

Before the Independent Hearing Panel

Under the Resource Management Act 1991 (**RMA**)
In the matter of the Proposed Waimakariri District Plan (**Proposed Plan**)
Hearing Stream 12: Rezoning
MacRae Land Company Limited
Submission Number: 409
Further Submission Number: 113

Statement of evidence of Andy Carr

5 March 2023

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**anderson
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Qualifications and experience

1. My name is Andrew (“Andy”) David Carr.
2. I am a Chartered Professional Engineer and an International Professional Engineer (New Zealand section of the register). I hold a Masters degree in Transport Engineering and Operations and also a Masters degree in Business Administration.
3. I served on the national committee of the Resource Management Law Association between 2013-14 and 2015-17, and I am a past Chair of the Canterbury branch of the organisation. I am also a Chartered Member of Engineering New Zealand (formerly the Institution of Professional Engineers New Zealand), and an Associate Member of the New Zealand Planning Institute.
4. I have more than 34 years’ experience in traffic engineering, over which time I have been responsible for investigating and evaluating the traffic and transportation impacts of a wide range of land use developments, both in New Zealand and the United Kingdom.
5. I am presently a director of Carriageway Consulting Limited, a specialist traffic engineering and transport planning consultancy which I founded more than ten years ago. My role primarily involves undertaking and reviewing traffic analyses for both resource consent applications and proposed plan changes for a variety of different development types, for both local authorities and private organisations. I have previously been a Hearings Commissioner and acted in that role for Waimakariri District Council, Christchurch City Council, Ashburton District Council and Greater Wellington Regional Council.
6. Prior to forming Carriageway Consulting Limited I was employed by traffic engineering consultancies where I had senior roles in developing the business, undertaking technical work and supervising project teams primarily within the South Island.

Code of conduct for expert witnesses

7. I have read the Code of Conduct for Expert Witnesses contained within the Environment Court Practice Note 2023 and agree to comply with it. This evidence is within my area of expertise, except where I state that I am relying on information I have been given by another person. I confirm that I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed herein.

Scope of evidence

8. This evidence is provided on behalf of Macrae Land Company Limited (submitter #409), in relation to its submission for its site at Mill Road, Ohoka (**the site**).
9. The specific matter which I have been asked to comment on is the technical viability of providing a road that will serve the site, connecting to Threlkelds Road, at a location approximately 545m northeast of the Mill Road / Threlkelds Road intersection.
10. In preparing this evidence, I have reviewed the provisions of the Proposed Plan and also the Council's current Engineering Code of Practice.

Executive summary

11. I have considered whether a new road could be formed to serve the site, connecting to Threlkelds Road approximately 545m northeast of the Mill Road / Threlkelds Road intersection. Having reviewed the prevailing roading and traffic characteristics of Threlkelds Road, and the provisions of the Proposed Plan, I consider that a road that fully complies with the Proposed Plan would be able to be formed.

Proposed Intersection Location and Comments

12. The proposed location of the access road is proposed to connect to, at the location of an existing driveway.



Photograph 1: Location of Proposed Roadway (Left of Photo)

13. Threlkelds Road is a Collector Road under the roading hierarchy of the Proposed Plan, and is subject to an 80km/h speed limit. The road is flat and straight, and has a 7m formed width within a legal width of 20m. As can be seen on the photograph above, there is a drain on the western side of the road.
14. According to the MobileRoads website, the road carries around 2,000 vehicles per day (two-way), indicating a peak hour traffic flow in the order of 200-225 vehicles (two-way). The NZTA Crash Analysis System shows that there has been only one crash recorded along the whole length of Threlkelds Road in the past five years. This occurred around 480m south of the proposed road location, when a driver attempted a u-turn, slid on the grass verge, and entered the ditch. No other vehicle was involved.
15. On the basis of my view, I consider that Threlkelds Road presently operates well within its maximum capacity, and that there are no road safety concerns with the road geometry.
16. The Council's Engineering Code of Practice set out expected geometries for roads but this is based on the operative District Plan and I expect will therefore be superseded by the Proposed Plan. Under the Proposed Plan (TRAN-R3), Collector Roads subject to an 80km/h speed limit are expected to have a 23m legal width, a 2.5m shared use path on one side, two 3.5m traffic lanes and a 1m sealed shoulder. Threlkelds Road presently falls below this standard.

17. That said, the road evidently accommodates the current traffic flows without road safety or efficiency issues arising. I also highlight that the Proposed Plan requires 12.5m of the total legal road width to be given over to roading-related matters (the carriageway and shared use path) and this easily fits within the 20m legal width of Threlkelds Road, with 7.5m remaining for a verge/berm.
18. Accordingly, there is no impediment to upgrading the movement-related functions of Threlkelds Road to meet the Proposed Plan requirements.
19. Under the Proposed Plan, there is no difference in the roading geometry that arises from different volumes of traffic being carried. Thus if a new road was to be formed to the site that connected to Threlkelds Road and increased traffic flows on it, there is no requirement to then upgrade the road. Accordingly, the presence of a new road to serve the site does not change the suitability of Threlkelds Road nor the ability to upgrade it, if required.
20. Any new road and intersection would also need to meet the Proposed Plan requirements. A legal width of 20m would likely to be required for the new road, and this can be achieved. The current 20m legal width of Threlkelds Road is easily sufficient to accommodate an appropriate form of intersection, with associated shoulder widening to allow for vehicles to pass.
21. The topography in the area is flat, meaning the new road would not have any adverse gradients, and the flat and straight alignment of Threlkelds Road means that appropriate sight distances can easily be provided.
22. I have reviewed the other relevant provisions of the Proposed Plan in respect of the new road. Under TRAN-R4 (Formation of a New Road Intersection), the new road would need to be 550m from any other road, and this is achieved. TRAN-R5 (Formation of a New Vehicle Crossing) is limited to 'new' vehicle crossings, and although no new vehicle crossing is proposed, the new road would potentially impact existing vehicle crossings. Any vehicle crossing on Threlkelds Road or onto the new road would need to be 45m from the new intersection and this can be achieved.
23. The details of the road and intersection design are a matter for consideration when land use and subdivision consents are sought. However I do not consider that there are any matters that preclude a fully-complying road and intersection design from being progressed at that future time.

Conclusion

24. On the basis of my assessment, I consider that there are no reasons why a complying road could not be formed in the proposed location to serve the site. Accordingly, I am able to support the proposal from a transportation perspective.

5 March 2023

Andy Carr