

APPENDIX C

TRAFFIC ENGINEERING AND CORRESPONDENCE

26 September 2019

Victoria Majoor
Waikato District Council
Private Bag 544
Ngaruawahia 3742



Gray Matter Ltd
2 Alfred Street
PO Box 14178
Hamilton, 3252
Tel: 07 853 8997

17_137

Dear Victoria

TE KOWHAI MIXED USE COMMERCIAL DEVELOPMENT - TRANSPORTATION REVIEW

1. Introduction

Te Kowhai Estate Ltd propose to develop a mixed use commercial development in Te Kowhai. The development includes a takeaway pizza shop, hairdressers, and a mini supermarket. The remaining four tenancies are yet to be determined but are likely to consist of retail or food outlets. Waikato District Council (WDC) engaged Gray Matter Ltd to review the traffic and transportation aspects of the proposed development.

The purpose of this review is to assess the traffic and transportation impact of the proposal on the surrounding area and against the requirements of the Waikato District Plan. This review is based on information including:

- = Integrated Transport Assessment, CKL (4 March 2019);
- = Further Information Response, CKL (12 July 2019); and
- = DDL Architecture drawings 18-039 (15 February 2019).

2. Transport Environment

2.1. Surrounding Roads

The site is located on Horotiu Road, Te Kowhai. The ITA states the site is proposed to be rezoned to Business Zone under the proposed District Plan. The site is currently zoned Country Living.

Access to site will be directly from Horotiu Road. Description of the surrounding roads are provided in Table 1 and a locality map showing the site in relation to the surrounding roads is provided in Figure 1.

| Road | ONRC | Traffic Volume (veh/day) | Description |
|---------------|-------------------|--------------------------|---|
| Horotiu Road | Primary Collector | 4,260 veh/day | 10.9m total carriageway width. 50km/h posted speed. |
| Westvale Lane | Low Volume | 100 veh/day | 6m wide carriageway. 50km/h posted speed. |

Table 1: Surrounding Road Hierarchy

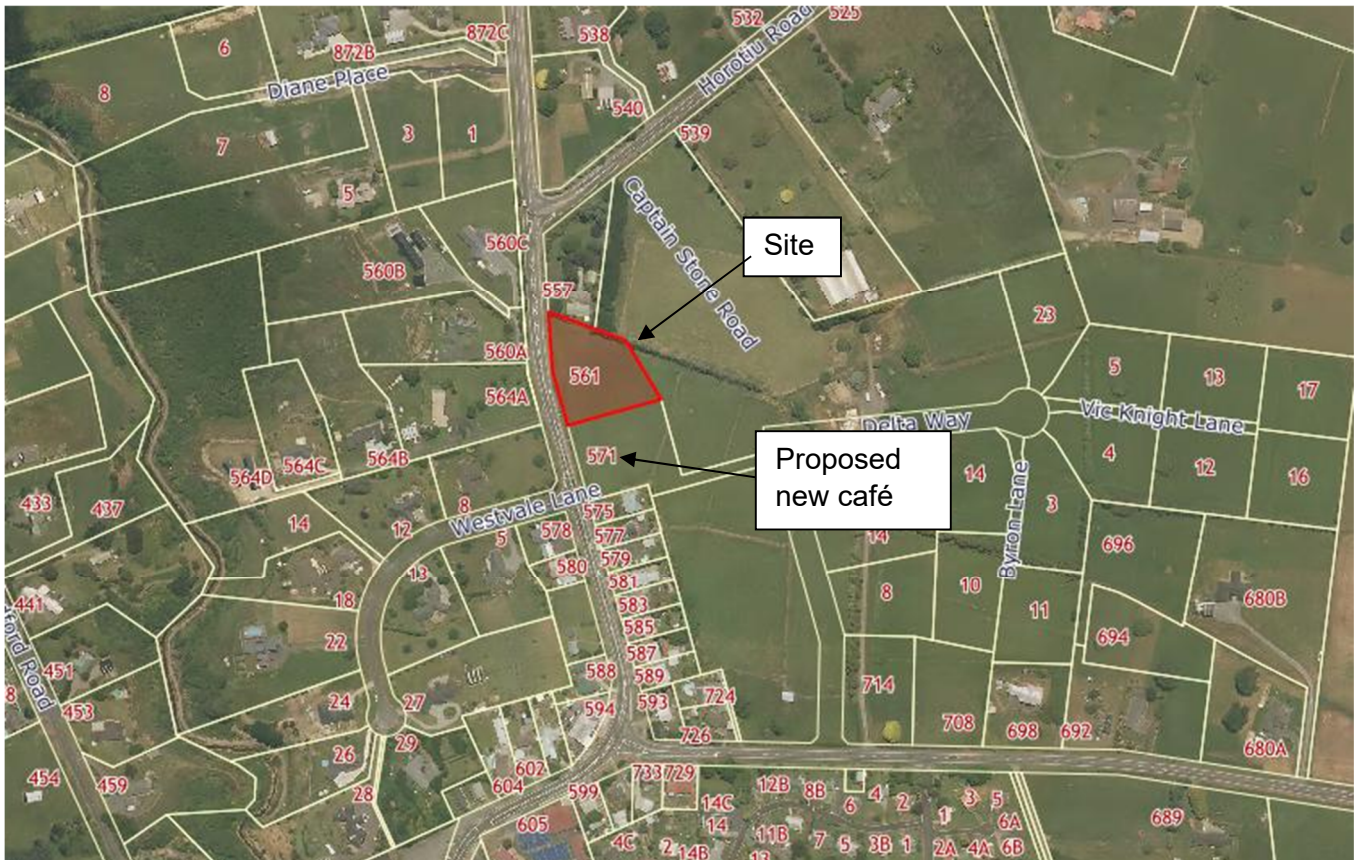


Figure 1: Site location

Consent has been granted for a café on the southern side of the subject site. The ITA states that the café could generate 185 veh/day and 50 veh/hr during the peak hour. The orientation of the café building makes integration between the two sites difficult. We note that the ITA indicates a possible pedestrian connection between the two sites.

2.2. Crashes

We have completed a search of NZTA's Crash Analysis System for the last five years (2015-2019). There have been no reported crashes within 100m of the site. There has been a non-injury crash at the Horotiu Road intersection and a fatal crash approximately 200m east of the intersection. The fatal crash was a result of a vehicle trying to overtake and pass another vehicle.

Although there have been crashes at the Horotiu Road intersection and east of the intersection, there does not appear to be a crash issue on Horotiu Road near the proposed vehicle crossings

3. The Proposal

3.1. Description of the Proposal

The proposal is for a mixed use commercial development comprising:

- = 450m² mini supermarket (superette)
- = 120m² pizza shop
- = 80m² hairdressers
- = 420m² retail or food outlets

The proposal includes two new vehicle crossings on Horotiu Road. The ITA states that the southern vehicle crossing will be restricted to exit only movements for service vehicles (e.g. delivery vehicles and refuse collection vehicles). The proposed layout is shown in Figure 2.

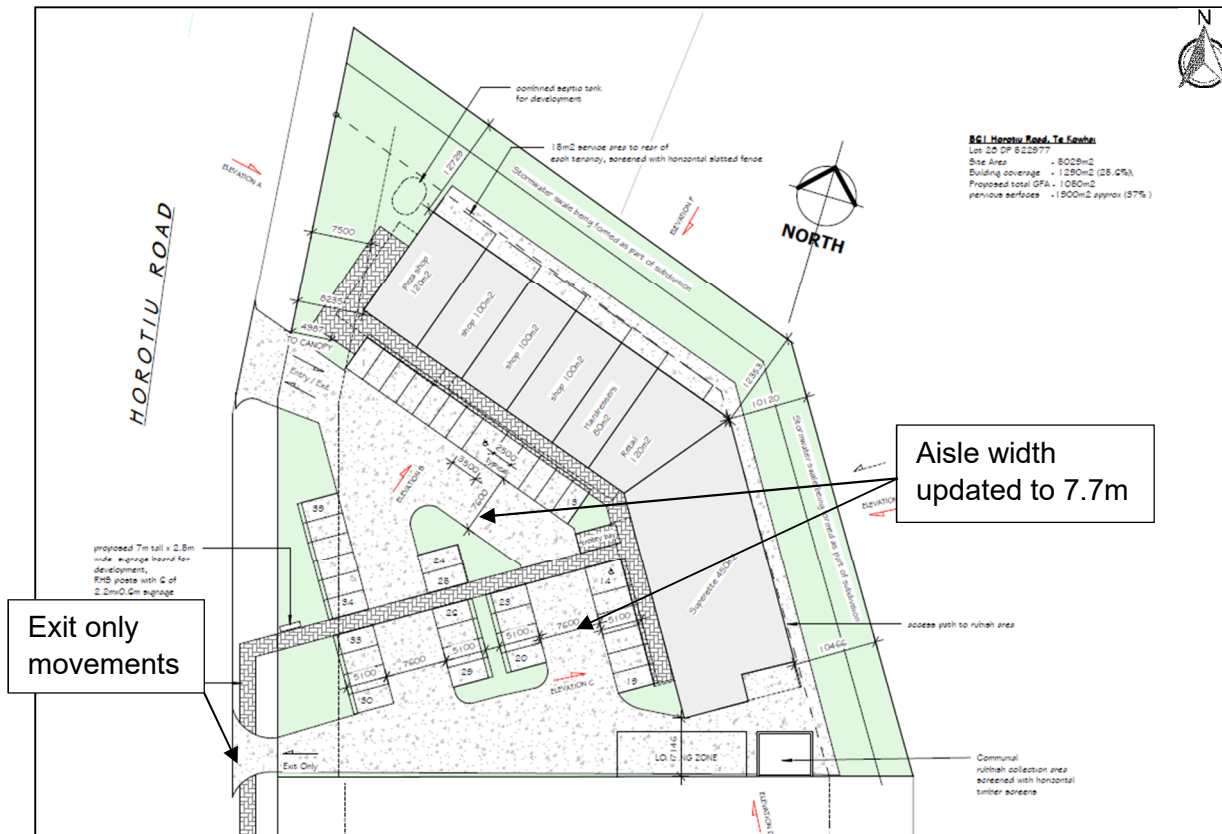


Figure 2: Proposed site layout (larger copy attached at Appendix A)

3.1.1. Trip Generation

In the ITA trip generation is assessed as:

- = Peak Hour: 156-186 veh/hr
- = Daily: 984-1,388 veh/day

The trip generation rates from the ITA are summarised in the table below.

| Activity | unit | Traffic Generation Rates | | Traffic Generation | | Comment |
|-----------------------|------|----------------------------------|---------------------------------|--------------------|---------|--|
| | | veh/day/100m ² GFA | veh/hr/100m ² GFA | veh/day | veh/hr | |
| Small shopping centre | GFA | 92-141 | 14.6-18.6 | 984-1,388 | 156-186 | The trip generation is based on 50 th and 85 th percentile trip generation rates from RR453. |

Table 2: Trip Generation (50th and 85th %ile)

The ITA assess trip generation based on rates for small shopping centres. For comparison we have completed a trip generation assessment based on individual activity trip generation e.g. retail, fast food and supermarket. The summary of trip generation is provided in Table 3.

| Activity | GFA | Traffic Generation Rates | | Traffic Generation | | Comment |
|--|---------------------|----------------------------------|---------------------------------|--------------------|--------|---|
| | m ² | veh/day/100m ² GFA | veh/hr/100m ² GFA | veh/day | veh/hr | |
| Retail ¹ (including hairdresser) | 500m ² | 129 | 42.5 | 645 | 213 | Trip generation based on published rates for retail shop appears to be high especially for a hairdresser given the location. |
| Fast food | 120m ² | 362 | 52.2 | 434 | 62 | Trip generation appears to be high. The ITA describes the activity as a pizza shop. Fast food activities typically include a drive through facility. This trip generation rate may not be applicable. |
| Supermarket | 450m ² | 129 | 17.9 | 580 | 81 | Trip generation appears to be high given the location of the development. |
| Total | 1,070m ² | | | 1,659 | 356 | The trip generation is approximately 20% higher than the assessment in the ITA. |

Table 3: Trip generation based on activity specific assessment

Based on assessing individual activity trip generation the site could generate 1,659 veh/day or 356 veh/hr during the peak hour approximately 20% more trips when compared to the ITA assessment.

Given the nature of the development and location, it is not unreasonable to assume that 20% of trips could be diverted, pass-by or internal trip capture. Therefore, the assessment based on shopping centre rates appears reasonable.

For the purposes of this assessment we have assumed the following trip generation rates:

- = Daily: 1,388 veh/day
- = Peak hour: 186 veh/hr

The further information request states that the secondary exit only vehicle crossing is likely to generate approximately 20-25 vehicles/week based on the following service vehicle demand:

- = Small supermarket/dairy: 1 bread delivery, 1 milk delivery daily and 1 other truck per week
- = 6 other units: 1 delivery weekly
- = Refuse collection: 2 times a week.

3.2. Trip Distribution

The further information assumes approximately 50% vehicles in and 50% out during the peak hour and an even split of vehicles from the north and south. The trip distribution based on peak hour split stated in the ITA is summarised in Table 4.

| Vehicle crossing | Left in | Right in | Left out | Right out |
|------------------------|-----------------|-----------|-----------------|-----------|
| | 50% (93 veh/hr) | | 50% (93 veh/hr) | |
| | 46% | 54% | 50% | 50% |
| North vehicle crossing | 43 veh/hr | 50 veh/hr | 46 veh/hr | 46 veh/hr |

Table 4: Peak hour trip distribution

¹ Hairdresser activity assessed as a shop activity.

As part of the further information request Sidra modelling has been completed. The traffic volumes entering and exiting the site were doubled as a sensitivity check. The Sidra modelling shows that all movements operate at level of service (LOS) A.

3.3. Parking

The proposal includes 36 parking spaces, the District Plan requires 33. There is a surplus of 3 parking spaces.

The parking spaces will typically be 2.5m wide with 5.1m stall depth. The further information request shows manoeuvring space as 7.7m (previously shown as 7.6m) which complies with the District Plan.

Two accessible parking spaces are provided on site. One space is located near the superette the near the general retail activities. The location of the accessible parking spaces appear reasonable.

There appears to be sufficient parking on site to cater for parking demand.

3.3.1. Loading

The ITA states that three loading spaces are required under the District Plan, only one loading spaces is provided on site. The loading space is approximately 16m x 5.5m and located on the southeast side of the site directly in line with the exit only vehicle crossing.

Servicing at the supermarket is likely to be more frequent and require larger vehicles when compared to the other activities on site. One loading space provided on site is likely to be sufficient for servicing the site.

3.3.2. Manoeuvring

The parking spaces comply with District Plan manoeuvring width requirements. There does not appear to be significant issues related to vehicle manoeuvring into or out of parking spaces.

Following our further information request swept paths have been provided for a semi-trailer entering the site parking within the loading space and exiting the site via the exit only vehicle crossing. We note that the required clearance (300mm) for the swept paths is not shown on the drawings. There are some locations where it appears that adequate clearance may not be achieved and damage to the kerbs within the site may result. We recommend providing clearance minimum 300mm clearance from vehicle body to kerbs.

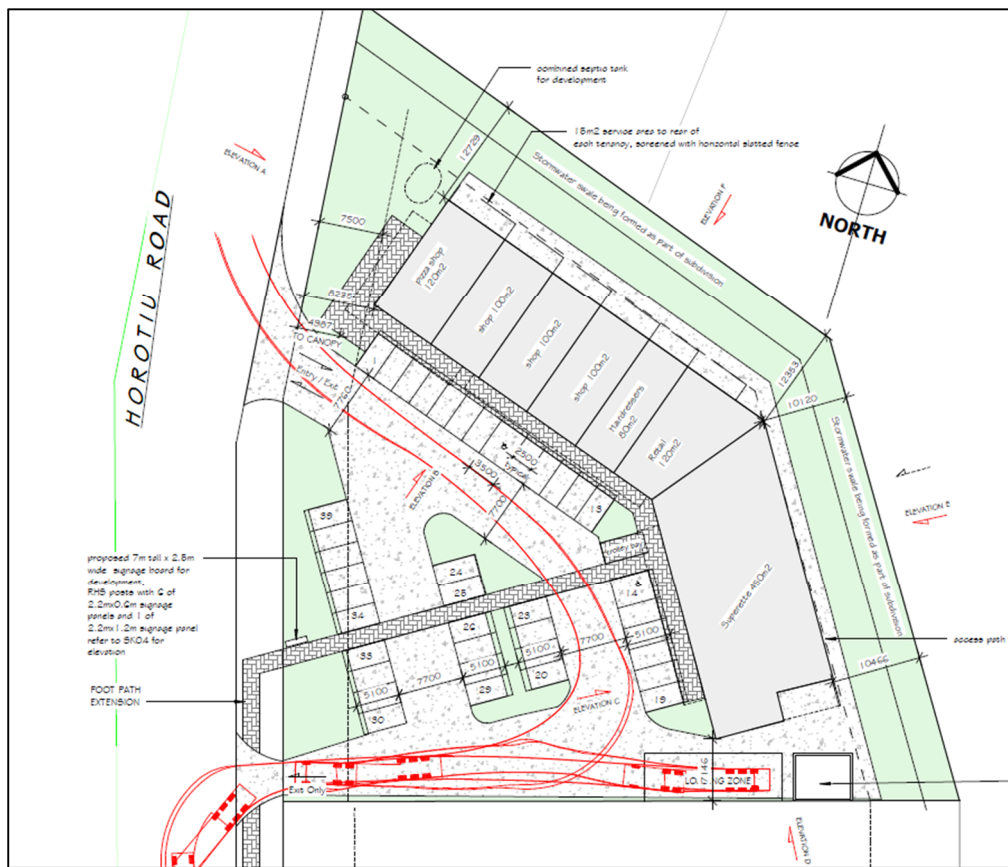


Figure 3: Semi-trailer swept paths

3.3.3. Cycle Parking

The District Plan requires four cycle parking spaces. No parking spaces are shown on the plans. The ITA states that there is sufficient space on site to provide cycle parking spaces. We recommend that cycle parking spaces are provided in accordance with the District Plan.

3.4. Access

The proposal includes two vehicle crossings, all access will be via the northern vehicle crossing with a secondary vehicle crossing for exit only movements.

3.4.1. North Vehicle Crossing

The vehicle crossing is located approximately 130m from the Ngaruawahia Road / Horotiu Road intersection and will be approximately 12.5m wide at the edge of seal. The vehicle crossing effectively forms a cross-roads intersection with the opposite residential crossing servicing approximately three residential dwellings (approximately 30 veh/day).

The ITA states that the vehicle crossing fails due to non-compliant separation and visibility. We note that this is based on a posted speed of 100km/h. The posted speed has since changed to 50km/h which requires 90m visibility at the vehicle crossing. There appears to be sufficient visibility in both directions. The required separation between accesses reduces from 100m to 15m.



Figure 4: Visibility to the south (left), visibility to the north (right)

3.4.2. South Vehicle Crossing

The southern vehicle crossing is shown on the plans as 4m wide at the property boundary and approximately 11m wide at Horotiu Road. There appears to be sufficient visibility at the vehicle crossing for a 50km/h speed.



Figure 5: Visibility to the south (left), visibility to the north (right)

In a transport planning sense, it is desirable to minimise the number of vehicle crossings. We prefer a single two-way (entry and exit) vehicle crossing for entry and exit to the development rather than two vehicle crossings.

The ITA describes the southern vehicle crossing as an exit only service vehicle crossing. The ITA states that second vehicle crossing is proposed to minimise the need for service vehicle manoeuvring within the site. It appears that manoeuvring within the site to exit via the northern crossing may be tight for service vehicles in particular service vehicles turning left out of the site (especially for larger trucks).

The further information request states that managing the southern vehicle crossing to service vehicle use could be achieved by signage, restricting the width to practical necessity and a change in surface to indicate that the vehicle crossing is not for general use with further reinforcement messaging that direct general visitors to the two way crossing (northern vehicle crossing) as the exit point for the development.

We are concerned that the proposal does not adequately manage the southern exit vehicle crossing to service vehicle use only. There is a risk that the exit only vehicle crossing will be used by general visitors in particular vehicles turning left out of the development as there is no physical barrier stopping the use of this vehicle crossing. There is also a risk that vehicles may right turn into the site via the southern vehicle crossing.

There are likely to be adverse safety and efficiency effects related to increased movements at the vehicle crossing compared to a layout with a single vehicle crossing and if the vehicle crossing was only used by existing service vehicles. No sign layout has been provided to demonstrate that the crossing will only be used by exiting service vehicles. We consider it very unlikely that signs and markings will be effective in limiting movements to existing service vehicles and consider that the crossing is assessed as an all movements crossing.

3.4.3. Café Access

The original consent condition for the neighbouring café required a deceleration lane on Horotiu Road. The deceleration lane is likely to conflict with the exit only vehicle crossing. We understand that the consent holder applied remove the deceleration lane condition from the land use consent for the Café activity in September 2018. We understand that the condition was included so that the deceleration lane was not required if the posted speed limit was lowered to 60 km/h or less within 12 months of the commencement of work. The posted speed limit has changed to 50km/h, therefore we do not anticipate that a deceleration lane will be required as part of the café development.

3.5. Pedestrians

The plans show a footpath extension from the shop frontage though the car park and onto Horotiu Road. We support a pedestrian connection to Horotiu Road. The plans indicate a path stopping just south of the southern vehicle crossing. We recommend that a continuous footpath is provided and that this development is required to extend the path from the café development to this site. The path extension related to the café is shown right up against the boundary. It would be desirable to form the path up against the boundary as well.

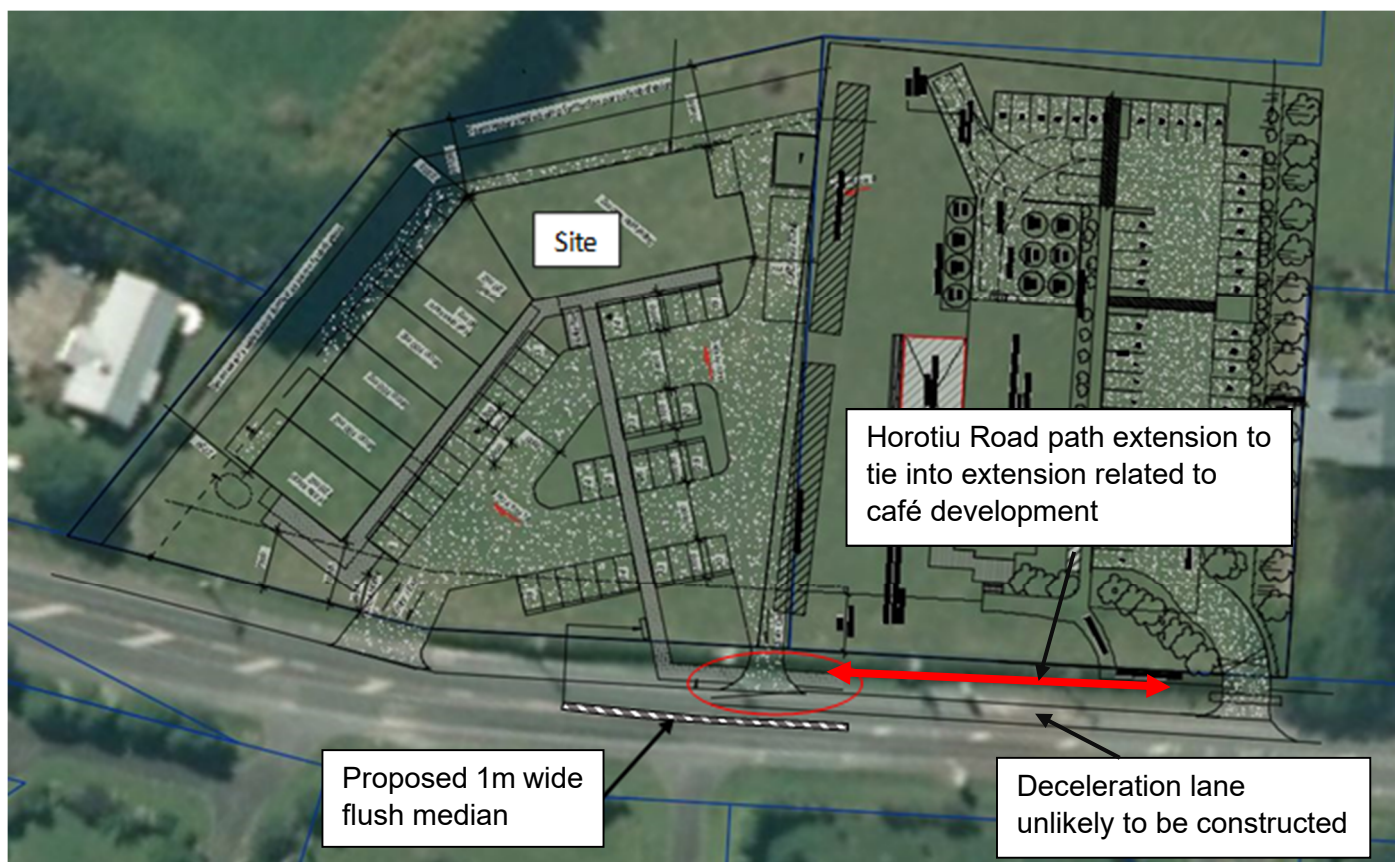


Figure 6: Pedestrian Connection on Horotiu Road

The ITA states that a pedestrian connection will be provided through to the Café on the adjacent site. It is unclear how this will be provided. We understand that the owner of the Café has provided a written approval for this proposal. However, we are unaware of agreements relating to direct access between the café site and the proposed development. We have not considered this connection as part of our assessment.

3.6. Safety

As part of the further information request, we asked that an assessment for a right turn facility be carried out. The further information request included SIDRA modelling which indicated that Horotiu Road and the vehicle crossing would operate at LOS A. However, no assessment of the safety effects of right turning movements was carried out.

Austroads provides guidance on turning warrants. Based on all vehicles accessing the site via the northern vehicle crossing. We anticipate 50 veh/hr turning right at the vehicle crossing during peak hour. As shown below, based on anticipated right turning volumes and 500 veh/hr² on Horotiu Road a channelised right turn treatment is warranted. If right turns in are only 50% or 25veh/hr, a short right turn treatment is still required.

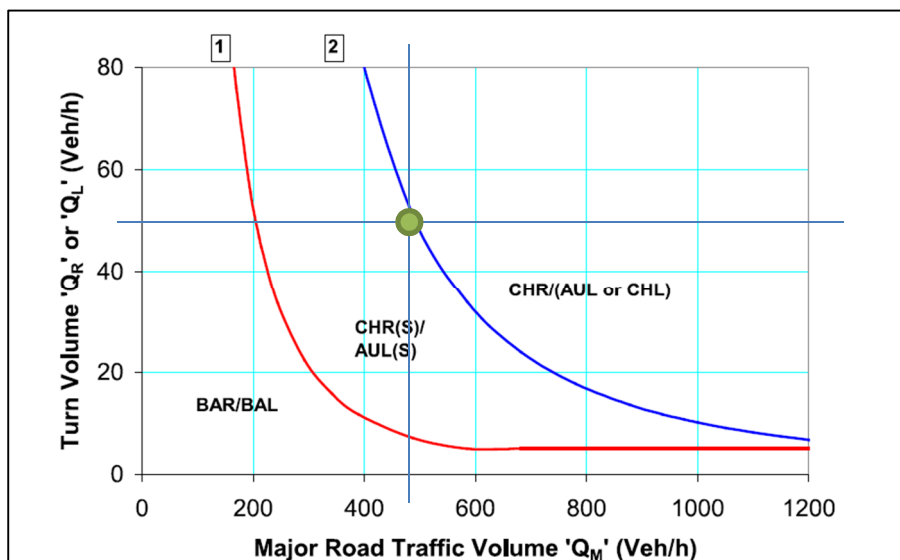


Figure 7: Austroads Turning warrants

There is an existing right turn bay at the Horotiu Road/Ngaruawahia Road intersection, the taper begins outside this site. A narrow flush median commences on the southern boundary with a centreline provided between the flush median and the right turn bay taper which extends south towards the Te Kowhai Village.

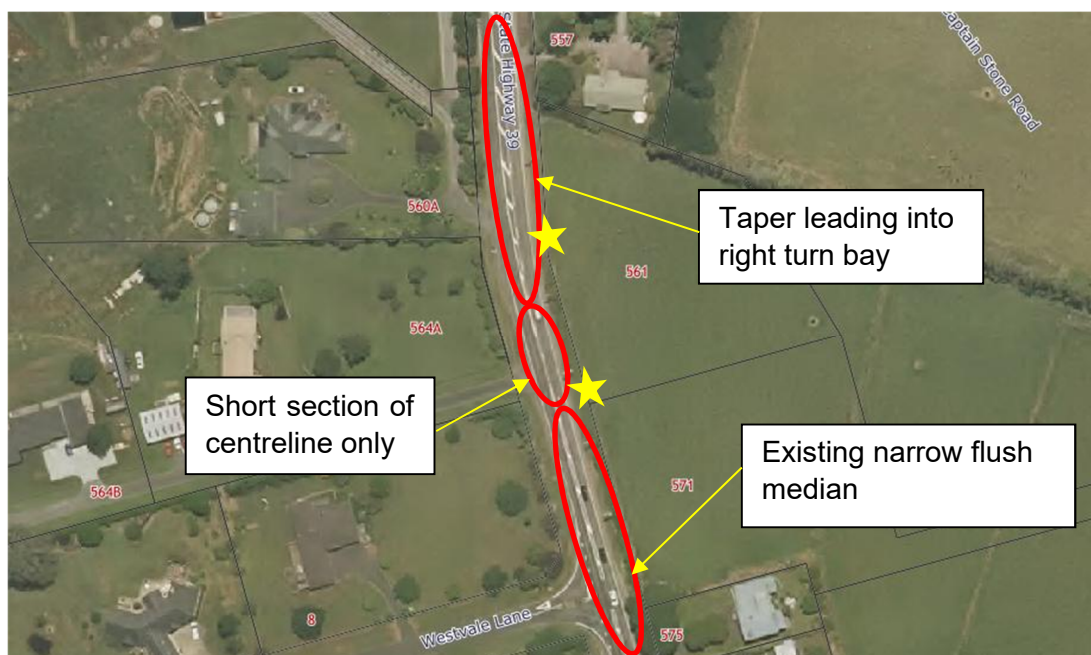


Figure 8: Horotiu Road Layout (yellow star = proposed vehicle crossings)

² 12% of AADT (4,260 veh/day) = 511 veh/hr

The existing seal width on Horotiu Road outside the development is approximately 10.9m³. A desirable turning facility would be 3m wide. Providing a turning facility in this location based on the existing carriageway width would result in narrow shoulders which would be undesirable. Pavement widening would be required to accommodate a 3m right turn facility.

Given the 50km/h posted speed a 2m wide flush median is recommend. A 2m wide flush median is sufficient for sheltering a light vehicle waiting to right turn into the development. We recommend providing a 2m wide minimum flush median on Horotiu Road at both vehicle crossings as there is a risk that the proposal does not adequately manage the southern vehicle crossing to exit only movements. The flush median will assist with speed management on Horotiu Road and provide consistency of treatment on Horotiu Road.

Pavement widening (approximately 1m) will be required to ensure that minimum 3.5m lanes, 1.5m shoulder and 2m wide flush median can be provided at the vehicle crossing. The flush median should be designed in accordance with MOTSAM and current design best practice.

4. Assessment against District Plan Provisions

The ITA assess the proposal with the following non-compliances.

- = A11.1 – Three loading spaces are required and only one space is provided.
- = A14.1 (d) – does not comply with sight distance and separation requirements from intersections and other vehicle accesses.
- = A14.A.1 (c) - the development will generate additional traffic movements.

We note that since the ITA was prepared the posted speed has changed from 100km/h to 50km/h. The visibility and separation requirements have changed.

5. Effects

5.1. Transportation Effects

| Effect | Comment on Potential Effects |
|------------|---|
| Efficiency | <p>The proposal results in approximately 1,388 veh/day and 186 veh/hr. The increase in traffic is approximately 30% on Horotiu Road. Some of the trips are likely to be pass-by or diverted trips. Therefore not all trips are likely to be new to the network.</p> <p>The SIDRA modelling provided indicates that the additional traffic is unlikely to result in adverse efficiency effects on Horoitu Road. There does not appear to be significant issues relating to capacity or traffic efficiency on Horotiu Road</p> |
| Parking | <p>The proposal complies with parking requirements. There appears to be sufficient parking on site to accommodate parking demand. Only one loading space is provided on site. Although the District Plan requires three loading spaces, we consider that one loading space is reasonable for servicing the site.</p> |
| Access | <p>The proposal is for all access via the northern vehicle crossing with exit only for service vehicles via the southern vehicle crossing. We prefer a single vehicle crossing for accessing and exiting the site. We understand that the second vehicle crossing is proposed to minimise service vehicle manoeuvring within the site.</p> <p>The further information request states that the exit only access will be signed and marked to indicate that the vehicle crossing is exit only. We consider that there is a significant risk that visitors will use this crossing for exiting the site and also potentially right turn in. We are concerned that the proposal does not adequately manage the southern exit to service vehicles use only. The risk of additional movements at the southern vehicle crossing has not been assessed in the ITA.</p> |

³ <https://mobileroad.org/desktop.html>

| Effect | Comment on Potential Effects |
|-------------------------|--|
| Safety | Based on existing traffic volumes and the development traffic volumes a right turn treatment is warranted in Horotiu Road at the northern vehicle crossing. The taper for the right turn bay at the Horotiu Road/Ngaruawahia Road intersection begins outside the development. We recommend a 2m wide flush median is provided at both vehicle crossings. This will provide a continuous flush median on Horotiu Road and assist with access to the site and with speed management. The flush median minimises the risk of crashes at the vehicle crossing by providing space for a right turning vehicles to wait for a clear gap before turning into the development. |
| Pedestrian connectivity | The proposal is to provide a footpath extension from the site to the existing footpath. We support the path extension. We understand that an internal path between the café and the site is proposed. However, we understand there is no agreement at this stage. |

Table 5: Assessment of Effects

6. Conclusion

The proposal is expected to generate approximately 1,388 veh/day and 186 veh/hr. There appears to be sufficient capacity within Horotiu Road to accommodate the increase in traffic.

The proposal includes two new vehicle crossings. The ITA states that the southern vehicle crossing is intended for service vehicle use and will be exit only. We are concerned that the proposal does not adequately manage the use of this vehicle crossing to service vehicle exit only and there is a significant risk that the vehicle crossing will be used by general visitors in particular vehicles turning left out and right in.

Based on traffic volumes a right turn treatment is warranted on Horotiu Road. Based on the existing posted speed (50km/h) we recommend a 2m wide flush median at both vehicle crossings. We recommend that the carriageway is widened to ensure 3.5m lanes, 2m wide flush median and 1.5m shoulder on Horotiu Road at the vehicle crossings.

The proposal includes a pedestrian connection to Horotiu Road which we support. A possible internal path could be provided between the café on the neighbouring site and the development. We understand that there is no agreement at this stage.

There is sufficient parking on site to meet parking demand. There is only one loading bay provided on site. This appears sufficient for servicing the site.

In summary, provided that mitigation described above is carried out, the transport effects of the proposed development are likely to be acceptable. Our recommended conditions are attached at Appendix B.

Yours sincerely



Vinish Prakash
Engineering Technologist



Alastair Black
Transportation Engineer

APPENDIX A – SITE PLAN

HOROTIU ROAD

ELEVATION A

ELEVATION F

NORTH

561 Horotiu Road, Te Kowhai
Lot 28 DP 522977
Site Area - 5029m²
Building coverage - 1290m² (25.6%)
Proposed total GFA - 1050m²
pervious surfaces - 1900m² approx (37%)

proposed 7m tall x 2.5m wide signage board for development, RHS posts with 6 of 2.2mx0.6m signage panels and 1 of 2.2mx1.2m signage panel refer to SK04 for elevation

FOOT PATH EXTENSION

Exit Only

LOADING ZONE

access path to rubbish area

Communal rubbish collection area screened with horizontal timber screens

TE KOWHAI VILLAGE COMMERCIAL DEVELOPMENT

561 Horotiu Road, Te Kowhai

SKO1 SITE PLAN

DATE 15-02-2019
SCALE 1 : 400
ISSUE TYPE LANDUSE REV1
JOB # 18-039



APPENDIX B – RECOMMENDED CONDITIONS

Engineering Design & Plan

Prior to commencing any construction works the Consent Holder shall submit for the approval of Waikato District Council, engineering design details and plans, prepared by a suitably qualified and experienced Engineer, that include, but are not limited to, the following:

- = Pavement widening to provide a 2m wide flush median on Horotiu Road at both the new vehicle crossings.
- = Vehicle crossing with vehicle tracking for a 17.9m semi-trailer.
- = Extension of the existing footpath to the proposed pedestrian access to the site.

The design details and plans shall be generally in accordance with the Regional Infrastructure Technical Specifications (RITS), to the satisfaction of the Waikato District Council.

Parking

The consent holder shall provide car parking generally in accordance with concept plans from DDL Architecture, Job No. 18-039 Dated 15-02-2019.

Provision shall be made for a minimum of 36 parking spaces including two accessible parking spaces.

Provision shall be made for a minimum of four cycle parking spaces.

Vehicle parking spaces shall be delineated with white painted lines with the exception of the accessible needs and loading spaces, which shall be delineated with yellow painted lines and have appropriate signage in accordance with NZS 4121 requirements. Spaces are to be appropriately identified by numbering or other means. Markings shall be regularly maintained.

From: Michelle Carmine <Michelle.Carmine@waidc.govt.nz>
Sent: Thursday, 22 October 2020 2:19 pm
To: Michelle Carmine
Subject: FW: LUC0427/19 - Te Kowhai Retail Complex - Outstanding agreement detail
Attachments: 2020-09-18-Layout.pdf

From: Alastair Black [mailto:Alastair.Black@graymatter.co.nz]
Sent: Friday, 18 September 2020 9:48 a.m.
To: James Templeton
Cc: Michelle Carmine
Subject: RE: LUC0427/19 - Te Kowhai Retail Complex - Outstanding agreement detail

Hi James

One of our drivers with the marking is to provide a consistent treatment along Horotiu Rd to help reinforce the 50km/h speed limit (which was extended in the past couple of years) and provide a turning facility (either flush median or right turn bay). The agreement we reached with CKL was to rearrange the markings within the existing seal.

I can't find our site visit notes with measured dimensions, so have relied on Google Maps for the existing dimensions discussed below. The current lanes are about 3.5m wide, which is likely to be a legacy of the road being SH39 with a higher speed limit. The current flush median south of the site is about 1m wide with 3.0-3.2m lanes. Further south where there is more urban development the lanes are about 3.0m wide with 2m shoulders (presumably so some on-street parking could take place).

With the urban development in this area and lower speed limit, I believe narrow lanes are desirable. I've set out some combinations for various widths in the table below (which assumes an existing 10.9m seal width).

| Option | Shoulders | Lanes | Median |
|--------|-----------|------------------------|-------------------|
| 1 | 2 x 1.5m | 2 x 3.5m (or 3.45m) | 0.9m (or 1.0m) |
| 2 | 2 x 1.5m | 2 x 3.2m | 1.5m |
| 3 | 2 x 1.5m | 3 x 3.0m | 1.9m |

Its also complicated by the site access being located where the markings for the right-turn bay begin and being on a curve. I have attached a sketch on how I see the layout working. The key dimensions are:

- 1.5m flush median at the site access
- 1.5m shoulders
- Lanes approx. 3.2m once the median and shoulders are setout (but may narrow to 3.0m due to the variable seal width)

The widths will need some careful consideration during design and setout to make sure that the alignment looks and feel correct for approaching drivers. For example the shoulders may need to vary in width due the variable edge width and need to keep a smooth edgeline.

To help define the site access, I recommend that the median is marked with a break as shown in MOTSAM, Part 2 Markings, Figure 3.28 copy (included on the attached sketch).

Hopefully this clarifies the issues and our preferred approach.

Cheers
Alastair

From: James Templeton <James.Templeton@waide.govt.nz>
Sent: Monday, 7 September 2020 12:13 pm
To: Alastair Black <Alastair.Black@graymatter.co.nz>
Cc: Michelle Carmine <Michelle.Carmine@waide.govt.nz>
Subject: RE: LUC0427/19 - Te Kowhai Retail Complex - Outstanding agreement detail
Importance: High

Hello Alastair,

The hearing for the Te Kowhai Retail complex is coming up at the end of this month. I'm following up on requests that have seen completion from Gray Matter.

The outstanding detail that isn't completely clear is the agreement with you and Judith Makinson. I've got the email trail below and summarised it the best way I could in this email on 3rd May 2020.

Can you please provide clarity on the 2 items:

1. Did Alastair Black agree to 3.2m lane widths or 3.5m?
2. If Alastair agreed to an installation of a right turn bay then how can this fit because 2x traffic lanes total 7m, 2x shoulders total 3m and a RTB (not specified but min 2.5m does not fit into 10.9m of existing seal if no widening is proposed?

Regards

James Templeton
Land Development Engineer

Waikato District Council
■ P 07 824 5820 ■ F 07 824 8091 ■ Call Free 0800 492 452
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www.waikatodistrict.govt.nz ■ [Like us on Facebook](#)



Please consider the environment before printing this e-mail

From: James Templeton
Sent: Sunday, 3 May 2020 8:44 p.m.
To: Michelle Carmine
Subject: RE: [#CKL B18163] LUC0427/19 - Te Kowhai Retail Complex.

Hello Michelle,

I'll pick up on the final arrangement and it seems that Alastair agreed to Judith's email with summary:

- Installation of right turn bay/break in the flush median at the main site access (2 way crossing) and continuous flush median along the site frontage to be provided. This will be amendments to road marking only and no seal widening will be required.

However I'm not sure what widths these refer to as Judith gave options in previous email:
An arrangement consisting of 2x3.5m traffic lanes, 2x1.5m shoulders and 1m median would (roughly) fit in existing seal width which we measured as 10.9m. This should limit the mitigation to line marking with no

widening required. The lane width could possibly be reduced to 3.2m if needed to preserve a 1m flush median and 1.5m shoulders (for cycling). Is this something you could accept?

Did Alastair agree to 3.2m lane widths or 3.5m?

If Alastair agreed to an installation of a right turn bay then how can this fit because 2x traffic lanes total 7m, 2x shoulders total 3m and a RTB (not specified but min 2.5m does not fit into 10.9m of existing seal if no widening is proposed?

Please clarify if I've missed something here.

James Templeton

Land Development Engineer

Waikato District Council

■ P 07 824 5820 ■ F 07 824 8091 ■ Call Free 0800 492 452

Private Bag 544, Ngaruawahia 3742

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Please consider the environment before printing this e-mail

From: Michelle Carmine

Sent: Thursday, 9 April 2020 8:58 a.m.

To: James Templeton

Subject: FW: [#CKL B18163] LUC0427/19 - Te Kowhai Retail Complex.

Hi James

See below. - FYI

Regards

Michelle

From: Alastair Black [<mailto:Alastair.Black@graymatter.co.nz>]

Sent: Wednesday, 8 April 2020 5:14 p.m.

To: Judith Makinson

Cc: 'Richard Falconer'; Michelle Carmine

Subject: Re: [#CKL B18163] LUC0427/19 - Te Kowhai Retail Complex.

Hi Judith

Yes, I can confirm I am happy with that arrangement

Cheers

Alastair

From: Judith Makinson <judith.makinson@ckl.co.nz>

Date: Wednesday, 8 April 2020 at 12:47 PM

To: Alastair Black <Alastair.Black@graymatter.co.nz>

Cc: 'Richard Falconer' <richard.falconer@terragroup.co.nz>

Subject: RE: [#CKL B18163] LUC0427/19 - Te Kowhai Retail Complex.

Hi Alastair

Thanks for your time today. From the sounds of things we are now on the same page and have an agreed way forwards as follows:

- Installation of right turn bay/break in the flush median at the main site access (2 way crossing) and continuous flush median along the site frontage to be provided. This will be amendments to road marking only and no seal widening will be required.
- The above road markings can be subject to a consent condition requiring detailed design, approval by WDC and installation before the site is operational.
- With the continuous flush median in place, and appropriate signage the second exit only crossing for service vehicles can be retained.

If you could confirm by return email that you are happy with that, that would be most helpful.

Thanks and regards

J

Judith Makinson

Transportation Engineering Manager

DDI 07 260 0571 | P 07 849 9921 | M 022 685 5496 | judith.makinson@ckl.co.nz | 58 Church Road, PO Box 171, Hamilton, 3240 | www.ckl.co.nz

 **CKL** Planning | Surveying | Engineering | Environmental

From: Alastair Black [<mailto:Alastair.Black@graymatter.co.nz>]

Sent: Tuesday, 31 March 2020 4:23 PM

To: Judith Makinson <judith.makinson@ckl.co.nz>

Subject: Re: LUC0427/19 - Te Kowhai Retail Complex.

Hi Judith

WDC have asked us to get in touch with you to discuss this and hopefully come to some agreement. To be honest I thought this got consent ages ago.

Concerns

In brief our concerns are:

- there are two vehicle crossings to the site and one is preferred, especially as one will be very low volume (20-25veh/week)
- that signs and marking will not be sufficient to restrict its use to exiting service vehicles. It could be attractive for other movements by customers to/from the south (i.e. left-out and right-in)
- a right-turn bay/treatment is warranted (see attached)
- as shown in the attached plans, the main vehicle crossing is located where the northbound right-turn bay starts and the service vehicle crossing is located at the end of the flush median taper
- the lack of a flush median outside the site is inconsistent with the treatment throughout the rest of the village

In our view, the increase in vehicle crossings with more turning movements (150-180veh/hr) combined with these movements occurring on a bend where there is only a centreline is a concern that requires mitigation.

Mitigation

Initially we considered a 1m flush median, which would be more consistent with the median to the south, but we were concerned this wouldn't sufficiently shelter a waiting vehicle. So recommended a 2m median which is the minimum to shelter a vehicle.

An arrangement consisting of 2x3.5m traffic lanes, 2x1.5m shoulders and 1m median would (roughly) fit in existing seal width which we measured as 10.9m. This should limit the mitigation to line marking with no

widening required. The lane width could possibly be reduced to 3.2m if needed to preserve a 1m flush median and 1.5m shoulders (for cycling). Is this something you could accept?

Happy to discuss on the phone, I am working most of the time, although late afternoon (about now-ish) I get called away for parenting or cooking dinner.

Cheers
Alastair

Austroads provides guidance on turning warrants. Based on all vehicles accessing the site via the northern vehicle crossing. We anticipate 50 veh/hr turning right at the vehicle crossing during peak hour. As shown below, based on anticipated right turning volumes and 500 veh/hr² on Horotiu Road a channelised right turn treatment is warranted. If right turns in are only 50% or 25veh/hr, a short right turn treatment is still required.

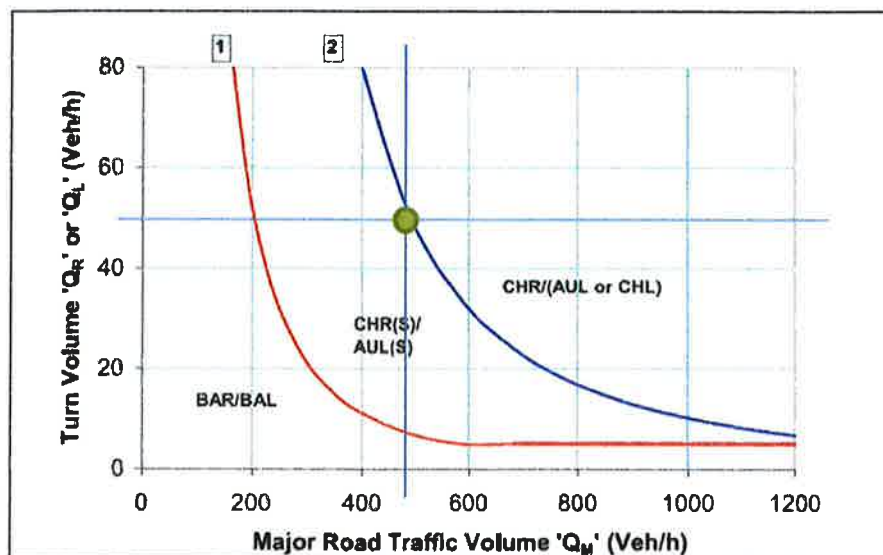


Figure 7: Austroads Turning warrants



On 12/03/2020, at 10:13 AM, Michelle Carmine <Michelle.Carmine@waidc.govt.nz> wrote:

Hey Vinish/Alastair

The applicant has had Judith Makinson their Traffic Engineer review the recommendations you made in your peer review. Could one of you call her directly to discuss your findings and recommendations? I have copied her comments to the applicants Planning Agent below, for your information:

Thanks Michelle

Hi Richard

I am struggling to see the issue, particularly now the site is within the 50km/h zone and there is no capacity issue – our S92 identified LOS A for the two-way access intersection at x2 the traffic generation identified in the ITA with delays at around 6s and less than 1 vehicle queue so there is nothing to suggest that a vehicle would be sitting in the middle of the road and be at anything other than a less than minor risk of causing a crash or being struck by another vehicle. If we look at the Austroads right turn warrants, I'm fairly sure the right turn doesn't meet the need for anything other than just turning right. I know this isn't directly relevant as WDC is not asking for a right turn bay but this is about identifying risk and I just can't see one.

The crossing to 564 Horotiu Rd is opposite the exit only crossing and 8m to the south. This fails the 15m separation distance requirement for a 50km/h speed environment. If we follow up on the Gray Matter suggestion that this be considered as a two –way crossing in terms of effects, then see above paragraph. We have doubled the traffic gen from the ITA to assess the

main site access and nothing happened capacity wise and there is no safety warrant triggered. Having a residential crossing opposite with very low demand that generates is a very low risk also.

We have also recommend in the ITA physically limiting the width and changing surface treatments as well as providing signage and on-site markings to support appropriate use of the crossings. Installing a median would indeed reduce the likelihood of the service exit being used by other vehicles as the right turn in (the only movement likely to benefit) but it also adversely affects 560 Horotiu Road and in my view increases the likelihood that they might start u-turning. Even if I did agree that a median was needed (which I don't), I see no need for something 2m wide when the median for Westvale Lane is approx. 1m wide.

Happy to discuss if you have questions or to talk direct to Gray Matter.

J

Judith Makinson

Transportation Engineering Manager

DDI 07 260 0571 | P 07 849 9921 | M 022 685 5496 | judith.makinson@ckl.co.nz | 58
Church Road, PO Box 171, Hamilton, 3240 | www.ckl.co.nz

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From: Alastair Black [<mailto:Alastair.Black@graymatter.co.nz>]

Sent: Tuesday, 3 March 2020 3:08 p.m.

To: Michelle Carmine; Vinish Prakash

Subject: RE: LUC0427/19 - Te Kowhai Retail Complex.

Hi Michelle

Yes, widening to provide a 2m flush median (along with the 50kmh speed limit) addresses our safety and efficiency concerns.

Looking at the conditions at Appendix B, there should be an extra bullet point in the engineering design condition requiring:

= signs and markings restricting the southern vehicle crossing to exit only movements for service vehicles.

Regards

Alastair

From: Michelle Carmine <Michelle.Carmine@waide.govt.nz>

Sent: Monday, 2 March 2020 11:16 am

To: Vinish Prakash <Vinish.Prakash@graymatter.co.nz>

Cc: Alastair Black <Alastair.Black@graymatter.co.nz>

Subject: LUC0427/19 - Te Kowhai Retail Complex.

Hi Vinish

I have taken over this application from Victoria Majoor. I have just been getting up to speed with all the details. I have read your ITA review and recommended conditions. There is just one question I have regarding the report.

In section 3.4.2 you have stated:

"There are likely to be adverse safety and efficiency effects related to increased movements at the vehicle crossing compared to a layout with a single vehicle crossing and if the vehicle crossing was only used by existing service vehicles. No sign layout has been provided to demonstrate that the crossing will only be used by exiting service vehicles. We consider it very unlikely that signs and markings will be effective in limiting movements to existing service vehicles and consider that the crossing is assessed as an all movements crossing."

You further note these concerns in section 5.1 in the access section.

In terms of your recommendations:

The only recommendation I can see that addresses your concerns is where you state in section 3.6:

"We recommend providing a 2m wide minimum flush median on Horotiu Road at both vehicle crossings as there is a risk that the proposal does not adequately manage the southern vehicle crossing to exit only movements."

Does this recommendation mitigate all your concerns regarding both safety and efficiency with the southern crossing that you have raised throughout the report?

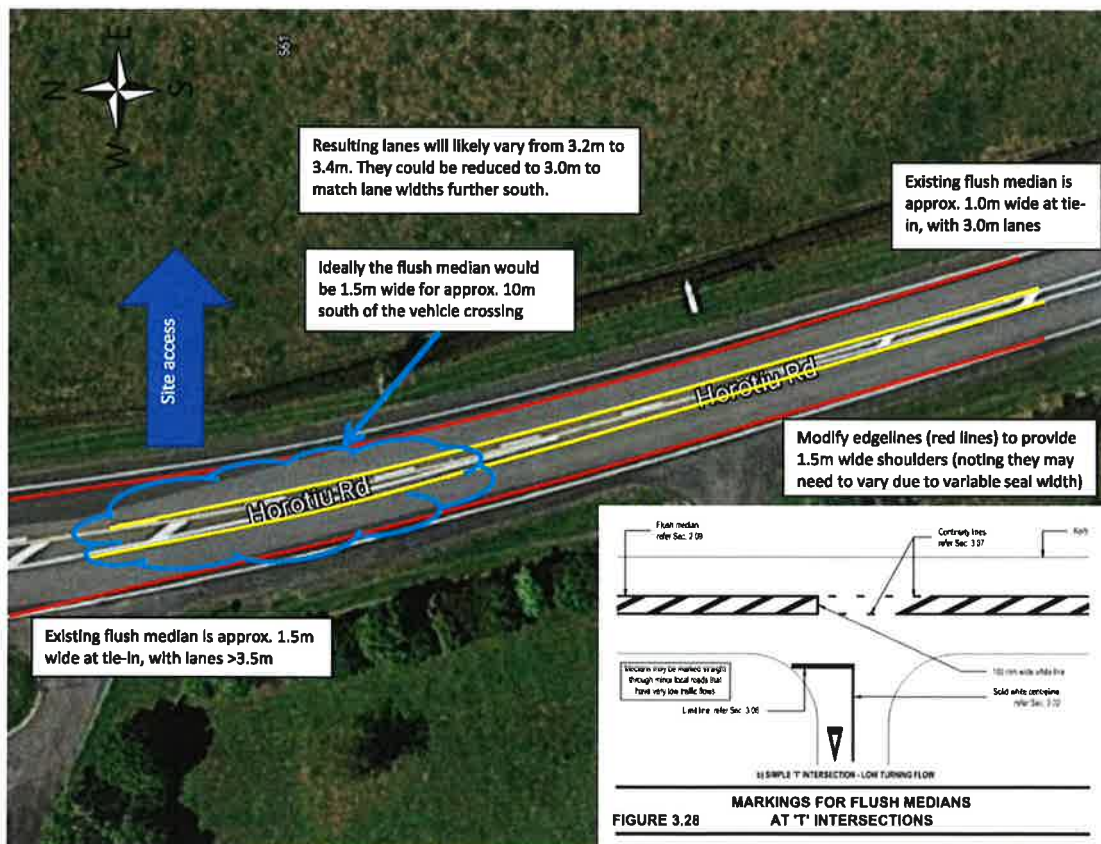
Kind Regards
Michelle Carmine
Consultant Planner
Element Planning Ltd

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From: Michelle Carmine <michelle@elementplanning.co.nz>
Sent: Tuesday, 27 October 2020 12:13 pm
To: Michelle Carmine
Subject: FW: Te Kowhai - Rooding Conditions

From: Vinish Prakash
Sent: Friday, 23 October 2020 2:13 PM
To: Michelle Carmine
Cc: Alastair Black
Subject: RE: Te Kowhai - Rooding Conditions

Hi Michelle,

Our suggested changes to the conditions are below (in red).

We've expanded on the vehicle crossing conditions to provide a bit more clarity around the formation of the flush median and vehicle crossings.

Let us know if you have any questions.

Regards

Vini

From: Michelle Carmine <michelle@elementplanning.co.nz>
Sent: Thursday, 22 October 2020 4:18 PM
To: Vinish Prakash <Vinish.Prakash@graymatter.co.nz>
Subject: Te Kowhai - Rooding Conditions

Hi Vinish

I will send you through all the Te Kowhai info when my s42A gets pre circulated end of next week.

Just doing draft conditions (even though I am recommending decline) Do these work for roading side of things, just want to make sure I have captured all the discussion between Alastair and Judith on what was agreed?

Engineering Design Plans

I At least 15 Working days prior to construction starting, engineering design reports and plans for Rooding, Stormwater, Water Supply and Wastewater shall be submitted to, and approved by, the Waikato District Council's Senior Land Development Engineer. Engineering designs for the overall project shall be undertaken in general accordance with the following documents and shall address the specific design matters set out in conditions 7 to 9 (2) below:

- a) The Operative Waikato District Plan (Waikato Section);
- b) Regional Infrastructure Technical Specifications (RITS),
- c) The Approved Plans (referenced at condition 1); and
- d) Any proposed departures from the RITS shall be noted in a design Statement accompanying the engineering approval plans, for approval by Waikato District Council's Senior Land Development Engineer.

These designs/plans shall be accompanied by a completed Producer Statement Design (PS1). A copy of the form is attached with this consent.

Roading

- 2 The Consent Holder shall prepare and submit Engineering Detailed Design Plans for roading and accesses/vehicle crossings (including geometric standards for the new signage, road markings, footpath design). The works shall be designed in general accordance with the approved plans and RITS except where changed by conditions of consent. The Engineering Design Plans shall be submitted to the Waikato District Council's Senior Land Development Engineer for approval. The works shall include:
- ~~a. Installation of right turn bay/break in the flush median at the main site access (2-way crossing) and continuous flush median along the site frontage~~
Installation of a 1.5m wide flush median in general accordance with MOTSAM, Part 2 Markings, Figure 3.28 at the northern vehicle crossing, except that the 1.5m wide flush median shall extend at least 10m south of the northern vehicle crossing before tying to the existing flush median.
 - ~~a. Vehicle crossing with vehicle tracking for a 17.9m semi-trailer.~~
Formation of a two-way vehicle crossing and an exit only service vehicle crossing as shown on DDL Architecture (Job No. 18-039 dated 15-02-2019) concept plans. The design and construction of the vehicle crossings shall be in general accordance with the Regional Infrastructure Technical Specification (RITS) diagram D3.3.4 for commercial vehicle crossings except the width shall be modified to accommodate movements by a 17.9m semi-trailer.
 - b. Extension of the existing footpath to the proposed pedestrian access to the site.
 - c. Signs and markings restricting the southern vehicle crossing to exit only movements for service vehicles.

Onsite Parking


- 3 The consent holder shall provide car parking generally in accordance with site plans from DDL Architecture, Job No. 18-039 Dated 15-02-2019. and shall meet the following:
- a. Provision shall be made for a minimum of 36 parking spaces including two accessible parking spaces.
 - b. Provision shall be made for a minimum of four cycle parking spaces.
 - c. Parking and manoeuvring areas shall be maintained on site in a weed free, dust free, with a permanent surface.
 - d. Vehicle parking spaces shall be delineated with white painted lines with the exception of the accessible needs and loading spaces, which shall be delineated with yellow painted lines and have appropriate signage in accordance with NZS 4121 requirements. Spaces are to be appropriately identified by numbering or other means. Markings shall be regularly maintained.

Let me know if these work?

Thanks Michelle

MICHELLE CARMINE
Director and Independent
Commissioner

022 605 9822
michelle@elementplanning.co.nz
PO Box 39, Waihi Beach 3642
www.elementplanning.co.nz



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