Manaaki Whenua
Landcare Research

4 August 2023
Ann Rodgers
Principal Policy Planner
Central Otago District Council
1 Dunorling Street

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Dear Ann

Peer review of Dr Reece Hill's statement of evidence on behalf of Henry van der Velden – Plan Change 19 to Central Otago District Plan – Hearings Panel 1 – 129 Lowburn Valley Road

Summary
Dr Reece Hill's statement of evidence for 1 – 129 Lowburn Valley Road, Cromwell is a fair and accurate assessment of the available regional Land Use Capability and soil data, a sound analysis of the detailed contour map, on-site soil pit observations and photographs and their implications with respect to the National Policy Statement for Highly Productive Land.

Background
Manaaki Whenua Landcare Research was engaged by the Central Otago District Council to peer review Dr Reece Hill's statement of evidence for a Central Otago District Council Plan Change 19 Hearings Panel for 1 – 129 Lowburn Valley Road, Cromwell.

The evidence was prepared for the subject Site in relation to its Land Use Capability (LUC) classification and the application of the National Policy Statement for Highly Productive Land (NPS-HPL).

The aim of the report was to provide an assessment of the most likely LUC Classes and soils on the Site, based on a desktop analysis of available regional scale LUC and soil map information, interpretation of remote sensed imagery, a detailed contour map, site photographs, and on-site soil pit observations and photographs.

Land identified as Land Use Capability Classes 1, 2, or 3, as mapped by the New Zealand Land Resource Inventory (NZLRI), or by any more detailed mapping that uses the Land Use Capability classification is considered NPS-HPL.

In my opinion the report documents the results of a 'more detailed mapping exercise' and provides a more accurate representation of the LUC classes and soils present on the Site in its current form than the regional scale New Zealand Land Resource Inventory Land Use Capability map.

Points of Agreement
The statement of evidence is a fair and reasonable assessment of the most likely LUC Classes and soils on the Site, based on a sound desktop analysis of the available regional scale LUC and soil map information, interpretation of remote sensed imagery, a detailed contour map, site photographs, and

on-site soil pit observations and photographs and their implications with respect to the National Policy Statement for Highly Productive Land.

Dr Hill did not undertake on-site observations or assessments, but obtained on-site soil and site observations from Mr Woodward under his direction. These observations in combination with slope measurements and remote sensed imagery was equivalent to the information he would collect and use to determine the LUC classification for a site.

The LUC mapping system can be applied at multiple scales. This statement highlights the limitations of enlarging regional scale LUC and soil mapping to more detailed scales [e.g., 1:50,000 to 1:5,000], especially with the location of map unit boundaries in the landscape.

A detailed contour map enabled the more accurate location of the LUC unit boundary that is determined primarily on slope [15°], increasing the area of LUC unit 7e24+6e19 and reducing the area mapped as 3s6 on the Site.

The part of the Site with slopes of less than 15 degrees contains significant areas that have been extensively modified by the placement of tracks, fill and minor building platforms. On-site soil observations and photographs depicting the composition and characterisation of the soil parent materials, the degree of soil development, horizonation and depth for eight locations in this part of the Site show the presence of very shallow and stony disturbed fill overlying buried soils, truncated, and mixed Anthropic soil profiles derived from mixed slope colluvium.

These materials do not meet the depth, texture and moisture holding capacity criteria for LUC Class 3 as specified in Land Use Capability Survey Handbook[1], are more properly classified as LUC class 4s, and are not highly productive land as defined by the NPS-HPL.

Conclusion

Dr Reece Hill's statement of evidence for 1 – 129 Lowburn Valley Road, Cromwell is a fair and accurate assessment of the available regional Land Use Capability and soil data, a sound analysis of the detailed contour map, on-site soil pit observations and photographs and their implications with respect to the National Policy Statement for Highly Productive Land.

Kind regards,

Ian H Lynn
4 August 2023

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[1] Lynn, IH, Manderson, AK, Harmsworth, GR, Eyles, GO, Douglas, GB, Mackay, AD, Newsome PJF. 2021. Land Use Capability Handbook - a New Zealand handbook for the classification of land 3rd Ed. (revised & reprinted) Hamilton, AgResearch; Lincoln, Landcare Research; Lower Hutt, GNS Science 163pp.