows for a stormwater corridor, albeit slightly reduced, capturing the Western and Northern catchments that will be directed into a channel and retention basin reformed along the south-eastern boundary. Culverts on the main channel should be designed to accommodate 5.6 m^3/s. Roadside infrastructure should be designed to accommodate any upstream catchment as normal. Culverts, channels, water races and pipelines should be inspected annually and after significant flood events for blockage, erosion, or siltation. Any damage should be promptly remediated.

Minimum floor level requirements will need to be confirmed at the detailed design / building consent stage for Lots 5 & 6, 17, 32, 75-77, 96, 97, 301 and 701. In most cases little or no elevation above existing ground level is expected over and above standard building practice. Additional measures such as instream channel deepening, training and bunding works may also be required at the Southwestern and Western fan apexes to safely convey flood flows past building platforms on Lots 75-77, 96, 97 and 301. These instream channel works will be designed to account for entrainment of sediment within floodwater. Further details of these instream works can be provided during the detailed design phase.

The three existing irrigation dams initially present an additional flood hazard to the land and subdivision Stages 1-4 immediately downstream prior to being backfilled, although the incremental increase in hazard may only be small. It is recommended that backfilling of the dams occurs at the beginning of subdivision earthworks to avoid the need for temporary hazard mitigation.

The below ground water race pipeline around Lots 89-95 will need to be sized during detailed design with sufficient flow capacity. How the water race will cross the Western stream channel also needs to be considered during detailed design.

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6 Applicability

This report has been prepared for the benefit of our client, New Zealand Cherry Corp (Leyser) GP Limited, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.

It is important that we be contacted if there is any variation in site conditions from those described in this report.

Report prepared by:

.....

David Hamilton
Senior Water Resources Engineer

Reviewed for GeoSolve Ltd by:

.....

Hank Stocker
Senior Water Resources Engineer

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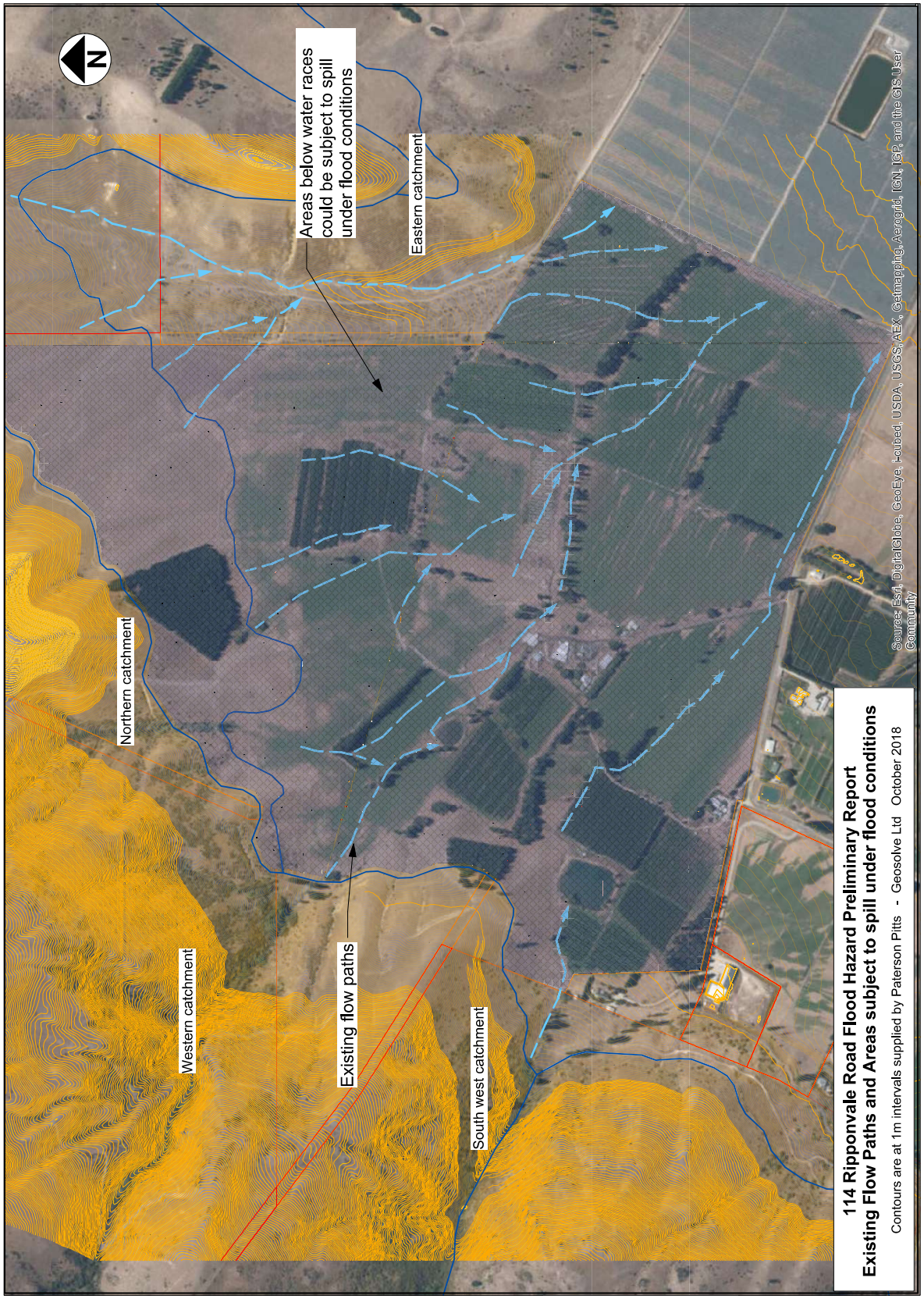
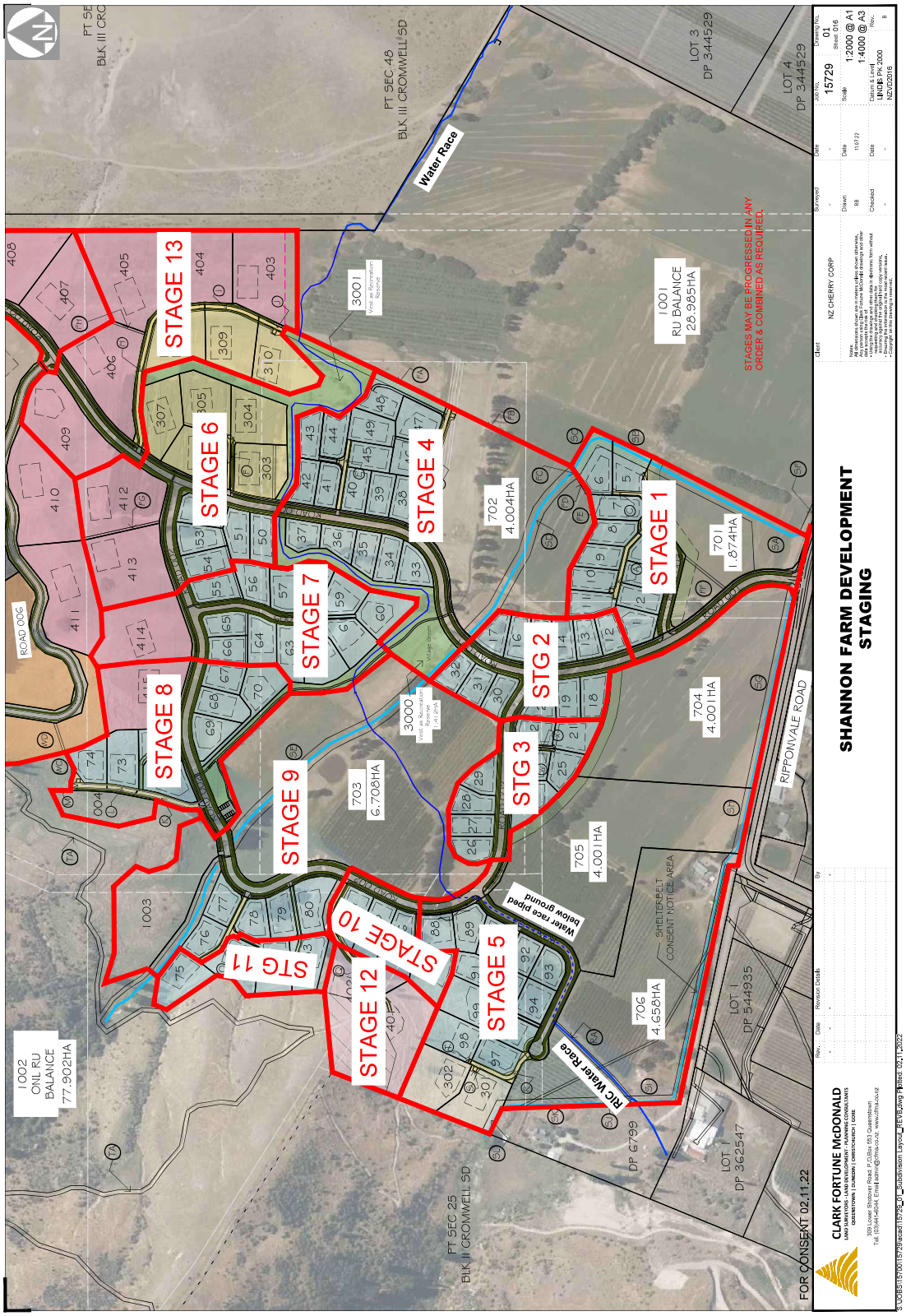
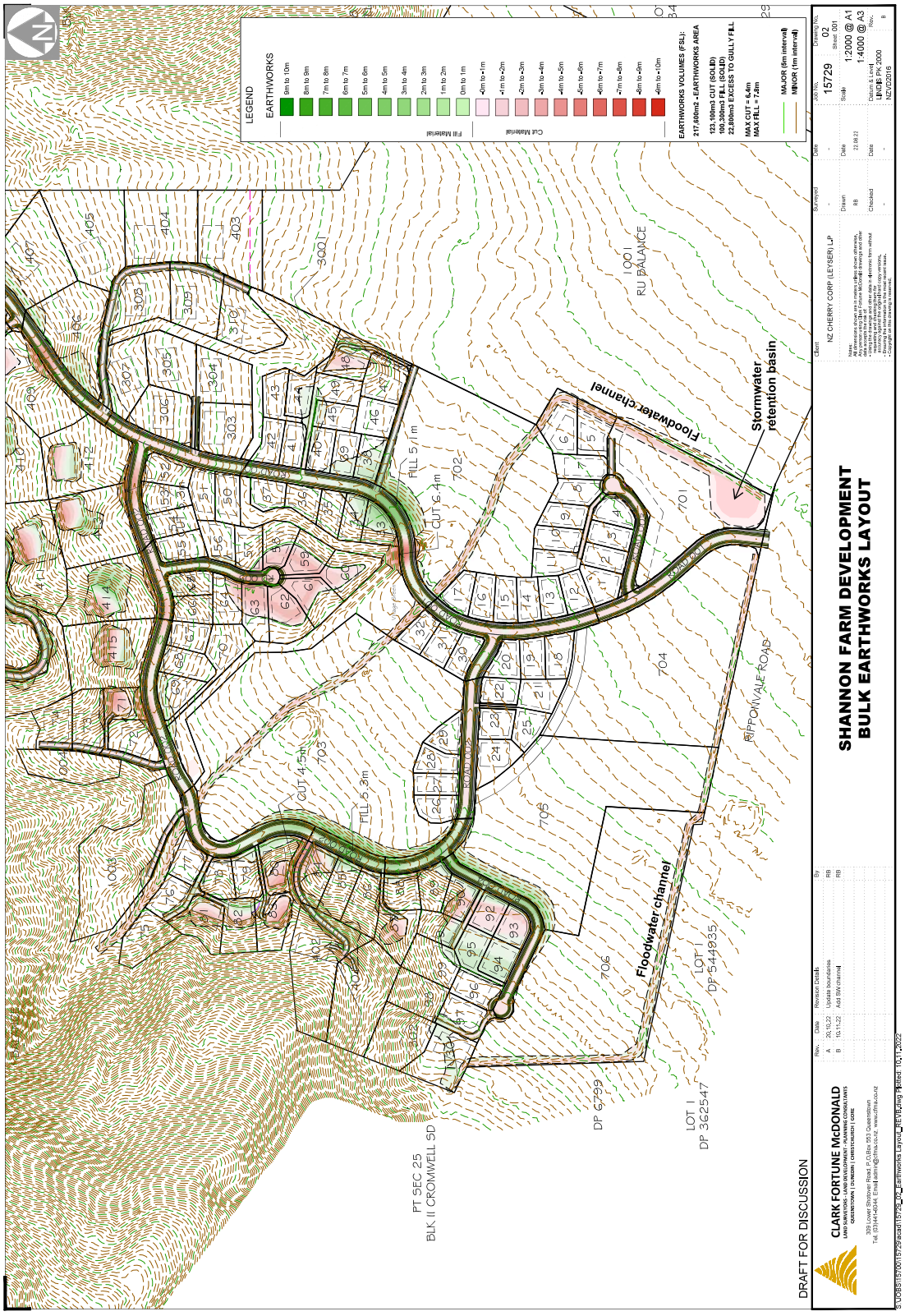
Appendix A: Existing Flow Paths Plan, Subdivision Scheme Plan and Earthworks Plan


N
Areas below water races could be subject to spill under flood conditions
Eastern catchment
Northern catchment
Western catchment
Existing flow paths
South west catchment
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
114 Ripponvale Road Flood Hazard Preliminary Report
Existing Flow Paths and Areas subject to spill under flood conditions
Contours are at 1m intervals supplied by Paterson Pitts - Geosolve Ltd October 2018


SHANNON FARM DEVELOPMENT
STAGING
STAGE 1
STAGE 2
STG 3
STAGE 4
STAGE 5
STAGE 6
STAGE 7
STAGE 8
STAGE 9
STAGE 10
STG 11
STAGE 12
STAGE 13
STAGES MAY BE PROGRESSED IN ANY ORDER & COMBINED AS REQUIRED.
1001 RU BALANCE 28.985HA
1002 CNL RU BALANCE 77.902HA
701 1.874HA
702 4.004HA
703 6.708HA
704 4.001HA
705 4.001HA
706 4.658HA
3001
3000
Water Race
RIPPONVALE ROAD
SHELTERBELT CONSENT NOTICE AREA
RIC Water Race
Water race piped below ground
LOT 3 DP 344529
LOT 4 DP 344529
LOT 1 DP 544935
LOT 1 DP 362547
DP 6799
PT SEC 48 BLK III CROMWELL SD
PT SEC 25 BLK II CROMWELL SD
ROAD 006
FOR CONSENT 02.11.22
CLARK FORTUNE McDONALD
NZ CHERRY CORP
15729
1:2000 @ A1
1:4000 @ A3
LINDIS PK 2000
NZVD2016


LEGEND
EARTHWORKS
Fill Material
Cut Material
EARTHWORKS VOLUMES (FSL):
217,600m2 - EARTHWORKS AREA
123,100m3 CUT (SOLID)
100,300m3 FILL (SOLID)
22,800m3 EXCESS TO GULLY FILL
MAX CUT = 6.4m
MAX FILL = 7.8m
MAJOR (5m interval)
MINOR (1m interval)
Floodwater channel
Stormwater retention basin
RIPPONVALE ROAD
PT SEC 25
BLK II CROMWELL SD
DP 6799
LOT 1
DP 362547
LOT 1
DP 544935
DRAFT FOR DISCUSSION
CLARK FORTUNE McDONALD
SHANNON FARM DEVELOPMENT
BULK EARTHWORKS LAYOUT
NZ CHERRY CORP (LEYSER) L.P
15729
02
1:2000 @ A1
1:4000 @ A3

Tonkin+Taylor

19 June 2025
Job No: 1090333.0000

New Zealand Cherry Corp (Leyser) GP Limited
C/- Procon Development Limited
10b McCormick Street
Wanaka 9343

Attention: Mark Tammett

Dear Mark

Shannon Farm Development
Progress on Geotechnical Assessment of the North and West Slopes

Tonkin and Taylor Limited (T+T) is currently undertaking a geotechnical investigation and assessment of the north and west slopes of the Shannon Farm development. This includes the area occupied by proposed Lots167 to 175 shown on the attached plan. This study was commissioned by New Zealand Cherry Corp (Leyser) GP Limited (NZCC) to address the stability and the possible limitations on the development of these slopes, which are identified on geological maps as very large Schist Debris Landslides.

Schist Debris Landslides are characterised by complex arrangements of debris, blocks of rock, shear zones, faults and compartments of pressurised groundwater. They move by very slow creep and slow episodic stick/slip occurring over many thousands of years. The complexity of materials and groundwater can also lead to local slope instability, preferential erosion and debris generation in the toe areas of the landslides. Human modification of these lower slopes can trigger local slope instability and/or reactivation of larger scale slow landslide movement.

T+T with Speight Drilling Ltd has recently completed a geotechnical investigation comprising 5 cored boreholes to a maximum depth of 50m, with installation of piezometers, and the excavation of 10 test pits. An assessment of possible ground displacement in the area from InSAR satellite information between 2014 and 2025 was undertaken by 3Vgeomatics. We are in the process of compiling the information collected from the investigations.

Interpretation of the investigation results and development of geological models is ongoing and will inform the recommendations for future Lot development. Geotechnical recommendations may include but not be limited to:

- The number, size and shape of Lots.
- Limitations on building envelopes within each Lot and/or limits on cut to fill. Placement of imported engineered fill platforms may be recommended to improve slope stability and raise floor levels relative to local stormwater and debris flow paths.
- Geotechnical parameters for cuts, fills and inground structures (e.g. retaining walls).

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- Depending on our completed assessment we may recommend requirements for the foundation systems of dwellings so that they can accommodate small amounts (nominally 100mm) of differential slope movement or subsidence.

Based on observations to date, surficial deposits and landslide debris are relatively thin on the toe slopes, overlying massive Pleistocene gravels (Lowburn Formation) which are deformed/tilted against the Pisa fault. Groundwater is almost absent from the investigation observations (to be confirmed by piezometer information). An interpretation can be made where the Schist Debris Landslides were active in past glacial cycles (likely >100,000 years ago), possibly extending out over the current toe of the slope, and in the past several 1000 years the landslide debris has been eroded and dissected to expose the underlying Lowburn Formation.

This interpretation suggests, that the larger scale Schist Debris Landslides are relatively benign in terms of hazards to the proposed development. Attention will be required to the triggering of local slope instability by modification of the slopes during lot development, but most geotechnical issues are likely to be accommodated by "good hillside geotechnical engineering practices". This is normal practice with residential development on any slope. The scale of these works will be dependent on how the new owners wish to develop their lot.

We are expecting to provide draft geotechnical reporting and recommendations to NZCC for review by the last week of June 2025. Geotechnical information to support the consenting of proposed Lots will be prepared following NZCC review.

Your Sincerely

Barry McDowell
Principal Engineering Geologist

Reviewed and approved for issue by Clive Anderson

Attachments:

Attachment: Drawing - Shannon Farm Development Lot Layout Overview job 15729-01 (LANDSLIDE LOTS)-007

18-Jun-25
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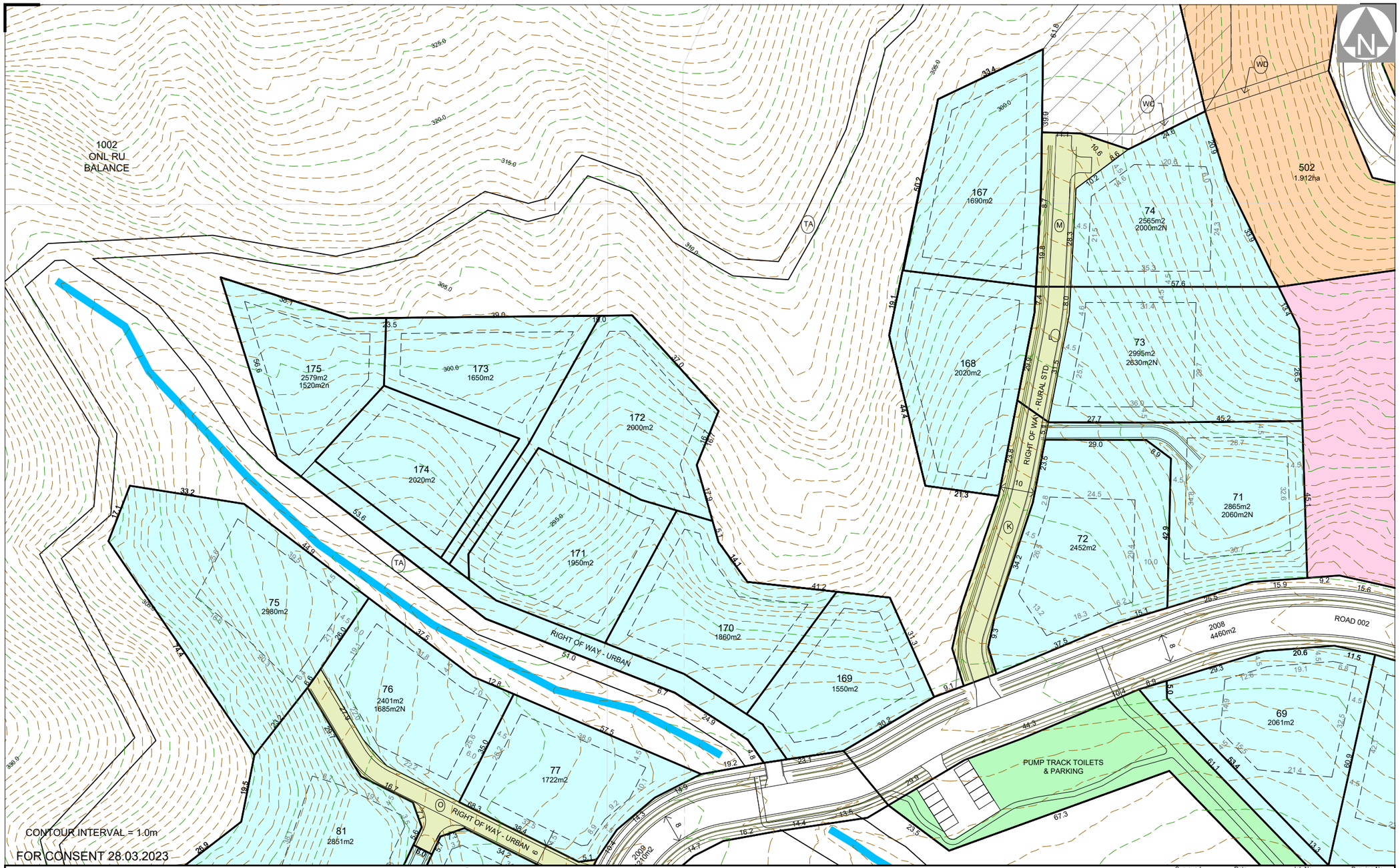

CLARK FORTUNE McDONALD
LAND SURVEYORS - LAND DEVELOPMENT - PLANNING CONSULTANTS
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309 Lower Shotover Road, P.O.Box 553 Queenstown
Tel. (03)441-6044, Email admin@cfma.co.nz, www.cfma.co.nz

Rev.	Date	Revision Details	By
G	17.06.25	ADD LOTS 167-175	RB

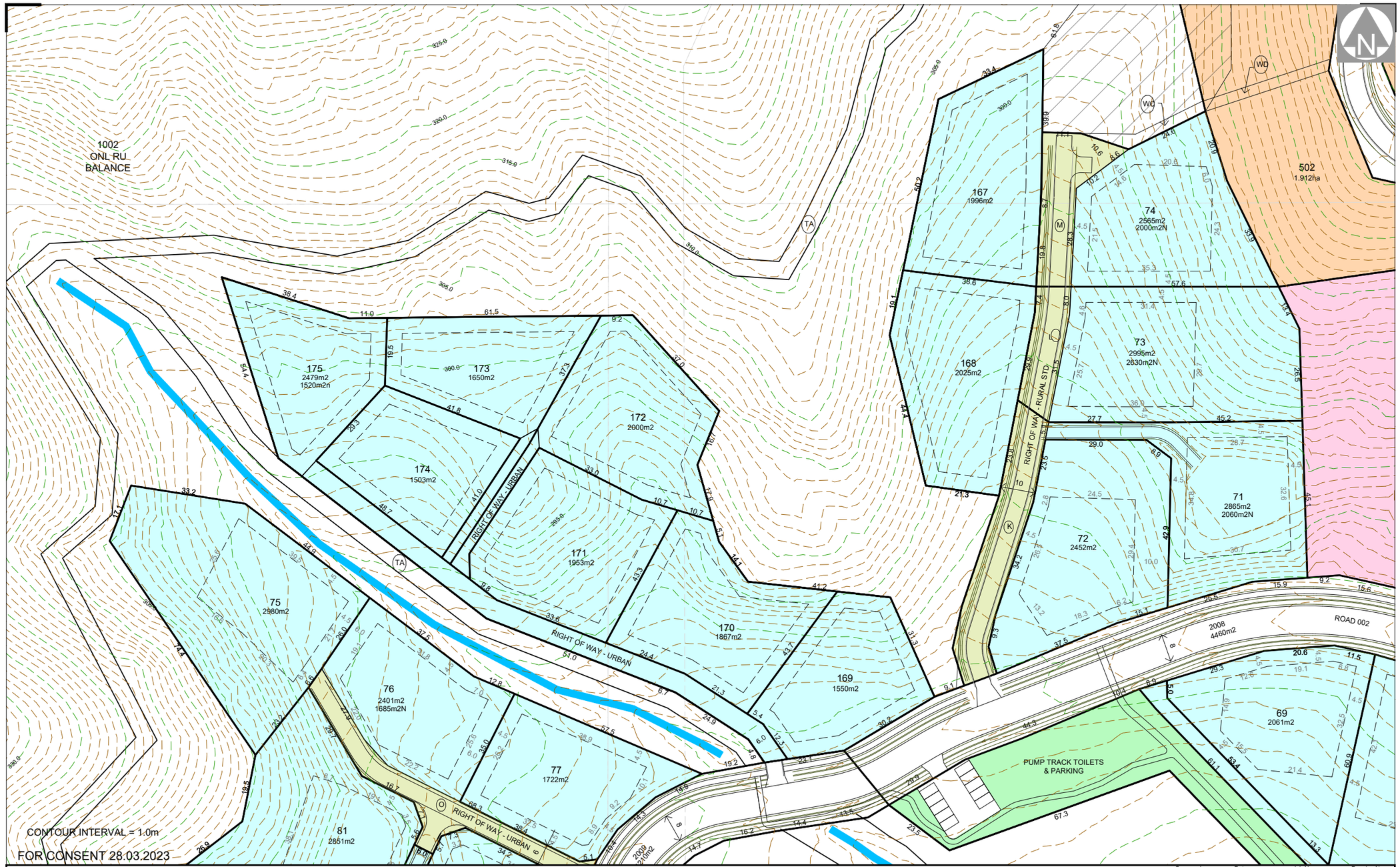
SHANNON FARM DEVELOPMENT

LOTS 1-175, 201-208, 301-310, 401-425, 500-504, 600, 701 -706, 1001-1002, 2000-2014, 3000 -3002 BEING A SUBDIVISION OF SEC 4, PT5, 11, PT25, 27, 28, 54, 98, 100, 102, 101, 103 BLK III CROMWELL SD, PT RUN 1201R & LOT 2 DP 330709

LOT LAYOUT OVERVIEW

Client: NZ CHERRY CORP	Surveyed: –	Date: –	Job No.: 15729	Drawing No.: 01 Sheet 007	
Notes: All dimensions shown are in meters unless shown otherwise. Any person using Clark Fortune McDonald drawings and other data accepts the risk of: - Using the drawings and other data in electronic form without requesting and checking them for accuracy against the original hard copy versions. - Ensuring the information is the most recent issue. - Copyright on this drawing is reserved.	Drawn: RB	Date: 11.07.22	Scale: 1:1 @ A3		
	Checked: –	Date: –	Datum & Level: LINDIS PK 2000 NZVD2016	Rev.: G	

C:\00 transfer Folder\15729_01_Subdivision Layout_REVG (LANDSLIDE LOTS).dwg Plotted: 17.06.2025



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Rev.	Date	Revision Details	By
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SHANNON FARM DEVELOPMENT

LOTS 1-175, 201-208, 301-310, 401-425, 500-504, 600, 701 -706, 1001-994, 2000-2014, 3000 & 3001 BEING A SUBDIVISION OF SEC 4, PT5, 11, PT25, 27, 28, 54, 98, 100, 102, 101, 103 BLK III CROMWELL SD, PT RUN 1201R & LOT 2 DP 330709

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	Checked: –	Date: –	Datum & Level: LINDIS PK 2000 NZVD2016	Rev.: G	

C:\00 transfer Folder\15729_01_Subdivision Layout_REVG (LANDSLIDE LOTS).dwg Plotted: 19.06.2025

Shannon Farm	
Lot #	Total Lot Size m2
1	1762
2	1512
3	1512
4	1523
5	2441
6	2950
7	1900
8	1731
9	1612
10	1665
11	2210
12	1503
13	1512
14	1502
15	1582
16	1571
17	1525
18	1804
19	1559
20	1582
21	2128
22	1510
23	1605
24	2315
25	1760
26	1554
27	1506
28	1552
29	1530
30	1527
31	1533
32	1523
33	1730
34	1595
35	1545
36	1515
37	1500
38	1680
39	1615
40	1615
41	1501
42	1555
43	1818
44	1750
45	1685
46	2030
47	2360
48	2995
49	2686
50	1888
51	1821
52	1910
53	1861
54	1816
55	1885
56	1895
57	1830
58	2062
59	2273
60	2967
61	2595
62	2831
63	2110
64	2054
65	1537
66	1612
67	1668
68	2061
69	2061
70	2805
71	2865
72	2452
73	2995
74	2565
75	2980
76	2401
77	1722
78	1718
79	1817
80	2560
81	2851
82	2891
83	3000
84	2849
85	2275
86	2735
87	2900
88	1918
89	1870
90	1679
91	2140
92	1566
93	1590
94	1774
95	1819
96	1890
97	2450
98	2982
99	2921
167	1996
168	2025
169	1550

170	1867
171	1953
172	2000
173	1650
174	1503
175	2479
Average	1989.96

ASSESSMENT OF ENVIRONMENTAL EFFECTS

112 and 144 Ripponvale Road, Cromwell

New Zealand Cherry Corp (Leyser) Limited Partnership

Our Reference: JW22058

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Appendix [A]	Record of Title
Appendix [B]	Preliminary Geotechnical Advice from RC220396
Appendix [C]	Updated Geotechnical Advice
Appendix [D]	Updated subdivision scheme plan
Appendix [E]	Calculation of average for Lots in RLA 1

1 THE APPLICANT AND PROPERTY DETAILS

Client	New Zealand Cherry Corp (Leyser) Limited Partnership
Address for service	JPW Consulting Limited Jake Woodward jake@jakewoodward.co.nz 022 315 8370
Property Address	112 and 144 Ripponvale Road, Cromwell
Project Description	Variation to RC220396 pursuant to Section 127 of the Resource Management Act 1991 to update the approved scheme plan to allow for additional allotments within Lots 1003 and 1004 Subdivision consent under the provisions of the Central Otago District Plan to establish nine additional allotments within the Rural Lifestyle 1 Area of the Rural Resource Area (5).
Our Reference	JW22058
Date	19 June 2025
Version	2 (4 July 2025)

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2 EXECUTIVE SUMMARY

The applicant holds a comprehensive suite of resource consents to develop land at 112 and 144 Ripponvale Road, Cromwell for a 151-Lot rural residential development, in line with the Rural Resource Area (5) provisions (incorporated by way of Plan Change 14 (PC14)) of the Central Otago District Plan. The subdivision is referred to as Shannon Farm.

PC14, as approved, contemplates the establishment of 160 residential allotments within the designated Rural Lifestyle Areas of the Rural Resource Area (5). However, during the preparation of the underlying subdivision application (RC220396), preliminary geotechnical investigations identified that nine of these 160 allotments were currently unsuitable for residential development due to potential landslide risk. These Lots were subsequently consolidated into Lots 1003 and 1004 as future development Lots as presented under RC220396.

Tonkin & Taylor Limited (T+T) has undertaken further geotechnical investigations and assessment of the northern and western slopes of the Shannon Farm development, including Lots 1003 and 1004. The objective of this work is to evaluate slope stability and identify any limitations on development, particularly in areas mapped as large schist debris landslides.

The T+T investigations confirm:

- No hazard mitigation is required for Fault Rupture, liquefaction or rockfall.
- The specific Lot boundaries as illustrated are appropriate although at the time of development, the actual building platform configuration may change.
- The ground conditions encountered and any engineered fills will be generally suitable for shallow foundations such as slabs on grade, waffle rafts/slabs and pole/pile foundations for suspended floors. Foundation design must be supported by specific professional geotechnical engineering input to ensure that each lot development will meet NZ Building Code requirements.
- Based on T+T's observations, borehole investigations, interpretation of the landslides and support from limited slope stability analysis we consider the risk from creep movement of the landslides to be low. While some creep movement may occur, T+T considers that mitigation measures such as the use of waffle slabs, reinforced gravel rafts, ground beams or other options that are designed to limit damage to the building and can allow for re-levelling should movement occur, is appropriate.
- No mitigation is recommended for potential damage to services and accessways as these can be easily repaired as and when required.
- T+T recommends mitigation measure for debris flows that might be generated in the North and West gullies. These include raising the building platforms and the establishment of bunds to train potential flows into secondary flow paths down the accessways or boundaries.
- T+T recommends mitigation measures to manage the risk of cut slope movement including limiting cut height, restricting cuts into the toe of the historic water race triggered landslide, and retaining.

Overall, T+T have considered the risks associated with developing the sites and have recommended a suite of recommendations to be enshrined as consent notice and subdivision conditions to feasibly mitigate the risks to development. Subject to adherence to their recommendations, T+T considers that the proposed risk mitigation options have been developed with an objective of reducing risk (from slope instability hazards and debris flow hazards) to the extent that it is feasible to develop the Lots, although it is noted that some residual risks will remain. While some residual risks remain, T+T considers these are unlikely events and can be managed through the recommendations as detailed in their assessment, to the extent that they do not consider these to be significant. T+T considers that the specific development recommendations provide the means for mitigating the natural hazard risks in terms of meeting the requirements of Section 106 of the Resource Management Act (1991).

From a policy standpoint, PC14 introduced two key provisions to the District Plan; Objective 4.3.10 and Policy 4.4.18. The proposal, which seeks to develop Lots 1003 and 1004 in line with the densities contemplated in the Rural Lifestyle 1 Area, will be entirely consistent with the broader outcomes sought by these provisions.

The proposal is consistent with the outcomes sought under Part 2 of the Resource Management Act 1991.

3 SITE DESCRIPTION

3.1 SITE DESCRIPTION

The site subject to this application is located at 112 and 144 Ripponvale Road, Cromwell and spans four parcels legally defined in Record of Titles 126180, OT 106/99, OT 7C/632 and OT 7C/633. A copy of the Titles are attached in **Appendix [A]**.

The site is that of the Shannon Farm subdivision, established under Plan Change 14 (PC14) of the Central Otago District Plan. The site is currently under development for 151 residential allotments.

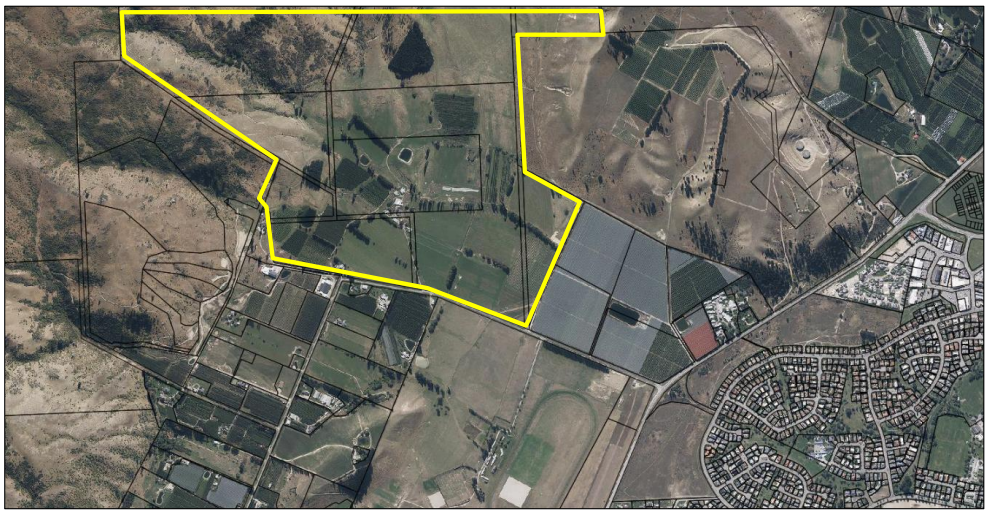


Figure 1: Aerial image of subject site (Image Source: CODC GIS).

3.2 SURROUNDING ENVIRONMENT

The surrounding environment is characterised by a range of land uses and activities.

To the west is that of the Pisa Range and is characterised by an Outstanding Natural Landscape Overlay (ONL). A resource consent (RC230244) was approved to enable the establishment of an extensive mountain-biking trail network across the ONL (as illustrated in Figure 2 below).

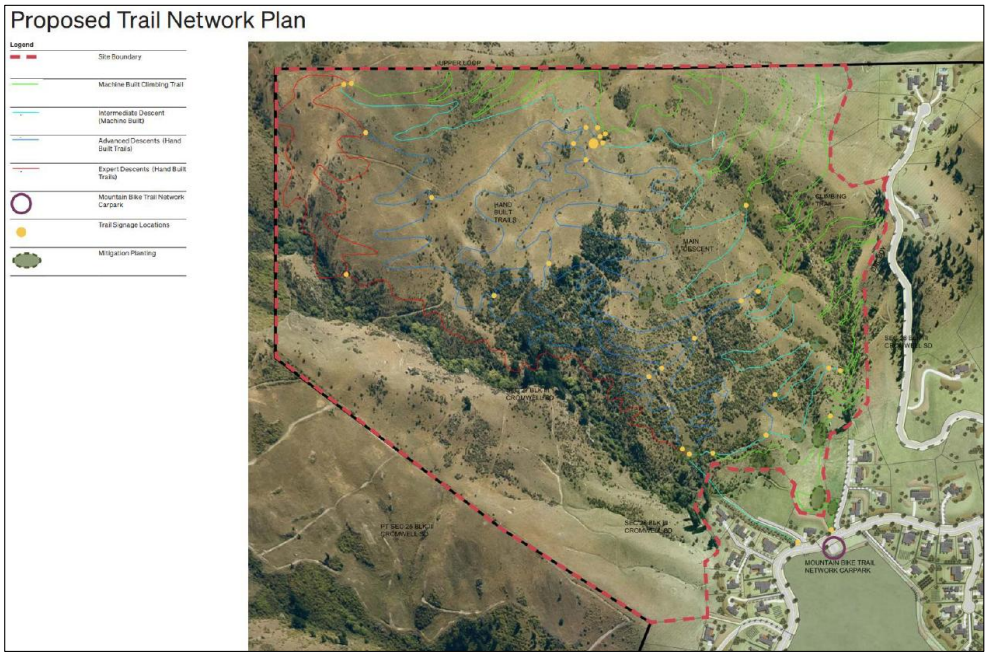


Figure 2: Extract of approved (RC230244) mountain bike trails within the ONL above the subject site.

To the south is the Ripponvale Road area which is characterised by pastoral farmland, vineyards, orchards, and large lifestyle lots. The NZ Cherry Corp orchard lies adjacent to the south-east of the site. Other land uses in the locality include the Cromwell Racecourse and the Cromwell Aerodrome to the south-east of the site, and Rockburn Winery to the southwest.

Ripponvale Road meets State Highway 6 at two intersections, at the western edge of the Cromwell township and also in the south near to the entrance to Kawarau Gorge.

As noted to the immediate south-east of the site is that of the Cromwell Racecourse. Discussion has been taking place for the past few months at the Cromwell Community Board (CCB) about utilising the 93.49-hectare reserve on Ripponvale Road (Cromwell Racecourse Reserve), to meet the future recreational needs of sustained population growth in Cromwell.

The Cromwell Reserves Supply and Demand Assessment (2022) concluded that the current provision of sports fields in Cromwell is insufficient to meet projected population growth and growing participation in field sports. This growth is expected to place significant pressure on existing reserves and infrastructure.

In response to this, Council have notified the Draft Cromwell Racecourse Reserve Management Plan which details possible relocation of the Cromwell sports and recreation areas to the Cromwell Racecourse. Council have preempted this approach through coordinating with the applicant to upsize infrastructure for the Shannon Farm development in anticipation for future growth in the area. An extract of the proposed site plan is reproduced in the following figure:

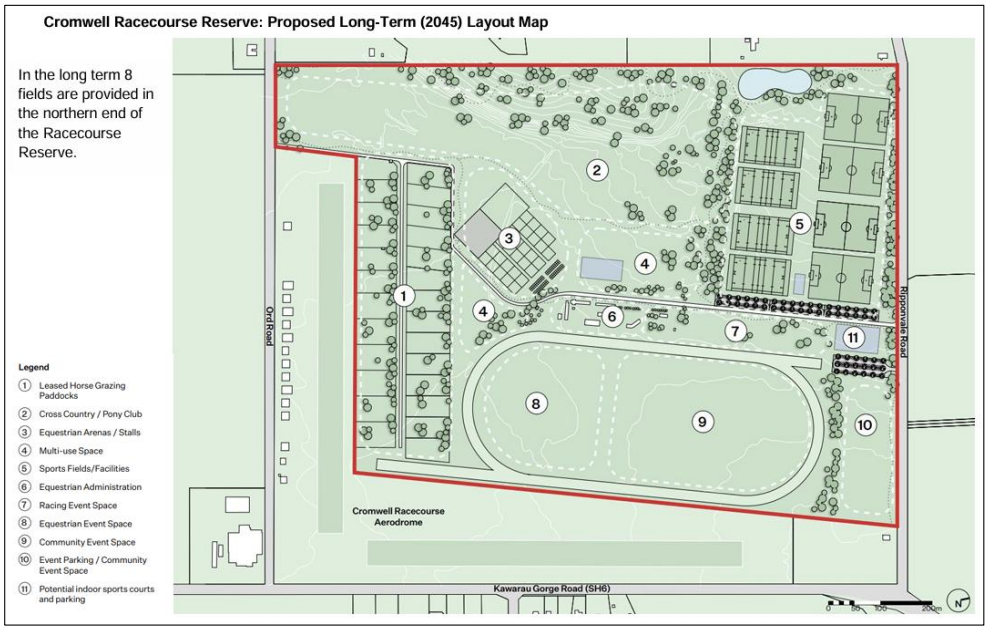


Figure 3: Extract of proposed Long-Term (2045) Layout Map (Source: Draft Cromwell Racecourse Reserve Management Plan).

Beyond the racecourse, there is a steady pattern of subdivision activity along Ripponvale Road, primarily focused on enabling residential lifestyle development in accordance with the Rural Residential subdivision framework of the District Plan, which does not prescribe a minimum allotment size for subdivision. This is evident by the number of resource consent applications that have been approved and steady supply of Lots being created and marketed for sale in recent months.

3.3 RECORD OF TITLE

The sites are legally defined in Record of Titles 126180, OT 106/99, OT 7C/632 and OT 7C/633. A copy of the Titles is attached in **Appendix [A]**. There are no consent notices registered on the Title that are of relevance to this application.

4 RESOURCE MANAGEMENT BACKGROUND

4.1 PLAN CHANGE HISTORY

4.1.1 Plan Change 14

The applicant requested a change to the Central Otago District Plan (Operative District Plan) on 29 May 2019 that was accepted by Council on 14 August 2019 and recorded as Plan Change 14 (PC14).

PC14 sought to enable the subdivision, use and development of approximately 142 hectares of land in the centre of the site to provide for rural lifestyle development, by rezoning to a new Rural Resource Area (5) (RRA(5)).

The Plan Change included a Structure Plan (Schedule 19.23 in the District Plan), identifying varying rural lifestyle density areas, location of primary roads, and 'no build' areas on the higher and more visible hill slopes. Rural lifestyle density areas were proposed primarily to address landscape and visual effects considerations, with higher density development on lower areas in the centre of the site, and lower density development for hill slopes. All residential activity would require resource consent, to enable development controls specific to the proposed development.

PC14 also sought to recognise and provide for the natural landscape values of the Pisa Range through extending the ONL notation, and providing public access to the ONL area (both existing and new). Between the rural lifestyle development and the existing cherry orchard, PC14 would facilitate use of a further 29 ha for horticultural development, as an extension to the existing cherry orchard. Both the ONL and Horticulture Area are included within the Structure Plan and are subject to additional district plan provisions, although they retain their underlying Rural Resource Area zoning.

PC14 was notified on 16 November 2019 and submissions closed 18 December 2020.

The hearing was held remotely over three separate sessions commencing on 25 May 2020 until being adjourned 28 May 2020, reconvened on 9 June 2020 and 5 November 2020. The Commissioners recommendation was issued 3 May 2021 concluding that PC14 not be approved and this recommendation was adopted in its entirety by Council on 6 May 2021.

Subsequently, the applicant appealed Council's decision to the Environment Court (ENV-2021- CHC-073). This appeal was resolved by a joint memorandum that confirmed agreement between parties to:

- Rezone approximately 142 hectares of land to Rural Resource Area (5) to enable rural lifestyle development.
- Provision of Rural Lifestyle Areas with the following densities:

Table 1: Outline of approved minimum and average allotment areas for each of the respective Rural Lifestyle Areas.

RURAL LIFESTYLE ALLOTMENT AREAS	
Rural Lifestyle Area	**Allotment Area**
Rural Lifestyle Area 1	Minimum 1,500m^2 Maximum 3,000m^2 Minimum average[1] 2,000m^2
Rural Lifestyle Area 2	Minimum 3,000m^2
Rural Lifestyle Area 3	Minimum 4,000m^2
Rural Lifestyle Area 4	Minimum 8,000m^2
Rural Lifestyle Area 5	Minimum 3 ha

[1] The calculation of average allotment size in Rural Lifestyle Area 1 shall not include any open space, access way, trail, private road or public road, but shall include any private way. For the purposes of this rule, the terms access way, private road, public road and private way are as defined in section 315 of the Local Government Act 1974.

Rural Lifestyle Area 6	To be held as one allotment
Rural Lifestyle Production Area	Minimum 4 ha, with the exception of the land to the east of the main access road, which shall be held as a single allotment

- Amendment to the Outstanding Natural Landscape and Significant Amenity Landscape notations within the site.
- Insertion of a Structure Plan, Circulation Plan and Planting Schedule in the District Plan appendices.
- Within District Plan Section 4: Rural Resource Area, a new objective and a new policy for Rural Resource Area (5).
- Within District Plan Section 4: Rural Resource Area, new rules and associated provisions for activities within the Structure Plan area.
- Corresponding amendments to the planning maps.

Based upon the terms of agreement above, the appeal was allowed, and a consent order was issued by the Court on 8 April 2022. An extract of the updated planning maps illustrating the extent of the now operative Rural Resource Area (5) and subsequent approved Structure Plan is as follows:

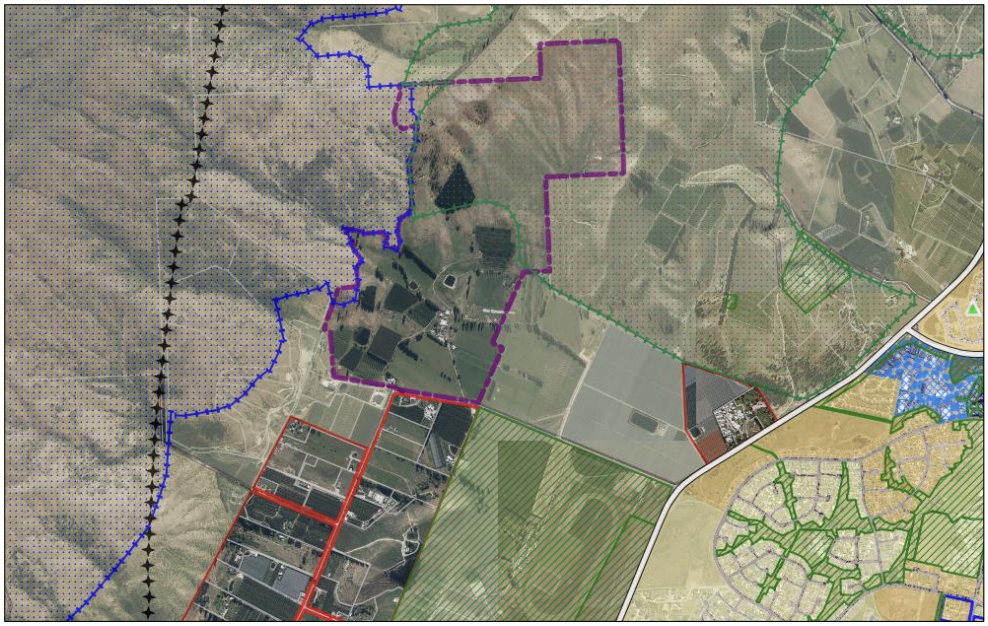


Figure 4: Extent of the Rural Resource Area (5) zone as rezoned by PC14 (Image Source: CODC GIS Planning Maps as at 26 May 2025).

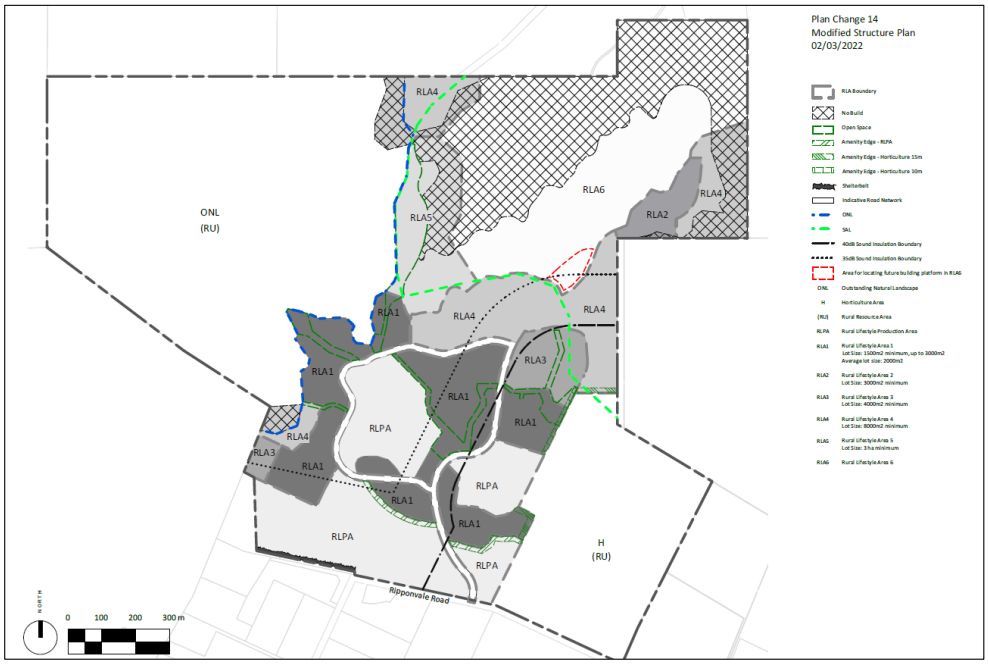


Figure 5: Extract of approved Structure Plan for the Rural Resource Area (5) as attached in Schedule 19.23 of the Central Otago District Plan.

4.1.2 Plan Change 19

Plan Change 19 (PC19) was a major update to the Central Otago District Plan and was driven by the direction set out in the Vincent and Cromwell Spatial Plans. The spatial plans were prepared by Central Otago District Council to respond to demand for residential land and housing affordability concerns in the District, and to plan for the anticipated growth over the next 30 years.

In implementing the direction set out in the two spatial plans, PC19 involved rezoning new land for residential use, identifying some areas for future growth, aligning existing residential zoning with the proposed new zones, and includes new provisions for managing land use and subdivisions within the residential zones.

PC19 was declared partially operative on 7 November 2024 although with a few specific provisions still under appeal.

Within the Cromwell Ward, PC19 authorised the re-zoning of some rural areas of land to different residential densities in the Bannockburn, Lowburn and Pisa Moorings area. The densities approved under PC19 are summarised as follows:

- Medium Density Residential being 200m^2
- Low Density Residential being 400m^2 (although currently under appeal to reduce to 250m^2)
- Large Lot Residential being 1,500m^2 (although currently under appeal to reduce to 1,000m^2)

- Large Lot Residential Precinct 1 being 1,000m^2
- Large Lot Residential Precinct 2 being 3,000m^2; and
- Large Lot Residential Precinct 3 being 5,000m^2 (although currently under appeal to reduce to 4,000m^2).

PC19 does not affect the subject site specifically, but is of relevance to the understanding of the wider planning framework that pertains to the residential areas of the Central Otago District and Cromwell more specifically.

4.1.3 Rural Resource Area District Plan Review

Central Otago District Council are currently in the process of considering the Rural Resource Area chapter of the Central Otago District Plan and have recently begun consultation with key stakeholders, industry groups and the wider community (through community sessions). Council anticipates the formal notification of the Rural Resource Area chapter review in mid to late 2026 which is expected to consider the Ripponvale area surrounding the subject site.

4.2 RESOURCE CONSENTS HISTORY

There are a number of resource consent applications noted on the property file for the site. The following resource consents are considered most relevant and are summarised accordingly.

4.2.1 RC220396

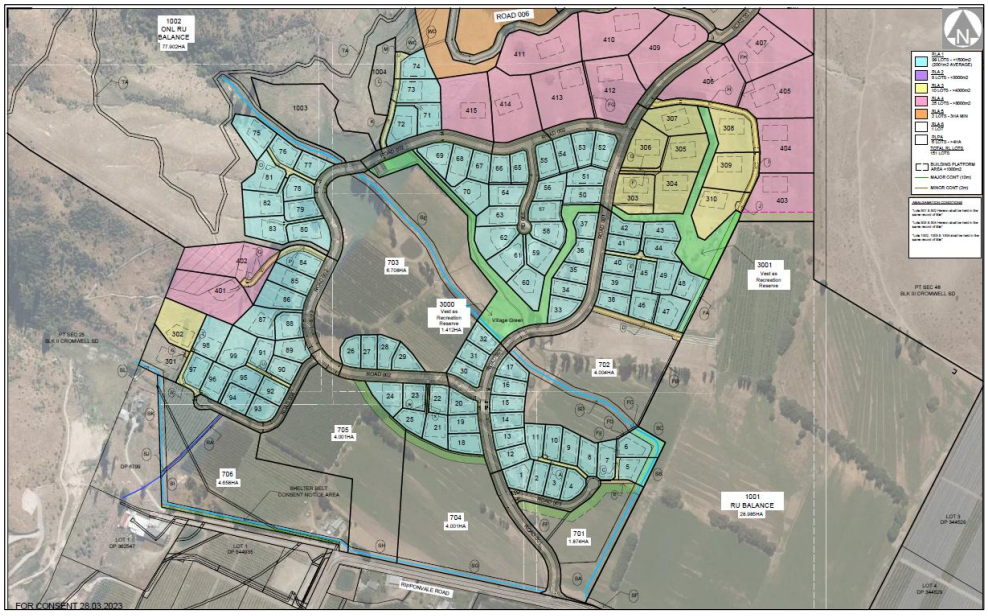
Following the implementation of PC14, the applicant sought a resource consent (RC220396) to undertake a subdivision of the site in accordance with the Structure Plan. The proposal sought approval for 151[2] residential allotments across the site, in line with the Structure Plan. A summary description of the proposal as sought under RC220396 was included in the Council's decision document, which is reproduced as follows:

- 151 allotments within the RLAs (1) to (6)
- All allotments comply with relevant minimum lot sizes
- 151 building platforms, one on each of the above lots
- Building platforms on Lots 208, 402, 403, 404, 409, 413, 414, 415, 416, 417, 418, 419, 420 422 and 501 would breach minimum yards
- 6 allotments within the RPLA
- 4 allotments in the Rural Resource Area
- Access off Ripponvale Road to six subdivisional roads
- Provision for a new footpath and underpass along Ripponvale Road and below State Highway 6
- Water and wastewater from Council's existing reticulated networks in Cromwell using new connections installed along Ripponvale Road

[2] 160 Lots were initially intended however nine Lots are required to undergo further geotechnical and hazard monitoring which has resulted in these Lots being converted to future development Lots 1003 and 1004. Otherwise, while 151 Lots have been approved, all infrastructure and roading was assessed on the basis of 160 Lots.

- Up to 123,100m^2 of cut and 100,300m^3 of fill across the site to establish roads, stormwater flow paths and land stabilisation
- Provision of landscaping generally in accordance with Schedule 19.23, using species identified in Schedule 19.25 of the CODP.
- The development is proposed to be undertaken in 21 stages. A proposed staging plan has been provided with the application

Consent was approved on 13 September 2023 and an extract of the approved subdivision scheme plan is attached:



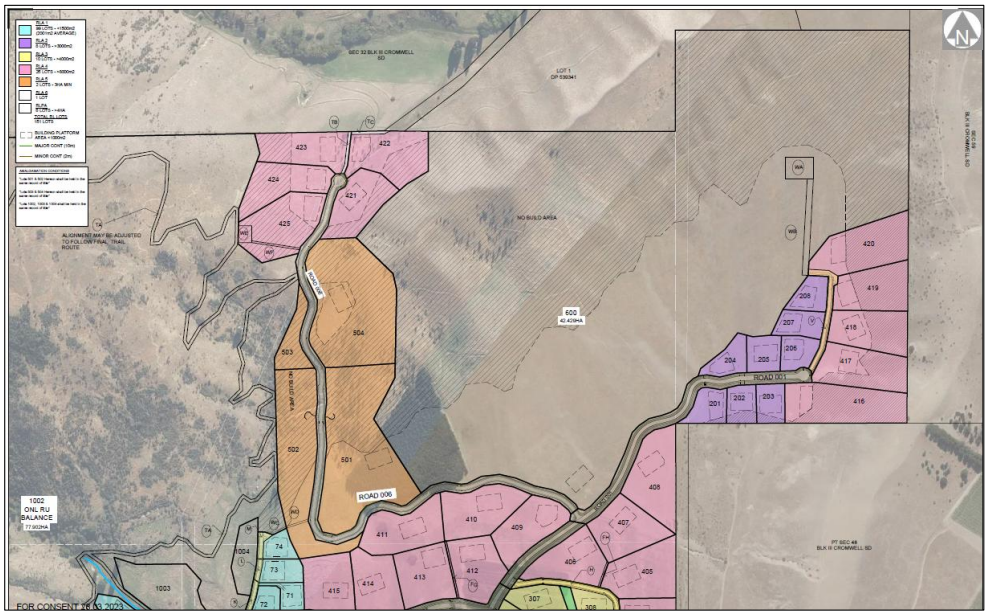


Figure 6: Extract of approved scheme plan as approved under RC220396.

4.2.2 RC220396V1

RC220396V1, approved on 13 December 2024 was an application to vary Conditions 1, 15 and 21 of RC 220396 to provide for the construction of two new stormwater and sediment retention ponds within Section 101 Block III Cromwell SD (to become Lots 701 and 704) and to allow for one of the existing dams on proposed Lot 703 to be retained. The larger of the basins on Lot 701 is intended to be used to treat stormwater during Stage 1 of the development, then would be repurposed as an irrigation/frost fighting pond to service future horticultural activities. The others would be integrated into the stormwater management system of the subdivision on a permanent basis.

4.2.3 RC220396V2

RC220396V2, approved on 23 May 2025, sought to amend the grouping of allotments within RC220396 Stages 12 to 14 so that certain allotments can be progressed to completion in a timelier manner.

4.2.4 RC230244

RC230244, approved on 13 September 2023 authorises the establishment of a mountain bike track within the Outstanding Natural Landscape land being the slopes to the west of the Shannon Farm subdivision proper.

4.2.5 RC250155 and RC220396V3

Lodged on 9 June 2025, resource consent RC250155 and RC220396V3 is an application seeking to intensify the later stages of the subdivision by reducing the minimum allotment

areas of already consented Lots, resulting in a net increase of another 44 Lots within the confines of the wider Shannon Farm extent.

The additional Lots will be provided by way of:

- An additional six allotments are proposed within RLA. The lots will range in size from 1770m^2 to 3530m^2 with an average allotment size of 2385m^2.
- An additional 22 Lots are proposed within an area of RLA 4. The intensified lots within RLA 4 will range in size from 1895m^2 to 6895m^2 with an average allotment size of 3115m^2.
- An additional 16 residential allotments (from one original allotment) are proposed within RLA 6**.** The residential allotments will range in size from 2290m^2 to 5150m^2 with an average allotment size of 3400m^2. The balance lot of RLA 6 (approximately 36Ha) will be kept as open pastureland and amalgamated with Lot 166. Each residential lot will have a building platform no greater than 1000m^2.

The proposal remains in processing.

4.2.6 Regional Consents

The applicant also holds a suite of consents from the Otago Regional Council for the following activities:

- RM.23.549.01 – Water Permit – Diversion and Damming
- RM.23.549.02 – Land use Consent – Reclamation
- RM.23.549.03 – Land Use Consent – Alter the bed and place structures
- RM.23.549.04 – Land Use Consent – Defence against water
- RM.23.549.05 – Land Use Consent - Earthworks
- RM.23.549.06 – Discharge Permit - Earthworks
- RM.23.549.07 – Land Use Consent – Contaminated Land

5 PROPOSAL

5.1 OVERVIEW

PC14, as approved, contemplated the establishment of 160 residential allotments within the designated Rural Lifestyle Areas of the Rural Resource Area (5). However, during the preparation of the underlying subdivision application (RC220396), preliminary geotechnical investigations identified that nine of these 160 allotments were currently unsuitable for residential development due to potential landslide risk. These Lots, located within the area marked “purple” in the geotechnical report (refer to the figure below), led the applicant to consolidate Lots 1003 and 1004 as future development Lots. A copy of the geotechnical report informing this outcome is attached in **Appendix [B].**

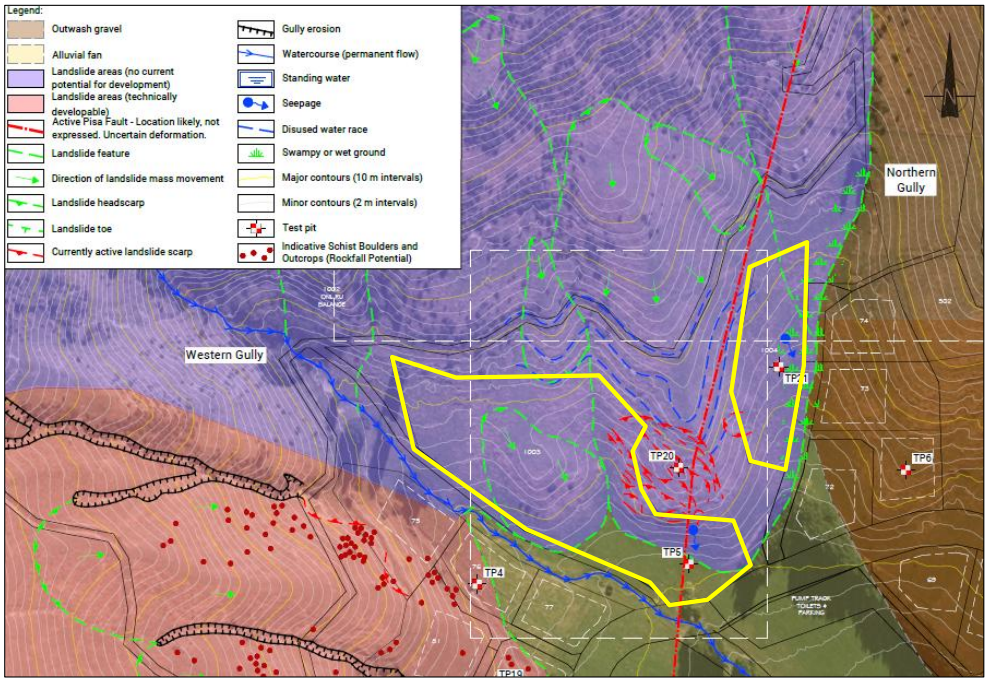


Figure 7: Extract of "Appendix A, Figurer 1c" of Geotechnical Report detailing extent of landslide area. Lots 1003 and 1004 identified in yellow (approximate).

Tonkin & Taylor Limited (T+T) has undertaken further geotechnical investigations and assessment of the northern and western slopes of the Shannon Farm development, including Lots 1003 and 1004. The objective of this work is to evaluate slope stability and identify any limitations on development, particularly in areas mapped as large schist debris landslides. T+T's findings are compiled in their report attached in **Appendix [C]**.

In brief, the T+T report summarises the degree of risks associated with the relevant natural hazards and where relevant, mitigation measures to "feasibly mitigate" the respective risks:

Geotechnical hazard	Comment	Qualitative risk assessment	Mitigation required
Active Fault rupture	• Fault identified in proximity to the development, fault is not observed at the surface and has a long recurrence interval.	Low to very low	N/A
Liquefaction	• Soils at the site are cohesive or very dense granular soils with deep groundwater levels. • Liquefaction is unlikely in the low hills of the site.	Very low	N/A
Debris flow and flooding	• Active alluvial fans and flood water following large rainfall events could inundate the site.	Moderate to high risk	Mitigations options to be adopted at detail design including filled/elevated building platforms, sufficient primary and secondary flow paths with ability to pass debris as well as flood waters.
Rock fall	• Large boulders have been identified on slopes above the development, embedded in the soils. These are erosion remnants, not rockfall sourced. • Slope angles are too low to provide credible rock roll or fall mechanism.	Low risk	N/A
SDL creep movements	• Creep movement episodes (approx. 10's to 100 mm) of SDL lobes within the development resulting in damage where structures straddle a margin.	Low risk	Consider building foundation options that can tolerate some differential movement and tilt across the footprint, e.g. equivalent to TC2 liquefaction deformation.
Local landslides	• Localised slope failures in cut slopes around the development (Lot or road formation).	Moderate risk	Consider site specific assessment of cuts upslope of individual Lots at detailed design stage, consider stormwater control.

Figure 8: Qualitative geotechnical hazard risk assessment (Source: Table 6.4, T+T Geotechnical Assessment Report, dated July 2025, reference 1090333.2000 v1.0.)

Based on T+T's investigations, no mitigation is considered necessary as it relates to fault rupture, liquefaction and rockfall hazards.

Mitigation however is considered necessary for potential debris flow/inundation of the site following heavy rainfall, creep associated with the Schist Debris Landslide (SDL), and localised failures from excavation associated with development.

5.1.1 Stormwater and debris flow mitigation

In relation to the potential debris flow/inundation of the site, T+T recommend any platforms on Lots 167 to 171, Lots 174 and 175 should be constructed by net imported fill to avoid excessive cuts into the toe of natural slopes. T+T also note that Lots 75 to 77 should include mitigation which were initially identified by the Geosolve report and subject to conditions accordingly. T+T advises that local gully flows and potential small to medium volume debris

flows require consideration of a combination of elements that will provide adequate passage of water and debris from the slopes above the Lots to the West Gully as follows:

- Lots 78, 79, 82 and 83:
    - Upslope works such as bunds to train potential flows into secondary flow paths down the accessways or boundaries between Lots 80, 83 and 79, 82, and between 78-79, and 81-82.
- Lots 171 to 173 and 175:
    - Raised fill platforms nominally 1 m above surrounding land.
    - Upslope works such as bunds to train potential flows into secondary flow paths down the accessways or boundaries between Lots 171-172 and 173-174, between 170 and 171, and between 174 and 175.

Residual risks from surface water flow paths and debris flows/erosion includes events that exceed initial assumptions. T+T considers that providing robust secondary flow paths especially to accommodate debris that might be generated on any slope uphill of Lots assists in managing above-design events.

It would be appropriate to incorporate the recommendations for debris flow management (bunds) as a prior to s224C certification condition and would enable the detailed design and consideration of adequate mitigation. The requirement of raised platforms on proposed Lots 171 to 173 and 175 can be adequately captured by way of a consent notice.

5.1.2 Schist Debris Landslide (SDL) creep hazard mitigation

Based on T+T's observations, borehole investigations, interpretation of the landslides and support from limited slope stability analysis, T+T consider the risk from creep movement of the landslides to be low.

To mitigate the possibility of 100mm of differential movement across the footprint of a building, T+T recommend adopting options that have been established for TC2 liquefaction zoned ground following the Christchurch Earthquakes. This includes use of waffle slabs, reinforced gravel rafts, ground beams or other options that are designed to limit damage to the building and can allow for re-levelling should movement occur. The Lots potentially affected are Lots 78, 79, 81, 82, 83 and Lots 171 to 175.

T+T considers that the residual risk of the SDL creep is that it exceeds initial expectations of more than 100mm of differential movement, particularly during an earthquake. However, T+T considers this is unlikely through the life of the subdivision/buildings with the adoption of stiff foundations could provide a 'factor of safety' to any damage to buildings that could not be repaired by re-levelling.

It is considered that these recommendations are to be captured by a consent notice registered on the respective Titles, requiring specific engineered foundations to be considered, designed and implemented.

No mitigation is recommended for potential damage to services and accessways as these can be easily repaired as and when required.

5.1.3 Local slope instability

T+T advises that cut slopes on individual Lots can be constructed at a maximum angle of 2H:1V and generally up to 5 m high. There is potential for cut slope movement if local landslide debris slide planes are undercut. To manage the risk of cut slope movements the following is recommended:

- Lots 167 and 168 – Limit cuts to 2 m high and develop the lots as engineered fill platforms extending onto the North Gully.
- Lots 169 and 170 – No cutting into the toe of the historic, water race triggered landslide.
- Lots 78, 80, 171 and 174 – Cuts should consider retaining walls to mitigate the risk of cut slope movements encroaching on upslope accessways and Lots. A combination of a lower wall and upper cut could be considered depending on the specific cut height and configuration.

These measures are considered most appropriately captured by way of a consent notice condition, registered on the respective Lots.

5.1.4 Foundations for buildings

T+T considers that the ground conditions encountered and any engineered fills will be generally suitable for shallow foundations such as slabs on grade, waffle rafts/slabs and pole/pile foundations for suspended floors. Specific attention will be required as follows:

- Consider local over excavation of colluvium and silt soils where they exceed 1 m in thickness and are not removed by cuts or covered by engineered fills.
- Consider differential settlement over time if a building footprint straddles a cut to fill boundary. Noting that it is preferable to found a building entirely on cut or on engineered fill.
- Specific building stage investigations to confirm ‘good ground’, or investigations to confirm bearing capacity for foundations such as ground beams, pads or piles that might be utilised for a specific building.
- Foundation design must be supported by specific professional geotechnical engineering input to ensure that each lot development will meet NZ Building Code requirements.

T+T identifies residual risks including:

- Natural variability and the limited extent of investigations mean there may be undetected features, such as soft pockets, buried organic material, or old fill.
- Uneven or excessive settlement could occur due to uncontrolled fill or cut fill boundaries.
- Undetected compressible soils (organic materials, soft clays) are considered very unlikely.

T+T considers that the residual risks can be managed through observations during construction (e.g., under engineer supervision) to identify and respond to unexpected conditions. In addition, site specific geotechnical investigations and design by an appropriately qualified geotechnical professional will be required at building consent for each lot.

These matters should be enshrined as a consent notice condition.

5.1.5 Updated Scheme Plan

An updated scheme plan detailing the location (effectively the reinstatement) of these Lots has been prepared by Clark Fortune McDonald Ltd (CFMA) and is attached in **Appendix [D]**.

In essence, it is proposed to enable seven Lots within development lot 1003 and two Lots within development lot 1004. A total of nine Lots are proposed.

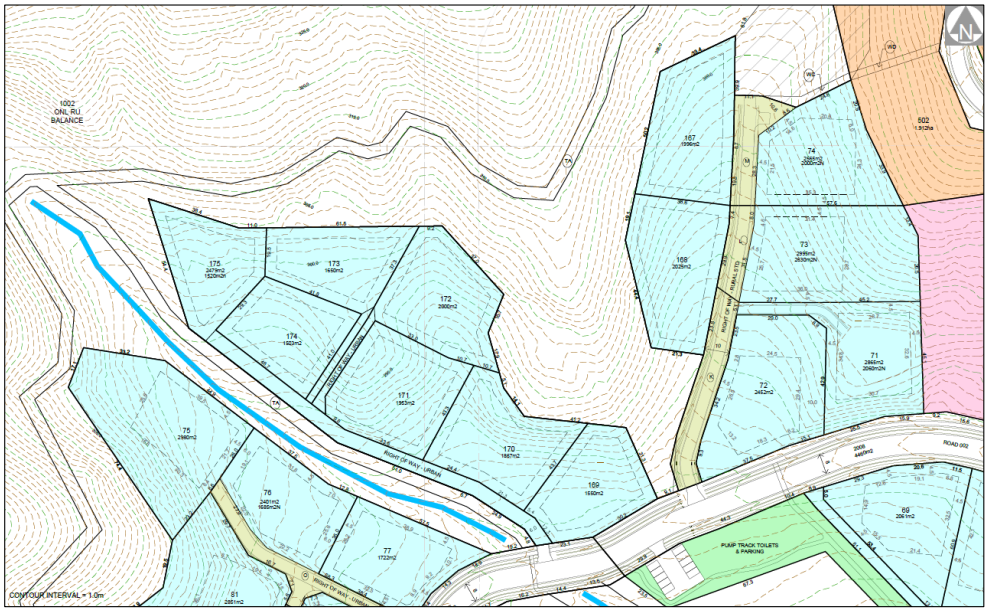


Figure 9: Extract of proposed scheme plan.

It is proposed to amend condition 1 of RC220396 to reflect the addition of a new plan detailing the location of Lots 165 to 175 (conditions highlighted ***blue*** are subject to a current application under RC250155 and RC220396V3).

1. *The subdivision shall be undertaken in accordance with the plans of subdivision being:*
   - *Shannon Farm Development Lot Layout Overview Sheets 001 and 002 Revision ~~E~~G*
   - *Shannon Farm Development Lot Layout Details Sheets 003 to 013 Revision ~~E~~G*
   - *Variation to RC220396: 144 Ripponvale Road, Cromwell Page 2 of 9*
   - *Shannon Farm Development Staging Sheets 016 and 017 Revision ~~E~~F G*

- *Shannon Farm Development Typical Road Sections Sheets 018 to 021 Revision ~~E~~ **G***
- *Shannon Farm Bulk Earthworks Layout Sheets 001 and 002 Revision C*
- *Shannon Farm Subdivision Water Reticulation Overview Sheets 001 and 002 Revision ~~A~~ **B.***
- *Shannon Farm Subdivision Wastewater and Stormwater Reticulation Overview Sheet 003 Revision ~~A~~ **B.***
- *Shannon Farm Subdivision Wastewater Reticulation Overview Sheet 004 Revision ~~A~~ **B.***
- *Shannon Farm Subdivision Connection to Existing Services Sheet 007 Revision A*
- ***Shannon Farm Development Lot Layout Overview. Sheet 007, Rev E***

6 STATUTORY CONSIDERATIONS

6.1 CENTRAL OTAGO DISTRICT PLAN

The wider site is located in the **Rural Resource Area (5)** of the Central Otago District Plan. More specifically, the proposed additional Lots will occur exclusively within **Rural Lifestyle Area 1.**

The wider site is characterised by the following additional Overlays:

- Outstanding Natural Landscape (West of the site)
- Significant Amenity Landscape (North of the site)
- Rural Resource Area (5) Rural Lifestyle Areas (1) to (6)
- Rural Resource Area (5) Rural Production Lifestyle Area
- Rural Resource Area (5) Amenity Edges
- Rural Resource Area (5) No Build Area
- Rural Resource Area (5) Open Space Notation

An extract of the Council's Planning Map is as follows:

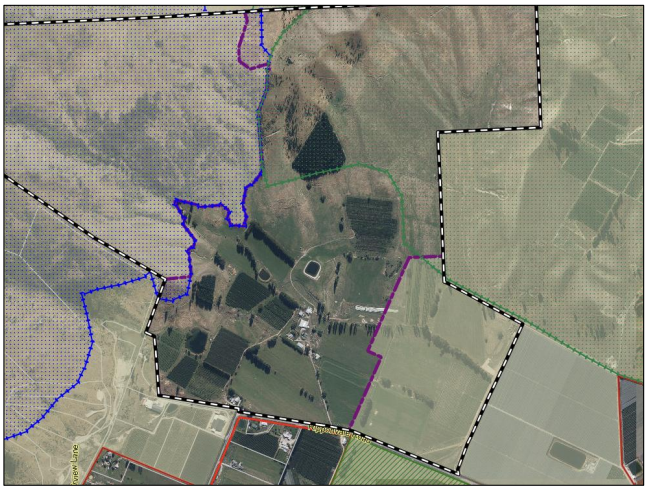


Figure 10: Extract of CODC GIS Planning Map.

The proposal requires consideration of the following rules:

- Pursuant to Rule 4.7.2.ii.a.i, subdivision in the Rural Lifestyle Areas as detailed in the Structure Plan in Schedule 19.23 must accord with the relevant minimum and averaging requirements to be considered as a controlled activity. In this case, the proposed additional Lots accord to the minimum allotment areas (1,500m^2) as it relates to Rural Lifestyle Area 1, but does not comply with the average of 2,000m^2. As such, the proposal will be considered as a **non-complying activity** pursuant to Rule 4.7.5.iii. The Lots are summarised as follows:

Table 2: Proposed allotment sizes for Lots 167 to 175.

Lot Number	Lot Size (m^2)	Lot Number	Lot Size (m^2)
167	1690	172	2000
168	2020	173	1650
169	1550	174	2020
170	1860	175	1520
171	1950	-	-

A full summary of the Total Lots within the Rural Lifestyle 1 Area (RLA1) is included in **Appendix [E]**. The average of these allotments in the context of the consented Lots in the RLA 1 will be 1,989.96m^2.

- Pursuant to Rule 4.7.2.ii.a.vi, subdivision in the area identified as Rural Resource Area (5) shall be undertaken in accordance with the Structure Plan contained in Schedule 19.23 and the application shall include all of the information/components listed below in order to be considered as a **controlled activity** under Rule 4.7.2.ii.

A comprehensive outline of the compliance to Rule 4.7.2.ii.a.vi was completed in the application for RC220396, of which this proposal does not seek to amend. Rather, this proposal seeks to incorporate the final nine allotments in accordance with the Structure Plan and RLA 1 that were initially omitted under RC220396. A summary of the relevant components of Rule 4.7.2.ii.a.vi is as follows:

Table 3: Assessment of Rule 4.7.2.ii.a.vi.

		Compliance
Subdivision in the area identified as Rural Resource Area (5) shall be undertaken in accordance with the Structure Plan contained in Schedule 19.23 and the application shall include all of the information/components listed below in order to be considered as a controlled activity under Rule 4.7.2(ii):		
A	Staging details for subdivision;	All staging has been detailed and consented under RC220396V2. No changes are proposed to the staging.
B	Areas of open space that are precluded from development in general accordance with the locations shown on the Structure Plan;	The proposed allotments are all located within RLA 1 and does not affect the open space.
C	A condition requiring the establishment of the Horticulture 15m Amenity Edge, Horticulture 10m Amenity Edge, RLPA Amenity Edge and Shelterbelt planting prior to the issue of a certificate under section 224c of the Resource Management Act 1991, with the following parameters: i. The RLPA and Horticulture 15m Amenity Edges shall have a width of 15 metres. ii. The Horticulture 10m Amenity Edge shall have a width of 10 metres. iii. Rural Lifestyle Area allotments adjoining the Horticulture 10m Amenity Edge shall provide a private accessway of at least 4.5m in width immediately adjoining the Amenity Edge. iv. Plantings shall predominantly consist of species identified in the Planting Schedule for the Rural Resource Area (5) in Schedule 19.25. v. Trees within the RLPA Amenity Edge shall be planted in two rows. At the time of planting these trees shall be at least 2.5 metres in height and shall have an anticipated growth rate of 3- 4 metres within 5 years. The trees to be planted shall consist of species identified in the Planting Schedule for the RLPA Amenity Edge in Schedule 19.25. The front row of planting (adjacent to the Rural Lifestyle Production Area) shall have a maximum spacing of 4 metres between trees and the back row (adjacent to Rural Lifestyle Area 1) shall have a maximum spacing of 5 metres. iv. Small-medium shrubs within the Horticulture 15m and 10m Amenity Edges shall be at least 1 metre high at the time of planting and trees and large shrubs within the Horticulture 15m and 10m Amenity Edges adjacent to the Horticulture Area shall at the time of planting be at least 2 metres in height and shall consist of species identified in the Planting Schedule for the Horticulture Block Amenity Edge in Schedule 19.25.	Already captured under Conditions 21(r) to (v).
D	A condition to be specified in a consent notice, or other appropriate legal instrument registered against the record of title for the land, over the allotments that contain the open space preventing buildings in those areas;	All open space areas are to be vested to Council so no proposed allotments contain any areas identified on the Structure Plan as

		Open Space. No changes proposed.
E	Public pedestrian and cycling connections through the Outstanding Natural Landscape area and connecting to the Local Road, protected by way of easements in gross or other appropriate legal instruments registered against the records of title for the land. The connections shall be in general accordance with the location and extent shown on the Circulation Plan in Schedule 19.24. The route of may be altered by the landowner(s) under the terms of easement or instrument, provided that the extent of the connections is not materially diminished;	As depicted on the approved scheme plan for RC220396, an easement (in gross) is allocated over the indicative public pedestrian and cycle connection which extends through the Outstanding Natural Landscape area to the Local Road. This proposal does not affect this easement.
F	A condition to be specified in a consent notice, or other appropriate legal instrument recorded against the record of title for the land in favour of Council, over the allotments in the Rural Lifestyle Production Area, "requiring that for a period of 15 years there shall be no construction of new dwellings on the allotment prior to planting of a minimum of 50% of the site in horticultural or viticultural species, and for that period of 15 years, any plants that die, become diseased, or are otherwise removed, shall be replaced with the same or similar horticultural or viticultural species".	Already subject to conditions of RC220396. Condition 22(e)
G	A condition to be specified in a consent notice, or other appropriate legal instrument recorded against the record of title for the land, over the allotment(s) that contain the RLPA Amenity Edge, Horticulture 10m Amenity Edge, Horticulture 15m Amenity Edge and Shelter Belt to ensure that the planting is maintained.	Already subject to conditions of RC220396. Condition 22(g) to (j)
H	A condition specified in a consent notice, or other appropriate legal instrument recorded against the record of title for the land, over the allotments that contain the "no build" area preventing buildings (excluding fences and retaining) on that area;	Already subject to conditions of RC220396. Condition 22(5)
I	A condition to be specified in a consent notice, or other appropriate legal instrument recorded against the record of title for the land, recording requirements for acoustic insulation in accordance with Rule 4.7.6E(e);	No consent notice provided however Rule 4.7.6E(c) requires consideration as a non-complying consent if the standard is not complied with.
J	A condition requiring the registration of non-complaints covenants in relation to the effects of rural productive activities in the surrounding Rural Resource Area. The covenants are to be registered against the title of all rural lifestyle allotments, in favour of Lots 1-4 DP 344529, the title to the Horticulture Block shown on the Structure Plan, and lots within Rural Lifestyle Production Area.	Already subject to conditions of RC220396. Condition 24
K	Roading layout, having regard to the indicative roading layout on the Structure Plan;	Already detailed on the approved subdivision plans for RC220396.
L	Prior to the issue of a certificate under section 224c of the Resource Management Act 1991 for the 51st rural lifestyle allotment, the "widening of the existing seal of Ripponvale Road to a formed width of 7.0m seal with 0.25m metalled shoulders, from the principal access to 144 Ripponvale Road, eastwards to the intersection with the State Highway", shall be completed.	These matters are encapsulated by Condition
M	Prior to the issue of a certificate under section 224c of the Resource Management Act 1991:	

	The provision of a 2.0m wide shared walking and cycling path within the legal corridor of Ripponvale Road from the principal access to 144 Ripponvale Road, eastwards to the intersection with the State Highway, shall be completed.	
N	Prior to the issue of a certificate under section 224c of the Resource Management Act 1991 for the 51st rural lifestyle allotment, a pedestrian/cyclist underpass shall be incorporated into State Highway 6 and be operational.	
O	Road and Open Space planting details in general accordance with the planting schedule contained in Schedule 19.25.	No changes are proposed to the approved landscape package under RC220396.

- Pursuant to Rule 4.7.2(ii)(a)(viii), a **controlled activity** applies where a building platform of no greater than 1,000m^2 in area is identified on the plan of subdivision. In this case, a platform is shown on all Lots.

6.2 RESOURCE MANAGEMENT ACT 1991

Pursuant to Section 127 of the Resource Management Act 1991, an application can be made to Council to vary the conditions attached to a resource consent. Such an application is to be treated as if it were a **discretionary activity.**

In this case, the proposal to reinstate the proposed allotments necessitates the need to vary the underlying approved scheme plan as consented under RC220396 (and as subsequently varied by RC220396V1 and RC220396V2). It is proposed to amend the conditions of RC220396 as follows (added text **underlined**. Deleted text ~~struckthrough~~):

Table 4: Proposed changes to conditions.

Proposed Change	Reason for Change
1. *The subdivision shall be undertaken in accordance with the plans of subdivision being:* • *Shannon Farm Development Lot Layout Overview Sheets 001 and 002 Revision ~~E~~ G* • *Shannon Farm Development Lot Layout Details Sheets 003 to 013 Revision ~~E~~ G* • *Variation to RC220396: 144 Ripponvale Road, Cromwell Page 2 of 9* • *Shannon Farm Development Staging Sheets 016 and 017 Revision ~~E~~ E G* • *Shannon Farm Development Typical Road Sections Sheets 018 to 021 Revision ~~E~~ G* • *Shannon Farm Bulk Earthworks Layout Sheets 001 and 002 Revision C* • *Shannon Farm Subdivision Water Reticulation Overview Sheets 001 and 002 Revision ~~A~~ B.* • *Shannon Farm Subdivision Wastewater and Stormwater Reticulation Overview Sheet 003 Revision ~~A~~ B.* • *Shannon Farm Subdivision Wastewater Reticulation Overview Sheet 004 Revision ~~A~~ B.*	Add the updated scheme plan showing the proposed additional Lots to the list of approved plans.

• *Shannon Farm Subdivision Connection to Existing Services Sheet 007 Revision A* • ***Shannon Farm Development Lot Layout Overview. Sheet 007, Rev E***	
20. The following amalgamation conditions must be shown on the face of the subdivision plan for the relevant stage: *That Lots 501 and 502 hereon be held in the same record of title (See CSN Request 1837327)* *That Lots 503 and 504 hereon be held in the same record of title (See CSN Request 1837327)* ~~*That Lots 1002, 1003 and 1004 hereon be held in the same record of title (See CSN Request 1837327)*~~	Condition 20 can be amended to remove the requirement to amalgamate 1002, 1003 and 1004 which would no longer be required once they are Titled into fee simple allotments.
*22. The following conditions of the consent shall be complied with in perpetuity and shall be registered on Lots 1-99, 201-208, 301-310, 401-425, 501-504**, 165-175** and 600 by way of Consent Notice pursuant to Section 221 of the Act:* *…* *d) Residential buildings on Lots 1 to 99, 201 to 208, 301 to 310, 401 to 425, 501, 504**, 165-175** and 600 must be located within the building platform identified on the plan of subdivision*	Update condition 22 and 22(d) to require the relevant ongoing consent notice requirements to apply to the new Lots.
Addition of conditions to reflect the findings of the T+T report.	It would be necessary to incorporate the findings of the T+T report as attached in **Appendix [C]** into appropriate conditions to ensure the recommendations to mitigate the various natural hazard risks are suitably managed.

6.3 NATIONAL ENVIRONMENTAL STANDARDS

The Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS) came into effect on 1 January 2012. The NESCS applies to any piece of land on which an activity or industry described in the current edition of the Hazardous Activities and Industries List (HAIL) is being undertaken, has been undertaken or is more likely than not to have been undertaken.

In this instance, the land involved has been assessed as a restricted discretionary activity under Regulation 10(3) of the NES-CS during the processing of RC220396 of which a suite of conditions has been imposed. Regional permit[3] have also been obtained for disturbances to contaminated land. As such, the NESCS is not considered further under this application.

[3] RM.23.549.07

6.4 OVERALL ACTIVITY STATUS

Overall, the proposal requires the following consents:

- A **non-complying activity** pursuant to Rule 4.7.5.iii.A for a breach to the averaging criteria of 2,000m^2. In this case, the average equates to 1,989.96m^2.
- A **controlled activity** pursuant to Rule 4.7.2.ii.a.vi for subdivision undertaken in accordance with the Structure Plan contained in Schedule 19.23.
- A **controlled activity** pursuant to Rule 4.7.2(ii)(a)(viii), where a building platform of no greater than 1,000m^2 in area is identified on the plan of subdivision.
- A **discretionary activity** pursuant to Section 127 of the Resource Management Act 1991 to amend the conditions of RC220396 (as varied) to accommodate the additional Lots.

The proposal is assessed overall as a **non-complying activity.**

7 PERMITTED BASELINE

7.1 PERMITTED BASELINE

The consent authority may disregard an adverse effect of the activity if a rule or national environmental standard permits an activity with that effect.

In this case, all subdivision in the Rural Resource Area (5) requires resource consent and therefore the permitted baseline is considered of little relevance to this application.

7.2 RECEIVING ENVIRONMENT

The receiving environment is characterised by the existing resource consents held for the site that is currently being implemented (site and civil works are underway for the first few stages). Specifically, RC220396 contemplates the implementation of 151 residential allotments and is currently under construction.

8 ASSESSMENT OF EFFECTS

8.1 OVERVIEW

Schedule 4 of the Resource Management Act 1991 (RMA) details the information required to be included in an assessment of environmental effects. An assessment in this regard as it accords to Clause 6 of Schedule 4 is included as follows:

8.1.1 EFFECTS ON THE ENVIRONMENT

If it is likely that the activity will result in any significant adverse effect on the environment, a description of any possible alternative locations or methods for undertaking the activity:

The proposed activity will not result in any significant adverse effects on the environment. Any effects there are, will be adequately remedied and mitigated. Alternative locations are therefore not considered necessary.

An assessment of the actual or potential effect on the environment of the proposed activity.

The following effects on the environment are considered most relevant:

- Effects on landscape and visual amenity values;
- Effects on open space and recreation;
- Transportation effects;
- Effects on servicing infrastructure;
- Productive capacity;
- Reverse sensitivity;
- Earthworks;
- Geotechnical;
- Ecological;
- Heritage and cultural values; and
- Positive effects.

8.1.2 Effects on landscape and visual amenity values

The proposal seeks to develop areas within the wider Rural Resource Area (5) already identified for residential purposes. The proposed allotment sizes are consistent with the minimum density requirements for the RLA1. While the proposal does not accord to the averaging criteria of 2,000m^2, it is noted that the breach only amounts to 10m^2. This minor non-compliance will not be distinguishable in the context of the entire subdivision and mitigated by the fact that the sites adjoin the open space of the Rural Resource Area. As such, landscape and visual amenity effects will be less than minor.

8.1.3 Effects on open space and recreation

The proposal does not alter the existing approved network of greenspaces nor does it compromise the consents associated with the establishment of the mountain bike track. No effects on open space and recreation are considered to arise from the proposal.

8.1.4 Effects on roading infrastructure

The roading layout for RC220396 was designed to take account of the eventual development of Lots 1003 and 1004. As such, no additional effects on roading infrastructure will result.

8.1.5 Effects associated with servicing

The infrastructural loading and reticulation layout for RC220396 was designed to take account of the eventual development of Lots 1003 and 1004. As such, no additional effects on servicing infrastructure will result.

8.1.6 Effects on productive land

The proposal seeks to develop Lots 1003 and 1004 which provide for residential activities under the RLA1. As such, no adverse effects on productive land will result.

8.1.7 Effects on reverse sensitivity

Reverse sensitivity effects of the overall development of the site were extensively canvassed through the PC14 proceedings recognising that reverse sensitivity represented one of the key limbs for the initial refusal of the Plan Change request. Through mediation, the following additional provisions were inserted into the District Plan to address reverse sensitivity within the Rural Resource Area (5):

> (a) Standards requiring that no audible bird scaring devices are used in the Horticulture Area (rule 4.7.6E(b)). The cherry orchard extension will be netted, consistent with the appellant's existing operation;
>
> (b) Standards requiring that there be no fixed wind machines within the RLPA, with provision made for portable machines only (rule 4.7.6E(c)); and
>
> (c) Standards prescribing the number, location and model of wind machines for frost control to be placed in the Horticulture Area (rule 4.7.6E(c)).

In addition, it is noted that the introduction of the RLPA in the south of the site provides a further buffer between existing rural uses and the majority of the proposed rural lifestyle development.

Through the implementation of the controls above, it was determined that the implementation of PC14 as per the Structure Plan would alleviate reverse sensitivity effects.

The proposal seeks to develop lots that are already contemplated for residential development. No further reverse sensitivity effects are contemplated.

8.1.8 Earthworks effects

The site is already subject to a comprehensive EMP and a suite of consents from ORC. Any additional works are considered to be appropriately absorbed within the consented framework of the site and will not give rise to additional adverse effects on the environment over and above what has already been assessed and managed.

8.1.9 Geotechnical and natural hazard effects

The sites were previously assessed in terms of natural hazards and were determined at the time of RC220396 as not suitable for residential development without further monitoring and investigations. Further investigations from T+T have since been undertaken and their findings and recommendations are detailed in **Appendix [C]**.

Overall, T+T have considered the risks associated with developing the sites and have recommended a suite of recommendations (and summarised in Section 5.0 of this report) to be enshrined as consent notice and subdivision conditions to feasibly mitigate the risks to development. Subject to adherence to their recommendations, T+T considers that the proposed risk mitigation options have been developed with an objective of reducing risk (from slope instability hazards and debris flow hazards) to the extent that it is feasible to develop the Lots, although it is noted that some residual risks will remain. While some residual risks remain, T+T considers these are unlikely events and can be managed through the recommendations as detailed in their assessment, to the extent that they do not consider these to be significant. T+T considers that the specific development recommendations provide the means for mitigating the natural hazard risks in terms of meeting the requirements of Section 106 of the Resource Management Act (1991).

Relying on T+T's assessment, it is considered that the effects of natural hazards on developing the proposed Lots and the subsequent occupation is considered feasible and subject to conditions, will be no more than minor.

8.1.10 Ecological Effects

The site was not identified as consisting of any particular ecological value during the re-zoning and subsequent resource consent process. Rather, it was determined that PC14 would have some minor positive effect in terms of extending the ONL part of the site that has some ecological value[4]. The proposal does not extend into these areas and therefore no further ecological effects will arise.

8.1.11 Heritage and cultural effects

Heritage and cultural values were considered during the establishment of the site under PC14 where it was concluded that subject to conditions in relation to adherence to the Heritage New Zealand Pouhere Taonga Archaeological Discovery Protocol through the matters of control for subdivision and the requirement for an archaeological authority where relevant to any changes to existing water races, the Commission determined that any adverse effects in terms of effects on heritage values will be no more than minor and there will be no particular effects on cultural values.[5] The proposal does not result in any development beyond the areas deemed appropriate.

8.1.12 Positive effects

The primary positive effects of the proposal relate to the increase in residential allotments at a density that reflects the underlying Rural Lifestyle Area.

8.1.13 Summary of effects

In considering all of the above, it is considered that the proposal will generate no more than minor adverse effects on the wider environment.

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[4] Paragraph 4.132, decision of the Commission, PC14, dated 3 May 2021.
[5] Paragraphs 4.133 to 4.135, decision of the Commission, PC14, dated 3 May 2021.

8.2 EFFECTS ON PERSONS

Identification of the persons affected by the activity, any consultation undertaken, and any response to the views of any person consulted

8.2.1 Consultation

No consultation has been undertaken with regard to this application.

8.2.2 Effects on persons

The proposed additional Lots are anticipated by the underlying Zoning for the site which contemplates Lots consistent with the RLA 1 area. The density of development complies to the minimum requirements of the RLA 1 area and simply seeks to reinstate what was intended to be applied for during the processing of RC220396. As such, no person is considered to be adversely affected by the proposal to develop Lots 1003 and 1004 in line with the prevailing RLA 1 Zone.

9 SECTION 95 NOTIFICATION

9.1 PUBLIC NOTIFICATION

Section 95A gives a council discretion to decide whether to publicly notify an application or not. There are a total of four steps that are to be followed to publicly notify consent applications under Sections 95A (2) to 95A (9). These steps are addressed in the Table below.

Test	Yes/No	Comments
Step 1: Mandatory notification in certain circumstances – section 95A(3)		
Has the applicant requested that the application be publicly notified?	No	
Is public notification required under s95C (following a request for further information or commissioning of report)?	No	
Is the application made jointly with an application to exchange reserve land?	No	
Step 2: If not required by Step 1, notification is precluded if any of these circumstances apply – section 95A(5)		
Does a rule or NES preclude public notification for all aspects of the application?	No	
Is the application a controlled activity?	No	
Is the application a restricted discretionary or discretionary activity for a subdivision?	No	
Is the application a restricted discretionary or discretionary activity for residential activity?	No	
Is the application a boundary activity (other than a controlled activity)?	No	
Step 3: Notification required in certain circumstances if not precluded by Step 2 – section 95A(8)		
Does a rule or NES require public notification?	No	

Will the activity have, or is it likely to have, adverse effects on the environment that are more than minor?	No	As per the effects assessment contained herein, effects on the environment are considered to be no more than minor.
Step 4: Relevant to all applications that don't already require notification – section 95A(9)		
Do special circumstances exist that warrant the application being publicly notified?	No	The proposal is not considered to be unique or out of the ordinary in this context and is entirely consistent with the scale of development that characterises the surrounding environment.

9.2 LIMITED NOTIFICATION

Section 95B gives a council discretion for limited notification of consent application. Similar to public notification, there are a total of four steps that are to be followed for limited notification consent applications under Sections 95B (2) to 95A (10). These steps are addressed in the below Table:

Test	Yes/No	Comments
Step 1: Certain affected groups/persons must be notified – sections 95B(2) and (3)		
Are there any affected protected customary rights groups or customary marine title groups?	No	
If the activity will be on, adjacent to, or might affect land subject to a statutory acknowledgement - is there an affected person in this regard?	No	
Step 2: If not required by Step 1, notification is precluded if any of the following apply – section 95B(6)		
Does a rule or NES preclude limited notification for all aspects of the application?	No	
Is the application a controlled activity?	No	
Step 3: Notification of other persons if not precluded by Step 2 – sections 95B(7) and (8)		
In the case of a boundary activity, is the owner of an allotment with an infringed boundary considered affected under s95E?	No	
Are there any other affected persons under s95E, i.e. persons on whom the effects are minor or more than minor, and who have not given written approval?	No	As per the effects on persons, the proposal is considered to result in less than minor effects on persons.
Step 4: Notification in special circumstances – section 95B(10)		
Do special circumstances exist that warrant the application being notified to any persons not identified above?	No	

9.3 NOTIFICATION CONCLUSION

Based on the assessment above, it is considered that the proposal does not warrant notification in that the adverse effects of the proposal on the wider environment will be no more than minor as concluded in Section 8.1.13.

In addition, the proposal is not considered to warrant limited notification in that no person(s) are considered to be adversely affected by the proposed activities as per the conclusions met in Section 8.2.2 of this report.

10 SECTION 104(1)(b) ASSESSMENT

10.1 OVERVIEW

Clause 2(1)(g) of Schedule 4 of the Resource Management Act 1991 requires an assessment against any relevant planning documents that are referred to in Section 104(1)(b) (of the RMA). This includes;

- A national environmental standard
- Other regulations
- A national policy statement
- A New Zealand coastal policy statement
- A regional policy statement or proposed regional policy statement
- A plan or proposed plan

10.2 NATIONAL POLICY STATEMENTS

10.2.1 National Policy Statement for Highly Productive Land 2022

The National Policy Statement for Highly Productive Land (NPS-HPL) is intended to improve the way highly productive land is managed under the RMA[6]. The NPS-HPL was gazetted on 19 September 2022 and became operative on 17 October 2022.

The NPS-HPL requires regional councils and territorial authorities to identify highly productive land, and manage the effects of subdivision, use, and development of highly productive land, in an integrated way and require the extensive mapping of highly productive land through the use of a standardise categorisation system.

Where area specific assessment and identification of high value soils have not been undertaken, the NPS-HPL directs Council to consider Land Use Classification (LUC) 1, 2 and 3 soils as being highly productive. In this case, the areas of the site identified as RLA (1) to (6) and RPLA are considered rural lifestyle zones and are not considered to be within the scope of the NPS-HPL as the RLA (1) to (6) are not general rural or rural production areas. As such, the NPS-HPL is not considered to apply, and consistent with the conclusions reached under RC220396.

[6] https://www.mpi.govt.nz/dmsdocument/36621-Valuing-highly-productive-land-a-summary

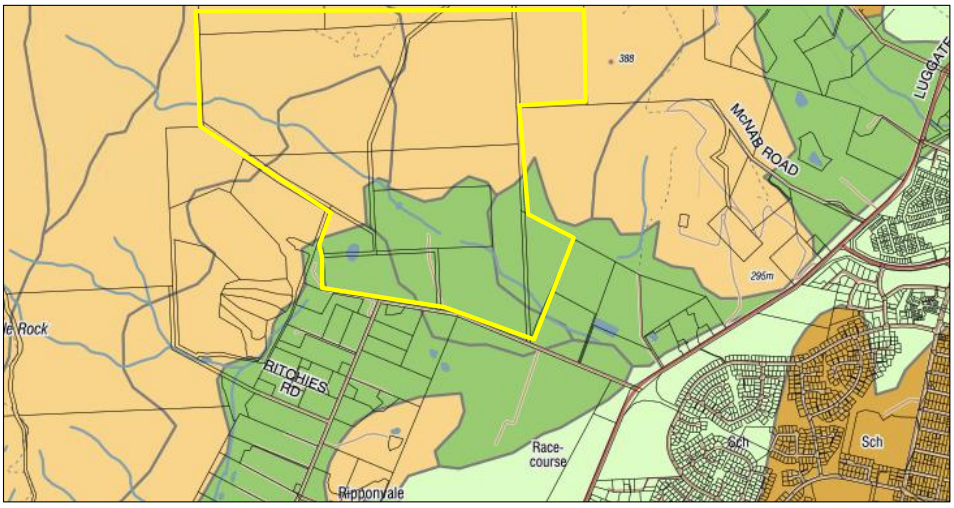

Figure 11: Extract of NZLRI GIS.

10.3 REGIONAL POLICY STATEMENTS

10.3.1 Operative and Proposed Regional Policy Statements

The relevant regional policy statements includes:

- The Partially Operative Regional Policy Statement 2019; and
- The Proposed Regional Policy Statement 2021.

As will be assessed in Section 10.4.1 below, the proposal is deemed entirely consistent with the provisions of the District Plan. The District Plan is required to give effect to the higher order Regional Policy Statements and therefore it is considered that the proposal will remain consistent with the relevant provisions of the Regional Policy Statement.

10.4 DISTRICT PLAN

10.4.1 Central Otago District Plan

The Central Otago District Plan includes a suite of objectives and policies to manage a range of issues that threaten to degrade the environmental and amenity qualities that have been identified as important attributes to the region. There are two key provisions that were inserted into the Central Otago District Plan as a result of the PC14 proceedings; Objective 4.3.10 and Policy 4.4.18. These two provisions are assessed in detail as follows, while any remaining policies of the District Plan considered relevant are assessed in Table 9.

Objective (4.3.10) for the Rural Resource Area (5) seeks to:

> *"Provide for a range of rural living opportunities on lots of varied sizes and shapes, integrated with rural productive uses and recreational opportunities, and in a way that protects the Outstanding Natural Landscape, maintains the values of the Significant Amenity Landscape, provides for rural amenity, is appropriately serviced, and manages potential effects on surrounding rural uses."*

The proposal is considered to remain consistent with this objective, for the following reasons:

- **Provision of rural living opportunities**: The subdivision provides for a diverse range of rural living opportunities consistent with the minimum allotment sizes for the RLA 1 Zone as promoted by this Objective.
- **Integration with rural productive and recreational uses**: The development layout avoids compromising surrounding productive land uses and retains access to recreational areas. The productive capacity of the subject land has been assessed and secured during the initial re-zoning of the site and no changes or intensification is sought within the productive areas of the site.
- **Protection of the Outstanding Natural Landscape (ONL)**: No part of the proposed additional development extends into the ONL. The proposal respects the identified ONL boundaries and avoids adverse effects on these values through careful siting and existing design controls.
- **Maintenance of Significant Amenity Landscape (SAL) values**: The new lots are located within the RLA 1 area which contemplates allotments already. Effects on the SAL are therefore no greater than what is contemplated under the District Plan.
- **Provision for rural amenity**: The proposal builds upon an already consented rural-residential character, reinforcing the existing and anticipated amenity of the receiving environment. The spatial pattern, density, and design standards continue to reflect a rural lifestyle setting rather than an urban typology.
- **Servicing**: The site is appropriately serviced without placing an undue burden on public infrastructure. No servicing constraints have been identified that would compromise the zone's intent or broader environmental outcomes.
- **Management of effects on surrounding rural uses**: The site is contained within a defined development node, bordered by similar or compatible land uses. The proposal avoids reverse sensitivity issues and maintains a respectful interface with neighbouring rural properties.

Overall, the proposal is considered consistent to the relevant objective insofar as the proposal seeks to develop Lots 1003 and 1004 in line with the planning framework and densities already determined under PC14.

In relation to Policy 4.4.18, this policy seeks to provide for rural lifestyle subdivision and development while avoiding, remedying or mitigating adverse effects on the environment by:

a. Requiring subdivision and development to be undertaken in general accordance with the Structure Plan in Schedule 19.23;

b. Integrating a range of complementary activities within the rural setting, including:
   • Rural living
   • Farming and agriculture
   • Horticulture
   • Recreation and Open Space

c. Adhering to minimum and average allotment sizes for subdivision;

d. Ensuring that subdivision is designed to:

    i. facilitate convenient, safe, efficient and easy access for vehicles, pedestrians and cyclists; and

    ii. facilitate the safe and efficient operation and the economic provision of roading and network utility services to secure an appropriate, integrated and planned development; and

    iii. have regard to the natural landform in Rural Lifestyle Areas 1-6, including through the alignment of lot boundaries and roading, and landscaping and planting design within public spaces;

e. Ensuring that the subdivision layout within each contiguous area of RLA1 provides for a range of allotment sizes and shapes and comprises pockets of smaller lots offset by larger lots and open space;

f. Encouraging the extent of earthworks to not exceed that required for the installation of services, access and building platforms, while recognising that the contouring of land may either be required for, or limited by, geotechnical and/or aesthetic considerations;

g. Managing the character and amenity values of the Rural Resource Area (5) and surrounding areas by controlling land use activities, avoiding building within the no build areas shown on the Structure Plan, and avoiding urban forms of subdivision and development;

h. Minimising adverse effects of built form resulting from inappropriate building scale, location and external appearance;

i. Enhancing landscape values through the implementation of planting schemes tailored to specific areas within the Rural Resource Area (5);

j. Providing for an efficient access and open space network;

k. Providing adequate infrastructure to service development while minimising adverse effects;

l. Avoiding building in high risk natural hazard areas;

m. Managing the potential for reverse sensitivity effects on adjoining rural land uses;

n. Maintaining the productive potential of the Rural Lifestyle Production Area through ensuring that the allotment sizes and location of residential activity within the Rural Lifestyle Production Area do not prevent or significantly inhibit its productive use;

o. Ensuring the Rural Lifestyle Production Area is used for productive purposes alongside providing for rural living by requiring 50% of each allotment to be planted for productive purposes prior to the establishment of residential activity;

p. Complementing, rather than competing with, urban areas in the district by providing a focus on rural living activities.

q. Maintaining the open and natural character and legibility of Rural Lifestyle Area 6 by:

i. Avoiding subdivision and building in the No Build Area;

ii. Enabling building within the "Area for Future Building Platform" provided it is well integrated into the landscape;

iii. Other than as provided in ii, avoiding building in the area outside of the No Build Area unless it be demonstrated that the legibility and open and natural character of the Rural Lifestyle Area 6 will be maintained;

iv. Avoiding subdivision in the area outside of the No Build Area unless:

a. the creation of additional lots is necessary to facilitate rural activity or ecological restoration and use of the land is restricted to such purpose in perpetuity through a legal mechanism; or

b. a dwelling has been approved under Rule 4.7.4.xi on each of the lots proposed to be created; and

c. in respect of a and b the subdivision will avoid adverse effects on, and maintain, the legibility and open and natural character of the Rural Lifestyle Area 6 and will not result in delineation of boundaries through fencing or planting.

v. Requiring that any planting is natural in design and avoids any linear or geometric forms and comprises only native species endemic to the area except for low height producing grass species such as browntop;

vi. Requiring that any roads are largely enclosed by planting.

An assessment of this policy more specifically is as follows:

Table 5: Specific assessment of Policy 4.4.18.

Provision	Description	Assessment
a	Requiring subdivision and development to be undertaken in general accordance with the Structure Plan in Schedule 19.23;	The proposed additional Lots are entirely consistent with the RLA 1 criteria.
b	Integrating a range of complementary activities within the rural setting, including: • Rural living • Farming and agriculture • Horticulture • Recreation and Open Space	The proposal achieves the overall intent of the Zone through the provision of rural residential living in a holistic and master planned development that accommodates farming, agriculture, horticulture and open space, all the while avoiding ad hoc and fragmented development. The proposal is **consistent** with this policy.

c	Adhering to minimum and average allotment sizes for subdivision	The proposed allotments comply with the minimum allotment sizes for the RLA 1 Zone but only marginally breaches the averaging criteria by 10m^2 (2,000m^2 average required and only 1,989m^2 provided). The minor nature of this infringement is not considered to compromise the overall integrity or outcomes sought for the RLA1 area and will not be materially noticeable in the context of the entire subdivision. The proposed Lots are consistent with the minimum densities and no person will be able to determine the extent of the breach given the minor nature of the non-compliance. As such, while the proposal is not entirely consistent with the averaging, the marginal nature is such that the proposal is **not contrary** to the overall intent of the policy.
d	Ensuring that subdivision is designed to: i. facilitate convenient, safe, efficient and easy access for vehicles, pedestrians and cyclists; and ii. facilitate the safe and efficient operation and the economic provision of roading and network utility services to secure an appropriate, integrated and planned development; and iii. have regard to the natural landform in Rural Lifestyle Areas 1-6, including through the alignment of lot boundaries and roading, and landscaping and planting design within public spaces;	The proposed additional Lots are able to be serviced in terms of transport and access requirements and were initially accounted for in terms of access requirements during the processing of RC220396. The proposal is entirely **consistent** with this provision.
e	Ensuring that the subdivision layout within each contiguous area of RLA1 provides for a range of allotment sizes and shapes and comprises pockets of smaller lots offset by larger lots and open space;	The proposed allotment sizes within Lots 1003 and 1004 provides a combination and variation of allotment sizes to cater for different demands. The proposal is entirely **consistent** with this provision.
f	Encouraging the extent of earthworks to not exceed that required for the installation of services, access and building platforms, while recognising that the contouring of land may either be required for, or limited by, geotechnical and/or aesthetic considerations;	Minimal additional earthworks are required for the purposes of additional access. Otherwise, the site is subject to an approved EMP which manages effects of earthworks. The proposed additional works can be integrated within this framework. The proposal is **consistent** with this provision.
g	Managing the character and amenity values of the Rural Resource Area (5) and surrounding areas by controlling land use activities, avoiding building within the no build areas shown on the Structure Plan, and avoiding urban forms of subdivision and development;	The proposal appropriately manages the character and amenity values of the Rural Resource Area (5) by maintaining consistency with the Structure

		Plan in terms of the location of the additional Lots and densities. The subdivision layout avoids any urban form or pattern of development, with Lots designed to follow landform and integrate with the surrounding rural lifestyle context. The proposal maintains a sense of openness and rural character as reinforced through the continued use of controls on building location, design, and landscaping. Accordingly, the proposal is **consistent** with this policy by avoiding development in the No Build Area, controlling land use in a manner that respects the landscape, and maintaining a clear distinction from urban subdivision patterns.
h	Minimising adverse effects of built form resulting from inappropriate building scale, location and external appearance;	Existing Rules in the District Plan requiring consents for new builds will continue to remain unchanged. The proposal is **consistent** with this provision.
i	Enhancing landscape values through the implementation of planting schemes tailored to specific areas within the Rural Resource Area (5);	No changes are proposed to the planting framework and therefore the proposal remains **consistent** with this provision.
j	Providing for an efficient access and open space network	No changes are proposed to the open space network that is to be afforded to the public. The proposal is **consistent** with this provision.
k	Providing adequate infrastructure to service development while minimising adverse effects	Infrastructure capacity and feasibility was assessed and provided for by the existing infrastructure provided under RC220396. The proposal is **consistent** with this provision.
l	Avoiding building in high risk natural hazard areas	The proposed Lots were deferred from the processing of RC220396 in order to allow for further testing. Based on further investigations from T+T, the natural hazards have been considered further where they conclude that the proposed risk mitigation options have been developed with an objective of reducing risk from slope instability and debris flow hazards to the extent that they consider it is feasible to develop the Lots. While some residual risks remain, T+T considers these are unlikely events and can be managed through the

		recommendations as provided in T+T's assessment. This consideration of T+T's recommendations and the specific development recommendations provide the means for mitigating the natural hazard risks in terms of meeting the requirements of Section 106 of the Resource Management Act (1991). Relying on this assessment, it would suggest that the sites are not "high risk" and therefore the proposal is **consistent** with this provision.
m	Managing the potential for reverse sensitivity effects on adjoining rural land uses;	Existing controls in the District Plan as it relates to reverse sensitivity remains unchanged and includes: • Standards requiring that no audible bird scaring devices are used in the Horticulture Area (rule 4.7.6E(b)). The cherry orchard extension will be netted, consistent with the appellant's existing operation; • Standards requiring that there be no fixed wind machines within the RLPA, with provision made for portable machines only (rule 4.7.6E(c)); and • Standards prescribing the number, location and model of wind machines for frost control to be placed in the Horticulture Area (rule 4.7.6E(c)). The proposal is **consistent** with this provision.
n	Maintaining the productive potential of the Rural Lifestyle Production Area through ensuring that the allotment sizes and location of residential activity within the Rural Lifestyle Production Area do not prevent or significantly inhibit its productive use;	No changes are proposed to the RLPA and therefore this provision is **not relevant.**
o	Ensuring the Rural Lifestyle Production Area is used for productive purposes alongside providing for rural living by requiring 50% of each allotment to be planted for productive purposes prior to the establishment of residential activity;	No changes are proposed to the RLPA and therefore this provision is **not relevant.**
p	Complementing, rather than competing with, urban areas in the district by providing a focus on rural living activities.	The proposal reinforces the rural living character of the zone and does not compete with urban zones. The typology remains distinct from urban forms and

		complements the broader district settlement pattern.
q	Maintaining the open and natural character and legibility of Rural Lifestyle Area 6 by: i. Avoiding subdivision and building in the No Build Area; ii. Enabling building within the "Area for Future Building Platform" provided it is well integrated into the landscape; iii. Other than as provided in ii, avoiding building in the area outside of the No Build Area unless it be demonstrated that the legibility and open and natural character of the Rural Lifestyle Area 6 will be maintained; iv. Avoiding subdivision in the area outside of the No Build Area unless: a. the creation of additional lots is necessary to facilitate rural activity or ecological restoration and use of the land is restricted to such purpose in perpetuity through a legal mechanism; or b. a dwelling has been approved under Rule 4.7.4.xi on each of the lots proposed to be created; and c. in respect of a and b the subdivision will avoid adverse effects on, and maintain, the legibility and open and natural character of the Rural Lifestyle Area 6 and will not result in delineation of boundaries through fencing or planting. v. Requiring that any planting is natural in design and avoids any linear or geometric forms and comprises only native species endemic to the area except for low height producing grass species such as browntop; vi. Requiring that any roads are largely enclosed by planting.	Not applicable to this proposal.

In considering Policy 4.4.18 overall, the additional Lots are designed to remain consistent with the outcomes anticipated by Policy 4.4.18. The development integrates with the established pattern of rural living in this bespoke zone, provides appropriate intensification in order to meet market demands, and preserves key landscape and amenity values. The policy provides a broad and detailed framework for managing growth in this area, and the proposal is aligned with that framework in both intent and implementation. As such, the proposal is **not contrary** to these provisions.

In terms of any other relevant provisions of the Central Otago District Plan, these are assessed as follows:

Table 6: Assessment of relevant objectives and policies of the Central Otago District Plan.

Provision	Description	Assessment
4.3.1	Objective - Needs of the District's People and Communities To recognise that communities need to provide for their social, economic and cultural wellbeing, and for their health	The proposal responds positively to this objective by providing additional rural lifestyle living opportunities meeting an identifiable market demand that

	and safety at the same time as ensuring environmental quality is maintained and enhanced.	support the social and economic wellbeing of the community, through expanded housing choice to respond to the desired demand and efficient use of zoned land. The development integrates with existing infrastructure and maintains key environmental outcomes through appropriate landscape design, protection of significant landforms, and adherence to servicing and design controls. As such, the proposal strikes an appropriate balance between enabling community wellbeing and maintaining environmental quality. The proposal is overall considered to be **consistent** with this policy.
4.3.3	Objective - Landscape and Amenity Values To maintain and where practicable enhance rural amenity values created by the open space, landscape, natural character and built environment values of the District's rural environment, and to maintain the open natural character of the hills and ranges.	The proposal seeks to develop Lots 1003 and 1004 in line with the already determined minimum allotment sizes as confirmed through PC14. It follows that effects on landscape character and amenity values have already been appropriately accounted for in the rezoning of the site. Accordingly, the proposal is **consistent** with this Objective.
4.4.2	Policy– Landscape and Amenity Values To manage the effects of land use activities and subdivision to ensure that adverse effects on the open space, landscape, natural character and amenity values of the rural environment are avoided, remedied or mitigated through: (a) The design and location of structures and works, particularly in respect of the open natural character of hills and ranges, skylines, prominent places and natural features, (b) Development which is compatible with the surrounding environment including the amenity values of adjoining properties, (c) The ability to adequately dispose of effluent on site, (d) Controlling the generation of noise in back country areas, (e) The location of tree planting, particularly in respect of landscape values, natural features and ecological values, (f) Controlling the spread of wilding trees. (g) Encouraging the location and design of buildings to maintain the open natural character of hills and ranges without compromising the landscape and amenity values of prominent hillsides and terraces.	
4.4.8	Policy - Adverse Effects on the Amenity Values of Neighbouring Properties.	The adverse effects on adjacent properties have been thoroughly canvassed in the underlying PC14

	To ensure that the effects associated with some activities including (but not limited to): (a) Noise (including noise associated with traffic generation, night time operations), and vibration, (b) The generation of a high level of traffic, in particular heavy vehicles, (c) Glare, particularly from building finish, (d) A reduction in visual amenity due to excessive signage and the storage of goods or waste products on the site, (e) The generation of odour, dusts, wastes and hazardous substances, and (f) The use and/or storage of hazardous goods or substances do not significantly adversely affect the amenity values and privacy of neighbouring properties or the safe and efficient operation of the roading network.	proceeding and through the subsequent establishment of the Zone and Rural Lifestyle Areas. The proposal seeks to develop the Lots in line with the densities anticipated for the RLA 1. As such, effects on neighbouring properties are considered to be less than minor. As such, the proposal is **consistent** with this policy.
4.4.9	Policy - Effects of Rural Activities To recognise that some rural activities, particularly those of a short duration or seasonal nature, often generate noise and other effects that can disturb neighbours by ensuring that new developments locating near such activities recognise and accept the prevailing environmental characteristics associated with production and other activities found in the Rural Resource Area.	Within the Rural Resource Area (5) Zone, Rule 4.7.6.E(b), (c) and (e) have been updated to apply to future residential activities within the Zone, in order to safeguard legitimate rural activities in the area to operate unimpeded, and manage reverse sensitivity effects. These rules will equally apply to the additional Lots. Recognising that the proposed allotments are to sit within the context of an established (in terms of baseline) residential context, the proposal is not considered to give rise to additional effects on rural activities. The proposal is therefore **consistent** with this provision.
4.3.7	Objective - Soil Resource To maintain the life-supporting capacity of the District's soil resource to ensure that the needs of present and future generations are met.	The intensification is occurring within existing established (in terms of the consented baseline) Rural Lifestyle Areas and does not affect the RLPA which has identified soils that are suited for primary production. The proposal is therefore not considered to compromise the life-supporting capacity of the District's soil resource and is therefore **consistent** with this policy.
16.3.1	To ensure that subdivision avoids, remedies, or mitigates adverse effects on the safe and efficient operation of the districts roading network.	The additional Lots will not adversely affect the safe and efficient operation of the roading network. The proposal is therefore **consistent** with this policy.
16.3.2	To ensure that subdivisions provide all necessary services and infrastructure without adversely affecting the public interest and the ongoing viability of those services and infrastructure.	The proposed additional Lots can be accommodated within the consented infrastructure framework without adversely affecting the public interest and the ongoing viability of those

		services and infrastructure. The proposal is therefore **consistent** with this policy.

In considering the assessment above, it is considered that the proposal is not contrary with the relevant objectives and policies of the District Plan.

10.5 SECTION 106

Pursuant to Section 106 of the RMA, a consent authority may refuse to grant a subdivision consent, or may grant a subdivision consent subject to conditions, if it considers that the land is or is likely to be subject to, or is likely to accelerate material damage from natural hazards, or where sufficient provision for legal and physical access to each allotment has not been made.

In this case, access to the proposed allotments have been demonstrated to which easements will ensure legal access is maintained.

The natural hazards have been considered further by T+T where they conclude that the proposed risk mitigation options have been developed with an objective of reducing risk from slope instability and debris flow hazards to the extent that they consider it is feasible to develop the Lots, although they note that some residual risks will remain. These risks arise due to inherent natural variability, limitations in site investigations, and uncertainties in design and construction. While some residual risks remain, T+T considers these are unlikely events and can be managed through the recommendations as provided in T+T's assessment. This consideration of T+T's recommendations and the specific development recommendations provide the means for mitigating the natural hazard risks in terms of meeting the requirements of Section 106 of the Resource Management Act (1991).

10.6 SECTION 104D

When dealing with non-complying activities, before granting an application a council must be satisfied that either the adverse effects of the activity on the environment will be minor (s104D(1)(a)), or the proposed activity will not be contrary to the objectives and policies of a proposed plan and/or plan (s104D(1)(b)).

With respect to the assessment above, the first gateway test for a non-complying activity required under section 104D(1)(a) has been met in that the application will not have an adverse effect on the environment which is more than minor. I conclude the effects are no more than minor for my reasons set out above.

With respect to the second gateway test under section 104D(1)(b), the application is considered broadly consistent with the relevant policies and objectives of the Rural Resource Area (5). While there is a minor inconsistency as it relates to the averaging criteria, I consider that overall, the proposal is not at odds with the core intent of the Zone, and therefore is **not contrary** to this intent.

Accordingly, as the application has passed both of the gateway tests in s104D, I consider consent can be granted for this non-complying activity.

11 PART 2 ASSESSMENT

11.1 OVERVIEW

The proposal is consistent with Part 2 of the Act, being the sustainable management of natural and physical resources, whilst also protecting the life supporting capacity of ecosystems, and avoiding, remedying or mitigating adverse effects on the environment.

11.1.1 SECTION 5

The purpose of the Act as stated in s5(1) of the RMA is, “to promote the sustainable management of natural and physical resources”.

Section 5(2) of the Act defines “sustainable management” as:

> *… managing the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well being and for their health and safety while –*
>
> *Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
>
> *Avoiding, remedying, or mitigating any adverse effects of activities on the environment.”*

The proposal supports this purpose by enabling a form of rural lifestyle development that responds to clear market demand while protecting key environmental values. It avoids development in sensitive landscape areas (ONL and upper SAL), respects productive land capacities, and is integrated with existing infrastructure without generating more than minor adverse effects. Appropriate mitigation measures are in place to manage any potential effects on landscape, amenity, and the rural-residential interface. As such, the proposal provides for the social and economic well-being of the community while safeguarding environmental resources.

11.1.2 SECTION 6

Section 6 relates to matters of national importance. The most relevant is that of Section 6(b) which seeks the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development.

The proposal avoids any development within the ONL, and the more sensitive upper areas of the SAL are similarly avoided. The integrity of these landscapes is therefore maintained.

Heritage and archaeological values have been addressed through the existing PC14 framework and remain protected via conditions that require adherence to the Heritage New Zealand Pouhere Taonga protocols. No new effects on cultural or heritage values are anticipated.

No identified sites of significance to tangata whenua are affected by this proposal, and the development remains within the areas previously determined as appropriate under PC14.

11.1.3 SECTION 7

Section 7 relates to ‘other matters’. The matters of relevance are considered to be as follows:

> *(b) the efficient use and development of natural and physical resources*
>
> *(c) the maintenance and enhancement of amenity values*
>
> *(f) maintenance and enhancement of the quality of the environment*

The proposal reflects an efficient use of zoned land by providing additional rural lifestyle opportunities within a structure already consented and serviced, without generating demand for further land re-zoning or infrastructure expansion.

Amenity values are preserved through the site of Lots within the RLA 1 at a density contemplated in this area.

The quality of the environment is maintained by avoiding sensitive landscape features and ensuring that infrastructure, transportation, and servicing remain within existing capacities.

Productive land has been comprehensively assessed and appropriately managed through the RLPA designation, ensuring that finite soil resources are recognised and their values upheld.

On balance, the proposal is considered consistent with Section 7 of the RMA.

11.1.4 SECTION 8

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi.

The proposal does not impact any identified Māori land, sites of significance, or cultural values. Cultural effects were assessed through the PC14 process, with appropriate mechanisms (e.g., archaeological protocols) embedded within the consent framework.

There is no evidence that the proposed intensification compromises any principles of partnership, participation, or protection under the Treaty.

11.1.5 CONCLUSION

The proposal is consistent with the purpose and principles of Part 2 of the RMA. It promotes sustainable management by enabling a high-demand form of rural residential living within a framework that maintains environmental integrity, protects significant landscape and cultural values, uses infrastructure efficiently, and upholds amenity values. The effects are no more than minor, and the proposal appropriately balances the use, development, and protection of natural and physical resources in line with the RMA’s purpose.

12 SUMMARY

The applicant holds a comprehensive suite of resource consents to develop land at 112 and 144 Ripponvale Road, Cromwell for a 151-Lot rural residential development, in line with the Rural Resource Area (5) provisions (incorporated by way of Plan Change 14 (PC14)) of the Central Otago District Plan.

Consent is now sought to subdivide development Lots 1003 and 1004 into nine allotments in accordance with the underlying RLA 1 density. The sites were initially deferred due to inconclusive information relating to landslide hazards.

Based on further investigations from T+T, the natural hazards have been considered further where they conclude that the proposed risk mitigation options have been developed with an objective of reducing risk from slope instability and debris flow hazards to the extent that they consider it is feasible to develop the Lots. While some residual risks remain, T+T considers these are unlikely events and can be managed through the recommendations as provided in T+T's assessment. This consideration of T+T's recommendations and the specific development recommendations provide the means for mitigating the natural hazard risks in terms of meeting the requirements of Section 106 of the Resource Management Act (1991).

Overall, the activity is assessed as a **non-complying activity.**

The actual and potential effects on the environment have been outlined in section 8 of this report where it is concluded that the proposed activity is not likely to have any adverse effects on the environment that are more than minor.

The proposal is considered consistent with the relevant objectives and policies of the District Plan and meets the purpose and principles of the Resource Management Act 1991.

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REPORT

Tonkin+Taylor

Shannon Farm, Cromwell

Geotechnical Assessment Report

Prepared for
New Zealand Cherry Corp (Leyser) GP Limited
Prepared by
Tonkin & Taylor Ltd
Date
July 2025
Job Number
1090333.2000 v1.0

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1 Introduction

New Zealand Cherry Corp (Leyser) GP Limited (NZ Cherry Corp) is developing a large lifestyle subdivision in Cromwell, called Shannon Farm. Part of the development is located on the lower slopes of the Pisa Range, where the land is mapped as Schist Debris Landslides (SDL's) on the geological map (GNS QMAP Wakatipu)[1].

A geotechnical assessment report for the subdivision resource consent application was completed by GeoSolve (ref 180137.03) in November 2022[2]. This report categorised sections of the mapped SDL's within the development as either "landslide areas (technically developable)" or "landslide areas (no current potential for development)". Tonkin & Taylor Ltd (T+T) was engaged to complete a site walkover assessment of the SDL's to further understand the development potential of the Lots within these mapped areas. The site walkover was completed on 12 December 2024, and the observations were discussed in a draft report dated 31 January 2025[3]. Ground investigations and further analyses were recommended in the draft report.

NZ Cherry Corp requested T+T conduct geotechnical investigations and slope stability assessments on the proposed Lots located within the SDL's. The Lots of interest for this assessment are shown on Figure 1 in Appendix A and comprise Lots 75 to 76, 78 to 91, 98, 99, 169 to 175, 302, 401, 402). The investigations were completed in line with our variation dated 3 March 2025[4]. Geotechnical investigations were undertaken in April and May 2025, with a factual report of the results presented in June 2025[5].

1.1 Scope of work

Our scope of work was to refine our understanding of the SDL's, including the assessment of the potential consequences of ongoing creeping landslide processes for the proposed Lots. This included:

- Interferometric Synthetic Aperture Radar (InSAR) historical analysis over 10 years.
- Intrusive investigations to understand deep ground conditions.
- Geotechnical assessment and reporting, including:
  - Ground model development.
  - Qualitative geotechnical natural hazard assessment.
  - Slope stability assessment.
  - Outlining suitable foundation options.
  - Reporting the results of the geotechnical assessment.

This report outlines the results of the geotechnical assessment undertaken for this site, incorporating relevant aspects of the site walkover observations.

[1] Turnbull, I.M. (compiler) 2000. *Geology of the Wakatipu area*. Institute of Geological & Nuclear Sciences 1:250,000 geological map 18. 1 sheet + 72 p. Lower Hutt, New Zealand. Institute of Geological & Nuclear Sciences Limited.
[2] GeoSolve Ltd. 10 Nov 2022. Geotechnical Report for Resource Consent. Shannon Farm Subdivision. 112 & 144 Ripponvale Road, Cromwell. GeoSolve Ref: 180137.03.
[3] Tonkin & Taylor Ltd (T+T). 31 January 2025. Shannon Farm Development Cromwell. Initial Geotechnical Assessment for North and Western Slopes. T+T Ref: 1090333.0000.
[4] Tonkin & Taylor Ltd (3 Mary 2025), Variation Order VO1_Rev 1. Shannon Farm Geotechnical Investigation, Proposal for geotechnical investigation and assessment services. Job Ref: 1090333.0000.
[5] Tonkin & Taylor Ltd (T+T). June 2025. Shannon Farm Geotechnical Investigations. T+T Ref: 1090333.2000.

2 Desktop assessment

2.1 Site description

The Shannon Farm development is located off Ripponvale Road in Cromwell, in the foothills of the Pisa Range. The development overlies moderate to steep slopes towards the north and west of the site, and gently sloping land to the south and east. The site is currently a combination of orchards and grassed paddocks with streams, water races (active and inactive/historic) and ponds across the site.

2.2 Published geology

The investigation area for this scope of works which is part of the overall subdivision development is shown on Figure 2.1 below within a yellow box overlying the published geological map of the area[1]. This indicates that the investigation area is underlain by either schist or Schist Debris Landslides (purple) on the slopes of the Pisa Range, or Pleistocene and Holocene alluvium (yellow) on the gentle slopes and terraces to the east. The schist and Pleistocene alluvium (Q16) are in fault contact along the Pisa Fault, mapped as a concealed active structure. The location of the fault is based on an extrapolation of surface fault scarps that exist further north along the Pisa Range, while there is uncertainty in the location of the fault it is accepted that the Active Fault system continues to the south and across the Kawarau River.

A summary of these units is provided in Table 2.1. Interpreted cross sections through the site are provided in Appendix B.

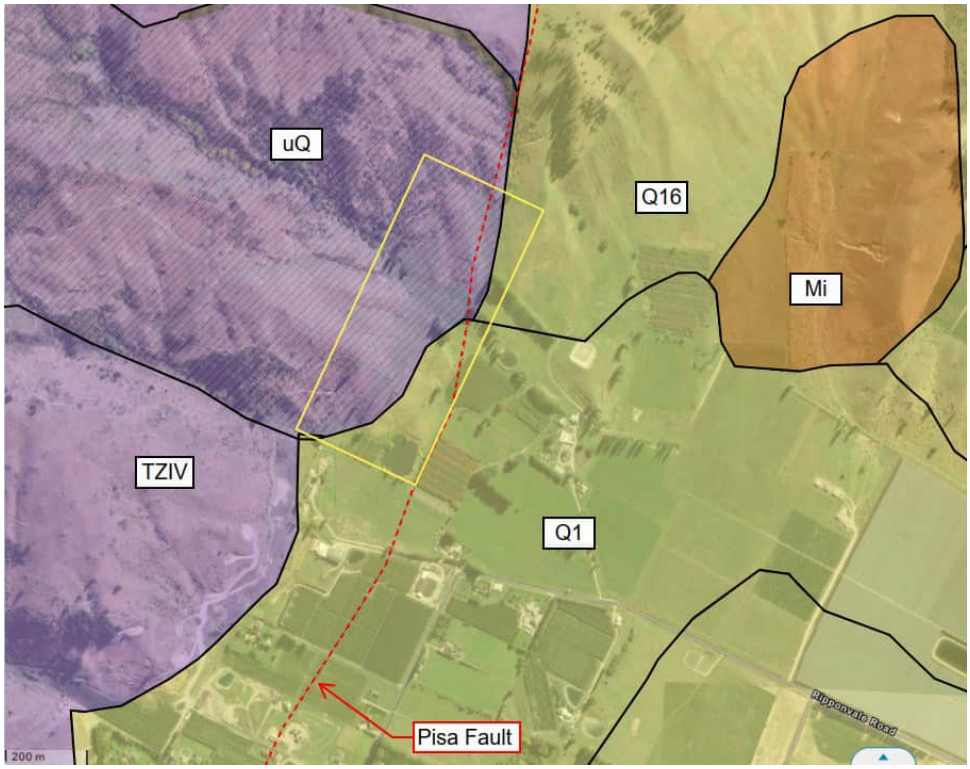

Figure 2.1: Geological setting (from QMAP) indicating the approximate investigation area (yellow box).

Table 2.1: Geological units from the QMAP

Geological unit	Map ID	Description
Rakaia Terrane (Haast Schist)	TZIV	Basement (Eastern Province) metamorphic rocks (schist). Undifferentiated well foliated and segregated psammitic and pelitic schist with greenschist and metachert bands (QMAP).
Manuherikia Group	Mi	Quartz sand and gravel with lignite seams (Dunstan Formation), overlain by interbedded clay, silt and minor sandstone (Bannockburn Formation) (QMAP).
Landslide (Schist Debris Landslides)	uQ	Schist landslide debris consists of chaotic unsorted mixtures of clay to boulder-sized clasts. Many landslides grade upslope into large blocks of schist which have moved only slightly (QMAP).
OIS16 (Early Pleistocene) outwash deposits (Lowburn Formation)	Q16	Moderately weathered schist and greywacke gravel with clasts up to boulder size. The gravel is deformed adjacent to the Pisa Fault System (QMAP).
OIS1 (Holocene) fan deposits – Alluvial Fan	Q1	Loose, commonly angular, boulders, gravel (typically schist), sand, and silt forming alluvial fans; grades into scree (upslope) and valley alluvium (QMAP).

2.3 Otago Regional Council Natural Hazards Exposure Analysis

Otago Regional Council (ORC) has recently issued the "Otago Regional Council Natural Hazards Exposure Analysis" Report[6] (May 2025). The ORC website states that this is a "*broad-scale, regional assessment designed to inform strategic planning. It is not intended for detailed property-level assessments*". However, it is a useful tool to identify already mapped or assessed natural hazards in the area. A table summarising the hazards identified in this report in the area of the Shannon Farm development is outlined below. Images from the exposure map are provided in Appendix C.

Table 2.2: Summary of the natural hazard exposure table for "Cromwell Hills West" area

Hazard Name	Exposure Level [Note1]	Discussion
Alluvial fan (debris inundation)[7]	High	• A "regional assessment was carried out at 1:50,000 scale utilising previous geological mapping, aerial photo and map observations". • An 'active debris-dominated' alluvial fan is mapped at the toe of the slope within the development.
River and lake flooding	High	• Mapped using "historical observation, aerial imagery and topographic information such as LiDAR. This dataset does not include pluvial flooding (surface flooding from rainfall runoff where stormwater systems are overwhelmed)". • An 'active floodwater-dominated alluvial fan' is mapped through the gently sloping lower part of this development.
Active Faults[8]	High	• The mapped Active Faults, "generally based on regional geologic mapping and air photo interpretation".

[6] Otago Regional Council, May 2025. Otago Region Natural Hazards Exposure Analysis.
[7] Barrell D.J.A..; Cox, S.C.; Greene, S.; Townsend, D.B. 2009: Otago Alluvial Fans Project: Supplementary Maps and Information on Fans in Selected Areas of Otago. GNS Science Consultancy Report 2009/052. Prepared for Otago Regional Council.
[8] Barrell DJA. 2019. General Distribution and Characteristics of Active Faults and Folds in the Queenstown Lakes and Central Otago Districts, Otago. Lower Hutt (NZ): GNS Science. 99 p. Consultancy Report 2018/207.

Hazard Name	Exposure Level [Note1]	Discussion
		• Active Fault traces have been "buffered by ±250 m to create polygon features representing the area in near proximity to an Active Fault structure". • The Pisa Fault is positioned at the toe of the slope within the development.
Landslide	Very low	• Based on the geological map for the area[1], and "interpreted locations of past landslide movements, generally based on interpretation from aerial imagery. This dataset does not represent landslide susceptibility (i.e. slopes which may fail in future), or areas which may be impacted by the runout of landslide debris". • Landslides are mapped on the hills within the development.
Rockfall[9]	Very low	• "Rockfall 'awareness areas' identifies areas that may be susceptible to rockfall", they are a "potential rockfall hazard that requires further investigation" • Rockfall source areas are identified higher up on the slopes but do not run out into the development.
Liquefaction	Very low	• Areas which are "potentially subject to liquefaction hazards, based on regional-scale geologic mapping (QMAP), and interpretation from aerial imagery, LiDAR topography, and borehole information".

Note1: High = "21-49 % of buildings within community area are located within a mapped hazard area", Very low = "≤1 % of buildings within community area are located within a mapped hazard area". This may change at the site once housing is developed.

2.4 InSAR assessment

As part of the overall assessment for this project, it was proposed to undertake InSAR analysis (Interferometric Synthetic Aperture Radar) to provide quantitative data of potential land displacement around the development site, focusing on the SDL's. InSAR is a remote sensing technique that uses satellite data to record accurate ground levels, allowing for changes in ground level to be detected over time.

T+T engaged 3vGeomatics (3vG) to perform InSAR analysis at the Shannon Farm site, which used the Sentinel-1 satellite to capture historical data back to 2015. A webmap viewer was provided to manipulate and understand the data captured by the InSAR. 3vG noted that the spacing of pixels used for the analysis is 5 x 20 m, with a precision of displacement measurement between 2-5 mm where data is good quality i.e. not affected by vegetation.

The viewer output shows pixels of varying 'displacement rate' provided in cm per year. T+T's interpretation of these results is provided in Section 6.6.

[9] Easterbrook-Clarke LH, Massey CI and Cox SC, 2022. Otago regional rockfall screening study. GNS Science Consultancy Report 2022/67, prepared for the Otago Regional Council.

3 Site walkover summary

A site walkover was completed by two senior engineering geologists in December 2024. The purpose of the walkover was to ground truth the desk study information that had been compiled to date, including review of existing reports of the site, aerial images, LiDAR and hill shades derived from a survey of the site.

The key observations are summarised in Table 3.1. A geomorphological map of the SDL's is provided in Figure 2 within Appendix A, which also shows some features discussed in Table 3.1.

Table 3.1: Walkover summary

	Observations and interpretation
Schist Debris Landslides	• Two SDL's were identified on site, a 'North SDL' and a 'West SDL' (see Figure 2, Appendix A), which coincide with the geological map limits of the landslide areas identified on Figure 2.1. • Broadly, the schist within the landslides and on intact rock ridges, is dipping at moderate angles to the east with zones of steeply dipping schist indicating kink folds and possible 'rollover' towards the Pisa Fault. • The block/lobe on the West SDL that carries proposed Lots 75, and 78 to 83 has a 'smooth' geomorphology, which can be interpreted as either currently active landslide lobes or the degraded/eroded surface of older landslide lobes. • The overall landslides are interpreted as broadly foliation plane slides, but with complex wedge movement evident in the headscarps and margins, with predominant directions of movement obliquely southeast towards the deeply incised West and Southwest Gullies. • Our walkover conclusion is that the landslides appear to be in a 'general state of equilibrium', with no evidence of active differential movement occurring on the lower slopes.
Disused water races	• From aerial imagery comparison to site observations, the disused water races crossing the lower lobes of the West and North SDL's have not materially changed since 1952. • The 1952 aerial image shows multiple scours and downslope landslides from the water races, which were observed on site (Figure 2, Appendix A). These small scale landslides were triggered by leaks from the water races while they were in use and are not related to the SDLs. This includes a medium sized circular landslide located at the base of the North Landslide that was inferred as active in the Geosolve report. Based on our observation there is no evidence for recent activity of this landslide. • The LiDAR information indicates that overall water race grades are preserved across the landslides, i.e. there is no evidence for significant movement of lower lobes in the past 73 years. • Our walkover conclusion is that multiple landslides and scour features were triggered by ongoing seepage and/or overtopping during rain events from active water races. The 3 close spaced water races that traverse the North landslide and across the North Gully are thought to have been built progressively to bypass the head scarps of failures from the water race below.
Active landslide movement	• The site walkover did not uncover any evidence for active differential movement of lobes and sections of the SDL's, including the toe areas. • This does not preclude deeper seated creep movements, but if occurring they are too slow to manifest visible signs and not variable enough to result in differential movement that would result in visible lateral margins or toe deformation.

	Observations and interpretation
	• The exceptions were small scarps observed in the head areas of gullies on the North SDL upper north block/lobe and the West SDL maroon block/lobe. The location shape and persistence of these features is consistent with shallow movement of surficial material from gully heads down into the incised gullies. • Such features present a potential debris slide/flow hazard to the downstream gullies and out onto the fans during very intense local rainfall events.
Outwash gravels (Lowburn Formation)	• Outwash gravel was observed on the front of the West SDL (Figure 2, Appendix A), and in GeoSolve test pits. • Schist debris indicated by boulders on the ground surface occurs on ridges protruding from the West and North landslides. • Our walkover conclusions included the possibility of the SDL toes overriding the alluvial fans and the extent of landslide activity since the last erosion and range front trimming event during the Q6 glaciation about 150,000 years ago. The investigations conducted for this report are scoped to provide subsurface information relevant to SDL toes. • Drilling and test pitting have shown that these protruding ridges are formed by Lowburn Formation outwash that is >500,000 years old and tilted up against the Pisa Fault (see Figure 2 for mapped Lowburn Fm areas). The schist debris is a surficial erosional remnant of landslide and not the result of ongoing creep movement out into the valley floor.
Pisa Fault location	• The toe of the North SDL is mapped down the axis of the North Gully approximately coincident with the inferred trace of the Pisa Fault[1]. Exposure and a test pit by GeoSolve indicate that the slope into the North Gully is underlain by Manuhirikia Group rock or Lowburn Formation outwash gravels, suggesting that the fault contact between schist and Pliocene and Pleistocene units may lie further to the west. This was confirmed by the drilling and test pitting as shown on the sketch sections (Appendix B). • While the contact between schist rock and younger sediments may lie to the west it does not preclude the active trace of the fault occurring in the previously mapped location where it is concealed by Holocene and recent alluvial fan sediments.
Debris slides and flows	• The coalescing alluvial fans that slope out from the West, Southwest and North Gullies present a debris flow hazard. A hydrogeology study by Geosolve has been conducted for these catchments with recommendations for development provided and accepted. Lots on or adjacent to the fan surfaces at the toe of the SDL slopes are Lots 75 to 77, Lots 169 to 171, 174 and 175, and to lesser extent Lots 167 and 168. • Small ephemeral gullies on the west and North landslides have the potential to generate smaller debris flows as evidenced by minor instability in head areas, mid slope erosion and small alluvial fans at the toe. The scale of potential debris flow hazard on local drainage lines and gullies is relatively small but can have significant consequences where development occurs on Lots in the paths of debris without consideration of detention, diversion or flow paths to pass debris. While there may not have been any historical reports of debris flows in these areas that does not preclude them from happening.

Following the walkover, further ground investigations were recommended to better understand the SDL's toe complexity and groundwater conditions and the potential impacts on the proposed development.

4 Ground and groundwater conditions

4.1 Previous ground investigations

Test pit investigations and site mapping/observations were completed by GeoSolve in 2022[2]. The investigation results are not reproduced here. Observations from these investigations are included as appropriate in our general assessment of the site.

4.2 Recent ground investigations

T+T undertook ground investigations during April and May 2025. These included:

- 5 No. machine borehole investigations.
- 10 No. test pits and trenches.
- Groundwater monitoring in all boreholes.

The results of these investigations have been provided in a separate factual report, which should be read in conjunction with this report[5]. The locations of the investigations are shown in Figure 1 in Appendix A. Borehole and test pit logs are included in the factual report and are not reproduced here.

4.3 Groundwater

Using data from Wells Aotearoa New Zealand, we identified and reviewed a registered water bore on the gently sloping land to the east of the development[10]. The water level was recorded approximately 33 m below the ground level, downslope of our site. This groundwater level is interpreted to be the regional groundwater level to the east of the site.

Four vibrating wire piezometers and 1 Casagrande standpipe piezometer were installed into the five (5) machine boreholes completed at the site. The piezometers were installed to understand the potential for perched groundwater levels and elevated pressures in regional groundwater in different soil units identified in the boreholes, as these conditions could have implications for SDL movement.

The groundwater levels from the vibrating wire piezometers will be continually monitored using telemetry set up at the site. The standpipe piezometer will be measured manually using an electronic dip meter. The latest data downloaded from the piezometers is presented in Appendix D. During excavation, all the test pit and trench excavations were observed to be dry with no water inflow. Our initial observations are:

- BH1 – the shallow piezometer appears to be dry at approximately 282 mRL, a deep piezometer shows water within the SDL unit at approximately 278 mRL.
- BH2 – the shallow piezometer appears to be dry at approximately 280 mRL, a deep piezometer shows water within the Lowburn Formation unit at approximately 266 mRL.
- BH3 – this is interpreted to be dry at approximately 270 mRL.
- BH4 – this shows water within the Lowburn Formation unit at approximately 248 mRL.
- BH5 – this is interpreted to be dry at approximately 281 mRL.

The groundwater levels observed in BH1 (deep), BH2 (deep) and BH4 appear to be steady but slowly reducing overtime. There is a chance this could be an artifact from the influence of drilling water

[10] Reference F41/0247 from Wells Aotearoa New Zealand. Accessed June 2025. Wells Aotearoa New Zealand.

within slow draining soils and will require long term monitoring to confirm if this continues to drop or if this is representative of groundwater levels.

4.4 Encountered geological units

A summary of the soils encountered in the T+T borehole and test pit investigations is provided in Table 4.1. Interpreted geological cross sections for the site are shown in Appendix B.

Table 4.1: Geological units identified in the investigations

Unit name	Description
Topsoil	• Brown to dark brown silt with some gravels.
Landslide (Schist Debris Landslides)	• Gravelly silts or silty gravels with cobbles and boulders. • The gravels, cobbles and boulders are predominantly schist and quartz, found to have a homogenous distribution, and are matrix supported. The clasts were moderately to slightly weathered, and predominantly sub-angular. • Foliation within the schist clasts had variable orientation. • Some layers of completely weathered schist boulders were identified as silt units with some schist gravels. These were extremely weak to very weak rocks with some rock foliation still observed. • Some discrete layers of silts and clays were observed on angles ranging from 20° to 60°.
OIS16 (Early Pleistocene) outwash deposits (Lowburn Formation)	• Sandy gravels or silty gravels, with cobbles and boulders of quartz and highly weathered sandstone, with other lithics observed including green and brown coloured clasts. • Some zones of this unit had evidence of iron (Fe) cementation. • Some isolated layers within this overall unit had bedding angles between 10° and 30°. Some iron stained banding was observed with angles between 10° and 30°. Surface exposures in the North Gully indicate a consistent westerly dip direction. • This unit was encountered in all boreholes either from the surface or beneath Schist Debris Landslide.
OIS1 (Holocene) fan deposits – Alluvial Fan	• Silty gravels of various colours with some cobbles or boulders of predominantly sub-rounded to sub-angular moderately to completely weathered schist. • This was mainly observed in the North Gully.
Colluvium/Loess	• Soils were encountered as predominantly silt with minor to some sands and gravels. Thicker >1 m units ware present on the lower slopes of the West landslide. • The gravels were observed to be highly to completely weathered schist.

5 Landslide engineering geology model

The primary focus of this study is the mapped Schist Debris Landslides (SDL's). These are mapped on the QMAP geological map, are noted in the ORC exposure analysis report, and limitations were placed on subdivision development on the toe of the SDL's in the GeoSolve report, which considered development of the whole Shannon Farm subdivision.

Schist Debris Landslides are characterised by complex arrangements of debris, blocks of rock, shear zones, faults and compartments of pressurised groundwater. They move by very slow creep and slow episodic stick/slip occurring over many thousands of years. The complexity of materials and groundwater can lead to local slope instability, preferential erosion and debris generation in the toe areas of the landslides. Human modification of these lower slopes can trigger local slope instability and/or reactivation of larger scale slow landslide movement.

The understanding of SDL's was formed from significant study of the Cromwell, Kawerau and Roxburgh gorges as part of the study of reservoir slope stability for hydropower schemes. Key factors influencing these gorge SDL's include active and ongoing toe removal by the Clutha and Kawerau rivers, very large landslide areas with large elevation range and head areas under seasonal snow, 'frontal lobes' with steep toe slopes and active geomorphology (margins and scarps).

Table 5.1 summarises our observations and understanding of the North and West landslides on the Shannon Farm site. These observations have been incorporated in interpreted landslide sections presented in Appendix B.

Table 5.1: Landslide model development

Stage of assessment	Observations
Desktop assessment	• Mapped on QMAP scale of 1:250,000. • Historic landslides were observed in aerial imagery in 1952.
Walkover	• Moderately sloping terrain, with some gently sloping areas, represent eroded surfaces of the landslides. The toe areas where development is proposed are gently sloping. • The general conditions differ from the SDL's studied for Hydropower schemes. The North and West Landslides head areas are below the snow line and isolated from the crest of the range, and the toe areas have not been actively disturbed for the past approximately 150,000 years. • Observations across approximately 100 to 150 year old historic disused water races indicate no visible offset at the margins of landslides and no loss of grade across the landslides. • Historic small scale landslide activity in the toe areas is related to failure along active water races that have been disused for many decades. These landslides were observed in the field and current aerial imagery to be in a similar condition as the last 70 years. • Minor tension cracking was observed in the top of erosion gullies on the landslides which appeared to be related to shallow surficial movement.
InSAR analysis	• There is no trend in slope movement in the past decade on the mapped SDL's, noting an approximate 50 to 100 mm resolution for the InSAR analysis in this area. • Some areas of apparent movement within the investigation area appear to be areas of strong seasonal grass growth, on fertilised and over sown paddocks. This is compared to other areas of the hill slopes that are not farmed which do not show apparent movement over time.

Stage of assessment	Observations
Ground investigations	• All boreholes intersected Lowburn Formation as the 'bedrock' unit and at a higher level than was postulated prior to undertaking the investigations. The Lowburn Formation core recovered is massive and undisturbed apart from tilted bedding that is consistent with deformation along the Pisa fault. There is no evidence for disruption by movement of the SDL's. Displaced or insitu schist was not encountered below SDL deposits. • Schist clasts within the debris units show foliation of various orientations within the units and across the boreholes. This is the referred to as chaotic debris in hydro power landslide studies. • Completely weathered (CW) schist blocks up to several metres thick are encountered within the schist debris. These are either very large, rafted blocks or weathered parts of displaced schist blocks that tend to underly the schist debris in larger SDL's. The presence of CW blocks may suggest that a significant amount of overlying schist debris has been removed by erosion. • Potential landslide failure zones or 'slide bases' were identified by the presence of clay and silt layers with contacts dipping at 20 to 35°, oxidation and no core zones in the boreholes. Either 1 or 2 'slide bases' were inferred in each of BH1, 2 and 5. High plasticity 'gouges' and slickensided planes were not recovered. Based on our experience with Cromwell gorge landslides, the zones described above are typical of historic and active 'slide bases'. • Transitional layers with mixing of schist debris and the underlying Lowburn Formation gravels were observed in boreholes, indicating a 'turbulent' zone developing when the schist debris overrode the Lowburn Formation. Again, this a feature was seen in Cromwell gorge investigations. • Groundwater was not positively identified during drilling of the boreholes. Piezometers installed to assess perched or local pressurised aquifers are showing dry, or trending dry conditions. Deeper piezometers confirm the approximate fundamental water table at depth (20 to 30 m) below the ground surface. The general picture is that of relatively simple groundwater conditions in the toe areas of the North and West Landslides with potential to develop perched groundwater conditions dependent on recharge from rain events with elevated levels likely to be dependent on prolonged wet antecedent conditions.

Based on the above, we have developed interpretive cross sections of the landslides, presented in Appendix B. The section locations are shown on Figure 1, Appendix A. Sections 1 and 4 have been transferred into slope stability software (SlopeW) for assessment of relative stability under different cases as discussed in Section 7 of this report.

The interpretation we make from the above is that the North and West Landslides are features that have been relatively close to equilibrium for approximately 150,000 years with the slide mass undergoing progressive erosion and lowering of the ground surface towards the current levels. The toe of the landslide is generally daylighting above on Lowburn Formation 'bedrock' above the recent fan surface, except for the 2 lobes of the North and West landslide that converge on the West Gully (see BH1 and BH2 on Section 1 (Appendix B and see Section 7). Groundwater is relatively simple with deeper regional groundwater level and the possibility of perched groundwater on the inferred 'slide bases'.

6 Site specific natural hazard assessment

Following the desktop assessment, site walkover and ground investigations, we have completed an assessment of natural hazards that could affect the development of the site. The following sections outline our assessment of these hazards.

6.1 Alluvial fans and flooding

Alluvial fan sediments were identified in test pits in the lower parts of the northern and western gullies. The ORC Exposure Analysis identifies alluvial fans and alluvial fan flooding as a high exposure for the area, related to mapped active alluvial fans.

Based on our site observations flooding and possible debris flows generated in the West Gully and North Gully, and flowing out onto the alluvial fan could present a hazard to Lots 75 to 77 and Lots 167 to 170, and to lesser extent Lots 171, 174 and 175.

Geomorphological observations from the walkover identified smaller alluvial fans at the toe of ephemeral gullies across the site, including 2 gullies on the West Landslide that pass through Lots 78 to 81 and gullies on the North Landslide that pass through Lots 171 to 175. Shallow instability in the head areas of these gullies can produce small to medium (nominally <200 m^3) volume debris flows triggered by catchment specific high intensity rainfall. Such activity may not have been witnessed on this site but is a well recognised hazard at various scales across the Otago area.

GeoSolve has conducted a preliminary flood hazard assessment of the site[2]. Their report outlined the following:

- Existing flow paths for floodwater could be potentially subject to future flood inundation.
- Any existing active water race structures and culverts will need to be maintained as part of the development.
- Channel deepening and bunds may be required around some platforms to convey flood waters from identified streams.
- The development will need to consider stormwater catch drains upslope of structures to divert slope runoff when platforms are at the base of natural or cut slopes.
- Further assessment at detailed design is recommended to confirm minimum floor levels.

As this flood assessment has already been completed for subdivision consent, T+T has not completed any further flood assessments at the site.

As bulleted above, mitigation of risk to development from the debris flow and flood hazard can be achieved by; 1) the careful design of primary drainage paths, providing diversion structures and unobstructed secondary flow paths that can pass debris, and 2) the development of suitably elevated building platforms. Recommendations are provided in Section 8.5 below but the analysis and design for this would need to be completed at detailed subdivision design stage.

6.2 Active Faults

The Pisa Fault is mapped on the QMAP geological map as an active, concealed fault, which is inferred along the base of the hills through the development, at a 1:250,000 scale. No surface expression of the fault was identified on site during the walkover assessment. No evidence of fault planes was observed in the boreholes or test pits. We have not identified any fault avoidance zone on council

maps. Specific details about this fault have been taken from the New Zealand Active Faults Database[11] and a GNS paper[8]. They are outlined in Table 6.1.

Table 6.1: Pisa Fault details

Fault Name	Fault slip type	Slip rate	Recurrence interval (years)	Last event
Pisa Fault	Reverse	Very low, 0.10 mm/yr (GNS)	10,000 to 20,000 (Database) or 30,000 (GNS)	Unknown

Without any identification of a fault trace within the investigations, we have inferred that the location of the Active Fault trace, is at depth, and in line with the geological map.

The ORC Exposure Analysis report identifies the exposure to faults as high, and this is related to the number of properties within the buffer zone on the map (see Appendix C) around the mapped fault. Guidance for development near faults[12] implies that with the long recurrence interval of the fault (potentially 30,000 years), and lower building importance level (assuming importance level 1 or 2 structures), development would be classed as 'permitted'. For the purpose of this development, the possibility of fault rupture is therefore not considered to require any further investigation or consideration of avoidance or mitigation measures.

6.3 Seismic shaking hazard

6.3.1 Seismic site subsoil class

We have assessed the soil profile at the site in accordance with Section 3.1.3 of NZS1170.5:2004. The Lowburn Formation (>500,000 year old) is considered to be a very dense and partly cemented soil, acting as boundary material between engineering soil and rock. The schist debris and alluvium are medium dense granular soils. Based on the above we have evaluated a seismic subsoil Class C (shallow soils) outlined in Table 3.2 of NZS1170.5:2004, where maximum depths of medium dense-dense soils are 45-55 m.

6.3.2 Ground shaking hazard

Evaluation of the seismic performance of the site (including liquefaction effects) is guided by the seismic shaking hazard assessed for the site and the requirements of the New Zealand Building Code, which considers the design earthquake scenarios derived from "NZS 1170 – Structural Design Actions"[13,14] representing the following design performance requirements:

- Serviceability limit state (SLS) – the building should suffer little or no structural damage and remain accessible and safe to occupy. There may be minor damage to building fabric that is readily repairable.
- Ultimate limit state (ULS) – the building is expected to suffer moderate to significant structural damage, but not to collapse.

Table A1 from Module 1 of the NZGS/MBIE Guidelines[14] defines ground motions for soil earthquake response for locations around New Zealand in terms of an event moment magnitude (M_w) and peak

[11] Langridge, R.M., Ries, W.F., Litchfield, N.J., Villamor, P., Van Dissen, R.J., Barrell, D.J.A., Rattenbury, M.S., Heron, D.W., Haubrock, S., Townsend, D.B., Lee, J.M., Berryman, K.R., Nicol, A., Cox, S.C., Stirling, M.W. (2016). The New Zealand Active Faults Database. New Zealand Journal of Geology and Geophysics 59: 86-96.
[12] Ministry for the Environment, July 2003. Planning for Development of Land on or Close to Active Faults.
[13] New Zealand Geotechnical Society and Ministry of Business, Innovation, and Employment (2021). *Earthquake geotechnical engineering practice. Module 3 – Identification, assessment, and mitigation of liquefaction hazards.*
[14] Ministry of Business, Innovation & Employment (2021). *Earthquake geotechnical engineering practice – Module 1. Overview of the guidelines. Version 1, Nov 2021*.

horizontal ground acceleration (PGA_H) combination, for a specified return period. Return periods were derived from Table 3.3 of NZS1170.0:2002, for an Importance Level 2 (IL2) structure, with a minimum building design life of 50 years as required by the Building Act 2004. The design earthquake ground motions adopted for analysis are presented in Table 6.2.

Table 6.2: Design earthquake scenarios

Design life (years)	Limit state*	Return Period (years)	MBIE/NZGS Module 1 for design		2022 GNS NSHM	
			Peak ground acceleration (g)	Earthquake magnitude	Peak ground acceleration (g)	Earthquake magnitude
50	SLS	25	0.08	6.2	0.09	6.8*
	ULS	500	0.34	6.2	0.36	7.5*

* Mean magnitude taken from the NSHM using nearby Queenstown as the reference.

6.4 Liquefaction assessment

The soils observed at the site comprise cohesive or dense to very dense granular soils. These soils are not expected to be susceptible to liquefaction. The regional groundwater is significantly (10 to 30 m) deeper than the development ground level. We consider that liquefaction of soils on the site in the event of SLS or ULS magnitude earthquakes is unlikely to not credible.

6.5 Rockfall

The GeoSolve report[2] described a qualitative analysis in accordance with the ORC Proposed Otago Policy Statement June 2021 which deemed the risk of rockfall to the development as “Acceptable”. The ORC Exposure Analysis has identified potential source rock areas upslope of the development, with an identified “awareness area” surrounding this (see Appendix C). The existing predevelopment exposure (at the mapped scale) for this hazard is deemed very low.

During the site walkover, and ground investigations, large boulders of Schist rock were observed upslope of the proposed Lots. Boulders were noted to be weathered and partially embedded in the soils of the slope and assessed to be resistant remnants of creeping landslide movement and erosion of the land surface over many 1000’s of years. Boulder fields caused by rockfall were not observed above the Lots and existing slope angles (<25°) are too low to provide for credible rock fall or rock roll paths.

Rockfall sources are present in steep rock slope within the West Gully, but the runout areas for any potential rockfall is outside of the proposed Lot areas.

We consider the overall risk to the development from rockfall to be low. However, when undertaking detailed design of specific lots, large boulders on nearby upslope land may need to be addressed by isolated removal or relocation of boulders that are deemed to be of concern.

6.6 Landslides

6.6.1 General

Landslides are mapped at the site as the large SDL’s (Figure 2), however there are additional landslides hazards that have been identified, or could occur, at the site. These include local debris slides and flows from slope and drainage gullies upslope of Lots, as well as instability in slope cuts for building platforms. In this instance, the possible presence of locally persistent residual strength

landslide shear planes may result in movement in the cut slopes, with scarps developing on the cut or behind the crest and debris being deposited on the platform.

A qualitative assessment of landslide risk to property is summarised in Table 6.3 below. These have been assessed following AGS guidance[15] and assume no mitigation measures have been adopted.

Table 6.3: Landslide qualitative risk assessment summary

Hazard type	Likelihood	Consequence	Highest risk level assessed
Creep movement episodes (approx. 10s to 100 mm) of SDL lobes recognised in Figure 2 – during prolonged rainfall or earthquake events	Unlikely	Medium to minor - • Potential damage to roading, underground infrastructure and buildings where they straddle a margin of the creeping landslide lobe.	Low
Debris slides and flows of small to medium volume (<200 m^3) from slopes and drainage lines upslope of Lots	Possible	Major to minor - • Impact damage to the rear of building and possible internal inundation of buildings. • Scour damage to access ways and around retaining walls.	Moderate to High
Local landslides – 2H:1V cut slopes undercut local residual strength planes in schist debris resulting in 20 to 200 m^3 slides	Possible to Likely	Medium to minor - • Scarps encroach on upslope Lot or access by a few metres. • Debris deposits on platform damaging landscaping, drainage and possibly resting against the rear of a building.	Moderate
Retaining wall deformation and movement of land (up to 100s of mm) behind the wall due to rainfall or earthquake events	Possible to Unlikely	Minor - • Deformation or movement of an engineered retaining wall leading to access damage or cosmetic building damage.	Low

Note: The risk matrix used for this assessment is included in Appendix E.

6.6.2 InSAR Assessment

Slope movements in the range of 100's to 1,000's of mm are identified higher on the Pisa range on active landslide geomorphology where there is seasonal snow and swampy gully topography.

InSAR pixels indicate apparent small amounts of movement on the lower slope of the site but also on other hill slopes and the low angle fan surface (including the golf course). Integration of these locations shows variability or lack of coherence between pixels contributed to by atmospheric noise, limitations on height correction using LiDAR topography, and noise caused by vegetation cover especially grasses that have significant seasonal growth (generally bare ground and hard structures

[15] Australian Geomechanics Society (2007a). "Guideline for landslide susceptibility, hazard and risk zoning for land use planning". Australian Geomechanics Society, Australian Geomechanics, Vol 42 No 1, March 2007.

provide the best reflectors for good InSAR results). According to 3vG the InSAR processors, these pixels do not indicate slope movement.

The conclusion from the InSAR assessment is that there is no movement on the site or surrounding slopes, including the North and West landslides in the past decade. The practical limit of resolution of the InSAR in this area (including the site) appears to be about 100 mm of movement per decade.

6.7 Qualitative risk summary

The natural hazards discussed in the above sections indicate a range of hazards that could affect the proposed development. A summary of these hazards with mitigation considerations is provided in Table 6.4 below.

Excluded from this table are flood hazards from the North, West and Southwest gullies as these have been assessed already by GeoSolve, with details in their report[2].

Table 6.4: Qualitative geotechnical hazard risk assessment

Geotechnical hazard	Comment	Qualitative risk assessment	Mitigation required
Active Fault rupture	• Fault identified in proximity to the development, fault is not observed at the surface and has a long recurrence interval.	Low to very low	N/A
Liquefaction	• Soils at the site are cohesive or very dense granular soils with deep groundwater levels. • Liquefaction is unlikely in the low hills of the site.	Very low	N/A
Debris flow and flooding	• Active alluvial fans and flood water following large rainfall events could inundate the site.	Moderate to high risk	Mitigations options to be adopted at detail design including filled/elevated building platforms, sufficient primary and secondary flow paths with ability to pass debris as well as flood waters.
Rock fall	• Large boulders have been identified on slopes above the development, embedded in the soils. These are erosion remnants, not rockfall sourced. • Slope angles are too low to provide credible rock roll or fall mechanism.	Low risk	N/A
SDL creep movements	• Creep movement episodes (approx. 10's to 100 mm) of SDL lobes within the development resulting in damage where structures straddle a margin.	Low risk	Consider building foundation options that can tolerate some differential movement and tilt across the footprint, e.g. equivalent to TC2 liquefaction deformation.
Local landslides	• Localised slope failures in cut slopes around the development (Lot or road formation).	Moderate risk	Consider site specific assessment of cuts upslope of individual Lots at detailed design stage, consider stormwater control.

7 Slope stability assessment

7.1 Assumptions and criteria

A slope stability assessment has been undertaken using the SLOPE/W software by GeoStudio Ltd (version 2023) for limit equilibrium analysis. The assessment was carried out using the Morgenstern-Price method of 2D limit equilibrium methods. The purpose is to assess the overall stability based on typical material properties and the relative stability between different groundwater and seismic load cases. The results while not absolute or definitive assist in the assessment of the risk posed to development by movement of the SDL's.

The following methodology and assumptions apply based on knowledge of the site area, evaluation of the landform, and investigation data:

- Survey data provided by the client was used to create the cross-section slope.
- Cross section lines 1 and 4 have been assessed in Slope/W. These are considered the more critical slopes based on observations of slope angles and potential lot developments. Ground models have been established for the remaining cross section lines (Appendix B) but these have not been assessed in Slope/W. All section locations are shown on Figure 1 in Appendix A.
- Entry/exit and fully specified failure mechanisms have been assessed. Entry/exit mechanisms were used to check the overall slope. Fully specified mechanisms were used to test movement along assumed/modelled failure planes within the SDL. These were based on geomorphological mapping and soil layers identified in the borehole logs.
- Modelled units for in-situ Schist rock, and the Lowburn Formation consider these soils as 'impenetrable' or unable to fail. This assumption was based on an understanding of the soil types, the slope angles, and assumed geological history of the site.
- Groundwater levels have been modelled with a deeper regional groundwater system, perched groundwater and elevated groundwater.
  - Regional, deeper groundwater assumes connection to the deep groundwater level identified in the lower, gently sloping area of the development.
  - A perched groundwater level has been modelled towards the base of the SDL units, it is effectively an ephemeral aquifer perched on low the permeability 'slide base' zones.
  - An elevated groundwater level is modelled at approximately 5 m above modelled perched groundwater along the slope profile to approximate conditions following a combination of significant antecedent rain and heavy rainfall events.
  - No seepage was observed on the slopes to support elevated groundwater conditions under 'normal' conditions.
- The existing lower slopes on the SDL's are considered to be at or above equilibrium with a target FoS of 1.1 or greater if conducting 'back analysis' cases for 'normal' groundwater and rainfall conditions.
- The Jibson method[16] for the Newmark Block analysis has been applied to estimate seismic displacement.

7.2 Material parameters

Geotechnical parameters of the site soils and rocks have been determined based on the site investigation results, and our experience with similar materials in the local area. Table 7.1 summarises the properties and parameters of the soil derived for the stability assessment. In

[16] Jibson (2007). Regression models for estimating coseismic landslide displacement.

addition to major materials, we have constructed a unit to represent a landslide plane ('slide base') to run through the SDL unit, to allow for modelling a potential side plane constrained by 'slide base' materials encountered in boreholes and the upslope geomorphology. The adopted parameters are median values from a range of possible shear strengths, e.g. Cromwell Gorge landslide studies for the Clyde Dam established a range of overall 'slide base' shears strengths from 23 to 27°, accounting for residual shear strength clays and large scale roughness and undulations.

Table 7.1: Inferred geotechnical parameters

Soil layer no.	Soil layer name	Unit weight (kN/m^3)	Friction angle (°)	Effective cohesion (kPa)
1	Schist Debris Landslides	20	34	3
2	Landslide plane ('slide base')	18	25	0
	Alluvial Fan	20	30	0
3	Lowburn Formation*	22	37	70
4	Schist rock*	25	30	600

* Modelled as impenetrable during slope stability analysis.

7.3 Results

Slope modelling was undertaken considering three different design cases. The results of the slope modelling for Cross Sections 1 and 4 are shown in Table 7.2 and Table 7.3 below. Further analysis of Cross Section 4 with some cut platforms representing designed platforms for Lots 81 and 78 was undertaken, with results in Table 7.3. Example outputs from the slope modelling are presented in Appendix F.

Table 7.2: Cross Section 1 – slope stability assessment results

ID	Design case	Target FoS [Note1]	Entry-exit	Critical fully specified slope	Target met?
			Actual FoS[5]	Actual FoS[5]	
2.1	Static – selected parameters	≥ 1.1	1.8	1.7 (upper 'Slide base'[4])	Yes
2.2	Elevated groundwater	≥ 1.0	1.6	1.6 (upper 'Slide base' [4])	Yes
2.3a	SLS – earthquake event[2]	≥ 1.0	1.3	Not modelled	Yes
2.3b	ULS – earthquake event[3]	≥ 1.0	0.8	Not modelled	No

Note1: FoS = factor of safety. Note2: SLS assumes PGA 0.08g from MBIE Module 1 2021. Note 3: ULS assumes PGA of 0.34g from MBIE Module 1 2021. 4: Lower 'slide base' cases have a higher FoS. 5: Factors of Safety rounded to the nearest single decimal place to reflect the level of uncertainty in these values.

Table 7.3: Cross Section 4 – slope stability assessment results

ID	Design case	Target FoS Note1	Entry-exit	Critical fully specified slope	Target met?
			Actual FoS[5]	Actual FoS[5]	
1.1	Static – selected parameters	≥ 1.1	1.4	1.2 (upper 'Slide base'[4])	Yes
1.2	Elevated groundwater	≥ 1.0	1.1	1.1 (long 'Slide base'[4])	Yes
1.3a	SLS – earthquake event[2]	≥ 1.0	1.1	Not modelled	Yes
1.3b	ULS – earthquake event[3]	≥ 1.0	0.6	Not modelled	No
1.4	Static – cut platforms	≥ 1.1	1.3	1.2 (upper 'Slide base'[4])	Yes
1.5	Elevated groundwater – cut platforms	≥ 1.0	1.1	1.1 (long 'Slide base'[4])	Yes
1.6a	SLS – cut platforms[2]	≥ 1.0	1.1	Not modelled	Yes
1.6b	ULS – cut platforms[3]	≥ 1.0	0.6	Not modelled	No

Note1: FoS = factor of safety. Note2: SLS assumes PGA 0.08g from MBIE Module 1 2021. Note 3: ULS assumes PGA of 0.34g from MBIE Module 1 2021. 4: Other 'slide base' cases have a higher FoS. 5: Factors of Safety rounded to the nearest single decimal place to reflect the level of uncertainty in these values.

7.4 Discussion

The slope modelling indicates that the slopes have a FoS significantly above equilibrium, which supports the observations and assessment of the landslides. The base cases include a nominal 2 m depth of perched water on the 'slide bases' and no underlying groundwater pressures.

The cases with elevated perched groundwater to near ground surface and with artesian pressures in the toe result in a drop in FoS of approximately 15 %, which supports the assumption that relatively rare conditions involving compounding antecedent rainfall are required to trigger an episode of creep movement.

For the ULS seismic cases, the factor of safety is lower than 1, indicating that displacement along the slope is expected due to a ULS earthquake. Newmark Block analysis using the Jibson method, and PGA and magnitudes from MBIE Module 1[14], result in an estimated displacement up to 100 mm.

The cases that include cut and fills on Lots 78 and 81 (cut platforms) show no significant change when compared to the existing ground profile (approximately 2 % difference in FoS).

8 Recommendations

The following recommendations are provided as options to feasibly mitigate the risks to development identified in Section 6 of this report. The recommended options will require further work at the detailed design stage of the subdivision to select a preferred option, identify works required during subdivision construction and limitations, or caveats required for future building and other structures on each Lot.

8.1 Hazard mitigation not required

The following hazards do not require specific mitigation measures within this study area (the site):

- Fault Rupture.
- Liquefaction.
- Rockfall.

8.2 Lot configuration

Lots within the study area can be developed as laid out in the current development plan (see Figure 1, Appendix A). The specific locations of the building envelopes may differ from that shown within the Lot boundary to accommodate any geotechnical recommendations that are adopted at the detailed design stage.

8.3 Foundations for residential buildings and outbuildings

The ground conditions encountered and any engineered fills will be generally suitable for shallow foundations such as slabs on grade, waffle rafts/slabs and pole/pile foundations for suspended floors. Specific attention will be required as follows:

- Consider local over excavation of colluvium and silt soils where they exceed 1 m in thickness and are not removed by cuts or covered by engineered fills.
- Consider differential settlement over time if a building footprint straddles a cut to fill boundary. Noting that it is preferable to found a building entirely on cut or on engineered fill.
- Specific building stage investigations to confirm ‘good ground’, or investigations to confirm bearing capacity for foundations such as ground beams, pads or piles that might be utilised for a specific building.
- Foundation design must be supported by specific professional geotechnical engineering input to ensure that each lot development will meet NZ Building Code requirements.

8.4 Schist Debris Landslide creep hazard mitigation

Based on our observations, borehole investigations, interpretation of the landslides and support from limited slope stability analysis we consider the risk from creep movement of the landslides to be low. Displacement of the interpreted landslide configurations may occur in a design ULS earthquake.

There remains a residual risk of damage to development on the toe areas of the landslides, particularly any structures or services that are across or straddling the margins of movement where differential movement will manifest. Less than 100 mm is expected for seismic movement and specific episodes of creep movement.

To mitigate the possibility of 100 mm of differential movement across the footprint of a building we recommend adopting options that have been established for TC2 liquefaction zoned ground following the Christchurch Earthquakes. This includes use of waffle slabs, reinforced gravel rafts,

ground beams or other options that are designed to limit damage to the building and can allow for re-levelling should movement occur. The Lots potentially affected are Lots 78, 79, 81, 82, 83 and Lots 171 to 175.

No mitigation is recommended for potential damage to services and accessways as these can be easily repaired as and when required.

8.5 Stormwater and debris flow mitigation

Elevated fill platforms should be constructed if found to be necessary, as a mitigation measure for debris flows that might be generated in the North and West gullies. Any platforms should be constructed by net imported fill to avoid excessive cuts into the toe of natural slopes. The Lots requiring consideration are Lots 75 to 77, Lots 167 to 171, Lots 174 and 175 (Figure 1 and 2, Appendix A).

Raising these Lots may influence the levels of roads and access ways and the ability to gain access onto the Lots. This can be resolved during detailed subdivision design.

Local gully flows and potential small to medium volume debris flows require consideration of a combination of elements that will provide adequate passage of water and debris from the slopes above the Lots to the West Gully as follows:

- Lots 78, 79, 82 and 83:
  - Upslope works such as bunds to train potential flows into secondary flow paths down the accessways or boundaries between Lots 80, 83 and 79, 82, and between 78-79, and 81-82.
- Lots 171 to 173 and 175:
  - Raised fill platforms nominally 1 m above surrounding land.
  - Upslope works such as bunds to train potential flows into secondary flow paths down the accessways or boundaries between Lots 171-172 and 173-174, between 170 and 171, and between 174 and 175.

8.6 Local slope instability

Cut slopes on individual Lots can be constructed at a maximum angle of 2H:1V and generally up to 5 m high. There is potential for cut slope movement if local landslide debris slide planes are undercut. To manage the risk of cut slope movements the following is recommended:

- Lots 167 and 168 – Limit cuts to 2 m high and develop the lots as engineered fill platforms extending onto the North Gully.
- Lots 169 and 170 – No cutting into the toe of the historic, water race triggered landslide.
- Lots 78, 80, 171 and 174 – Cuts should consider retaining walls to mitigate the risk of cut slope movements encroaching on upslope accessways and Lots. A combination of a lower wall and upper cut could be considered depending on the specific cut height and configuration.

9 Residual geotechnical risk

The proposed risk mitigation options have been developed with an objective of reducing risk from slope instability and debris flow hazards to the extent that we consider it is feasible to develop the Lots, although we note that some residual risks will remain. These risks arise due to inherent natural variability, limitations in site investigations, and uncertainties in design and construction. Identified residual geotechnical risks for the project are summarised in Table 9.1. While some residual risks remain, these are considered unlikely events and can be managed through the recommendations as detailed in Table 9.1 below. This Table and the specific development recommendations provide the means for mitigating the natural hazard risks in terms of meeting the requirements of Section 106 of the Resource Management Act (1991).

Table 9.1: Geotechnical residual risks

Geotechnical risk item	Residual risk	Comment
Unexpected soil conditions, Bearing capacity / Static settlement	Natural variability and the limited extent of investigations mean there may be undetected features, such as soft pockets, buried organic material, or old fill. Uneven or excessive settlement could occur due to uncontrolled fill or cut fill boundaries. Undetected compressible soils (organic materials, soft clays) are considered very unlikely.	Observations during construction (e.g., under engineer supervision) are critical to identify and respond to unexpected conditions. Site specific geotechnical investigations and design by an appropriately qualified geotechnical professional will be required at building consent for each lot.
Local groundwater variability and seepage	Groundwater levels can fluctuate due to seasonal variations, long-term climate change, retaining walls, and foundations.	Design may incorporate local drainage, but these systems could have residual performance limitations.
Surface water flow paths, debris flows inundation and erosion	Local overland flow and gully flow may exceed design water control structures.	Providing robust secondary flow paths especially to accommodate debris that might be generated on any slope uphill of Lots assists in managing above-design events.
SDL creep exceeds that expected	A landslide creep episode or seismic displacement in an above-design earthquake may result in more than the 100 mm allowance for mitigation measures.	Considered unlikely in subdivision design life. Adoption of stiff foundations will provide a 'factor of safety' to any damage to buildings that could not be repaired by re-levelling.

Risks are those identified at this time and may not be a complete list. Risks should be reviewed by the project team as the project progresses.

10 Applicability

This report has been prepared for the exclusive use of our client New Zealand Cherry Corp (Leyser) GP Limited, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

We understand and agree that our client will submit this report as part of an application for resource consent and that Central Otago District Council as the consenting authority will use this report for the purpose of assessing that application.

Recommendations and opinions in this report are based on data from discrete investigation locations. The nature and continuity of subsoil away from these locations are inferred but it must be appreciated that actual conditions could vary from the assumed model.

Tonkin & Taylor Ltd
Environmental and Engineering Consultants

Report prepared by:

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Hannah Udell
Engineering Geologist

.....

Barry McDowell
Senior Engineering Geologist

Authorised for Tonkin & Taylor Ltd by:

.....

Clive Anderson
Project Director

3-Jul-25
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Appendix A Figures

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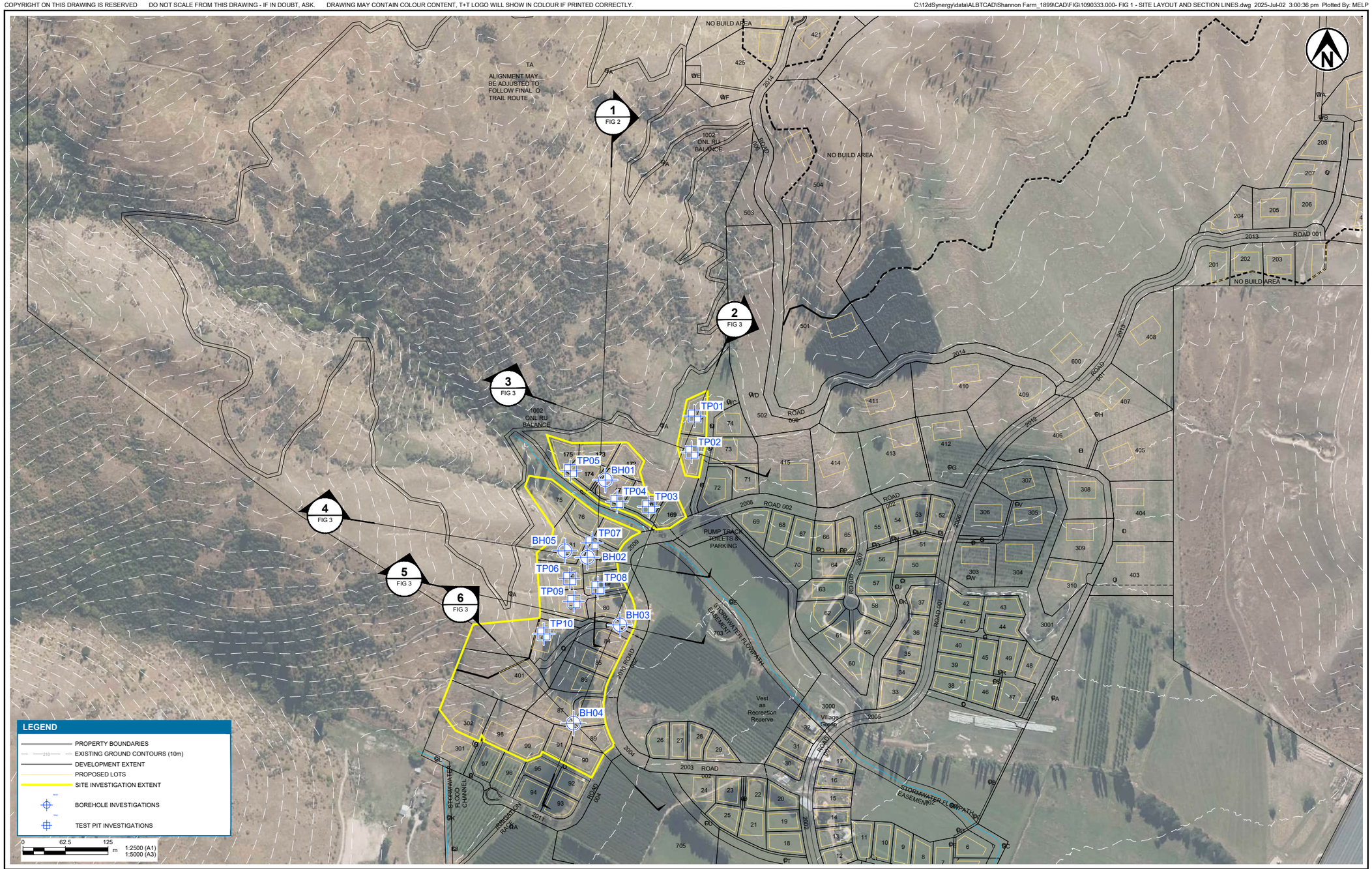
C:\12dSynergy\data\ALBTCAD\Shannon Farm_1899\CAD\FIG\1090333.000- FIG 1 - SITE LAYOUT AND SECTION LINES.dwg 2025-Jul-02 3:00:36 pm Plotted By: MELP



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DESIGN CHECKED	DES.	JUL.25	PROJECT PHASE	INFORMATION
FIGURE CHECKED	JXXP	JUL.25		

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CLIENT **NEW ZEALAND CHERRY CORP (LEYSER) GP LIMITED**
PROJECT **SHANNON FARM GEOTECHNICAL INVESTIGATION**
TITLE SITE LAYOUT AND CROSS SECTION LINES

SCALE (A1) 1:2500 FIG No. FIGURE 1 REV 1

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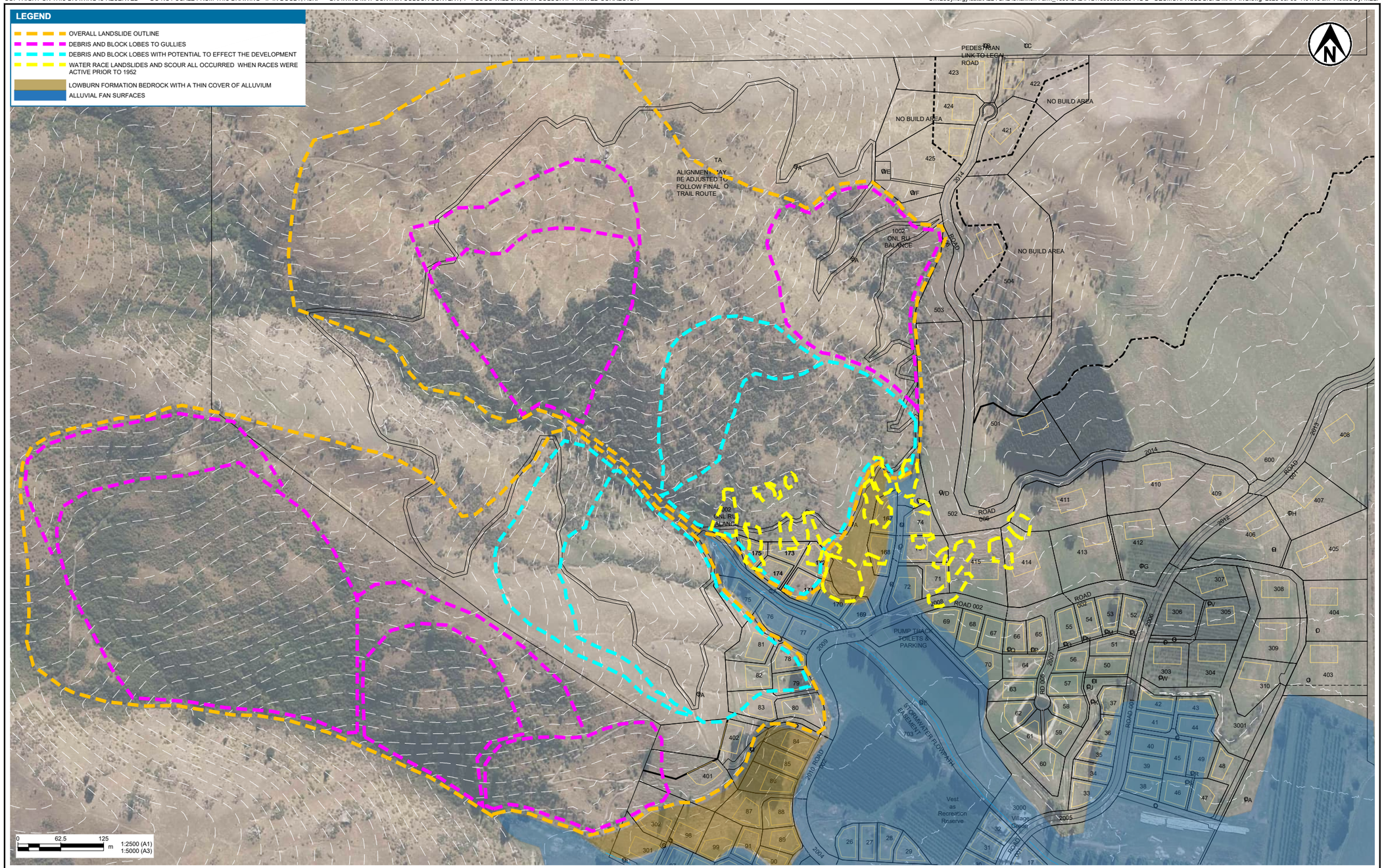
C:\12dSynergy\data\ALBTCAD\Shannon Farm_1899\CAD\FIG\1090333.000-FIG 2 - GEOMORPHOLOGICAL MAPPING.dwg 2025-Jul-03 7:01:13 am Plotted By: MELP



NOTES:

AREA EAST OF THE NORTH GULLY IS NOT MAPPED

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DESIGN CHECKED	DES.	JUL.25	PROJECT PHASE: INFORMATION
FIGURE CHECKED	JXXP	JUL.25	

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PROJECT SHANNON FARM GEOTECHNICAL INVESTIGATION

TITLE GEOMORPHOLOGICAL MAPPING

SCALE (A1) 1:2500 FIG No. FIGURE 2 REV 1

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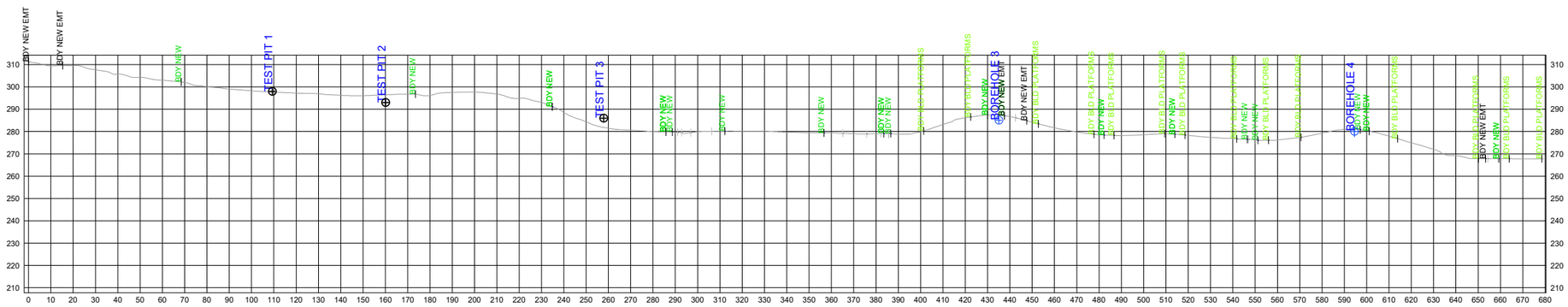
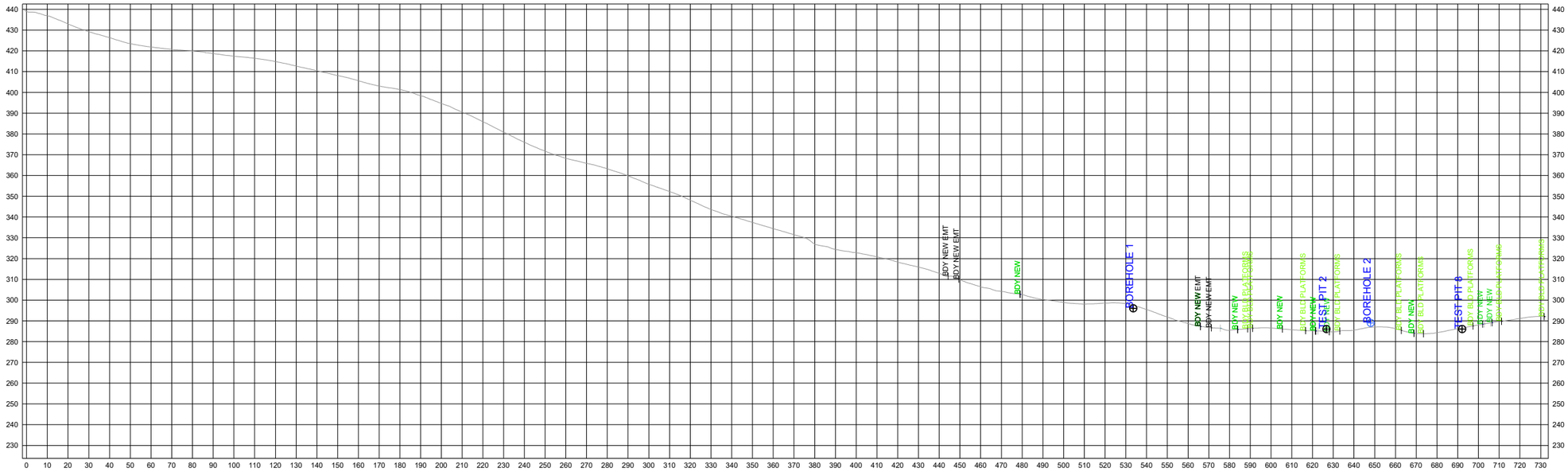
C:\12dSynergy\data\ALBTCAD\Shannon Farm_1899\CAD\FIG\1090333.000-FIG 3 - CROSS SECTIONS.dwg 2025-Jul-02 3:00:48 pm Plotted By: MELP



2 SECTION 2 (FIG1)
SCALE (A1) 1:1000
SCALE (A3) 1:2000



1 SECTION 1 (FIG1)
SCALE (A1) 1:1000
SCALE (A3) 1:2000

0 25 50 m
1:1000 (A1)
1:2000 (A3)

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DESIGN CHECKED	DES.	JUL.25	PROJECT PHASE	INFORMATION
FIGURE CHECKED	JXXP	JUL.25		

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PROJECT **SHANNON FARM GEOTECHNICAL INVESTIGATION**
TITLE CROSS SECTIONS
SECTIONS 1 & 2
SCALE (A1) 1:1000 FIG No. FIGURE 3 REV 1

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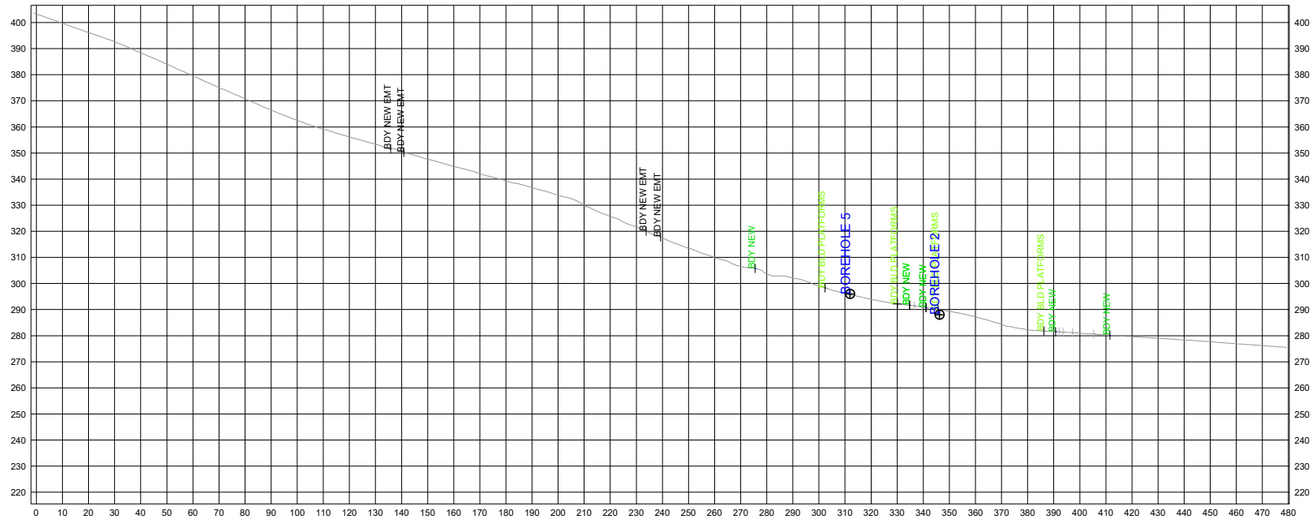
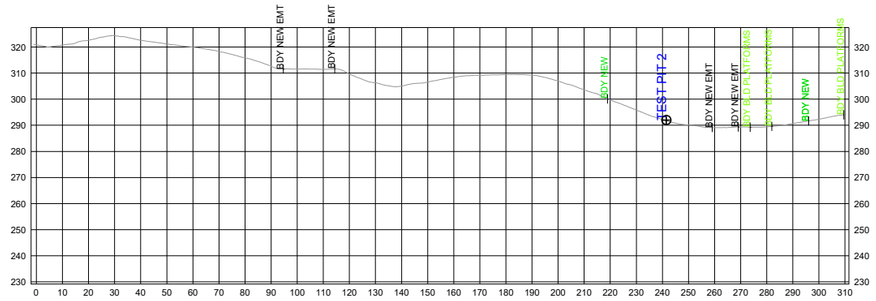
C:\12dSynergy\data\ALBTCAD\Shannon Farm_1899\CAD\FIG\1090333.000-FIG 3 - CROSS SECTIONS.dwg 2025-Jul-02 3:00:49 pm Plotted By: MELP



4 SECTION 4
FIG1 SCALE (A1) 1:1000
SCALE (A3) 1:2000



3 SECTION 3
FIG1 SCALE (A1) 1:1000
SCALE (A3) 1:2000

0 25 50 m
1:1000 (A1)
1:2000 (A3)

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PROJECT **SHANNON FARM GEOTECHNICAL INVESTIGATION**
TITLE CROSS SECTIONS
SECTIONS 3 & 4
SCALE (A1) 1:1000 FIG No. FIGURE 4 REV 1

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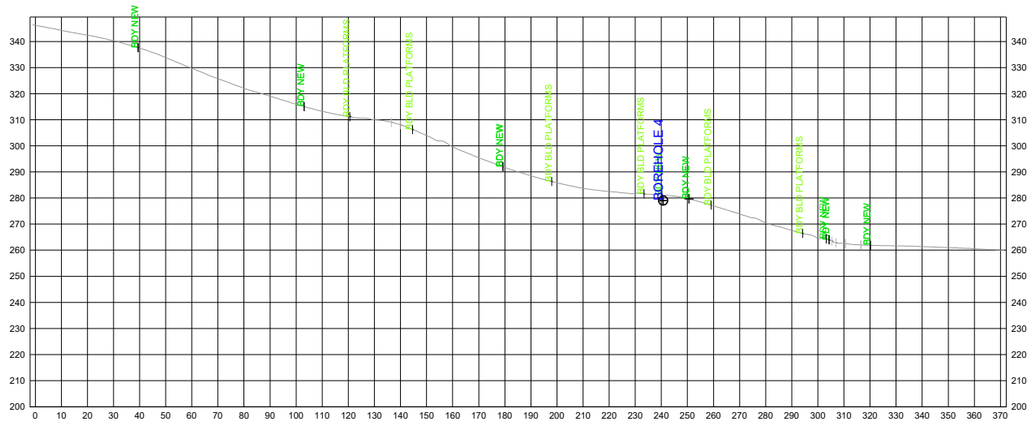
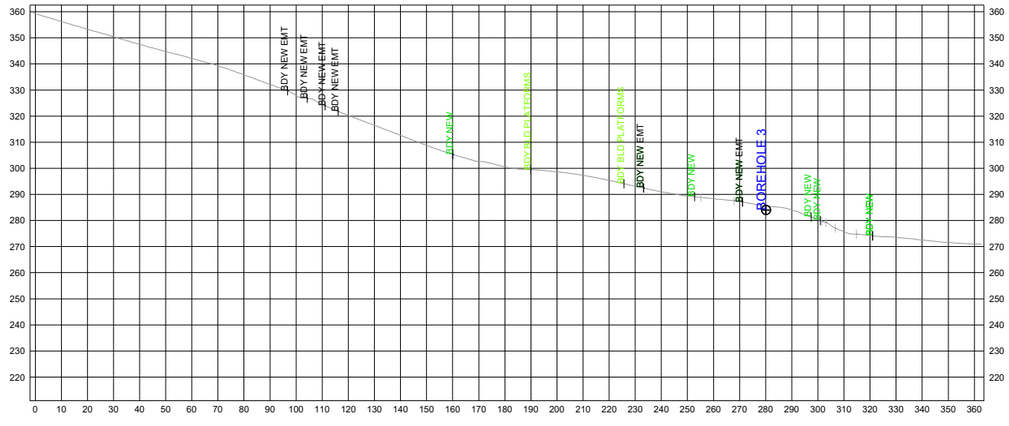
C:\12dSynergy\data\ALBTCAD\Shannon Farm_1899\CAD\FIG\1090333.000-FIG 3 - CROSS SECTIONS.dwg 2025-Jul-02 3:00:49 pm Plotted By: MELP



6 SECTION 6
FIG1
SCALE (A1) 1:1000
SCALE (A3) 1:2000



5 SECTION 5
FIG1
SCALE (A1) 1:1000
SCALE (A3) 1:2000

0 25 50 m
1:1000 (A1)
1:2000 (A3)

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FIGURE CHECKED	JXXP	JUL.25		INFORMATION

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PROJECT **SHANNON FARM GEOTECHNICAL INVESTIGATION**
TITLE CROSS SECTIONS
SECTIONS 5 & 6
SCALE (A1) 1:1000 FIG No. FIGURE 5 REV 1

Appendix B Interpreted cross sections

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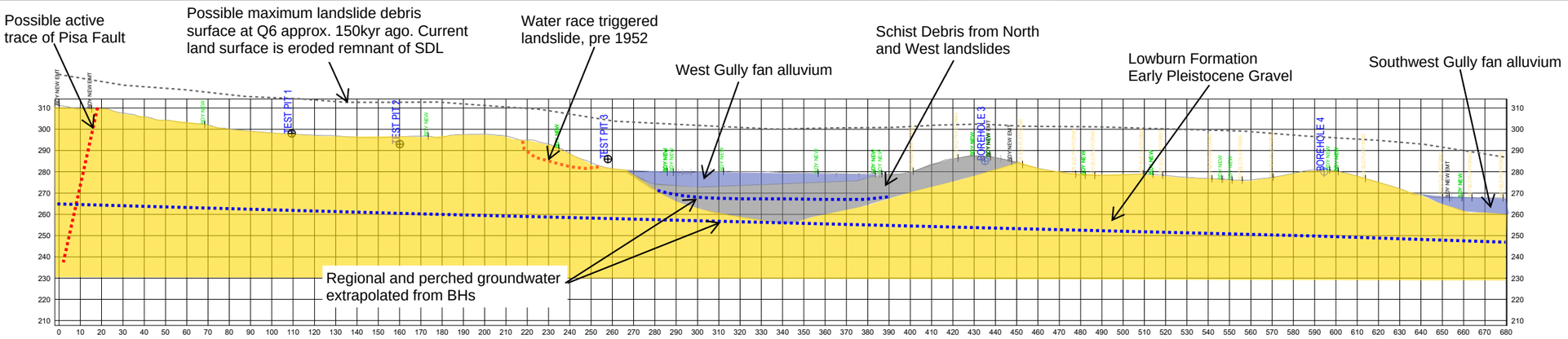
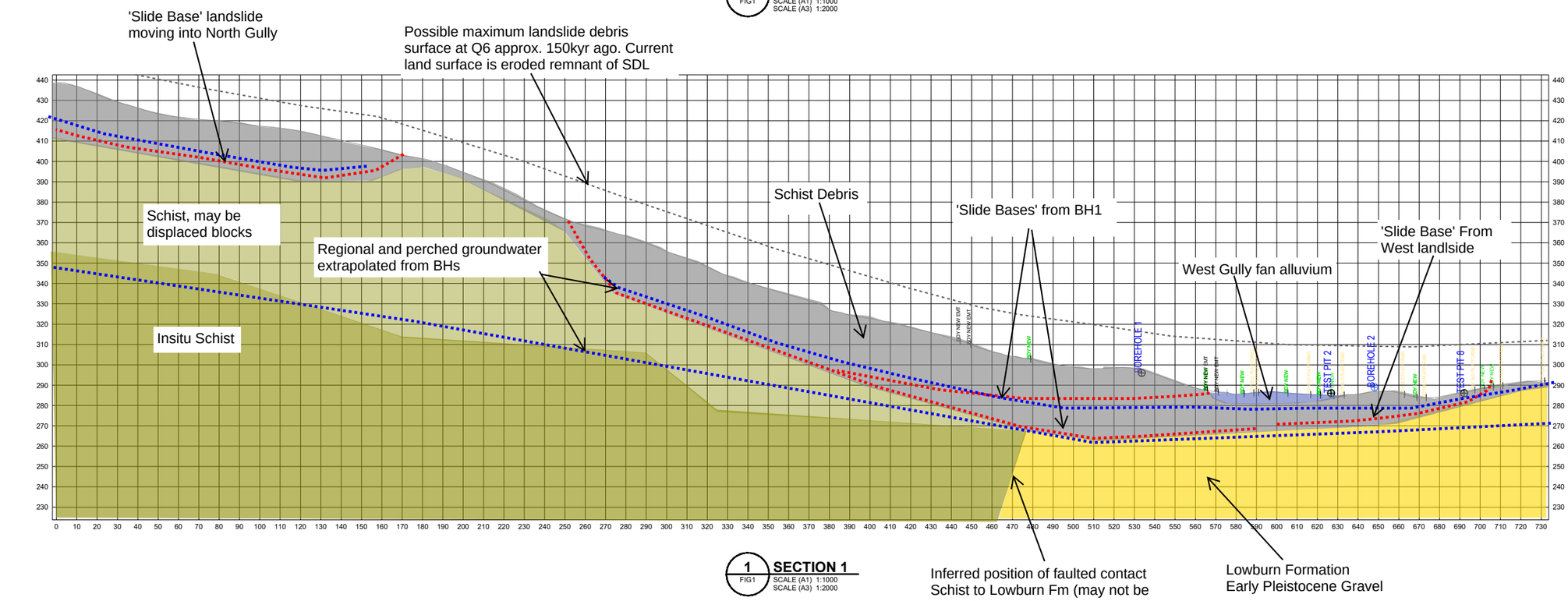
C:\12dSynergy\data\ALBTCAD\Shannon Farm_1899\CAD\FIG\1090333.000-FIG 3 - CROSS SECTIONS.dwg 2025-Jul-01 8:19:00 am Plotted By: MELP



2 SECTION 2
FIG1 SCALE (A1) 1:1000
SCALE (A3) 1:2000



1 SECTION 1
FIG1 SCALE (A1) 1:1000
SCALE (A3) 1:2000

0 25 50 m
1:1000 (A1)
1:2000 (A3)

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FIGURE CHECKED			
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TITLE CROSS SECTIONS
SECTIONS 1 & 2
DRAFT
SCALE (A1) 1:1000 FIG No. FIGURE 3 REV 1

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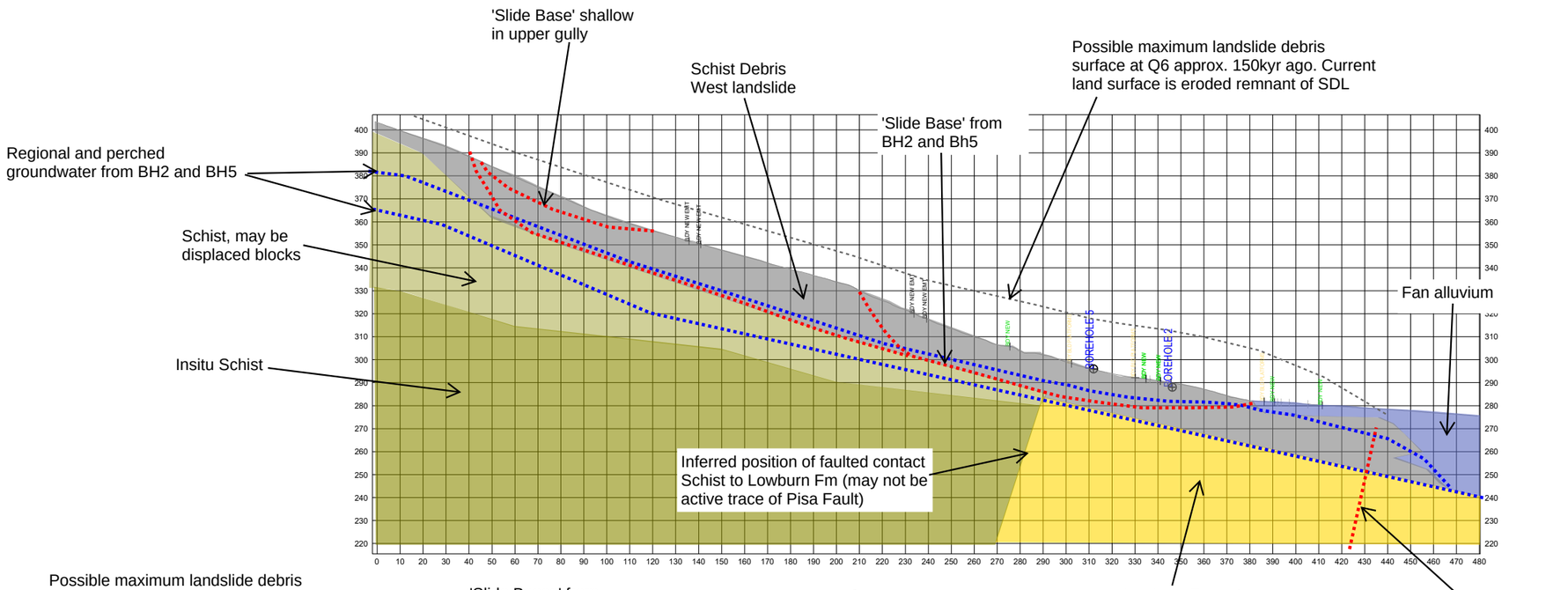
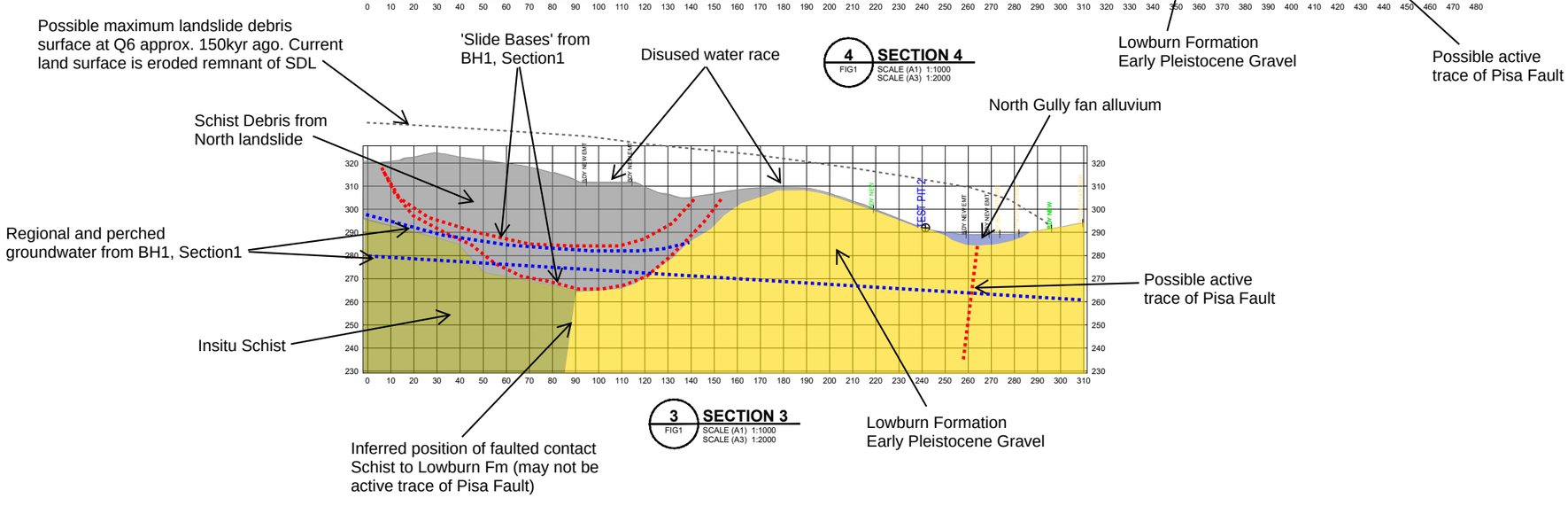


4 SECTION 4
FIG1 SCALE (A1) 1:1000
SCALE (A3) 1:2000



3 SECTION 3
FIG1 SCALE (A1) 1:1000
SCALE (A3) 1:2000

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FIGURE CHECKED			INFORMATION
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TITLE CROSS SECTIONS
SECTIONS 3 & 4
DRAFT
SCALE (A1) 1:1000 FIG No. FIGURE 4 REV 1

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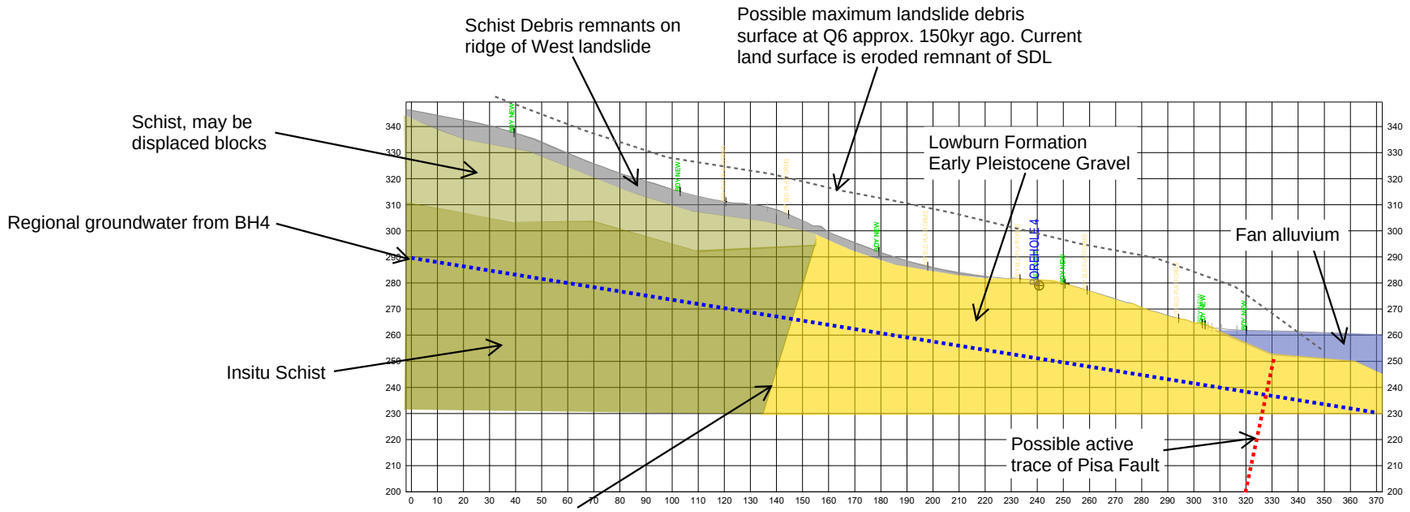
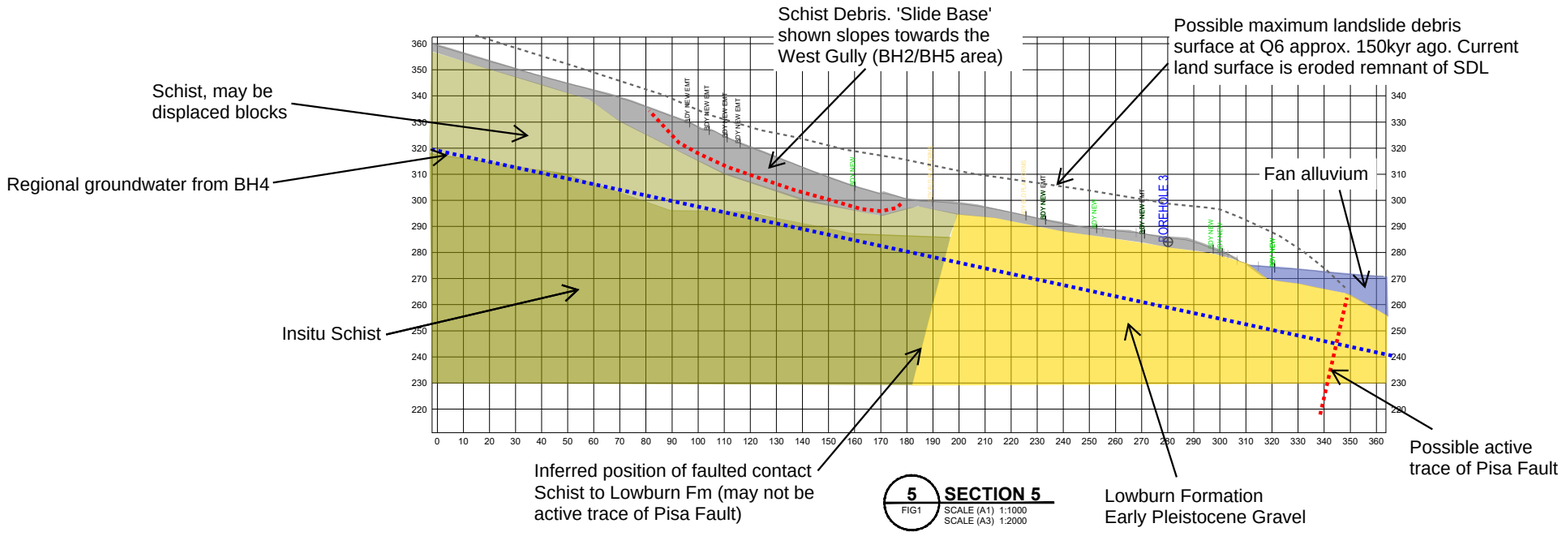
C:\12dSynergy\data\ALBTCAD\Shannon Farm_1899\CAD\FIG\1090333.000-FIG 3 - CROSS SECTIONS.dwg 2025-Jul-01 8:19:00 am Plotted By: MELP



6 FIG1 SECTION 6
SCALE (A1) 1:1000
SCALE (A3) 1:2000



5 FIG1 SECTION 5
SCALE (A1) 1:1000
SCALE (A3) 1:2000

0 25 50 m
1:1000 (A1)
1:2000 (A3)

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FIGURE CHECKED			INFORMATION	
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PROJECT SHANNON FARM GEOTECHNICAL INVESTIGATION
TITLE CROSS SECTIONS
SECTIONS 5 & 6
DRAFT
SCALE (A1) 1:1000 FIG No. FIGURE 5 REV 1

Appendix C ORC Natural Hazards Exposure Analysis images

Figure Appendix C.1: Snip from the ORC Exposure Analysis Map Viewer – mapped alluvial fan.

Figure Appendix C.2: Snip from the ORC Exposure Analysis Map Viewer – mapped alluvial flooding.

Figure Appendix C.3: Snip from the ORC Exposure Analysis Map Viewer – mapped fault.

Figure Appendix C.4: Snip from the ORC Exposure Analysis Map Viewer – mapped landslide.

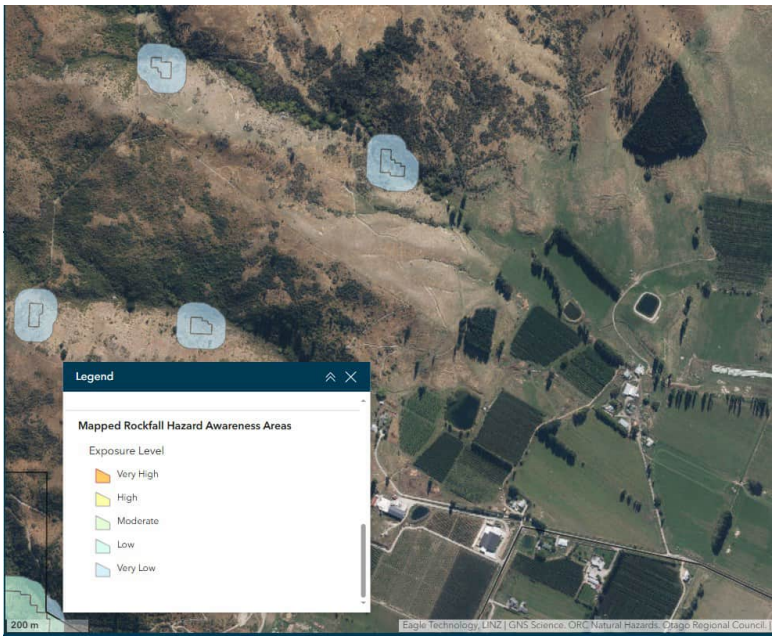
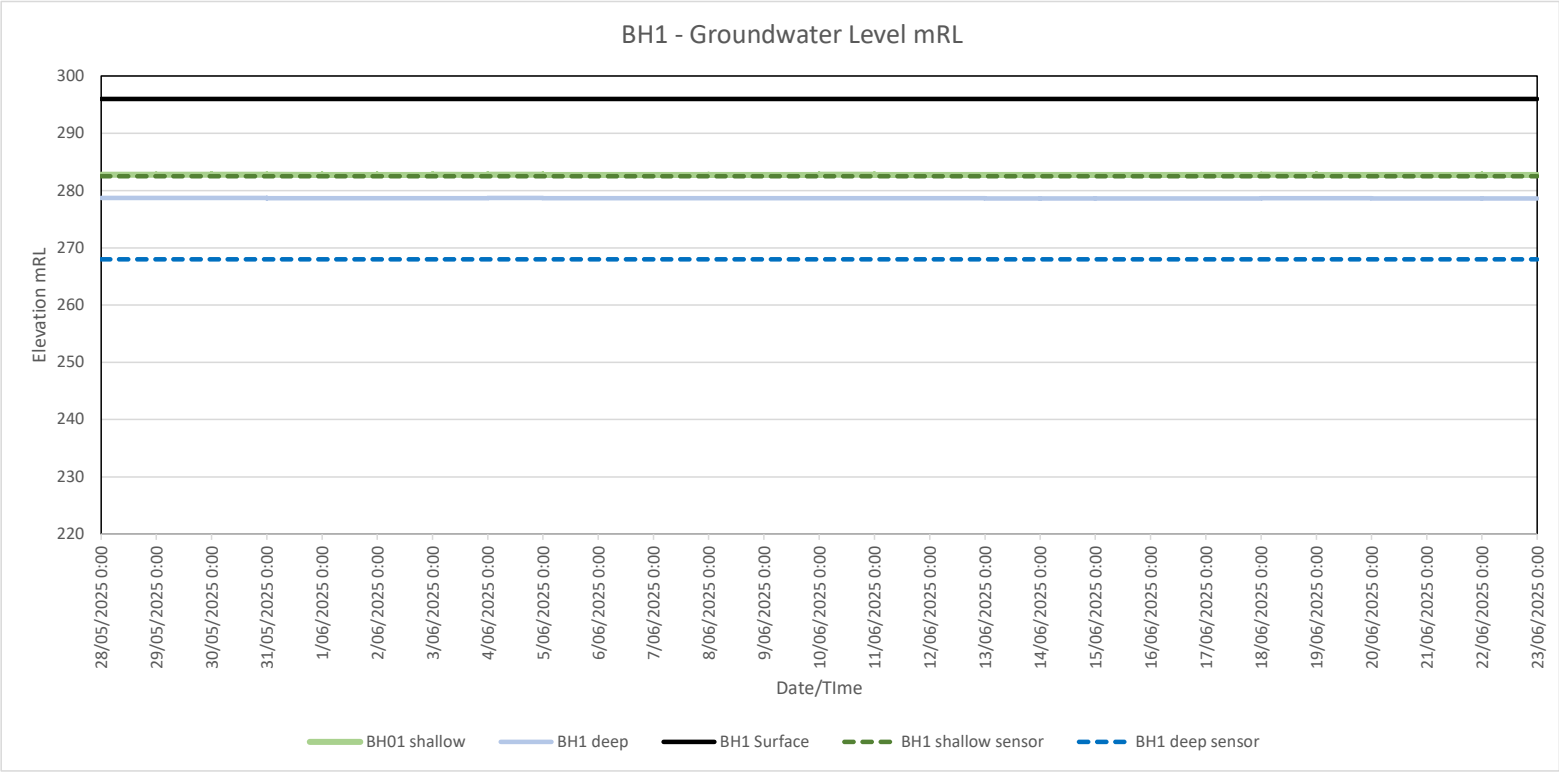


Figure Appendix C.5: Snip from the ORC Exposure Analysis Map Viewer – mapped rockfall sources.

Appendix D Groundwater monitoring


BH1 - Groundwater Level mRL
300
290
280
270
260
250
240
230
220
Elevation mRL
28/05/2025 0:00
29/05/2025 0:00
30/05/2025 0:00
31/05/2025 0:00
1/06/2025 0:00
2/06/2025 0:00
3/06/2025 0:00
4/06/2025 0:00
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6/06/2025 0:00
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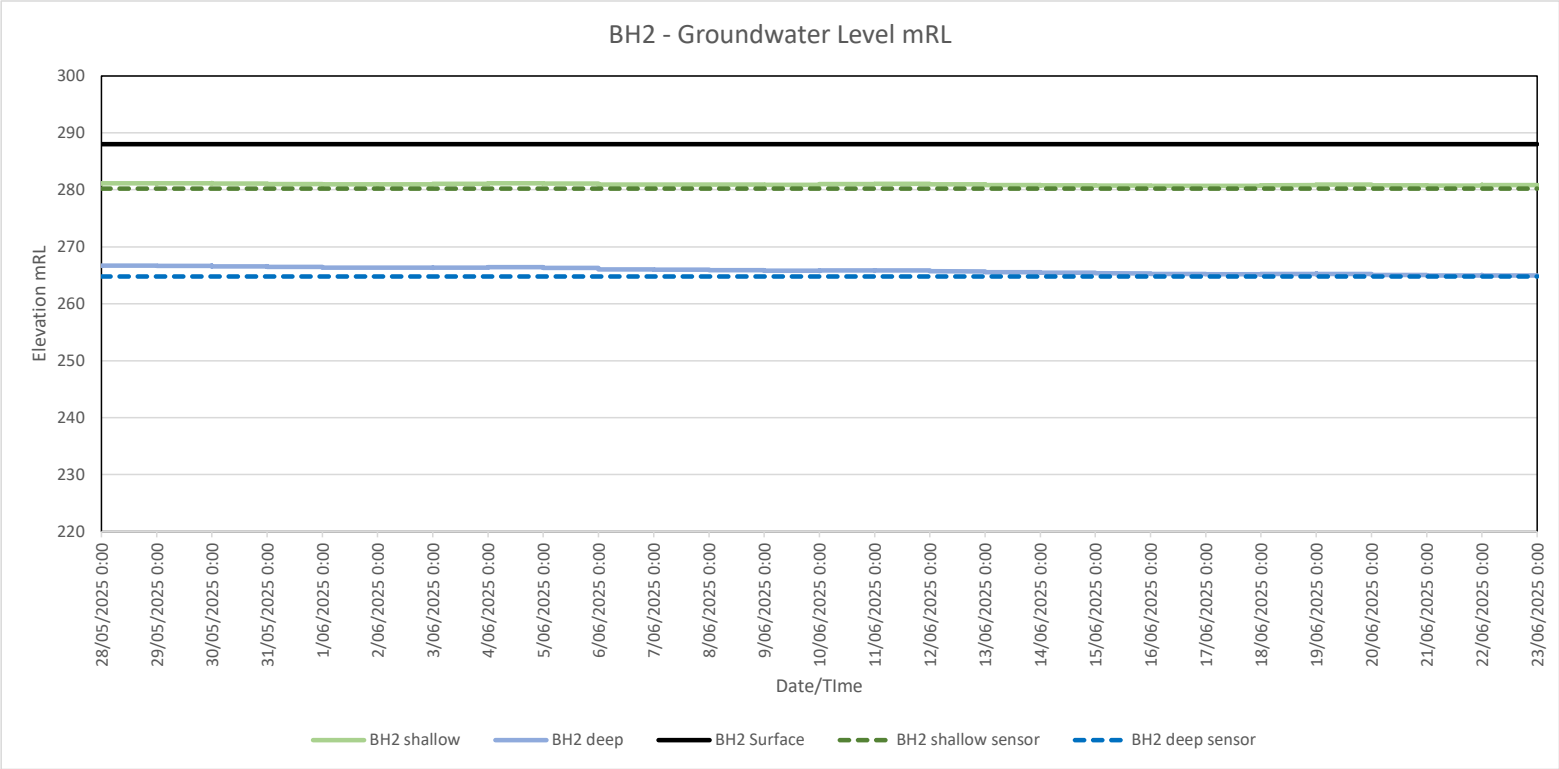
19/06/2025 0:00
20/06/2025 0:00
21/06/2025 0:00
22/06/2025 0:00
23/06/2025 0:00
Date/TIme
BH01 shallow
BH1 deep
BH1 Surface
BH1 shallow sensor
BH1 deep sensor


BH2 - Groundwater Level mRL
Elevation mRL
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270
260
250
240
230
220
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21/06/2025 0:00
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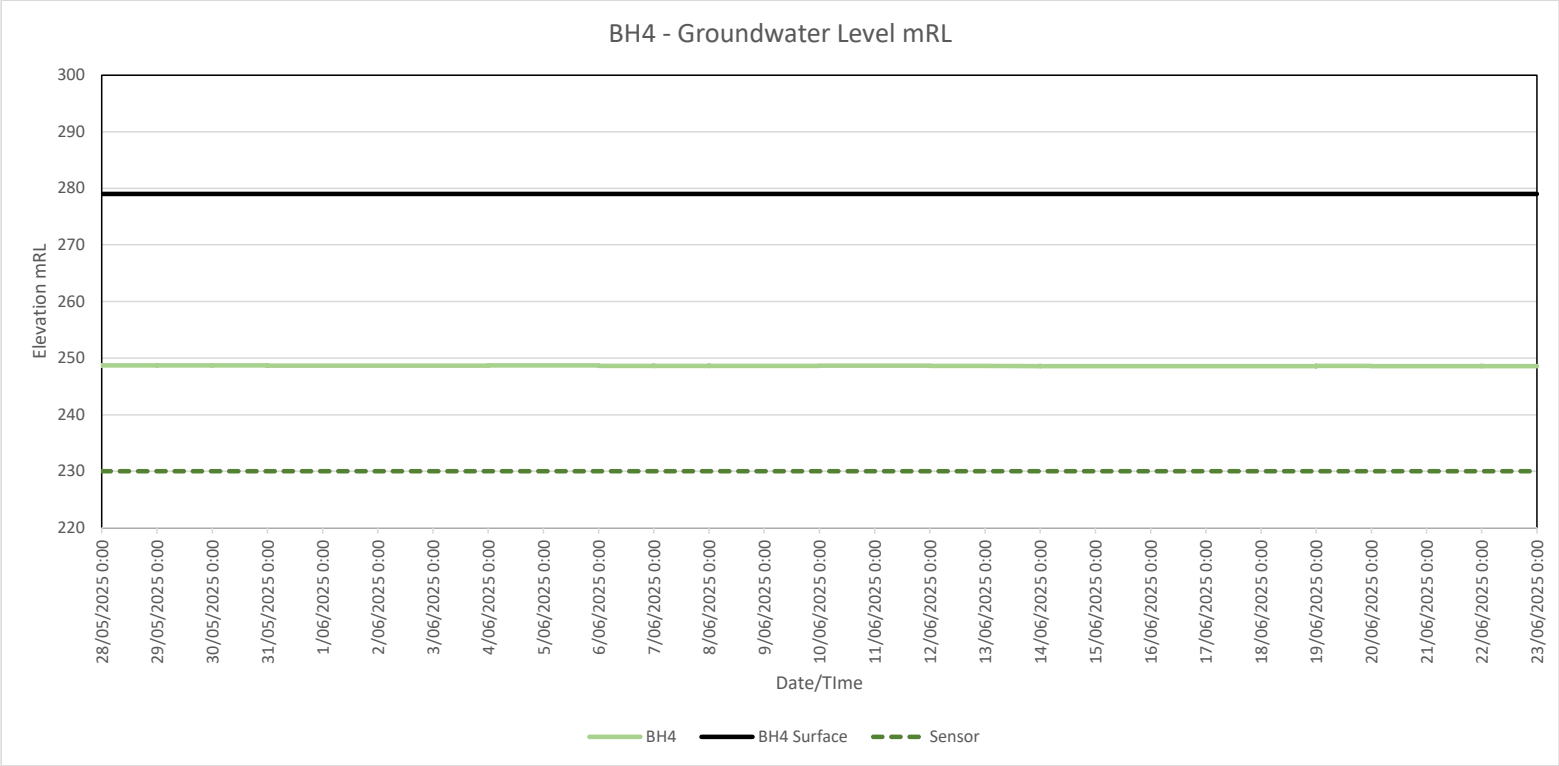
Date/TIme
BH2 shallow
BH2 deep
BH2 Surface
BH2 shallow sensor
BH2 deep sensor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14/06/2025 0:00
15/06/2025 0:00
16/06/2025 0:00
17/06/2025 0:00
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19/06/2025 0:00
20/06/2025 0:00
21/06/2025 0:00
22/06/2025 0:00
23/06/2025 0:00
Date/TIme
BH4
BH4 Surface
Sensor

Appendix E Landslide risk assessment

PRACTICE NOTE GUIDELINES FOR LANDSLIDE RISK MANAGEMENT 2007

APPENDIX C: LANDSLIDE RISK ASSESSMENT

QUALITATIVE TERMINOLOGY FOR USE IN ASSESSING RISK TO PROPERTY

QUALITATIVE MEASURES OF LIKELIHOOD

Approximate Annual Probability		Implied Indicative Landslide Recurrence Interval		Description	Descriptor	Level
Indicative Value	Notional Boundary					
10^{-1}	$5x10^{-2}$	10 years	20 years	The event is expected to occur over the design life.	ALMOST CERTAIN	A
10^{-2}		100 years		The event will probably occur under adverse conditions over the design life.	LIKELY	B
10^{-3}	$5x10^{-3}$	1000 years	200 years	The event could occur under adverse conditions over the design life.	POSSIBLE	C
10^{-4}	$5x10^{-4}$	10,000 years	2000 years	The event might occur under very adverse circumstances over the design life.	UNLIKELY	D
10^{-5}	$5x10^{-5}$	100,000 years	20,000 years	The event is conceivable but only under exceptional circumstances over the design life.	RARE	E
10^{-6}	$5x10^{-6}$	1,000,000 years	200,000 years	The event is inconceivable or fanciful over the design life.	BARELY CREDIBLE	F

Note: (1) The table should be used from left to right; use Approximate Annual Probability or Description to assign Descriptor, not *vice versa*.

QUALITATIVE MEASURES OF CONSEQUENCES TO PROPERTY

Approximate Cost of Damage		Description	Descriptor	Level
Indicative Value	Notional Boundary			
200%	100%	Structure(s) completely destroyed and/or large scale damage requiring major engineering works for stabilisation. Could cause at least one adjacent property major consequence damage.	CATASTROPHIC	1
60%	40%	Extensive damage to most of structure, and/or extending beyond site boundaries requiring significant stabilisation works. Could cause at least one adjacent property medium consequence damage.	MAJOR	2
20%	10%	Moderate damage to some of structure, and/or significant part of site requiring large stabilisation works. Could cause at least one adjacent property minor consequence damage.	MEDIUM	3
5%	1%	Limited damage to part of structure, and/or part of site requiring some reinstatement stabilisation works.	MINOR	4
0.5%		Little damage. (Note for high probability event (Almost Certain), this category may be subdivided at a notional boundary of 0.1%. See Risk Matrix.)	INSIGNIFICANT	5

Notes: (2) The Approximate Cost of Damage is expressed as a percentage of market value, being the cost of the improved value of the unaffected property which includes the land plus the unaffected structures.

(3) The Approximate Cost is to be an estimate of the direct cost of the damage, such as the cost of reinstatement of the damaged portion of the property (land plus structures), stabilisation works required to render the site to tolerable risk level for the landslide which has occurred and professional design fees, and consequential costs such as legal fees, temporary accommodation. It does not include additional stabilisation works to address other landslides which may affect the property.

(4) The table should be used from left to right; use Approximate Cost of Damage or Description to assign Descriptor, not vice versa

PRACTICE NOTE GUIDELINES FOR LANDSLIDE RISK MANAGEMENT 2007

APPENDIX C: – QUALITATIVE TERMINOLOGY FOR USE IN ASSESSING RISK TO PROPERTY (CONTINUED)

QUALITATIVE RISK ANALYSIS MATRIX – LEVEL OF RISK TO PROPERTY

LIKELIHOOD		CONSEQUENCES TO PROPERTY (With Indicative Approximate Cost of Damage)				
	Indicative Value of Approximate Annual Probability	1: CATASTROPHIC 200%	2: MAJOR 60%	3: MEDIUM 20%	4: MINOR 5%	5: INSIGNIFICANT 0.5%
A – ALMOST CERTAIN	10^{-1}	VH	VH	VH	H	M or L (5)
B - LIKELY	10^{-2}	VH	VH	H	M	L
C - POSSIBLE	10^{-3}	VH	H	M	M	VL
D - UNLIKELY	10^{-4}	H	M	L	L	VL
E - RARE	10^{-5}	M	L	L	VL	VL
F - BARELY CREDIBLE	10^{-6}	L	VL	VL	VL	VL

Notes: (5) For Cell A5, may be subdivided such that a consequence of less than 0.1% is Low Risk.

(6) When considering a risk assessment it must be clearly stated whether it is for existing conditions or with risk control measures which may not be implemented at the current time.

RISK LEVEL IMPLICATIONS

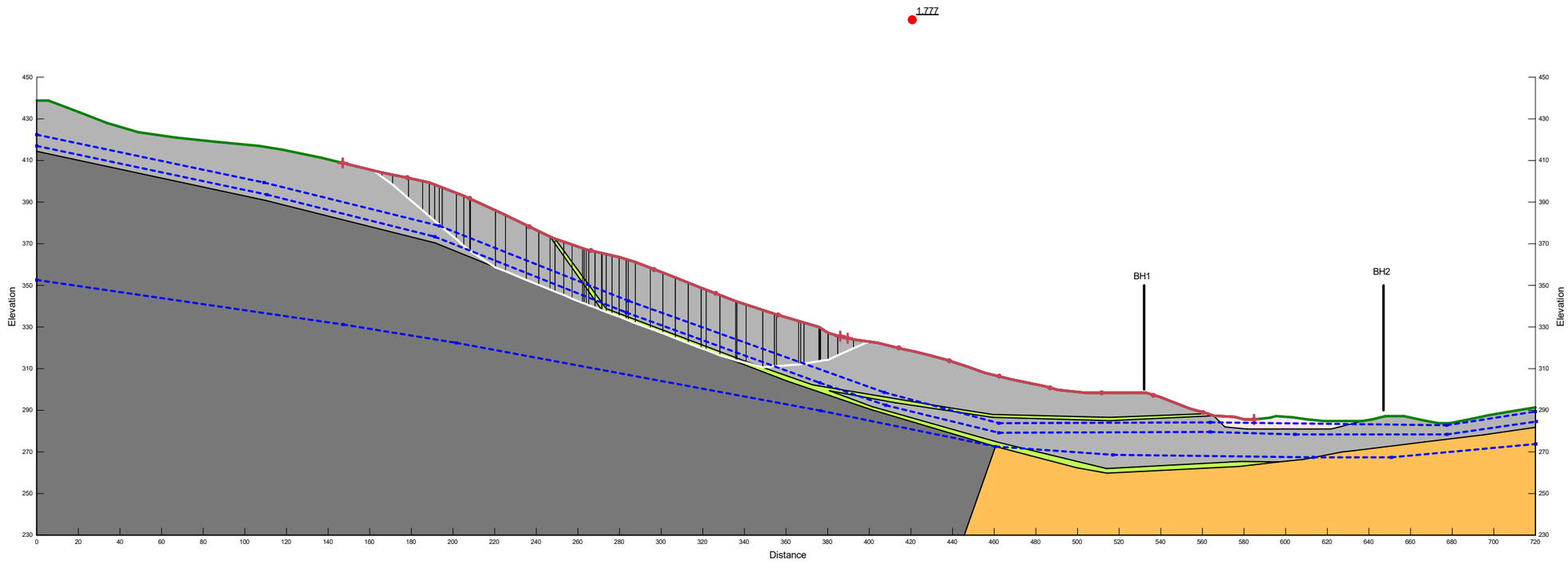
Risk Level		Example Implications (7)
VH	VERY HIGH RISK	Unacceptable without treatment. Extensive detailed investigation and research, planning and implementation of treatment options essential to reduce risk to Low; may be too expensive and not practical. Work likely to cost more than value of the property.
H	HIGH RISK	Unacceptable without treatment. Detailed investigation, planning and implementation of treatment options required to reduce risk to Low. Work would cost a substantial sum in relation to the value of the property.
M	MODERATE RISK	May be tolerated in certain circumstances (subject to regulator's approval) but requires investigation, planning and implementation of treatment options to reduce the risk to Low. Treatment options to reduce to Low risk should be implemented as soon as practicable.
L	LOW RISK	Usually acceptable to regulators. Where treatment has been required to reduce the risk to this level, ongoing maintenance is required.
VL	VERY LOW RISK	Acceptable. Manage by normal slope maintenance procedures.

Note: (7) The implications for a particular situation are to be determined by all parties to the risk assessment and may depend on the nature of the property at risk; these are only given as a general guide.

Appendix F Slope modelling results

T:\Christchurch\TT Projects\1090333\WorkingMaterial\7. Slope Modelling\Slope W previous versions\ShannonFarmSlopeModel 20250630 - CS1.gsz 02/07/2025 12:39:49 pm

Color	Name	Slope Stability Material Model	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Piezometric Surface
	Alluvial Fans	Mohr-Coulomb	20	0	30	2
	Insitu Schist	Bedrock (Impenetrable)				1
	Landslide Surface	Mohr-Coulomb	18	0	25	2
	Lowburn Formation	Bedrock (Impenetrable)				1
	Schist Landslide Debris	Mohr-Coulomb	20	3	34	2



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NOTES
1. METHOD: Morgenstern-Price
2. SLIP SURFACE DEFINITION: Entry and Exit
3. OPTIMISE CRITICAL SLIP LOCATION: Yes
4. MINIMUM SLIP SURFACE DEPTH: 0.1 m
5. HORZ SEISMIC COEFFICIENT: g

PROJECT No	1090333.2000	
ANALYSED	H Udell	June 25
CHECKED	XXXX	June 25

CLIENT **New Zealand Cherry Corp (Leyser) GP Limited**
PROJECT **Shannon Farm - Geotechnical Assessment**
TITLE 2.0 Section line 1
2.1 Static: Selected parameters
SCALE [A3] 1:2,000 (A3)

T:\Christchurch\TT Projects\1090333\WorkingMaterial\7. Slope Modelling\Slope W previous versions\ShannonFarmSlopeModel 20250630 - CS1.gsz 02/07/2025 12:39:49 pm

Color	Name	Slope Stability Material Model	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Piezometric Surface
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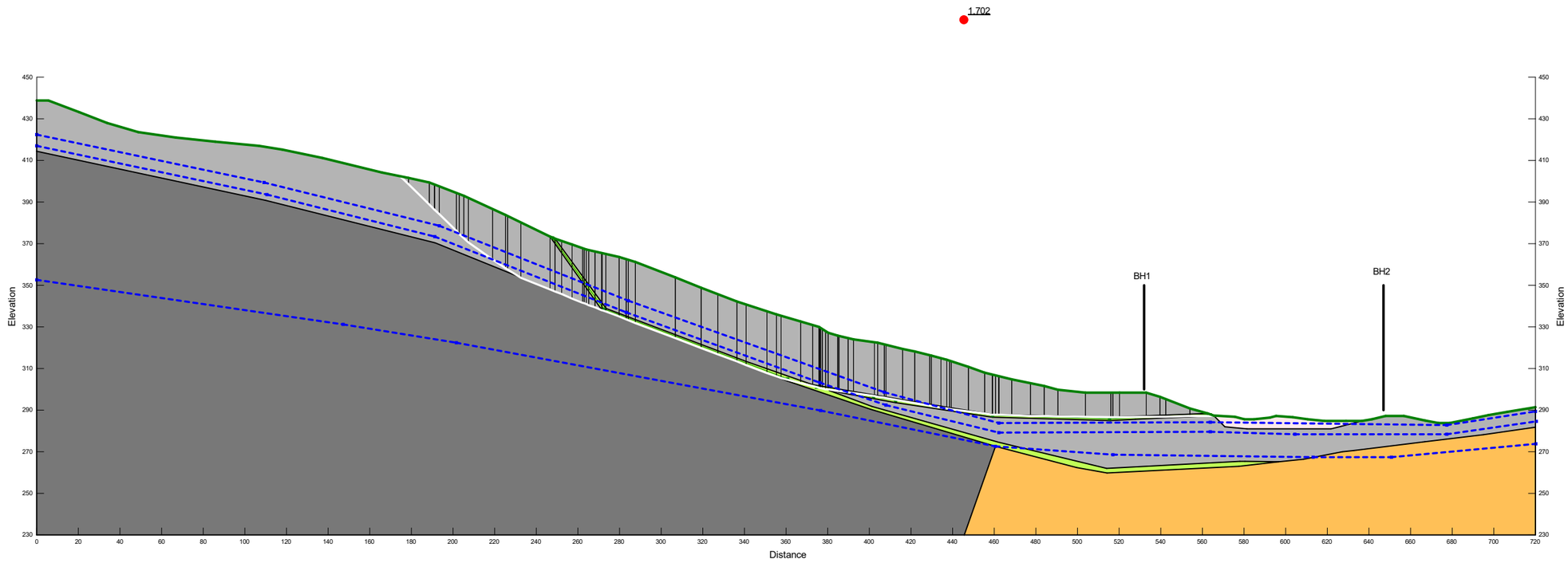
	Insitu Schist	Bedrock (Impenetrable)				1
	Landslide Surface	Mohr-Coulomb	18	0	25	2
	Lowburn Formation	Bedrock (Impenetrable)				1
	Schist Landslide Debris	Mohr-Coulomb	20	3	34	2



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NOTES
1. METHOD: Morgenstern-Price
2. SLIP SURFACE DEFINITION: Fully-Specified
3. OPTIMISE CRITICAL SLIP LOCATION: Yes
4. MINIMUM SLIP SURFACE DEPTH: 0.1 m
5. HORZ SEISMIC COEFFICIENT: g

PROJECT No	1090333.2000	
ANALYSED	H Udell	June 25
CHECKED	XXXX	June 25

CLIENT **New Zealand Cherry Corp (Leyser) GP Limited**

PROJECT **Shannon Farm - Geotechnical Assessment**

TITLE 2.0 Section line 1
2.1a Static: Selected parameters (Fully Specified LS1)

SCALE [A3] 1:2,000 (A3)

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Color	Name	Slope Stability Material Model	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Piezometric Surface
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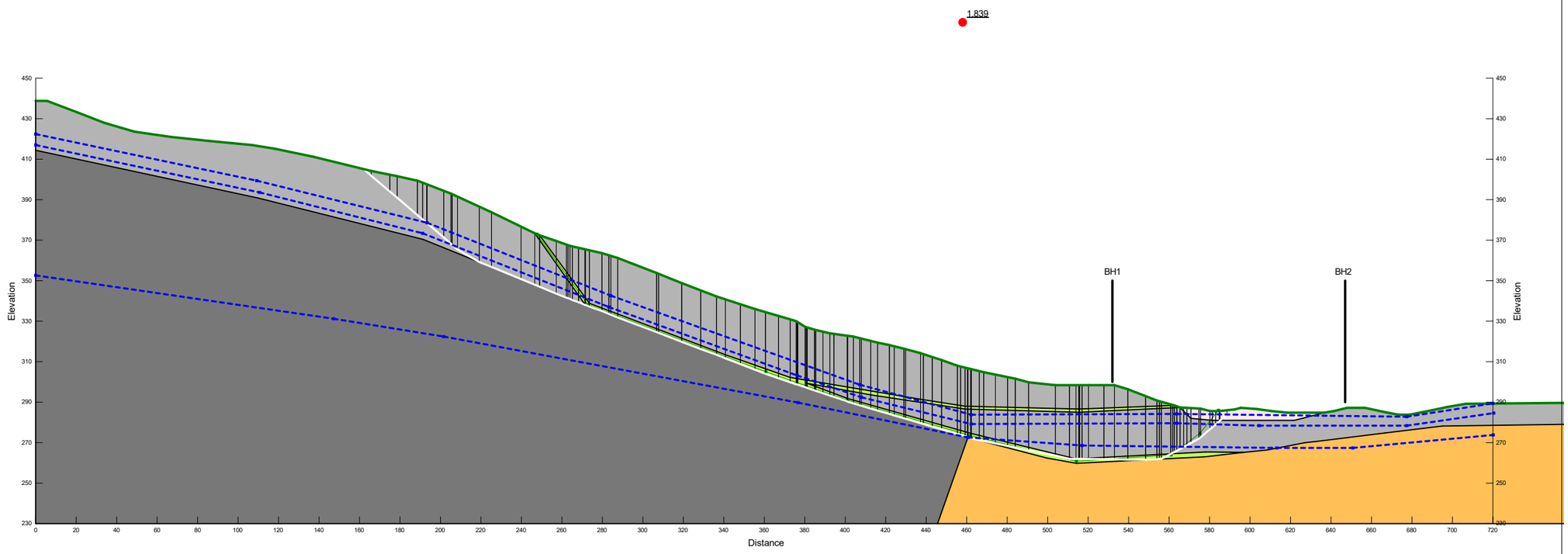
	Insitu Schist	Bedrock (Impenetrable)				1
	Landslide Surface	Mohr-Coulomb	18	0	25	2
	Lowburn Formation	Bedrock (Impenetrable)				1
	Schist Landslide Debris	Mohr-Coulomb	20	3	34	2



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NOTES
1. METHOD: Morgenstern-Price
2. SLIP SURFACE DEFINITION: Fully-Specified
3. OPTIMISE CRITICAL SLIP LOCATION: Yes
4. MINIMUM SLIP SURFACE DEPTH: 0.1 m
5. HORZ SEISMIC COEFFICIENT: g

PROJECT No	1090333.2000	
ANALYSED	H Udell	June 25
CHECKED	XXXX	June 25

CLIENT **New Zealand Cherry Corp (Leyser) GP Limited**
PROJECT **Shannon Farm - Geotechnical Assessment**
TITLE 2.0 Section line 1
2.1b Static: Selected parameters (Fully Specified LS2)
SCALE [A3] 1:2,000 (A3)

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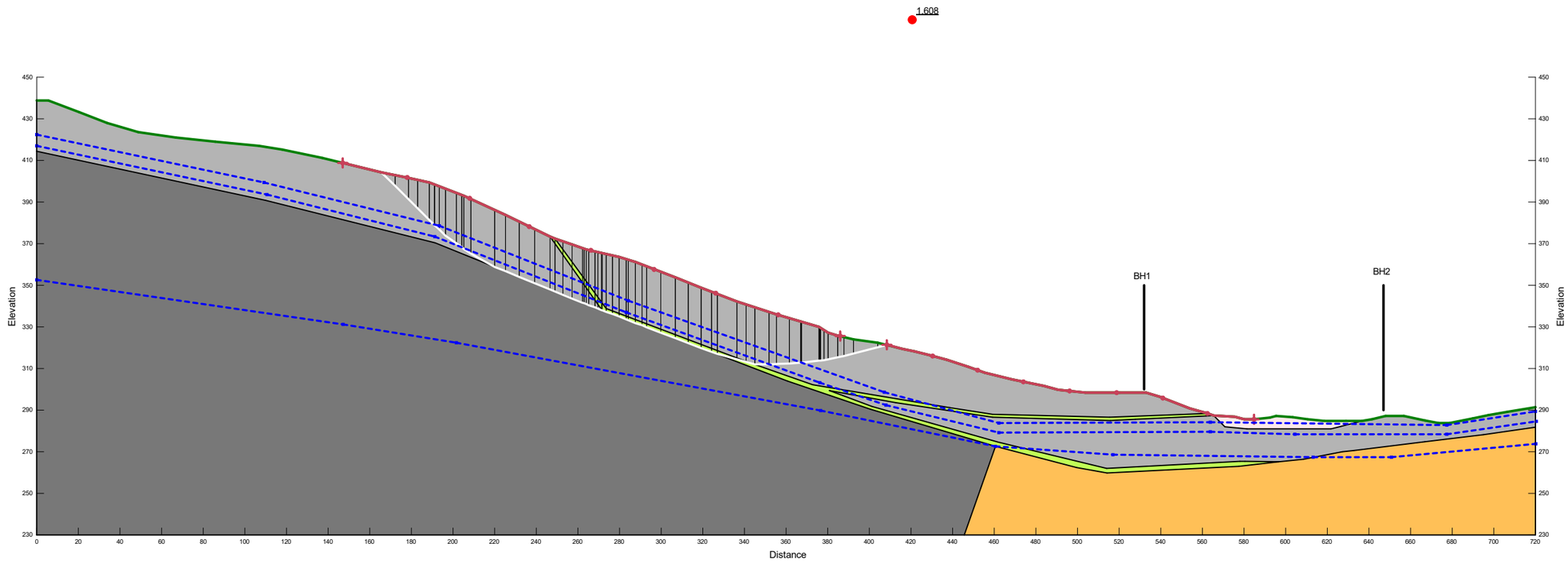
Color	Name	Slope Stability Material Model	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Piezometric Surface
	Alluvial Fans	Mohr-Coulomb	20	0	30	3
	Insitu Schist	Bedrock (Impenetrable)				1
	Landslide Surface	Mohr-Coulomb	18	0	25	3
	Lowburn Formation	Bedrock (Impenetrable)				1
	Schist Landslide Debris	Mohr-Coulomb	20	3	34	3



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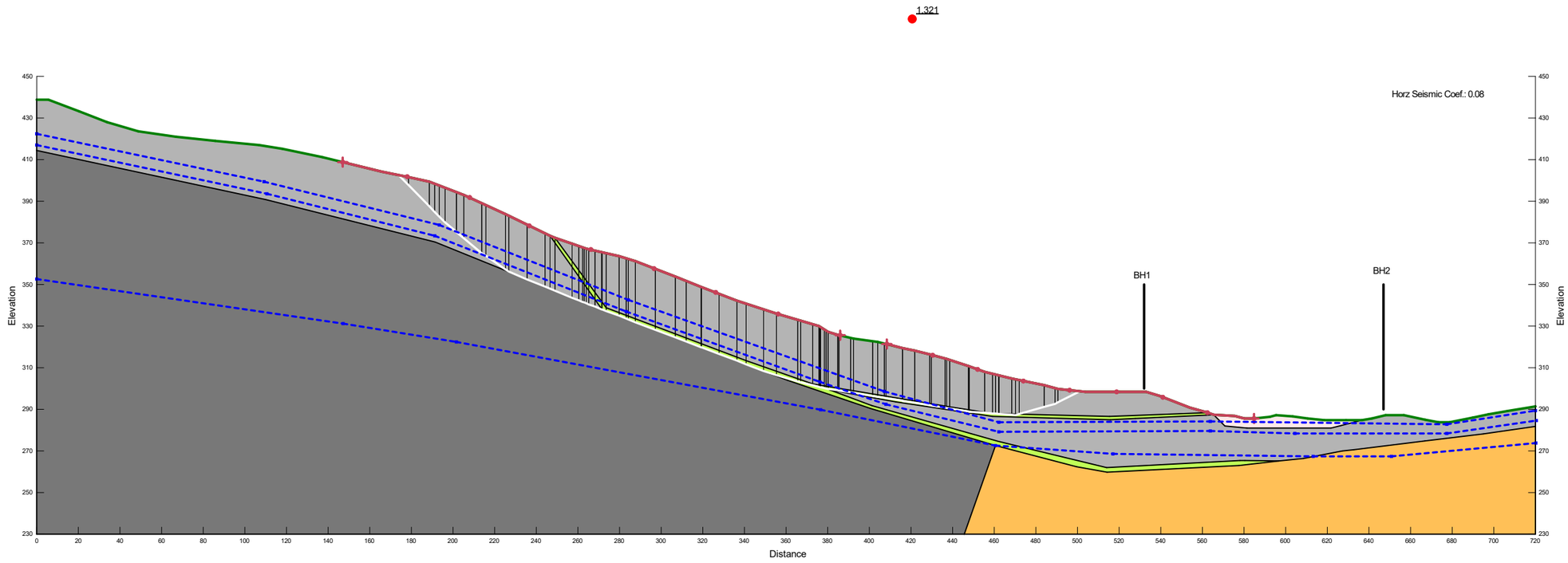
NOTES
1. METHOD: Morgenstern-Price
2. SLIP SURFACE DEFINITION: Entry and Exit
3. OPTIMISE CRITICAL SLIP LOCATION: Yes
4. MINIMUM SLIP SURFACE DEPTH: 0.1 m
5. HORZ SEISMIC COEFFICIENT: g

PROJECT No	1090333.2000	
ANALYSED	H Udell	June 25
CHECKED	XXXX	June 25

CLIENT **New Zealand Cherry Corp (Leyser) GP Limited**
PROJECT **Shannon Farm - Geotechnical Assessment**
TITLE 2.0 Section line 1
2.2 Elevated groundwater
SCALE [A3] 1:2,000 (A3)

T:\Christchurch\TT Projects\1090333\WorkingMaterial\7. Slope Modelling\Slope W previous versions\ShannonFarmSlopeModel 20250630 - CS1.gsz 02/07/2025 12:39:49 pm

Color	Name	Slope Stability Material Model	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Piezometric Surface
	Alluvial Fans	Mohr-Coulomb	20	0	30	2
	Insitu Schist	Bedrock (Impenetrable)				1
	Landslide Surface	Mohr-Coulomb	18	0	25	2
	Lowburn Formation	Bedrock (Impenetrable)				1
	Schist Landslide Debris	Mohr-Coulomb	20	3	34	2



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NOTES
1. METHOD: Morgenstern-Price
2. SLIP SURFACE DEFINITION: Entry and Exit
3. OPTIMISE CRITICAL SLIP LOCATION: Yes
4. MINIMUM SLIP SURFACE DEPTH: 0.1 m
5. HORZ SEISMIC COEFFICIENT: 0.08g

PROJECT No	1090333.2000	
ANALYSED	H Udell	June 25
CHECKED	XXXX	June 25

CLIENT New Zealand Cherry Corp (Leyser) GP Limited
PROJECT Shannon Farm - Geotechnical Assessment
TITLE 2.0 Section line 1
2.3 Seismic - SLS case
SCALE [A3] 1:2,000 (A3)

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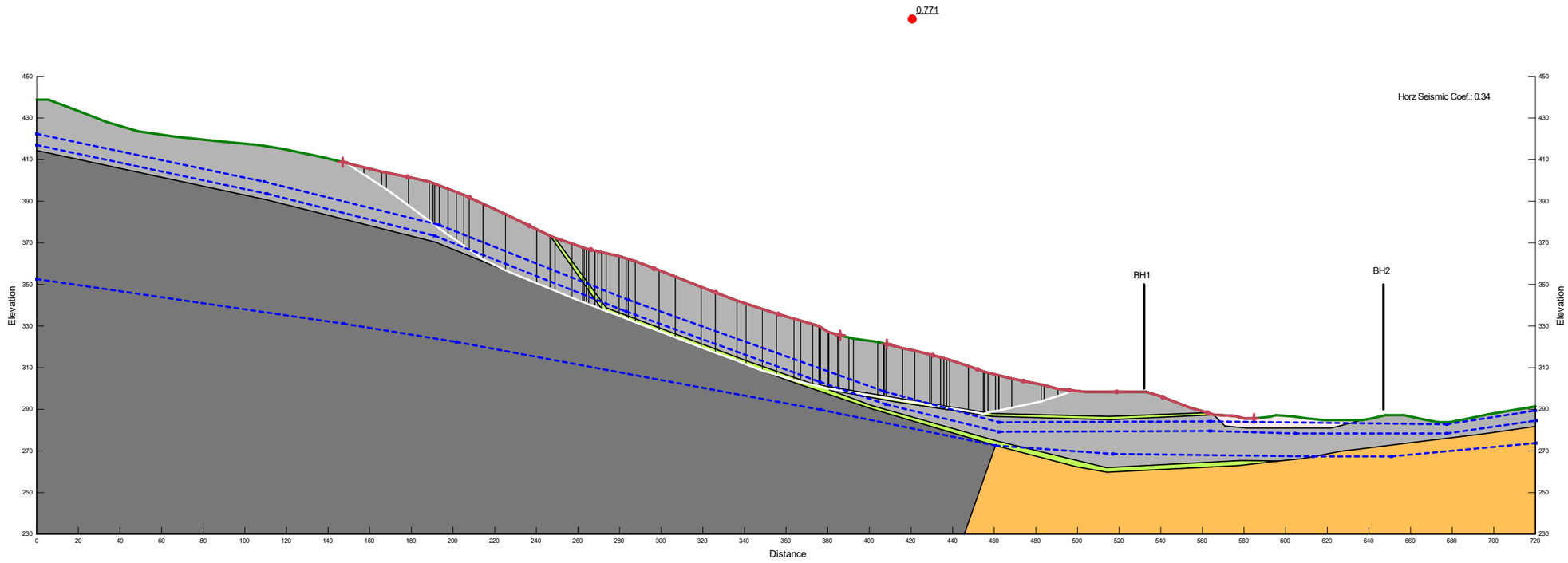
	Insitu Schist	Bedrock (Impenetrable)				1
	Landslide Surface	Mohr-Coulomb	18	0	25	2
	Lowburn Formation	Bedrock (Impenetrable)				1
	Schist Landslide Debris	Mohr-Coulomb	20	3	34	2



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NOTES
1. METHOD: Morgenstern-Price
2. SLIP SURFACE DEFINITION: Entry and Exit
3. OPTIMISE CRITICAL SLIP LOCATION: Yes
4. MINIMUM SLIP SURFACE DEPTH: 0.1 m
5. HORZ SEISMIC COEFFICIENT: 0.34g

PROJECT No	1090333.2000	
ANALYSED	H Udell	June 25
CHECKED	XXXX	June 25

CLIENT New Zealand Cherry Corp (Leyser) GP Limited
PROJECT Shannon Farm - Geotechnical Assessment
TITLE 2.0 Section line 1
2.3 Seismic - ULS case
SCALE [A3] 1:2,000 (A3)

T:\Christchurch\TT Projects\1090333\WorkingMaterial\7. Slope Modelling\Slope W previous versions\ShannonFarmSlopeModel 20250630 - CS4.gsz 02/07/2025 12:49:39 pm

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	Alluvial Fans	Mohr-Coulomb	20	0	30	2
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	Lowburn Formation	Bedrock (Impenetrable)				1
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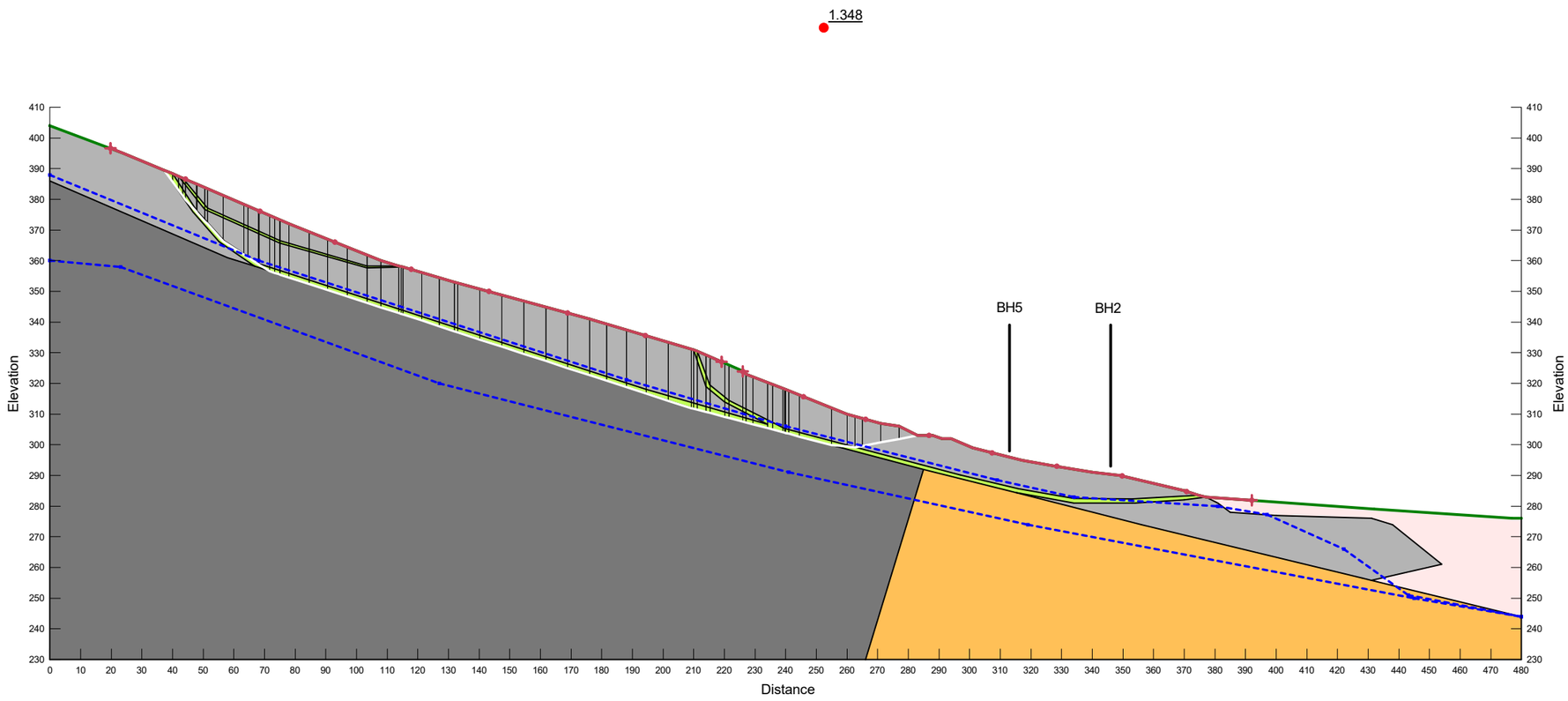

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NOTES
1. METHOD: Morgenstern-Price
2. SLIP SURFACE DEFINITION: Entry and Exit
3. OPTIMISE CRITICAL SLIP LOCATION: Yes
4. MINIMUM SLIP SURFACE DEPTH: 0.1 m
5. HORZ SEISMIC COEFFICIENT: g

PROJECT No	1090333.2000	
ANALYSED	H Udell	June 25
CHECKED	XXXX	June 25

CLIENT New Zealand Cherry Corp (Leyser) GP Limited
PROJECT Shannon Farm - Geotechnical Assessment
TITLE 1.0 Section Line 4
1.1 Static: Selected parameters
SCALE [A3] 1:1,500 (A3)

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	Lowburn Formation	Bedrock (Impenetrable)				1
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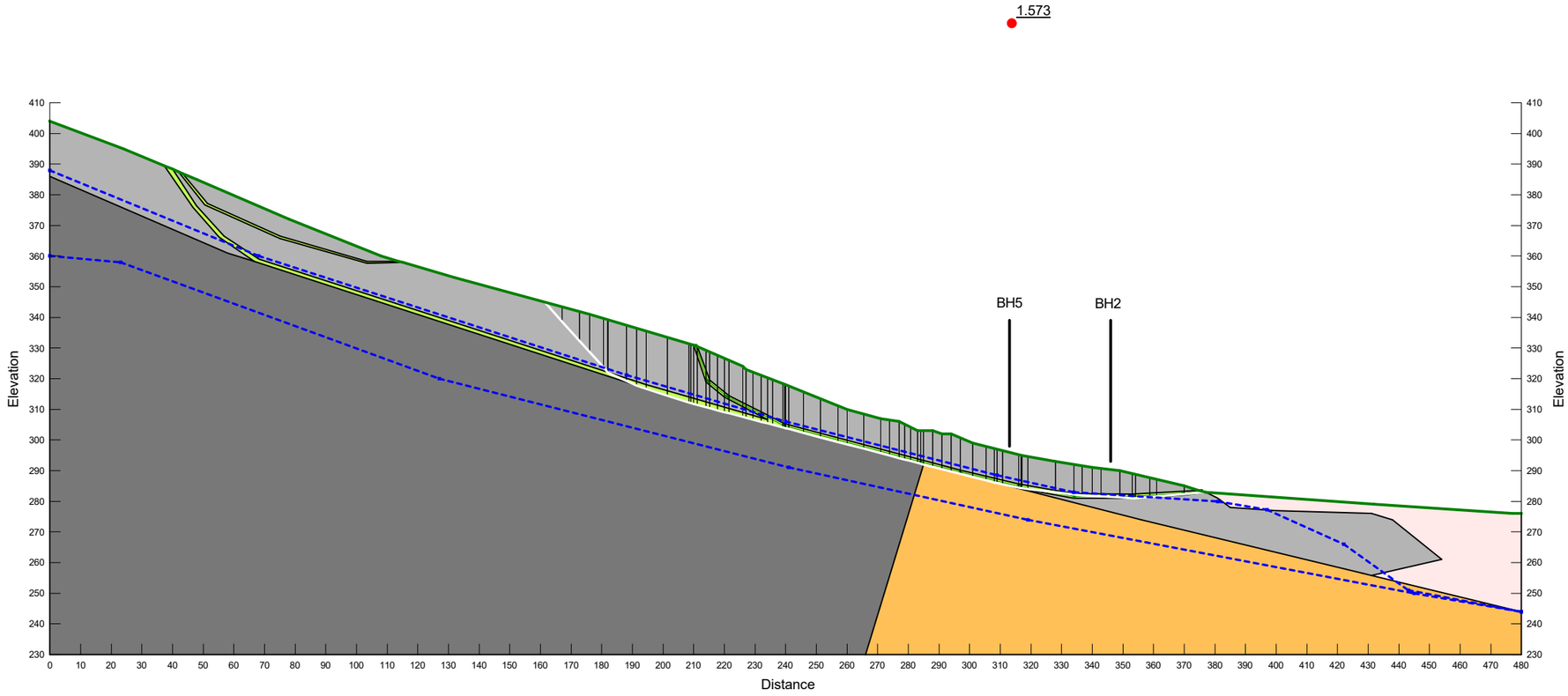

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NOTES
1. METHOD: Morgenstern-Price
2. SLIP SURFACE DEFINITION: Fully-Specified
3. OPTIMISE CRITICAL SLIP LOCATION: Yes
4. MINIMUM SLIP SURFACE DEPTH: 0.1 m
5. HORZ SEISMIC COEFFICIENT: g

PROJECT No	1090333.2000	
ANALYSED	H Udell	June 25
CHECKED	XXXX	June 25

CLIENT **New Zealand Cherry Corp (Leyser) GP Limited**
PROJECT **Shannon Farm - Geotechnical Assessment**
TITLE 1.0 Section Line 4
1.1a Static: Selected parameters (Fully Specified LS1)
SCALE [A3] 1:1,500 (A3)

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Color	Name	Slope Stability Material Model	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Piezometric Surface
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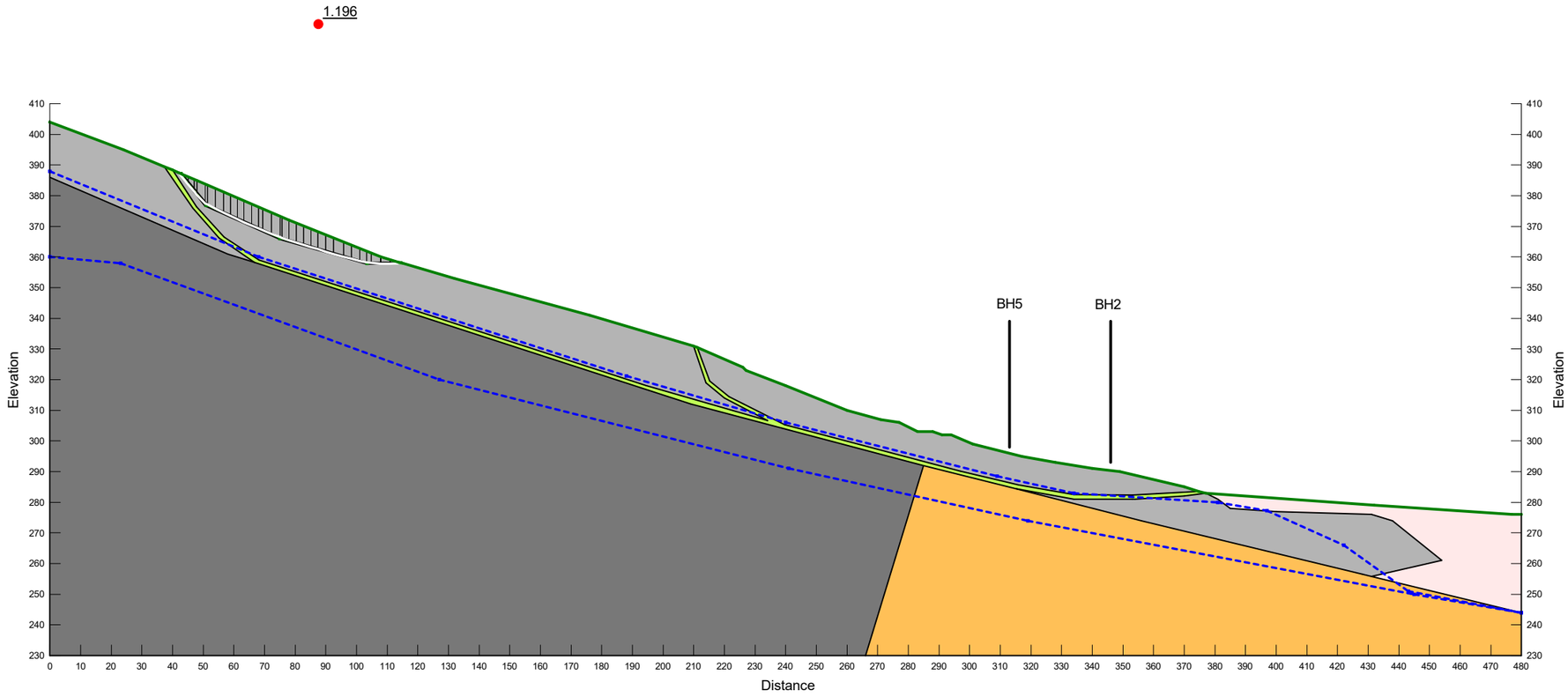
	Lowburn Formation	Bedrock (Impenetrable)				1
	Schist Landslide Debris	Mohr-Coulomb	20	3	34	2



NOTES
1. METHOD: Morgenstern-Price
2. SLIP SURFACE DEFINITION: Fully-Specified
3. OPTIMISE CRITICAL SLIP LOCATION: Yes
4. MINIMUM SLIP SURFACE DEPTH: 0.1 m
5. HORZ SEISMIC COEFFICIENT: g

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PROJECT No	1090333.2000		
ANALYSED	H Udell	June 25	
CHECKED	XXXX	June 25	

CLIENT **New Zealand Cherry Corp (Leyser) GP Limited**
PROJECT **Shannon Farm - Geotechnical Assessment**
TITLE 1.0 Section Line 4
1.1b Static: Selected parameters (Fully Specified LS2)
SCALE [A3] 1:1,500 (A3)

T:\Christchurch\TT Projects\1090333\WorkingMaterial\7. Slope Modelling\Slope W previous versions\ShannonFarmSlopeModel 20250630 - CS4.gsz 02/07/2025 12:49:39 pm

Color	Name	Slope Stability Material Model	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Piezometric Surface
	Alluvial Fans	Mohr-Coulomb	20	0	30	2
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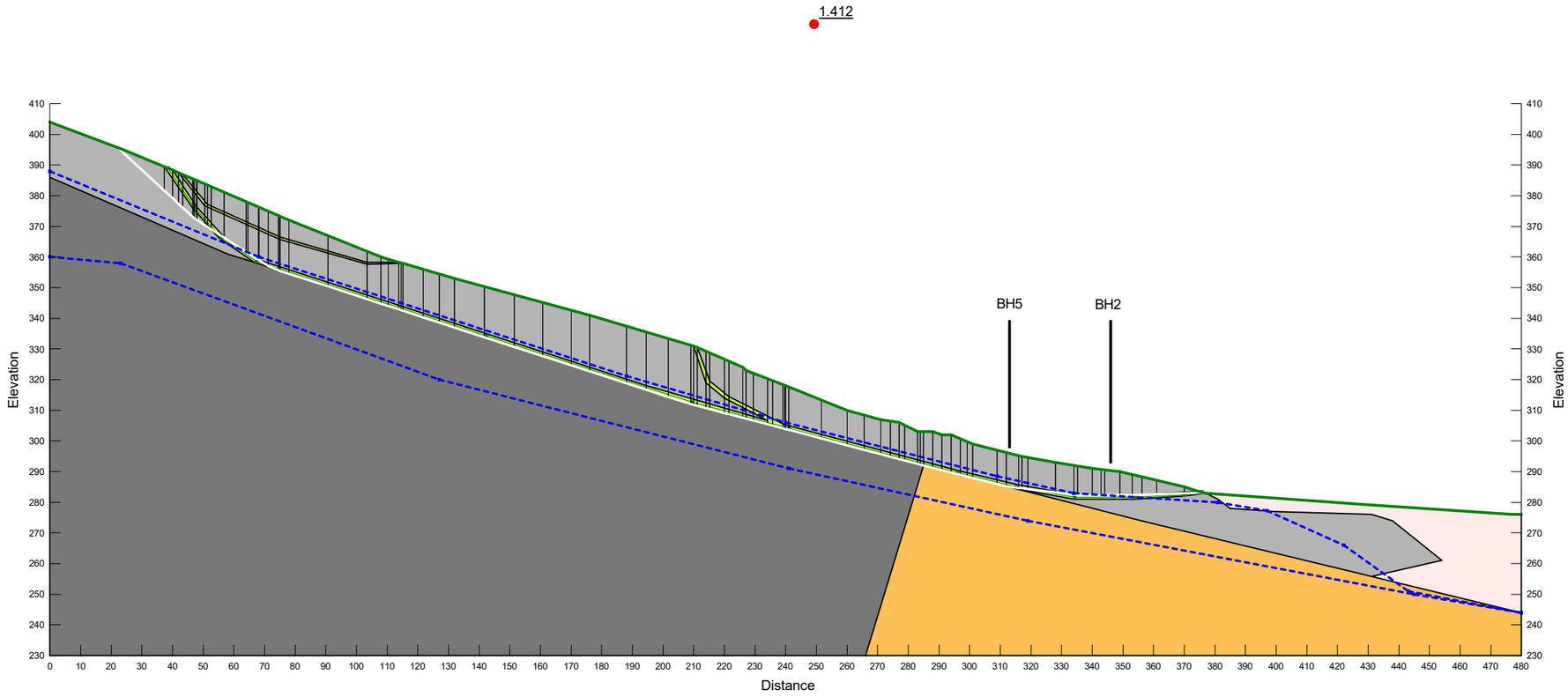
	Lowburn Formation	Bedrock (Impenetrable)				1
	Schist Landslide Debris	Mohr-Coulomb	20	3	34	2



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NOTES
1. METHOD: Morgenstern-Price
2. SLIP SURFACE DEFINITION: Fully-Specified
3. OPTIMISE CRITICAL SLIP LOCATION: Yes
4. MINIMUM SLIP SURFACE DEPTH: 0.1 m
5. HORZ SEISMIC COEFFICIENT: g

PROJECT No	1090333.2000	
ANALYSED	H Udell	June 25
CHECKED	XXXX	June 25

CLIENT **New Zealand Cherry Corp (Leyser) GP Limited**
PROJECT **Shannon Farm - Geotechnical Assessment**
TITLE 1.0 Section Line 4
1.1c Static: Selected parameters (Fully Specified LS3)
SCALE [A3] 1:1,500 (A3)

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Color	Name	Slope Stability Material Model	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Piezometric Surface
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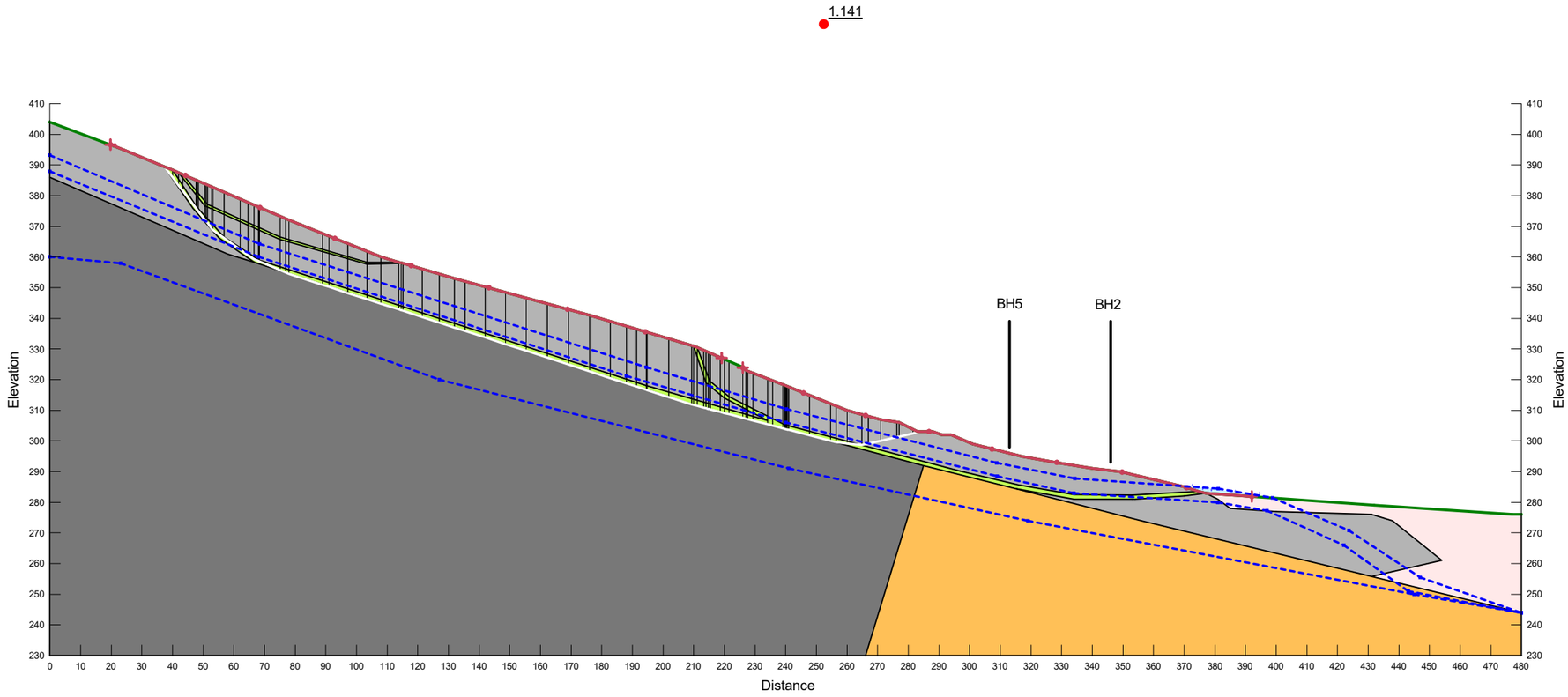
	Insitu Schist	Bedrock (Impenetrable)				1
	Landslide Surface	Mohr-Coulomb	18	0	25	3
	Lowburn Formation	Bedrock (Impenetrable)				1
	Schist Landslide Debris	Mohr-Coulomb	20	3	34	3



NOTES
1. METHOD: Morgenstern-Price
2. SLIP SURFACE DEFINITION: Entry and Exit
3. OPTIMISE CRITICAL SLIP LOCATION: Yes
4. MINIMUM SLIP SURFACE DEPTH: 0.1 m
5. HORZ SEISMIC COEFFICIENT: g

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PROJECT No	1090333.2000		
ANALYSED	H Udell	June 25	
CHECKED	XXXX	June 25	

CLIENT New Zealand Cherry Corp (Leyser) GP Limited
PROJECT Shannon Farm - Geotechnical Assessment
TITLE 1.0 Section Line 4
1.2 Elevated groundwater
SCALE [A3] 1:1,500 (A3)

T:\Christchurch\TT Projects\1090333\WorkingMaterial\7. Slope Modelling\Slope W previous versions\ShannonFarmSlopeModel 20250630 - CS4.gsz 02/07/2025 11:52:31 am

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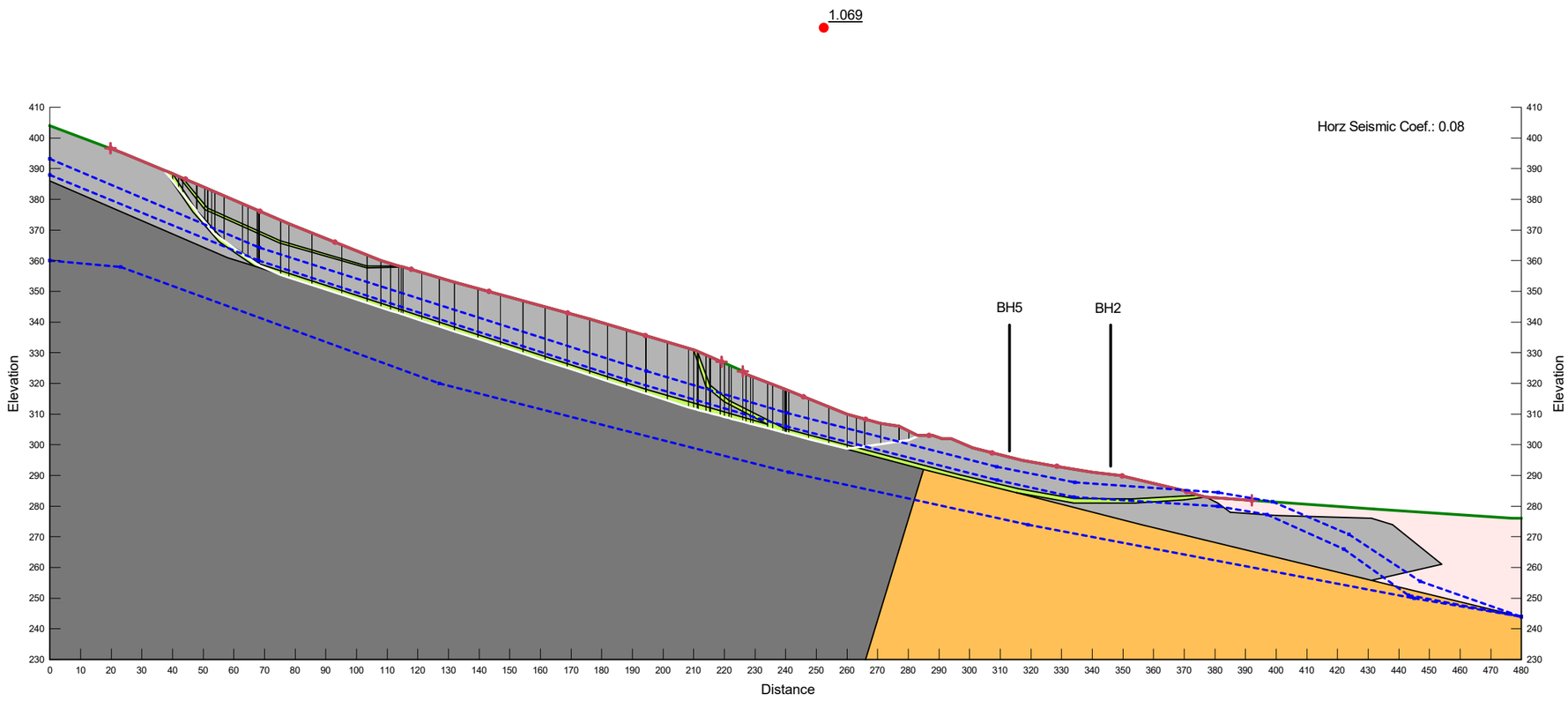
	Insitu Schist	Bedrock (Impenetrable)				1
	Landslide Surface	Mohr-Coulomb	18	0	25	2
	Lowburn Formation	Bedrock (Impenetrable)				1
	Schist Landslide Debris	Mohr-Coulomb	20	3	34	2



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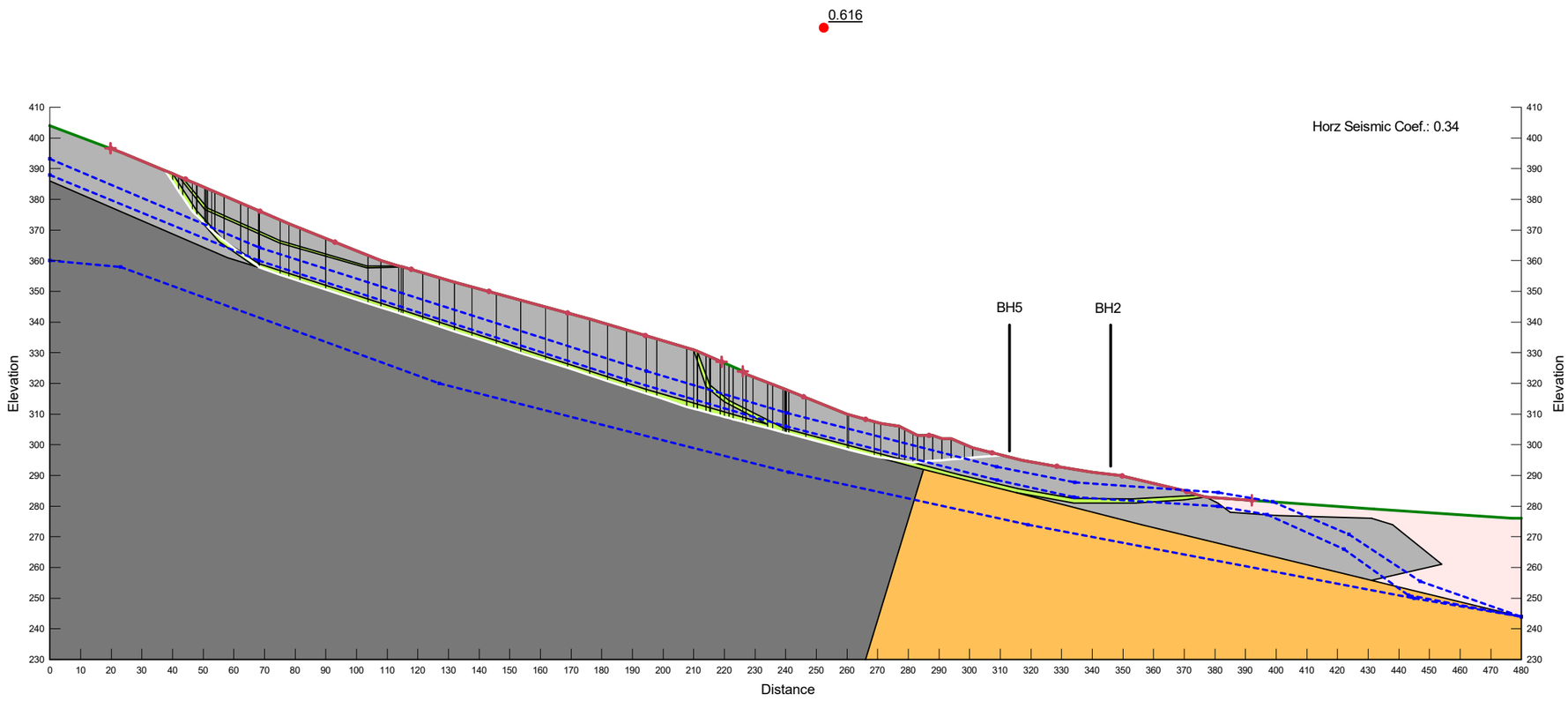
NOTES
1. METHOD: Morgenstern-Price
2. SLIP SURFACE DEFINITION: Entry and Exit
3. OPTIMISE CRITICAL SLIP LOCATION: Yes
4. MINIMUM SLIP SURFACE DEPTH: 0.1 m
5. HORZ SEISMIC COEFFICIENT: 0.08g

PROJECT No	1090333.2000		
ANALYSED	H Udell	June 25	
CHECKED	XXXX	June 25	

CLIENT New Zealand Cherry Corp (Leyser) GP Limited
PROJECT Shannon Farm - Geotechnical Assessment
TITLE 1.0 Section Line 4
1.3 Seismic - SLS case
SCALE [A3] 1:1,500 (A3)

T:\Christchurch\TT Projects\1090333\WorkingMaterial\7. Slope Modelling\Shannon FarmSlopeModel 20250630 - CS4.gsz 03/07/2025 09:08:37 am

Color	Name	Slope Stability Material Model	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Piezometric Surface
	Alluvial Fans	Mohr-Coulomb	20	0	30	2
	Insitu Schist	Bedrock (Impenetrable)				1
	Landslide Surface	Mohr-Coulomb	18	0	25	2
	Lowburn Formation	Bedrock (Impenetrable)				1
	Schist Landslide Debris	Mohr-Coulomb	20	3	34	2



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NOTES
1. METHOD: Morgenstern-Price
2. SLIP SURFACE DEFINITION: Entry and Exit
3. OPTIMISE CRITICAL SLIP LOCATION: Yes
4. MINIMUM SLIP SURFACE DEPTH: 0.1 m
5. HORZ SEISMIC COEFFICIENT: 0.34g

PROJECT No	1090333.2000		
ANALYSED	H Udell	June 25	
CHECKED	XXXX	June 25	

CLIENT New Zealand Cherry Corp (Leyser) GP Limited
PROJECT Shannon Farm - Geotechnical Assessment
TITLE 1.0 Section Line 4
1.3 Seismic - ULS case
SCALE [A3] 1:1,500 (A3)

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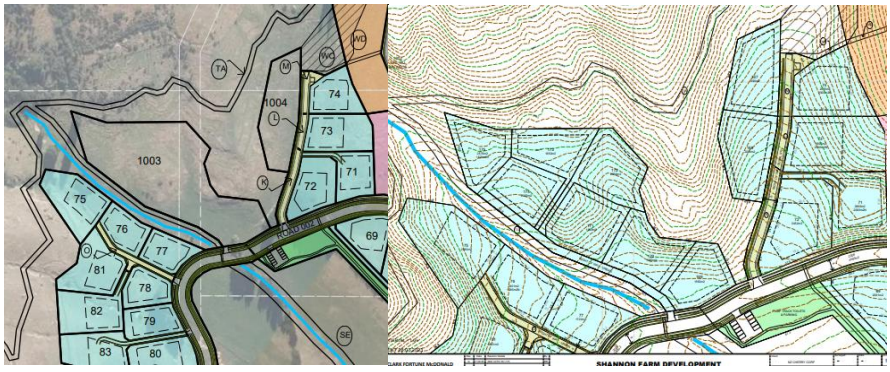
Engineering Advice

Resource Consent Number: RC250169
Planner/Overseer: Oli Monthule-McIntosh
Short Description/Proposal: Revision of ongoing subdivision RC220396 to add an additional 9 residential Lots.



General

Commentary:
We are seeking legal guidance around when conditions do or do not violate s108AA. However, in the meantime our position is that we can still require outdated or malfunctioning services to be updated as part of the Resource Consent and subdivision certification processes.

As this proposal is functionally a change of conditions, I have excluded the standard subdivision conditions as they are already included in the original consent RC220396.

Potable Water Supply

Commentary:
The potable water, and irrigation, conditions already present under RC220396 are adequate for servicing this proposed intensification of the subdivision.
I could copy them here, but it may be redundant to do so.

I am unable to check in with Council's Three Waters Team at this time as to whether the original water supply modelling accounted for additional development like that proposed in this consent. It is more likely than not that the original modelling was done with this proposed intensification in mind
If possible, p**rior to issue of consent,** Council's 3 Waters Team (JQ) should be consulted as to whether the original water supply modelling under RC220396 accounted for at least these proposed additional 9 Lots.

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Firefighting Water Supply

Commentary:
The potable water, conditions already present under RC220396 adequate ensure SNAPAS4509:2008 firefighting will be met.
I could copy them here, but it may be redundant to do so.

Wastewater

Commentary:
The wastewater condition already present under RC220396 are adequate for servicing this proposed intensification of the subdivision.
I could copy them here, but it may be redundant to do so.

Stormwater, Flood Risk & Geotech, and consent notices

Commentary:
Condition 22 of RC220396 must be varied to include the proposed Lots. This will ensure the appropriate stormwater consent notice.

I have reviewed the original Flood Hazard report from Geosolve (as part of RC220396, and copied into the application for RC250169), and I recommend that Lots be added to the existing conditions as below.

I have reviewed the Geotechnical Assessment Report prepared by Tonkin & Taylor Ltd dated July 2025, and recommend the recommendations of Section 8 be implemented into RC250169 / change-of-conditions-to RC220396, as recommend in the application. For clarity I have repeated this below.

Conditions / changes:
Existing Condition 22 must be changed to include Lots 167 – 175 in the listed Lots.

Existing Condition 22.d) must be changed to include Lots 167 – 175 in the listed Lots.

Existing Condition 22.l) must be changed to include Lots 169 - 171, 174 - 175 in the listed Lots.

Existing Condition 22.aa) must be changed to include Lots 169 - 171, 174 - 175 in the listed Lots.

Add condition(s) implementing the recommendations of section 8 of the Geotechnical Assessment Report prepared by Tonkin & Taylor Ltd dated July 2025.

Access

Commentary:

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Under RC220396, ROAD 002 is to be constructed to Local Road Residential standard (though with reduced width, 8.0 metres permitted instead of the 8.5 metres required), which supports up to 150 Lots. The proposed increase of 9 Lots will be absorbed by this easily without any widening. Even considering that the reduced width reduces the maximum capacity (approximately 150 Lots x (8/8.5) = 141 Lots), this remains the same.
No upgrades recommended at this time.
In the future, hypothetically, if there is anything much more intense than infill development of Lots accessed from ROAD 002, then upgrades may be required.

Under RC220396, ROAD 001 is to be constructed to Local Road Residential standard (though with reduced width, 8.0 metres permitted instead of the 8.5 metres required), which supports up to 150 Lots, though as with ROAD 002, the reduced width reduces this capacity to 141 Lots. The proposal pushes this to slightly above 150 Lots served. The next category of Road in Table 3.1 of the Addendum to NZS4404:2004 is Collector Residential (serves up to 450 Lots or 3000ADT), which requires a substantially greater carriageway width of 14.0 metres.
Upgrading the road for a length of only 250 metres, then upgrading another section every time another subdivision happens would be inappropriate and inefficient. It would be appropriate to upgrade much more of ROAD 001 to a higher standard so to support any future intensification and development, so I recommend the upgrade as far as the northern intersection of ROAD 001 and ROAD 002 (but a minimum alternative would be the southern intersection of ROAD 001 and ROAD 002).
Alternatively, this upgrade might be considered excessive and a lower/sub-standard level of service could be acceptable, particularly as the threshold between Local Residential and Collector Residential has only been breached by about 10%.
To facilitate further discussion, and because I am if the opinion that a change an additional 6m may be excessive, I will include the “or otherwise to the satisfaction of Councils Infrastructure Manager”.
To summarise this paragraph, there are two choices:

- Upgrade ROAD 001 substantially (Engineering’s recommendation, as per new condition below)

OR

- Accept ROAD 001 being substandard.

The right-of-way K L M was originally (under RC220396) to serve only 3-4 Lots. It is now proposed to serve 5-6 Lots (noted on application as “rural standard”). If it was intended to be constructed to rural standard, then it would be acceptable as per the original condition under RC220396. If it was intended to be constructed to urban standard, then it must instead be a vested cul-de-sac (1m legal width, 6m formed width). The original condition suggests a mixed urban/rural standard, which we typically allow to serve up to 6 Lots. We recommend allowing this. The existing condition under RC220396 is acceptable as is.
No upgrades recommended at this time.

The entirely new right-of-way to serve proposed new Lots 170 to 175 (noted on application as “urban standard”) will serve 6 Lots, and as such should either be constructed to urban

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vested cul-de-sac standard, or alternatively could be constructed to the more rural part of the mixed urban-rural standard as set out in the original RC220396 conditions. We recommend it be constructed in keeping with the mixed urban-rural standard.
Change condition 21.j)i) as specified below.

The new ROW to serve Lots 172 and 173 should be constructed to the same mixed urban-rural standard so to conform with the rest of the subdivision rights-of-way.
Change condition 21.j)i) as specified below.

Finally for consideration, is that RC220396 as originally approved only requires Ripponvale Road, from the subdivision entrance to the northern of the two highway intersections, be upgraded to 7.0 metres width. This is effectively rural Collector standard, and is the highest entry in our NZS4404:2004 Addendum Table 3.2(a), and serves greater than 500 ADT. The subdivision (as consented under RC220396) will produce approximately 150 Lots x 8 ADT/Lot = 1200 ADT. The proposed intensification (approximately 72 additional ADT) will not push this road past any specific servicing break-points, so no change will be required here.

Conditions and changes:
Existing Condition 21.j)i) must be changed to include “the ROW serving Lots 170-171 and 174-175”, and “, and the ROW serving Lots 172-173”. My intention is that the new changed condition will read: 6.0m ROW legal width for ROWs “A” – “C”, “E”, “O”, “R”, “S”, & “W/X”, the ROW serving Lots 170-171 and 174-175, and the ROW serving Lots 172-173”

Existing Condition 21.f) must be changed to exclude Road 001.

New Condition, Prior to 224c certification)
Road 001 (Up to and including the intersection with Road 002 opposite Lot 306) must be formed in accordance, or upgraded in accordance with Table 3.1 of Councils July 2008 Addendum to NZS 4404:2004, Residential Collector Road classification as modified by the following:
i) An 14.0m wide asphaltic concrete surfaced carriageway within a 20m wide legal corridor
ii) A subgrade CBR >7
iii) A 9.5m radius asphaltic concrete surfaced turning circle at all permanent cul de sac heads, in addition to temporary cul de sac heads where considered necessary by Council’s Roading Manager.
iv) Flush nib kerb to provide a structural pavement edge.
v) Stormwater from road is to be captured by mudtanks located in roadside swales and discharged to ground via soakpit.
vi) Sealed vehicle entrances provided to adjoining lots in accordance with Part 29 of Council’s Roading Policies, January 2015 or a registered as a consent notice on the Record of Title for all lots where access has been left to the time of dwelling construction.
vii) Cut/fill batters outside ROW boundaries with maximum 4:1 gradient to match existing ground or other as agreed by Council’s Infrastructure Manager.”

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viii) Any changes to this consent condition must be with written permission from Council's Infrastructure Manager.

Power & Telecommunications

Commentary:
The Power & Telecommunications condition already present under RC220396 are adequate. I could copy them here, but it may be redundant to do so

Yours sincerely,
Dominic Haanen
Environmental Engineer

Landscape Peer Review

RM250169: SHANNON FARM 9 LOT SUBIDVISION

Prepared for Central Otago District Council, Att Oli McIntosh

31 July 2025

Applicant:	New Zealand Cherry Corp (Leyser) LP
Application:	Subdivision consent under the provisions of the Central Otago District Plan to establish nine additional allotments within the Rural Lifestyle 1 Area of the Rural Resource Area (5).
Location:	112 and 144 Ripponvale Road, Cromwell
Zoning:	The wider site is located in the Rural Resource Area (5) of the Central Otago District Plan. More specifically, the proposed additional Lots will occur exclusively within Rural Lifestyle Area 1
Activity Status:	Non Complying

Boffa Miskell

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Toitū net carbonzero certified consultancy

Document Quality Assurance

Bibliographic reference for citation: Boffa Miskell Limited 2025. *Landscape Peer Review 112 and 114 Ripponvale Road, Cromwell*. Report prepared by Boffa Miskell Limited for Central Otago District Council.		
Prepared by:	Megan Harshey Principal | NZILA Registered Landscape Architect Boffa Miskell Limited	
Reviewed by:	Sue McManaway Principal | NZILA Registered Landscape Architect Boffa Miskell Limited	
	Revision / version:	Issue date: 31 July 2025

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File ref: RM250018_Landscape_Peer_Review_20250326.docx

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1.0 Introduction

1.1 Boffa Miskell Limited (BML) has been engaged by Central Otago District Council (CODC) to peer review a subdivision consent under the provisions of the Central Otago District Plan to establish nine additional allotments at Shannon Farm (RM250169).

1.2 The site subject to this application is located at 112 and 144 Ripponvale Road, Cromwell and spans four parcels legally defined in Record of Titles 126180, OT 106/99, OT 7C/632 and OT 7C/633.

1.3 The property is located within the Rural Resource Area as defined by the Central Otago District Plan (CODP). More specifically, the proposed additional Lots will occur exclusively within Rural Lifestyle Area 1.

1.4 Subdivision in the Rural Lifestyle Areas (as detailed in the Structure Plan in Schedule 19.23) must accord with the relevant minimum and averaging requirements to be considered as a controlled activity. In this case, the proposed additional Lots accord to the minimum allotment areas (1,500m²) as it relates to Rural Lifestyle Area 1, but does not comply with the average of 2,000m². As such, the proposal will be considered as a non-complying activity.

2.0 Purpose and Method of Review

2.1 The purpose of the peer review is an appraisal of the Landscape Assessment, which forms part of the Assessment of Environmental Effects, undertaken by JPW Consulting Ltd rather than a parallel assessment. The following landscape peer review follows the concepts and principles outlined in Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines[1] (the 'Guidelines').

2.2 The focus of this peer review is to confirm (or not) that the Landscape Assessment undertaken by JPW:

- follows a sound methodology and method for the purpose,
- considers the relevant statutory provisions and any relevant 'other matters',
- accurately describes, interprets, and evaluates the relevant landscape character and values,
- analyses the effects on landscape values in a balanced and reasoned way,
- reaches credible findings supported by reasons, and
- makes appropriate recommendations with respect to findings[2].
-

2.3 The following documents have been relied on in the preparation of this peer review:

RM250169 Application:

[1] '*Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines', Tuia Pito Ora New Zealand Institute of Landscape Architects, July 2022.*
[2] The Guidelines, paragraph 6.61.

- 250169 FI Revised AEE - FINAL v2 20250704, prepared by JPW Consulting Ltd, dated 19 June 2025

PC14

- PC0014 APPENDIX E - Landscape and Visual Amenity Assessment, prepared by Rough and Milne, dated 20 May 2019
- Evidence of Tony Milne, prepared by Rough and Milne, dated 13 May 2020
- PC0014 Landscape Peer Review Report - Vivian Espie 20.4.20, prepared by Vivian Espie, dated 20 April 2020
- PC0014 - Landscape Response Comments - Vivian Espie, prepared by Vivian Espie, dated 28 May 2020
- AS Landscape Architect comments on revised provisions post mediation 20211116 (1), prepared by Anne Steven, dated 16 November 2021

2.4 This peer review consisted of an initial desktop review of the application documents to identify any outstanding questions prior to the Site visit. A Site visit was then undertaken on 18 July 2025 by landscape architect Megan Harshey of BML. The weather during the Site visit was over clear and sunny.

2.5 As part of the Site visit, the wider area surrounding the Site was also visited to understand the landscape context, landscape character and potential public/private viewing audiences.

3.0 Methodology

3.1 A landscape assessment has not been undertaken by a landscape architect for this application. However, JPW Consulting Planners have included a landscape and visual assessment within their Assessment of Environmental Effects (AEE) report (250169 FI Revised AEE - FINAL v2 20250704.pdf).

3.2 While the assessment does not follow the Te Tangi a te Manu methodology, which is recognised as best practice for landscape assessments in Aotearoa New Zealand, in the context of this particular proposal, the content provided is considered acceptable for the purposes of this application.

4.0 Existing Landscape

4.1 The AEE submitted for the 9-lot subdivision application does not include a detailed description of the existing landscape or an assessment of landscape values. In contrast, the landscape assessment prepared for Shannon Farm for RM250155 a comprehensive description of the landscape context and values, which has helped inform this peer section.

Receiving Environment

4.2 The Description of the Receiving Environment in Section 4.1 of the RMM Landscape Assessment Report is comprehensive and well-structured, providing a clear and contextually rich overview of the Cromwell Basin and the Shannon Farm site.

4.3 The report effectively situates the Site within its broader geographical and visual context, referencing key landscape features such as the Pisa Range ONL, the Cromwell Basin floor, and the Significant Amenity Landscape (SAL) overlay. The description demonstrates a strong understanding of the physical, perceptual, and associative landscape values, including the area's productive rural character, historical land use, and evolving rural lifestyle development. The inclusion of historical context, such as the site's mining and orchard heritage, supports the identification of landscape character zones.

4.4 The section aligns well with best practice guidance, particularly the Te Tangi a te Manu landscape assessment framework. It appropriately defines the receiving environment not just spatially but experientially, acknowledging both the visual catchment and the broader cultural and ecological context.

4.5 However, while the description is thorough, it could benefit from a slightly more critical reflection on the cumulative effects of ongoing development in the Cromwell Basin, particularly in relation to the SAL's evolving character. Additionally, while the report notes the visibility of the Site from various public viewpoints, a clearer synthesis of how these views contribute to the perceived landscape values of the receiving environment would strengthen the narrative.

The Site

4.6 The Site comprises four land parcels legally described in Record of Titles 126180, OT 106/99, OT 7C/632, and OT 7C/633. It forms part of the Shannon Farm subdivision, which was established under Plan Change 14 (PC14) to the Central Otago District Plan. The Site is currently under development for a 151-lot rural residential subdivision within the Rural Resource Area (5).

4.7 The Site is located in the western half of the subdivision, south of the creek that extends through the Site.

Landscape Values

4.8 The RMM assessment uses the Te Tangi a te Manu framework to assess physical, perceptual, and associative values. The report effectively identifies the key landscape features that contribute to the area's identity, such as the Pisa Range ONL, the rolling pastoral foothills within the SAL overlay, and the productive basin floor.

4.9 The physical attributes, topography, vegetation, and land use are clearly described, and the perceptual qualities, including legibility, coherence, and scenic beauty, are thoughtfully articulated.

4.10 The associative values, including cultural heritage, recreational use, and tangata whenua connections, are acknowledged with appropriate sensitivity and relevance.

4.11 It successfully establishes a baseline of landscape values against which the proposed development can be assessed. The inclusion of seasonal and transient qualities, such as the changing colours of orchards and the visual impact of snow on the ranges, adds depth to the perceptual analysis.

4.12 However, the section could be further strengthened by integrating more explicit commentary on how these values might be affected by cumulative development pressures in the Cromwell Basin, particularly given the ongoing transformation of Shannon Farm. Additionally, while the Significant Amenity Landscape is described in terms of its spaciousness and visual coherence, a clearer link between these values and the proposed mitigation measures would enhance the narrative.

5.0 The Proposal

5.1 The applicant seeks resource consent to subdivide Lots 1003 and 1004 within the Shannon Farm development into nine additional residential allotments. These lots are located within Rural Lifestyle Area 1 (RLA1) of the Rural Resource Area (5) (RRA (5)) zone under the Central Otago District Plan.

5.2 Originally deferred due to geotechnical concerns, the lots have now been reassessed by Tonkin & Taylor Ltd, who confirm that development is feasible subject to specific mitigation measures addressing:

- Debris flow and stormwater management
- Schist debris landslide (SDL) creep
- Local slope instability
- Foundation design and construction

5.3 The proposed allotments range in size from 1,520 m² to 2,020 m², with an average of 1,989.96 m², slightly below the required 2,000 m² average for RLA1. As such, the proposal is classified as a non-complying activity under Rule 4.7.5.iii of the District Plan. Below is a table extracted from the AEE with proposed allotment sizes for Lots 167 – 175.

Lot Number	Lot Size (m^2)	Lot Number	Lot Size (m^2)
167	1690	172	2000
168	2020	173	1650
169	1550	174	2020
170	1860	175	1520
171	1950	-	-

6.0 Statutory Context

6.1 Under the CODP the wider Site is located within RRA (5). The proposed subdivision will occur exclusively within Rural Lifestyle Area 1.

6.2 The Site is located adjacent to an Outstanding Natural Landscape (ONL) that extends along the western boundary of the proposed subdivision, up towards the north.

6.3 The proposal requires consideration of the following rules:

- *Pursuant to Rule 4.7.2.ii.a.i, subdivision in the Rural Lifestyle Areas as detailed in the Structure Plan in Schedule 19.23 must accord with the relevant minimum and averaging requirements to be considered as a controlled activity. In this case, the proposed additional Lots accord to the minimum allotment areas (1,500m2) as it relates to Rural Lifestyle Area 1, but does not comply with the average of 2,000m2. As such, the proposal will be considered as a non-complying activity pursuant to Rule 4.7.5.iii.*

6.4 The application is a non-complying activity

6.5 I consider that the Landscape Assessment has identified and framed a response to the relevant provisions, and I agree with this approach.

Plan Change 14 Overview

6.6 Plan Change 14 (PC14) was initiated by the applicant on 29 May 2019 and accepted by the Central Otago District Council on 14 August 2019. The purpose of PC14 was to rezone approximately 142 hectares of land at Ripponvale Road, Cromwell to a new zone, RRA (5), to enable rural lifestyle development.

6.7 The plan change included a Structure Plan (Schedule 19.23 of the District Plan), which identified various rural lifestyle density areas, primary road locations, and “no build” zones on prominent hill slopes to manage landscape and visual effects. All residential activity within the zone would require resource consent to ensure development controls were applied.

6.8 PC14 also proposed to extend the ONL notation to protect the Pisa Range and facilitate public access to both existing and new ONL areas. Additionally, it allowed for 29 hectares of horticultural expansion adjacent to the existing cherry orchard. The plan change was publicly notified on 16 November 2019, with submissions closing on 18 December 2020. Hearings were held remotely across several sessions in May, June, and November 2020. Ultimately, the Commissioners recommended that PC14 not be approved, and this recommendation was adopted by Council on 6 May 2021.

6.9 Following the Council's decision, the applicant appealed to the Environment Court (ENV2021-CHC-073). The appeal was resolved through a joint memorandum, resulting in a consent order issued on 8 April 2022. The final outcome included the rezoning of the land to RRA (5), the establishment of Rural Lifestyle Areas with defined minimum and average lot sizes, amendments to ONL and SAL notations, and the inclusion of a Structure Plan, Circulation Plan, and Planting Schedule in the District Plan. New objectives, policies, and rules were added to the District Plan to support the zone, and the planning maps were updated accordingly.

7.0 Visual Effects Assessment

7.1 The application does not provide a standalone or detailed visual effects assessment. Instead, it includes a brief consideration of visual effects within the broader AEE. Specifically, Section 8.1.2 titled "Effects on landscape and visual amenity values" addresses the topic in a general manner.

7.2 This section concludes that the proposed subdivision is consistent with the minimum lot size requirements of RLA 1 and that the minor breach of the average lot size (by 10 m²) is not expected to result in any noticeable visual impact. The assessment relies on the context of the surrounding open space and previously approved development patterns to support the conclusion that landscape and visual amenity effects will be less than minor.

Visual Effects Assessment

7.3 The application demonstrates alignment with the CODP and the outcomes anticipated under PC14. The lots are sited within an area already earmarked for rural lifestyle development, and the subdivision avoids encroachment into the ONL and SAL overlays, thereby preserving the integrity of these sensitive visual environments.

7.4 The proposed allotments meet the minimum size requirement of 1,500 m², and while the average size falls just short of the 2,000 m² threshold (at 1,989.96 m²), this minor deviation is unlikely to result in any discernible visual impact. The subdivision layout follows the natural contours of the land, avoiding urban-style patterns and maintaining the open, rural character of the site. Existing landscape controls, including planting schedules and amenity edge requirements, remain in place and are not affected by the proposal. These measures continue to support visual integration and soften the built form within the wider landscape.

7.5 Mitigation of visual effects is further supported by the use of designated building platforms limited to 1,000 m², and by geotechnical recommendations that ensure

earthworks and retaining structures are appropriately managed. These interventions are expected to be visually unobtrusive and consistent with the rural aesthetic. The proposal also maintains the existing open space network and recreational access.

7.6 In summary, the proposal reflects a thoughtful and contextually appropriate approach to rural residential development. It respects the visual and landscape values of the area, integrates effectively with the existing planning framework, and employs suitable mitigation measures to ensure that any visual effects are no more than low. The development of Lots 1003 and 1004 is consistent with the character and expectations of the RLA1 zone and contributes positively to the overall landscape outcome of the Shannon Farm subdivision.

8.0 Landscape Effects Assessment

8.1 The application does not include a standalone or detailed landscape effects assessment. Instead, it offers a general consideration of landscape-related effects within the broader Assessment of Environmental Effects (AEE). Specifically, Section 8.1.2, titled *"Effects on landscape and visual amenity values"*, addresses landscape effects in a broad and integrated manner, without providing a focused or comprehensive evaluation of landscape character, patterns, or sensitivity.

8.2 The proposal seeks to subdivide development Lots 1003 and 1004 into nine new allotments within RLA1 of the RRA (5), as established under PC14. These lots were previously deferred due to geotechnical concerns, which have now been addressed through further investigations by T+T.

8.3 The proposed subdivision is consistent with the Structure Plan and the minimum lot size requirements for RLA1, although it marginally breaches the average lot size requirement by 10 m² (1,989.96 m² versus the required 2,000 m²). This breach is minor and not visually discernible in the context of the wider subdivision.

8.4 The proposal aligns well with Objective 4.3.10 of the District Plan, which seeks to provide for rural living opportunities integrated with productive and recreational uses, while protecting the ONL, maintaining SAL values, and ensuring appropriate servicing. The proposed lots are located entirely within RLA1 and do not encroach upon the ONL or SAL overlays. The subdivision layout respects the natural landform, avoids urban typologies, and maintains the rural character through varied lot sizes and integration with open space.

8.5 Policy 4.4.18 provides a detailed framework for managing landscape, amenity, and environmental effects in RRA (5). The proposal is consistent with this policy in several key respects. It adheres to the Structure Plan, integrates complementary rural activities, and maintains a diverse range of lot sizes and shapes. The subdivision design facilitates efficient access, aligns with the natural landform, and avoids excessive earthworks. The proposal also respects the no-build areas and maintains a clear distinction from urban subdivision patterns. Built form effects are controlled through existing rules and consent notices, and no changes are proposed to the planting framework or open space network.

8.6 Geotechnical risks, including slope instability and debris flow hazards, have been thoroughly assessed by T+T. Their recommendations, such as bunding, raised

platforms, and engineered foundations, are to be implemented via consent notices and subdivision conditions. These measures ensure that landscape values are not compromised by hazard mitigation efforts. The integration of these controls demonstrates a thoughtful balance between safety and landscape integrity.

8.7 The new lots are located in areas already anticipated for development, and the minor averaging breach does not result in any perceptible change to the landscape character. The subdivision maintains visual coherence with the existing development pattern and avoids intrusion into sensitive landscape areas.

8.8 Overall, the proposal is not contrary to the relevant objectives and policies of the CODP. It maintains and enhances landscape and visual amenity values, integrates geotechnical mitigation with landscape design, and reinforces the rural character of the zone. The development is well-considered, appropriately scaled, and consistent with the outcomes anticipated by PC14 and the District Plan. I therefore consider that the effects on Landscape will be no more than low.

9.0 Conclusion

9.1 The applicant seeks resource consent to subdivide Lots 1003 and 1004 within the Shannon Farm development into nine additional residential allotments. These lots are located within RLA1 of the RRA (5) zone under the CODP. Originally deferred due to geotechnical concerns, the lots have now been reassessed by T+T, who confirm that development is feasible subject to specific mitigation measures.

9.2 The proposed subdivision of Lots 1003 and 1004 into nine additional allotments has been reviewed in the context of landscape and visual effects and statutory planning provisions. While the application does not include a standalone landscape assessment prepared, the AEE provides a sufficient level of analysis for the scale and nature of the proposal. The subdivision is consistent with the minimum lot size requirements of Rural Lifestyle Area 1 and only marginally breaches the average lot size requirement, a deviation that is not visually discernible within the broader landscape context.

9.3 The proposal avoids encroachment into the ONL and SAL overlays and maintains the open, rural character of the site. The subdivision layout follows the natural contours of the land, and mitigation measures, such as bunding, raised platforms, and engineered foundations, are appropriately integrated to address geotechnical risks without compromising landscape values.

9.4 Overall, the proposal aligns with the objectives and policies of the CODP, particularly those introduced through Plan Change 14. It reflects a well-considered and contextually appropriate approach to rural residential development, with landscape and visual effects assessed as no more than low.

Suggested Conditions

Building Platform Restriction

- All residential buildings must be located within the designated building platforms, which shall not exceed 1,000 m² in area.

Planting and Amenity Edges

- Existing planting schedules and amenity edge requirements under Plan Change 14 must be maintained. No changes to the approved planting framework are permitted without prior Council approval.

Open Space Protection

- No buildings shall be constructed within areas identified as open space or “no build” zones on the Structure Plan.