

MEMO

To: Ryan Brosnahan, Planner, Resource Consents Unit

Cc: Andy Milne, Senior Transport Planner, CSTR Asset Planning

From: John Dore, Transport Planner, CSTR Asset Planning

Date: 12 July 2021

Re: RMA/2021/589 – 33 and 69 School Rd

Summary

I have reviewed the application and traffic non compliances identified. Transport impacts are summarised below:

- Traffic generated by the development is likely to be distributed along School Rd and will damage existing grassed berms and edge of seal.
- The proposed access on Hasketts Rd will likely result in damage to the grassed berm and edge of seal.

These issues also increase risk of road safety problems and may impact on pedestrian accessibility.

Should consent be granted I suggest the following conditions:

1. An independent safety audit is required before engineering plans are submitted and approved for changes proposed to Hasketts Rd.
2. All work on Hasketts Rd must be designed and constructed in accordance with Christchurch City Council Construction Standard Specifications and Infrastructure Design Standards
3. Shoulder widening is required at Hasketts Rd vehicle crossing to provide adequate sealed width for heavy goods vehicles turning into and out of the Hasketts Rd access. Shoulder widening must tie in with proposed changes to intersection of Hasketts Rd and SH73.
4. An advice note: Applicant to submit a corridor access request to council before work commences in road
5. An advice note: Include standard advice note for vehicle crossings.

To mitigate the above transport effects and in my opinion provide a better overall transport outcome, I recommend considering an alternative option of providing all access/egress from Old West Coast Road (SH73).

A summary of the road environment and assessment of traffic effects is outlined below.

Proposal and Road Environment

A rural machinery sales and service facility is proposed at the application site. An indicative site layout is shown in figure 1.

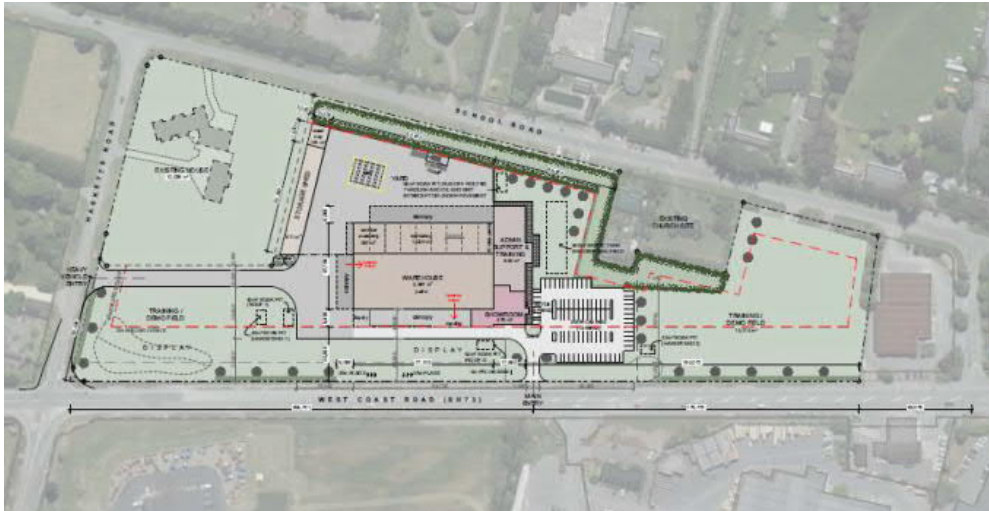


Figure 1 – Proposal layout

The site and surrounding area is zoned rural urban fringe. A mixture of industry and commercial activities operate along the south side of the State highway. School Rd provides access to a mixture of residential properties, a school, museum and various other commercial operations.

The site is bound by Hasketts Rd, School Rd and West Coast Rd (SH73). West Coast Rd is a state highway controlled by Waka Kotahi (NZTA). This section of state highway is defined by NZTA as a limited access road, meaning that properties can only be accessed from authorised crossing points.

West Coast Rd (SH73) is major arterial road with an approximate average weekday traffic volume of about 14,000 vehicles per day. The road cross section varies across the site frontage and typically includes:

- Approximately 3.5m traffic lanes in both directions
- Painted flush median varying in width from 0 to approximately 2.5m wide
- Sealed shoulders on both sides varying in width from approximately 1.5m to 2m
- Grass berms both sides
- Overhead power on north side
- No kerbs or sealed footpaths

West Coast Rd (SH73) is straight and wide on the urban/rural fringe. The posted speed limit has recently been changed from 80km/h to 60km/h along the site frontage.

A posted speed limit change often doesn't transfer to an actual reduction in traffic speeds. Given the rural nature of the road traffic speeds are expected to be well above 60km/h. Anecdotal observations from site visits confirm that traffic typically travels at around 75-80km/h across the site frontage on West Coast Rd.

School Rd and Hasketts Rd are both local roads with relatively low volumes of traffic. School Rd provides access to Yaldhurst School and is reasonable to expect relatively high levels of pedestrian and vehicle activity before and after school. The road cross section typically includes:

- Approximately 6m of sealed carriageway width
- No delineation, except directly outside school
- Narrow formed shoulders that have grassed over
- Grass berms approximately 7m wide on both sides
- Overhead power on north side
- No kerbs or sealed footpaths

A 6m carriageway allows for two way traffic flow at slow speeds and the wide well maintained berms are suitable for pedestrian recreational use.

A school 40km/h speed zone is operational before and after school, the balance of School Rd and Hasketts Rd around the site has a posted 50km/h speed limit.

The key intersections around the site are; SH73/School Rd and SH73/Hasketts Rd

The intersection of SH73/School Rd is a stop controlled T intersection, with a painted right turn flush median approximately 2.5m wide on the SH73 approaches. This intersection is about 300m west of a large two lane roundabout and is near the highest concentration of commercial activities in the wider site area.

The intersection of SH73/Hasketts Rd is a stop controlled X intersection. A left turn slip lane is available on SH73 westbound approach, there is no flush median available for right turns. This intersection is a further 500m from the intersection of SH73/School Rd and the immediate surrounding land use has a more rural feel compared to the intersection of SH73/School Rd.

Transport Non Compliances

The site area is zoned Rural Urban Fringe. The proposed activity is not specifically provided for in this zone and is a non-complying activity.

I agree with most of the transport non compliances identified in the application Integrated Transport Assessment (ITA). Non compliances listed below:

1. Rule 7.4.3.1 Minimum number and dimensions of car parks - Eleven spaces are required for visitors and three are provided
2. Rule 7.4.3.7 Access design – 18m queue space to SH73 required, 15m provided
3. Rule 7.4.3.10 High Trip Generators – Estimated 93 trips/hr, greater than 50 trips/hr triggering the high trip generator rule

The applicant has noted a non-compliance with: Rule 7.4.3.8 Vehicle Crossings. The vehicle crossings are not in accordance with figure 14, Appendix 7.5.10.

My interpretation of the relevant rules is that a vehicle crossing in accordance with Appendix 7.5.10 is required on:

- An arterial or collector road with a speed limit 70km/hr or greater
- Any vehicle crossing to any land, building or part of a building located in a rural zone, on or in which rural produce is offered for sale by wholesale and/or retail

The proposed vehicle crossing on Hasketts Rd is technically complying, since it is a local road the speed limit is less than 70km/h and no rural produce is offered for sale.

A summary of transport effects is outlined below.

Transport assessment of effects

Rule 7.4.3.1 Minimum number and dimensions of car parks

In total there is a greater parking provision provided on site than required in the district plan, with a high number of parks allocated to staff and less than district plan requirements allocated to visitors.

Given the size of the site and total amount of carparks, there are a number of options available to the applicant. The applicant can provide more marked car parking spaces for visitors and less marked staff carparks if they find the three visitor parks are not satisfactory. It is highly unlikely that any parking demand will overspill into the surrounding roads and it is therefore considered the effects are less than minor.

Rule 7.4.3.7 Access design

Any activity requiring four or more parking spaces is required to provide queueing space in accordance with appendix 7.5.8.

A minimum queueing space of 18m is required for activities with between 51-100 car parks. Queueing space is measured from the road boundary to nearest vehicle control point.

The applicant reports an available queue distance of 15m that is technically correct. Fifteen metres from the property boundary there is a potential conflict with a medium rigid truck leaving the service area and there is also a vehicle control point for light traffic exiting the car parking area at this location.

Fifteen metres of queue space is enough for 2-3 light vehicles to queue or one medium rigid vehicle. A large 19m long semi-trailer would queue past the property boundary to the edge line of the through traffic lane on SH73.

Nineteen metre semi-trailers are expected to use the vehicle access proposed on Hasketts Rd. However, non-regular truck drivers may confuse the SH73 access as the heavy goods access, it is wide enough and from the road it does look like access is provided to the service area.

That said, it is more than likely that a nineteen metre semi-trailer will wait in the right turn flush median and wait until the access is clear before entering and potentially queueing out to the carriageway edge line.

On balance I am satisfied the non-complying queue distance has less than minor effects.

Rule 7.4.3.8 Vehicle Crossings

My interpretation of the relevant rules is that a vehicle crossing in accordance with Appendix 7.5.10 is required on:

- An arterial or collector road with a speed limit 70km/hr or greater
- Any vehicle crossing to any land, building or part of a building located in a rural zone, on or in which rural produce is offered for sale by wholesale and/or retail

The vehicle crossing on Hasketts Rd is technically complying, since it is a local road, the speed limit is less than 70km/h and no rural produce is offered for sale.

The tracking diagrams provided by the applicant show a 19m semi trailer turning into and out of the proposed access and vehicle crossing on Hasketts Rd. The turn paths show these vehicles tracking close to the edge of the existing carriageway, leaving a restricted carriageway width for any opposing Hasketts Rd traffic.

It is highly likely that turning heavy vehicles and any opposing traffic encountering heavy goods vehicles will track into the grassed berm area and along the edge of seal.

Heavy vehicles tracking into these areas will severely damage the grassed berm and edge of the road seal. Damage to the edge of seal eventually breaks out and reduces an already narrow carriageway width even further, spreads

debris on the road and increases the risk of vehicle crashes. Berm damage impacts on the access berms provide for recreational pedestrians.

To mitigate these effects shoulder widening is required at Hasketts Rd vehicle crossing to provide adequate sealed width for heavy goods vehicles turning into and out of the Hasketts Rd access. Shoulder widening must tie in with proposed changes to intersection of Hasketts Rd and SH73

Figure 14 shown below forms a base for shoulder widening design. It is acknowledged that site specific features such as low speed and low traffic volumes may not require the full length of shoulder widening. A site specific design is required with some shoulder widening to mitigate the effects described. Widening required for the vehicle crossing must marry in with changes proposed on Hasketts Rd. Or alternatively remove access from Hasketts Rd and consider all access from SH73.

Any planned changes to Hasketts Rd must be designed and constructed in accordance with Christchurch City Council Construction Standard Specifications and Infrastructure Design Standards

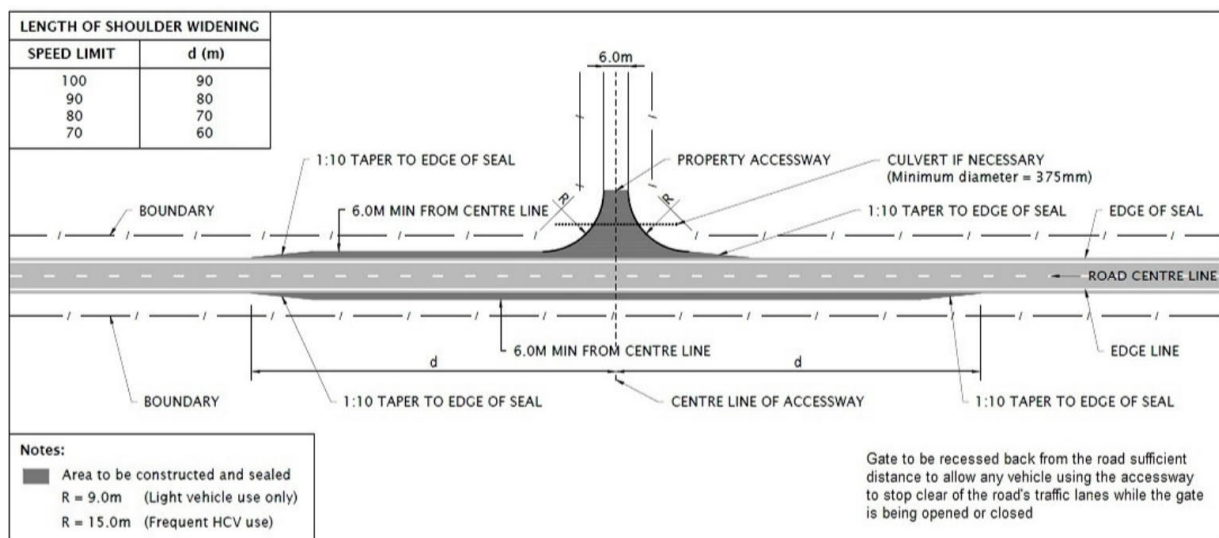


Figure 14 – Figure 14 Appendix 7.5.10 Design of rural vehicle crossings – Christchurch District Plan

Rule 7.4.3.10 High Trip Generators

The proposed development is estimated to generate 93 trips/hr, this is greater than 50 trips/hr threshold for mixed use developments. The assessment criteria for high trip generators includes:

1. *Access and manoeuvring (safety and efficiency): Whether the provision of access and on-site manoeuvring area associated with the activity, including vehicle loading and servicing deliveries, affects the safety, efficiency, accessibility (including for people whose mobility is restricted) of the site, and the transport network (including considering the road classification of the frontage road).*
2. *Design and Layout: Whether the design and layout of the proposed activity maximises opportunities, to the extent practicable, for travel other than by private car, including providing safe and convenient access for travel by such modes.*
3. *Heavy vehicles: For activities that will generate more than 250 heavy vehicle trips per day, whether there are any effects from these trips on the roading infrastructure.*

4. *Accessibility of the location: Whether the proposed activity has demonstrated the accessibility of the site by a range of transport modes and whether the activity's location will minimise or reduce travel to and from the activity by private vehicles and encourage public and active transport use.*

Access and manoeuvring (safety and efficiency)

The narrow 6m sealed carriageway width outside the proposed access way on Hasketts Rd is not wide enough to accommodate heavy turning movements. Effects are noted above in Transport assessment of effects, Rule 7.4.3.8 Vehicle Crossings.

The applicant has proposed minor widening, changes to delineation and installation of kerb and channel on Hasketts Rd at and around its intersection with Old West Coast Road SH73. An important component of any design within the legal road is to complete a safety audit to provide an independent check that the proposed design is safe for all users. If consent is granted, a road safety audit is recommend to be completed as a condition.

Whilst I note that Old West Coast Road is state highway I have some concerns regarding the potential safety issues associated with a driver waiting to make a right turn into Hasketts Rd. There is not adequate width on SH73 to safely provide for right turns into Hasketts Rd, which has the following safety risks:

- Through traffic passing on inside and colliding with vehicle waiting at stop line
- Vehicle waiting at stop line confuses through traffic passing as a left turn, fails to give way and collides
- Through traffic passing on inside and losing control on edge of sealed shoulder
- High actual speeds of around 75-80km/h and overhead power line poles located near the intersection increase the crash severity risk in terms of likelihood of a death or serious injury

Given the risks associated with the right turning into Hasketts Rd I consider it is highly likely that regular users of the Hasketts Rd access will choose to take an alternative along School Rd via the intersection of SH73/School Rd.

Access to School Road from Old West Coast Road (SH73) is assisted by a painted right turn flush median for vehicles to turn and it is reasonable to expect that vehicle speeds in this area will be relatively lower given the surrounding commercial activities and proximity to a large roundabout at the intersection of SH73/Pound Rd. These factors create an overall improved feeling of driver comfort and it is likely that the majority of traffic generated at the Hasketts Rd access will be distributed along School Rd.

School Rd has an approximate sealed carriageway width of 6m. Increased traffic volumes and in particular vehicles passing each other in opposing directions will push some traffic into the seal edge and berm. Heavy vehicles tracking into these areas will severely damage the grassed berm and edge of the road seal. Damage to the edge of seal eventually breaks out and reduces an already narrow carriageway width even further, spreads debris on the road and increases the risk of vehicle crashes. Berm damage may impact on the access berms provide for recreational pedestrians.

My overall view is that if consent is granted that:

- An independent safety audit is required before engineering plans are submitted and approved for changes proposed to Hasketts Rd.
- All work on Hasketts Rd must be designed and constructed in accordance with Christchurch City Council Construction Standard Specifications and Infrastructure Design Standards
- Shoulder widening is required at Hasketts Rd vehicle crossing to provide adequate sealed width for heavy goods vehicles turning into and out of the Hasketts Rd access. Shoulder widening must tie in with proposed changes to intersection of Hasketts Rd and SH73.
- An advice note: Applicant to submit a corridor access request to council before work commences in road

In addition to the above I wish to highlight that in my opinion a better transport outcome can be achieved where all access is taken directly from Old West Coast Road