

**BEFORE THE HAMILTON CITY COUNCIL**

**IN THE MATTER** of the Resource Management Act 1991

**AND**

**IN THE MATTER** of a resource consent application lodged by Foodstuffs North Island Limited ("**Applicant**") to establish a new supermarket and a drive-through fuelling facility ("**Application**") at 980 Te Rapa Road, Pukete, Hamilton ("**Site**")

**STATEMENT OF EVIDENCE OF JOHN PARLANE  
ON BEHALF OF THE BASE TE AWA LIMITED**

**TRANSPORTATION**

**1. EXECUTIVE SUMMARY**

- 1.1 The Application will generate significant demand for traffic approaching from Wairere Drive. Extensive traffic modelling carried out to assess the potential traffic effects of the Application has shown that the effects of the proposed supermarket can only be mitigated through the introduction of a partial signalised intersection at Wairere Drive and Karewa Place. The modelling shows that if the supermarket was to open without these new signals then there would be significant adverse traffic effects, with potential safety concerns.
- 1.2 Currently Wairere Drive has an 80km/h speed limit adjacent to the intersection that requires signalisation. Signals should not be installed unless this speed limit can be reduced to 60 km/h. This is a matter for the Council, in conjunction with NZTA, following a public consultation process.
- 1.3 While these road controlling authority matters cannot be determined at this hearing, it is my advice that since both are essential components of the mitigation works for the Application, at the very least, strong conditions should be included to ensure that the supermarket cannot open without these two matters being addressed first.

- 1.4 If the speed limit can be addressed, signals installed and the other mitigation measures noted below can be built, then I consider that the traffic effects of the Application can be mitigated to a level where it could be approved.
- 1.5 Without the mitigation measures I outline below, the Application causes unacceptable traffic and safety effects and should be declined.

## **2. INTRODUCTION**

- 2.1 My name is John Parlane and I am a traffic engineer and principal of Parlane & Associates Limited. I have over 31 years' experience in traffic engineering and transportation planning. I hold a Bachelor's degree in Civil Engineering and Certificates of Proficiency (Masters Level) in Traffic Engineering, Transportation Planning, and Environmental Law from the University of Auckland. I hold a Bachelor of Applied Economics from Massey University. I am a Chartered Member of Engineering New Zealand (CMEngNZ).
- 2.2 For the last thirty-one years I have worked as a specialist Traffic Engineer and transportation Planner, first as a staff member of Auckland City Council, then North Shore City Council and then in private practice both in London and Auckland.
- 2.3 I have been involved in the transport planning for new infrastructure and in providing access to developments on busy roads for most of my career.
- 2.4 I confirm that I have read the Expert Witness Code of Conduct set out in the Environment Court's Practice Note 2014. I have complied with the Code of Conduct in preparing this evidence and will continue to comply with it while giving oral evidence at the hearing. Except where I state that I am relying on the evidence of another person, this written 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 expressed in this evidence.
- 2.5 I attended the expert traffic caucusing on 23 May 2019 on behalf of The Base Te Awa Limited ("**TBTA**"). I have been asked by TBTA to prepare this brief of evidence to address how the Application will affect the road network utilised by TBTA's property, The Base.

### **3. SCOPE OF EVIDENCE**

3.1 My evidence will:

- (a) provide an overview of the existing transportation network in the vicinity of The Base and the Site; and
- (b) provide an assessment of the Applicant's proposed access arrangements and the potential effects on the transport network, as well as the proposed traffic mitigation;

having regard to, where appropriate, the transport related matters raised in the Council's s 42A report and the Applicant's evidence.

### **4. EXISTING TRANSPORT NETWORK**

4.1 The Site is located on the corner of Eagle Way and Te Rapa Road, directly opposite The Base. Primary access to the Site is from Eagle Way, meaning the primary point where traffic generated by the supermarket development will connect with the arterial road network is at the intersection of Te Rapa Road, The Base Parade and Eagle Way. That intersection is also the busiest access to The Base.

4.2 The operation of the traffic signals at Te Rapa Road, The Base Parade and Eagle Way already experiences periods of congestion, particularly at busy shopping times such as at weekends and on public holidays. As The Base is further developed, traffic flows to and from The Base are expected to grow. In particular development of the northern parts of The Base will increase traffic flows at its northern access at Te Kowhai Road East. The Base currently has an under-utilised left-in / left-out access mid-way between The Base Parade and Te Kowhai Road which will be needed as primarily an entrance to future development.

4.3 Given that the largest proportion of trips to and from The Base originate to the south of the centre, it is inevitable that more traffic will use The Base Parade in the future, providing that The Base Parade has available capacity to accommodate the traffic. If further traffic capacity is not available for right turns out of The Base Parade then cars will use Te Kowhai Road East and pass through the busy intersection at Te Rapa Drive, The Base Parade and Eagle Way.

- 4.4 Ultimately, regardless of how The Base develops, traffic through this intersection is going to increase.
- 4.5 Demand will also therefore increase for the signalised intersection at Te Rapa Road with Wairere Drive, with no increase in available traffic capacity.

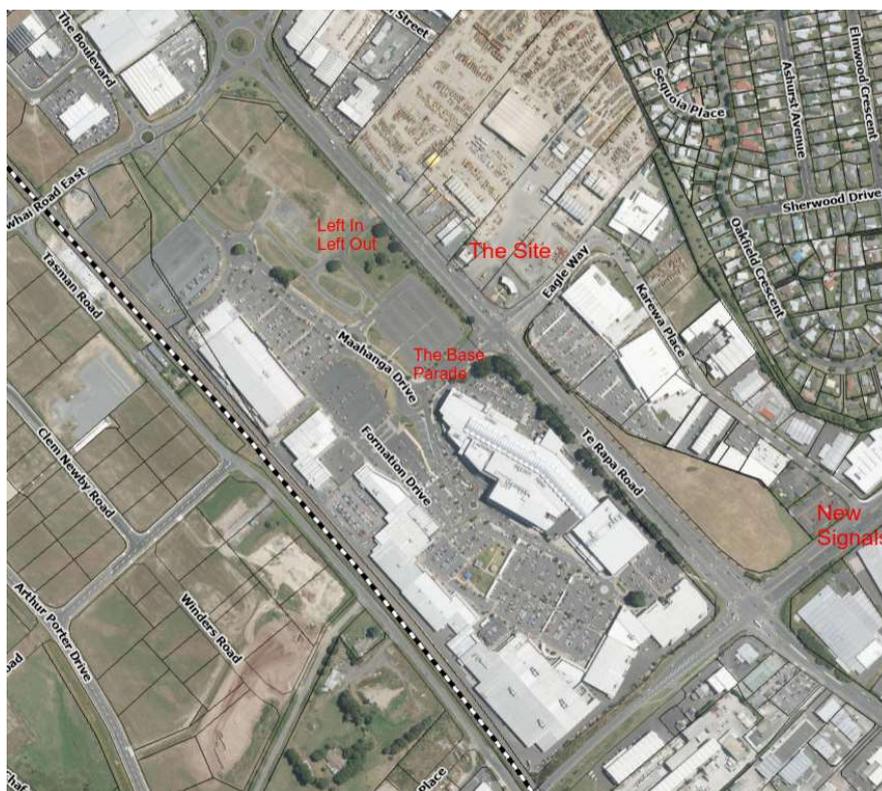


Figure 1 Aerial Photo 2017 from Hamilton City Council GIS

## 5. ASSESSMENT OF TRAFFIC EFFECTS

### Wairere Drive / Karewa Place signalisation

- 5.1 Both the modelling that has been provided by the Applicant with its original Application, and the updated modelling provided by the Council on 17 May 2019 clearly demonstrate that new traffic signals are required at the intersection at Wairere Drive and Karewa Place. A signalised right turn from Wairere Drive into Karewa Place is essential in order to cater for the expected demand for traffic approaching the Pak'nSave from the north east.
- 5.2 The models that accompanied the original Application showed that if this right turn is not provided for at this intersection, then that traffic would

need to turn right at the existing Wairere Drive intersection with Te Rapa Road and then turn right again into Eagle Way. Both of these signalised right turn movements at these two intersections are already critical movements.<sup>1</sup> Increasing the length of green time to these right turns means that green time from another phase would need to be reduced. That would only be acceptable if these two intersections each had significant amounts of spare capacity, which they do not.

- 5.3 I note that the modelling provided by the Council dated 16 April 2019 does not include detailed modelling results of the traffic effects that may occur if the signals are not installed. This is because the "without signals" model failed to converge on a unique answer.<sup>2</sup> In other words, the level of traffic within the network overloaded the intersections to a point where the mathematics inside the model became unstable. That in itself is a notable model result that confirms how critical the proposed traffic signals at Wairere Drive and Karewa Place are to mitigate the effects of the Application.
- 5.4 In summary, signalising this intersection is essential in order to avoid serious adverse traffic effects caused by the supermarket development. The Council's traffic experts agree, as do the Applicant's.<sup>3</sup> The Application cannot operate without this signalisation.
- 5.5 As such, the condition requiring these signals needs to be iron-clad. Should any future impediment to these signals be discovered, then alternative mitigation would be required, or the scale of the Application would need to be reduced. At the very least, and acknowledging the risks of the Applicant later varying these conditions, I suggest the conditions should include an explanation as to why the signals are required to inform any future variation or application. I address my proposed changes to conditions further below.

### **Wairere Drive speed limit**

- 5.6 For safety reasons, the proposed signalisation of Wairere Drive and Karewa Place cannot occur without reducing the speed limit of Wairere

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<sup>1</sup> Signalised intersections are designed by assessing critical turning movements or turns that determine the green times. For example if two opposing right turns can run in the same phase with one needing a 25 second green time and other only needing 15 seconds, then it is the 25 second turn that is critical. Adding an additional lane to the 15 second minor turn would not improve overall capacity.

<sup>2</sup> Bloxham Burnett and Oliver Memo 16 April 2019, page 5.

<sup>3</sup> Evidence of John Burgess dated 20 September at [47] and [48].

Drive to 60km/h. All traffic engineers have agreed that it simply would not be safe to install the above traffic signals at this intersection, in the current speed environment of 80km/h.<sup>4</sup>

- 5.7 The proposed location of the new signal is only 175m away from an existing signalised intersection at Wairere Drive and Te Rapa Road. The new signals would be a similar distance to the existing signals at Wairere Drive and Pukete Road. In general, the key to ensuring safety at closely spaced intersections is to ensure that:
- (a) drivers passing through the first intersection at full speed can safely stop at a red light at the second intersection; and
  - (b) drivers do not mistake a green light at the second intersection for a green light at the first intersection (the so called "look through" problem).
- 5.8 Lower speeds for approaching traffic helps with both of these issues as it gives more time for drivers to see what is required and to react while also giving more time for braking if needed.
- 5.9 In terms of the potential safety of these two closely spaced signalised intersections if the 80km/h limit were not reduced, to my knowledge, no other similar scenarios exist on 80km/h roads for a comparison, probably because if they did exist the speed limit would be lowered in short order to address significant safety concerns.
- 5.10 My advice is that without a speed limit reduction it would not be safe to install the signals at Wairere Drive and Karewa Place, and without these signals the adverse traffic effects generated by the development cannot be mitigated.
- 5.11 Speed limit changes are carried out by the Council in conjunction with the New Zealand Transport Agency rules as a standalone process; including public consultation. In other words, the speed limit change is out of the control of the Applicant, and as a result there is a risk that the speed reduction will not actually occur.
- 5.12 To that end, I consider that both the condition requiring the signals and an explanation setting out the reasons they are essential will help inform the

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<sup>4</sup> Expert Caucusing Notes from 23 May 2019 at 5a.

decision the Council needs to make on the speed limit reduction and will help to reduce the risk of the speed limit remaining at 80 km/h.

- 5.13 I consider my proposed changes to the conditions as set out below may assist in achieving the correct outcome and ensure adverse effects are avoided, remedied or mitigated. However again, I note the risk remains that the proposed changes will not occur, given both the way the conditions are worded, and the fact that reducing the speed limit is outside the control of the Applicant.

#### **Te Rapa Road Site access**

- 5.14 Following the traffic caucusing, the direct access into and out of the Site from Te Rapa Road has been modified to allow a left turn into the Site but to prevent a left turn out onto Te Rapa Road. I support that change as it prevents the possibility of drivers leaving the Pak'nSave from using that direct exit and then crossing over multiple traffic lanes on Te Rapa Road to turn right into The Base.
- 5.15 Instead drivers would leave the Site with a left turn onto Eagle Way and make a U-turn at the new roundabout. This reduces the possibility of collisions on Te Rapa Road.
- 5.16 A slip lane has been added to Te Rapa Road to provide for the left-in movement. The slip lane appears to require the acquisition of third-party land.<sup>5</sup> This creates uncertainty as to whether the Te Rapa entrance could be constructed in the manner provided by the Applicant's plans, as no evidence of agreement with the neighbours has been provided. My advice is that this left-in access is absolutely necessary, and without it, the consent should not be granted. The issue of its ability to be delivered should therefore be certain before consent is granted.

#### **The Eagle Way Roundabout**

- 5.17 The original Application has been modified to include a roundabout at the intersection of Eagle Way with Karewa Place. I support this change as I consider it was necessary to both provide for sufficient capacity at that intersection and to allow for U-turns to occur should a driver leaving the Site at the left turn out on Eagle Way wish to double back to Te Rapa Road.

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<sup>5</sup> Evidence of John Burgess dated 20 September 2019, overall plan.

- 5.18 I understand Mr Black for the Council has concerns regarding the proposed roundabout at Eagle Way, Karewa Place and Maui Street.<sup>6</sup> Mr Black considers that there is some risk of death or serious injury occurring for pedestrians and cyclists.<sup>7</sup> In particular he does not support the inclusion of two departure lanes from the roundabout on Maui Street, the lack of cycling and pedestrian facilities, the deceleration lane on Maui Street and the lack of integration with Couplands Bakery.
- 5.19 My understanding is that Mr Black prefers the earlier version of the roundabout that was discussed at the traffic caucusing that had one approach lane and one departure lane in each direction.<sup>8</sup>
- 5.20 I understand from Mr Burgess' evidence that he agrees with Mr Black that the second departure lane can be removed from the roundabout.<sup>9</sup> I can support the removal of one departure lane on Maui Street as the second lane would probably have little value. I also support Mr Black's suggestions regarding pedestrian facilities and cycling facilities.<sup>10</sup>
- 5.21 My view is that the two approach lanes on Eagle Way are necessary to mitigate the effects of the development as it was my understanding that these two approach lanes were included in the modelling carried out to demonstrate that this roundabout would work efficiently.
- 5.22 Mr Black's concerns regarding safety and these issues indicate that the roundabout might not be approved by the Council in the form proposed by the Applicant. It is essential that the roundabout is constructed as proposed to mitigate capacity concerns. I recommend that the conditions specify the design of the roundabout to prevent the supermarket operating without this mitigation measure, in the event the Council does not consent to this design, or some other event occurs preventing the roundabout from being installed. Without confirmation as to the roundabout to be delivered, the consent should not be granted.

#### **Internal car park arrangement**

- 5.23 I have focused my study on the external effects of the Application. I do however note that the parking that was shown just inside the entrances has been modified to ensure vehicles entering the Site are not obstructed

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<sup>6</sup> Evidence of Alastair Black dated 10 September 2019 at [10].

<sup>7</sup> Evidence of Alastair Black dated 10 September 2019 at [16].

<sup>8</sup> Evidence of Alastair Black dated 10 September 2019 at [17].

<sup>9</sup> Evidence of John Burgess dated 20 September 2019 at [99].

<sup>10</sup> Evidence of John Burgess dated 20 September 2019 at [99].

by manoeuvring vehicles just inside the Site. I support that change as it prevents queues forming out onto the road network.

## 6. PROPOSED CONDITIONS

6.1 I have read the draft conditions circulated by the Council Planner on 16 September 2019, in advance of the hearing.

6.2 I have also read the Applicant's proposed conditions.<sup>11</sup> Overall, I consider that several of the transport conditions as drafted do not go far enough in providing certainty that the required mitigation will be delivered. I set out my concerns below.

### Condition 48

6.3 The Council's proposed condition 48 reads:<sup>12</sup>

Prior to the operation of the supermarket a partial signalised right turn movement from Wairere Drive into Karewa Place shall be established.

6.4 The intention of this condition is to require a partially signalised intersection where the right turn into Karewa Place is signalised. I suggest that this condition be replaced with a more prescriptive condition that reflects the assumptions that went into the modelling, such as:

Prior to the operation of the supermarket the intersection of Wairere Drive with Karewa Place shall be signalised. The intersection shall provide for:

- Two continuous unsignalised through lanes south west bound on Wairere Drive with a separate signalised right turn into Karewa Place that has a storage length of 100 metres;
- two signalised through lanes on Wairere Drive north east bound with a separate left turn slip lane with a storage length of 50 metres; and
- an unsignalised left turn only lane on Karewa Place.

This signalised intersection is essential to mitigate severe adverse traffic effects that would otherwise be created at

<sup>11</sup> Evidence of Matthew Norwell dated 20 September 2019 at Attachment 2.

<sup>12</sup> Council's section 42A Report Addendum, Appendix D.

the intersection of Wairere Drive with Te Rapa Road and at the intersection of Te Rapa Road with Eagle Way.

- 6.5 In my view this change to the condition is required to ensure the future layout of the intersection matches with the mitigation that has been assessed, as shown in Figure 16 from the ITA below.

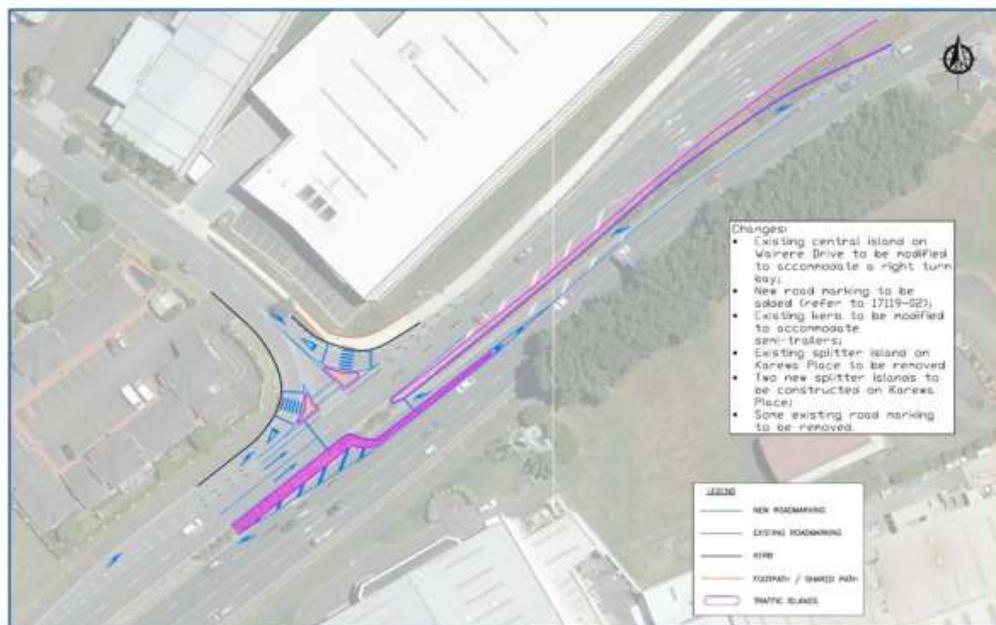


Figure 16  
Wairere Drive/Karewa Place intersection - proposed layout

Figure 16 from Applicant's ITA Report dated 16 July 2018 (Traffic Planning Consultants)

#### Condition 49

- 6.6 Condition 49 relates to the requirement for a roundabout on Eagle Way at Karewa Place which it describes as a "single-lane roundabout". It provides:

Prior to the operation of the supermarket a single-lane roundabout at the Karewa Place / Eagle Way / Maui Street Intersection shall be established in accordance with the Austroads Guide to design Part 4B Roundabouts.

- 6.7 As above, I recommend a more specific condition to describe the mitigation measure that was assessed, such as:

Prior to operation of the supermarket a single-circulating lane roundabout shall be established at the intersection of Karewa Place / Eagle Way / Maui Street. The roundabout shall include two approach lanes on Eagle Way and the

roundabout shall be designed in accordance with Austroads Guide to Road Design Part 4B: Roundabouts.

#### **Condition 50**

- 6.8 As I have discussed earlier the change in speed limit that is required by condition 50 requires a statutory process and decision by the Council that is not part of the RMA process or this Application. This creates a risk that the reduced speed limit might not eventuate. In my view, that risk should be clearly set out as part of the condition to be borne by the Applicant and it made clear that a resource consent will still be subject to the new traffic signals being installed and the reduced speed limit being imposed.

#### **7. CONCLUSIONS**

- 7.1 The existing busy intersections on Te Rapa Road at The Base Parade and at Wairere Drive are used by most customers travelling to or from The Base. Traffic on these intersections is expected to increase as further development occurs in accordance with the zoning of the area.
- 7.2 Modelling of traffic flows as part of the Application has shown there is insufficient capacity available to allow for the proposed supermarket development without significant mitigation measures. The proposed mitigation includes a new set of traffic signals on Wairere Drive at Karewa Place, and a new roundabout on Eagle Way at Karewa Place.
- 7.3 These works must be installed. Without them, the models show that the traffic associated with the Application will create significant adverse effects on the traffic network, and safety effects.
- 7.4 The new traffic signals on Wairere Drive require the approval of the Council prior to being established and also require a reduction in the speed limit to 60 km/h. If these approvals cannot be obtained then the signals could not be established in a safe or lawful manner. My opinion is that the supermarket should not go ahead without the Wairere Drive signalisation or speed limit reduction.

John Parlane  
27 September 2019