

Before the Selwyn District Council

In the matter of The Resource Management Act 1991 (RMA)

And RC195454 being an application for a mixed use development
at Birchs Road, including a supermarket and ancillary
development

Statement of evidence of Andy Carr

6 July 2020

Qualifications and experience

- 1 My full 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 30 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 Ltd, a specialist traffic engineering and transport planning consultancy which I founded over six 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 am also a Hearings Commissioner and have acted in that role for Greater Wellington Regional Council, Ashburton District Council, Waimakariri District Council and Christchurch City Council.
- 6 Prior to forming Carriageway Consulting Ltd 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.
- 7 I have been involved in a number of proposals which have involved assessing the traffic generation and effects of commercial developments, including supermarket proposals in Lincoln, Nelson and Christchurch.
- 8 I have carried out commissions in the Selwyn and Greater Christchurch areas for more than 15 years. As a result of my experience, I consider that I am fully familiar with the environs of Lincoln and the particular traffic-related issues associated with commercial resource consent applications.

Code of Conduct for Expert Witnesses

- 9 I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court of New Zealand Practice Note 2014 and that I have

complied with it when preparing my evidence. Other than when I state I am relying on the advice of another person, this evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

Scope of Evidence

- 10 In this matter, I have been asked by the Selwyn District Council to review and comment on the transportation-related aspects of the proposal for a supermarket and ancillary development (that is, a café) at Birchs Road. I have also been asked to review and comment on the submissions received.
- 11 To date I have provided several reviews of information provided by the Applicant, in letter reviews dated 19 September 2019 (a peer review of the application), 22 October 2019 (a review of additional information provided by the Applicant in response to a request for further information), 3 February 2020 (a further review of supplementary additional information provided by the Applicant) and 19 February 2020 (which set out a comprehensive response to the revised application). For clarity, these reviews also included additional development such as residential lots and a childcare centre, but I understand that these have been processed separately.
- 12 I have not repeated the detail of these reviews in my evidence. In summary however, the letter review of 19 February 2020 concluded that:

“Having reviewed the transportation aspects of the proposal, we consider that:

- *The roading network in the vicinity of the site is newly-constructed and has an excellent road safety record;*
- *The proposal does not preclude, and in practice supports, the ability to give effect to ODP Area 3 within the District Plan (Section E37) with regard to transportation matters;*
- *The application contains only sketch layouts of the works proposed to facilitate the transportation networks which include some errors. However the necessary revisions can be made wholly within the legal road reserve and a condition of consent is proposed to ensure that the layouts meets current guides and standards.*
- *There is sufficient spacing between the Birchs Road / Makybe Terrace intersection and the Birchs Road / Supermarket access that driver confusion between them is unlikely to arise;*
- *Traffic flows on Caulfield Crescent may increase as a result of the proposal because it forms a through route, but this is unlikely and if it does occur, can be addressed subsequently;*
- *Swept paths have been provided to demonstrate that the layout operates appropriately, with the exception of a large truck crossing the centreline of*

Makybe Terrace. We consider that either the Applicant should widen the carriageway of Makybe Terrace to avoid this, or limit the times when larger vehicles exit the site;

- The traffic generation rate and extent of pass-by traffic used for the supermarket is appropriate;*
- It is likely that a greater proportion of traffic travelling to the supermarket will use Makybe Terrace rather than the direct access off Birchs Road. Again, this does not affect the overall outcomes;*
- There are additional non-compliances with the District Plan that have not been identified, including the size of the parking spaces, and the separation of the existing driveways on Birchs Road from the proposed Makybe Terrace. We have assessed these and consider that the effects will be less than minor;*
- The requirement for queuing space has been applied incorrectly, and is not achieved at either of the supermarket accesses. However a condition of consent has been offered to limit the parking space closest to the Birchs Road access to staff only, which will address the issue satisfactory in our view. A detailed calculation has been provided to show that in practice the queuing space at the supermarket access from Makybe Terrace will be appropriate.*
- Although the proposed roads do not meet the District Plan requirements, the differences are supportable in our view and do not result in an inconsistent roading environment for drivers;*
- The Birchs Road supermarket access is wide in order to accommodate delivery vehicles, but is to be visually narrowed to ensure that drivers of smaller vehicles do not enter the site at high speed, with this being the subject of a condition of consent;*
- Notwithstanding our concerns regarding some of the underlying assumptions for traffic distribution, the Birchs Road / Makybe Terrace intersection and site accesses are able to accommodate the expected traffic flows with low queues and delays, even if higher traffic volumes are used in the analysis.*

We have recommended that Conditions of Consent are put in place for the following:

- With regard to the provision of detailed drawings for the roading schemes:
 - Detailed drawings shall be provided by the consent-holder showing layouts for access to the consented activities, and any resultant changes on Birchs Road and Makybe Terrace, that comply with the Manual of Traffic Signs and Markings. These drawings shall be submitted to the Council for approval;*
 - The drawings shall be subject to a road safety audit by a suitably qualified traffic engineer independent of the Applicant's team, and**

- the audit report provided to the Council at the same time as the detailed design drawings;*
- *The consent-holder shall be responsible for all costs associated with the works identified on the detailed design drawings.*
 - *With regard to the large truck crossing the centreline of Makye Terrace:*
 - *Either: The Applicant shall widen the carriageway of Makye Terrace and provide revised swept paths showing that this widening would result in trucks staying on their own side of the road;*
 - *Or: large vehicles shall only be permitted to exit the site at off-peak times, to minimise the potential for meeting oncoming traffic*
 - *With regard to the design of the supermarket vehicle crossing at Birchs Road:*
 - *The vehicle crossing shall be constructed with a 50mm high over-run area to enable large trucks to enter while also providing a clearly delineated narrower route for drivers of smaller vehicles.*
 - *With regard to mitigating the queuing space shortfall:*
 - *Space 1 within the supermarket car park shall be clearly marked as being for staff only.*
 - *With regard to landscaping within sight triangles:*
 - *Where landscaping is within a required sight triangle it shall either comprise of a species that is less than 1m in height at maturity, or shall be 'limbed up' such that all branches or leaves are more than 1.5m above the level of the surrounding ground."*
- 13 I concluded that *"subject to the above comments and conditions of consent, we consider that no adverse effects will arise on the transportation networks as a result of the proposed development. Accordingly, we consider that there are no transportation-related reasons why the application could not be approved."*
- 14 Since that time, I have been provided with a revised site layout (BSM Group Architects drawing RMA A101 Rev 6, dated 22/06/2020). This shows a slightly different layout within the supermarket car park. Consequently I have firstly reviewed this, in light of my previous comments.
- 15 I have been advised that other than the revised site layout, no response has been received to my previous comments.

Revised Site Layout

- 16 The most recent site layout reorients to bulk of the car parking spaces, from the north-south alignment previously proposed to an east-west orientation. As such, it represents a largely new configuration, although the locations and the designs of the vehicles crossings to the frontage road remain the same.

- 17 I have reviewed the dimensions of the parking spaces and note that they are 5.0m long, 2.6m wide and have an aisle of at least 7.5m. As such, they are the predominantly the same dimensions as the earlier layout, with the exception that some of the spaces previously had an 8m wide aisle. Although these dimensions do not meet the District Plan requirements (as the Plan requires spaces to be 5.4m long), this matter was traversed within my earlier reviews, where the Applicant advised that they preferred to provide greater dimensions than the District Plan. I also highlighted that the combination of space length and aisle width was greater than the District Plan required, meaning that in practice, the spaces would be more easily accessible than if they had the dimensions of the Plan. Accordingly I was (and still am) of the view that these dimensions are acceptable.
- 18 One previous non-compliance also related to the queuing spaces available at the Makybe Terrace access. This was previously 8m, and a statistical analysis was provided by the Applicant to show that this was sufficient. Under the proposed, layout, the queuing space has increased, resulting in a lesser degree of non-compliance.
- 19 With regard to this layout and out earlier comments, the drawing again shows only sketch layouts of the works proposed to facilitate the transportation networks which include some errors (such as the stripe of the central median of Makybe Terrace running the wrong way). However the necessary revisions can be made wholly within the legal road reserve and a condition of consent is proposed to ensure that the layouts meets current guides and standards.
- 20 No swept paths have been provided to demonstrate that the layout operates appropriately, and there is a note that these are *"to be designed by the traffic engineer"*. I recommend that swept paths are provided for the most constrained spaces (as they were with the previous layouts) to show that the layout operates satisfactorily.
- 21 I previously identified concerns that the swept paths provided showed that a large truck travelling from the site toward Birchs Road would cross the centreline and intrude into the right-turn lane into the site. This remains the case, as no changes have been made to this part of the layout. I remain of the view that either the Applicant should widen the carriageway of Makybe Terrace to avoid this, or limit the times when larger vehicles exit the site to times when there is little potential for the truck to encounter an opposing vehicle.
- 22 There remain non-compliances with the District Plan that have not been identified, including the size of the parking spaces, and the separation of the existing driveways on Birchs Road from the proposed Makybe Terrace. However, I have assessed these and consider that the effects will be less than minor.

- 23 Since there is a shortfall in the queuing space at the Birchs Road access, the Applicant previously offered a condition of consent that the use of this space would be limited to staff only. I anticipate that this remains the case.
- 24 The Birchs Road supermarket access is wide in order to accommodate delivery vehicles. The previous plans showed that this was to be visually narrowed to ensure that drivers of smaller vehicles do not enter the site at high speed, with this being the subject of a condition of consent. I anticipate that the condition of consent is still offered.
- 25 For clarity, the conditions of consent that I previously recommended (and which are set out in paragraph 12 above are all still relevant, and I remain of the view that they are required.

Response to Submissions

- 26 I have reviewed the submissions received on the application, and address the matters raised below. Where the same issue has been raised by different submitters, I have only responded to the issue once. For clarity, the issues are not set out in any particular order.

Submitter Concern: The development will lead to increased traffic volumes

- 27 I agree that the proposal will lead to higher traffic volumes. However, these have been assessed by the Applicant, and the effects on road safety and roading/intersection capacity have been identified. The forecast flows can be accommodated on the roading network would adverse effects arising that are more than minor, even at the peak times on the network.

Submitter Concern: The development will lead to adverse road safety outcomes

- 28 The matter of road safety has been considered within the application, and the Applicant has identified that adverse road safety effects are unlikely to arise. I agree with this conclusion.

Submitter Concern: The development will lead to adverse effects on Caulfield Crescent

- 29 It is possible that Caulfield Crescent will become a route for customer vehicles travelling to and from the supermarket. This issue was raised within my earlier reviews, but I concluded that if it was to happen, then there were mitigation measures that could be put in place to address the issue, such as traffic calming measures.

- 30 Given that there might not be such an outcome, I do not consider that any specific provision is required through conditions of consent, over and above the standard 'review clause' provisions.

Submitter Concern: Access for emergency vehicles will be restricted

- 31 In practice, emergency service vehicles have the same dimensions as refuse collection vehicles, and therefore if access was to be restricted for one, then it also affects the other. The roading layout and dimensions proposed do not, in my view, prevent the passage of larger vehicles.
- 32 I note that the application was publicly notified, but no submissions were received from the emergency services in this regard.

Submitter Concern: Staff will park on the surrounding roads

- 33 The parking provided within the site is sufficient for both staff and customers, although I am aware of anecdotal information that staff parking at supermarkets (and other large employers) does occur on surrounding roads. Such an effect, if it was to arise, can be managed through the standard 'review clause'.

Submitter Concern: The development conflicts with the roading layout proposed under the Outline Development Plan for the area

- 34 Within my letter review of 19 February 2020, I reviewed the Outline Development Plan for the area (ODP Area 3 of the District Plan, section E37), and concluded that the proposal did not result in an inability to give effect to the ODP. The revised site layout does not change this assessment.

Submitter Concern: The increased traffic flows will adversely affect access to the Rail Trail

- 35 The Rail Trail cycleway runs from the Birchs Road / Trices Road intersection (around 3.7km north of the site) to Lincoln, running alongside the formed carriageway of Birchs Road on its eastern side. I note that the scheme plans do not show any specific provision for cyclists, but as set out previously, the plans are of a 'sketch' nature and do not show full design details.
- 36 I have proposed a condition of consent that the detailed plans are to be reviewed by the council, and are also to be subject to a road safety audit. The latter takes into account the needs of all road users, and therefore will address matters relating to the interface between the site accesses and the Rail Trail.

Conclusions

- 37 Having assessed the application, and also reviewed the updated plan, I remain of the view that the proposal can be accommodated on the surrounding transportation networks, but that this is subject to a number of conditions of consent and/or further information required to be provided by the Applicant. In particular, I consider that:
- (a) Detailed drawings shall be provided by the consent-holder showing layouts for access to the consented activities, and any resultant changes on Birchs Road and Makybe Terrace, that comply with the Manual of Traffic Signs and Markings. These drawings shall be submitted to the Council for approval;
 - (b) The drawings shall be subject to a road safety audit by a suitably qualified traffic engineer independent of the Applicant's team, and the audit report provided to the Council at the same time as the detailed design drawings;
 - (c) The consent-holder shall be responsible for all costs associated with the works identified on the detailed design drawings.
 - (d) Either: The Applicant shall widen the carriageway of Makybe Terrace and provide revised swept paths showing that this widening would result in trucks staying on their own side of the road OR large vehicles shall only be permitted to exit the site at off-peak times, to minimise the potential for meeting oncoming traffic
 - (e) The vehicle crossing at Birchs Road shall be constructed with a 50mm high over-run area to enable large trucks to enter while also providing a clearly delineated narrower route for drivers of smaller vehicles.
 - (f) Space 1 within the supermarket car park shall be clearly marked as being for staff only.
 - (g) Where landscaping is within a required sight triangle it shall either comprise of a species that is less than 1m in height at maturity, or shall be 'limbed up' such that all branches or leaves are more than 1.5m above the level of the surrounding ground.
- 38 The provision of a revised site layout also means that swept paths should be provided for vehicles manoeuvring within the car park, in order to ensure that the layout will function satisfactorily in practice.

Andy Carr

6 July 2020