

**BEFORE THE HEARING COMMISSIONERS  
AT HAMILTON CITY COUNCIL**

**IN THE MATTER** of the Resource Management Act 1991 (RMA)

**AND**

**IN THE MATTER** of submissions and further submissions on Plan Change 13 to the  
Operative Hamilton District Plan

---

**STATEMENT OF EVIDENCE OF MICHAEL TURNER HALL FOR**

**SUBMITTER #6: CHARTWELL INVESTMENTS LTD;  
SUBMITTER #7: TAKANINI RENTORS LTD; and  
SUBMITTER #8 ECOSTREAM IRRIGATION LTD.**

**9 August 2023**

---

## INTRODUCTION

- 1 My name is Michael Turner Hall. I have a Bachelor of Engineering with Honours (BE Hons) from the University of Auckland and I am a Chartered Member of Engineering New Zealand. I have ten years' experience as a Professional Engineer and am currently employed at CKL NZ Limited where I am the Transportation Engineering Manager.
- 2 My work experience includes undertaking transportation assessments and traffic modelling for over 500 commercial, residential and institutional developments throughout New Zealand. I have prepared traffic impact studies and Integrated Transportation Assessments, designed roads, parking areas and provided technical advice regarding access arrangements.
- 3 I am familiar with the Code of Conduct for Expert Witnesses (Environment Court Consolidated Practice Note 2023) and although I note this is a Council hearing, I agree to comply with this code. The evidence I will present is within my area of expertise, except where I state that I am relying on information provided by another party. I have not knowingly omitted facts or information that might alter or detract from opinions I express.

## SCOPE OF EVIDENCE

- 4 I have been asked to review the transportation matters in relation to the submissions on Plan Change 13 ("**PC13**") initiated by the Waikato Racing Club Incorporated ("**WRCI**") by:
  - (a) Chartwell Investments Ltd ("**CIL**")
  - (b) Takanini Rentors Ltd ("**TRL**")
  - (c) Ecostream Irrigation Ltd ("**EIL**")
- 5 My evidence also addresses the Integrated Transportation Assessment ("**ITA**") dated 15 September 2022 provided by BBO, the ITA review prepared by Gray Matter dated 22 June 2023 and the statement of transportation evidence prepared by Sivakumaran Balachandran of BBO.
- 6 I am familiar with the site with my last visit being undertaken on 7 August 2023.
- 7 CIL, TRL and EIL own land adjoining the area subject to rezoning under PC13. Their properties are zoned Industrial under the Hamilton Operative District Plan ("**ODP**"). Figure 1 below shows the location of these three sites.

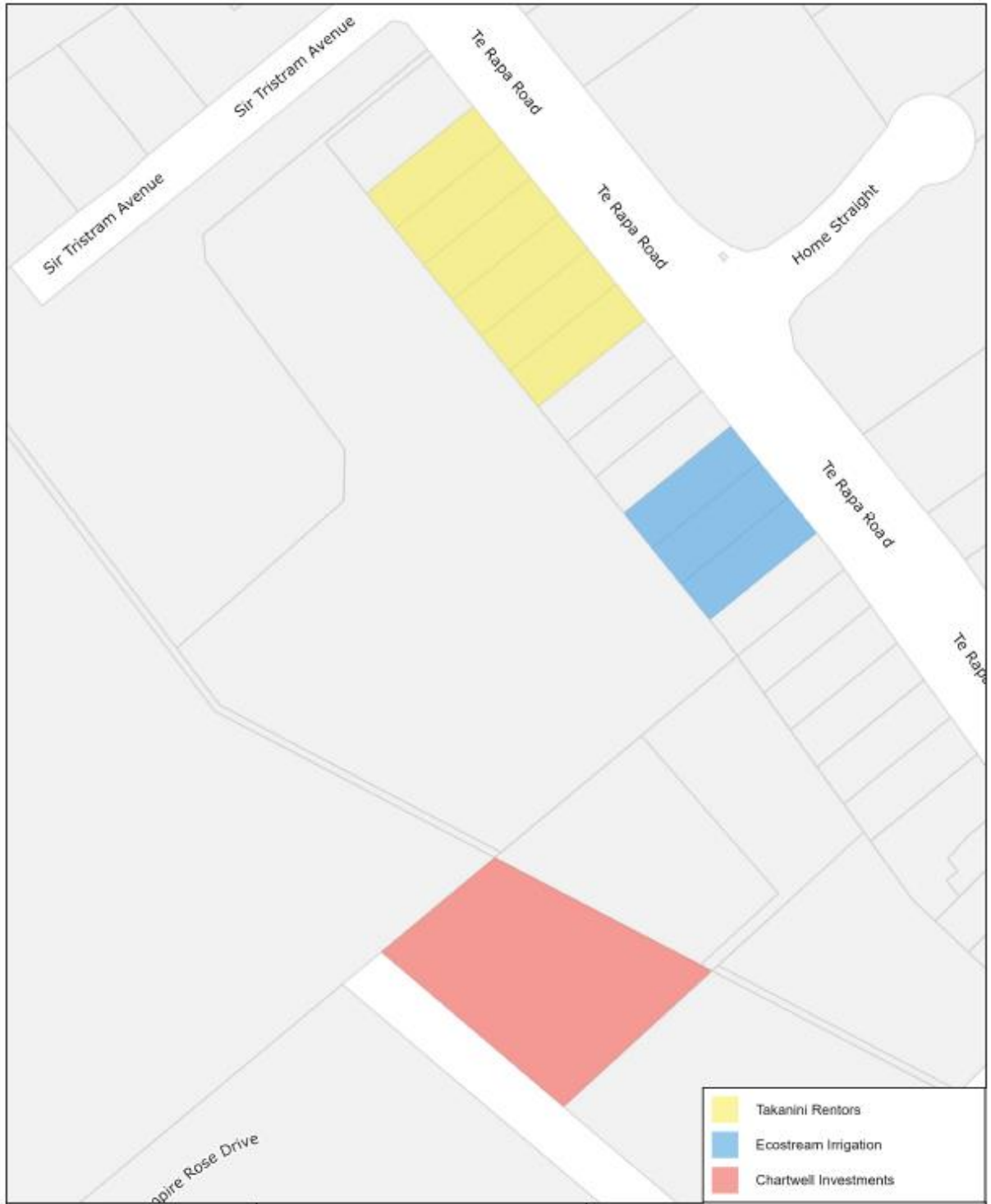


Figure 1: Location of TRL, EIL and CIL sites

- 8 The CIL property is located at 11 Ken Brown Drive. It has an area of 6,534sqm and includes a boundary of approximately 59m in length in common with the area subject to rezoning. The property contains a large format office building and associated carparking areas. Access to the site is provided via Ken Browne Drive.
- 9 The TRL property is located at 443-451 Te Rapa Road. It has an area of 6,066sqm and includes a boundary of approximately 91m in length in common with the area subject to rezoning. The property contains a number of activities including yard-based retail, offices and a dive equipment retailer with dive pool and LPG and air bottle filling service. Access to this site is provided off the Te Rapa Road slip lane.
- 10 The EIL property is located at 423 Te Rapa Road. It has an area of 3,033sqm and includes a boundary of approximately 55m in length in common with the area subject to rezoning. The property contains industrial manufacturing activities.

#### **ASSESSMENT OF EFFECTS**

- 11 The transportation effects to the road network associated with PC13 can be grouped into five categories:
- Changes along Sir Tristram Avenue
  - The upgrades on Te Rapa Road including its intersection with Sir Tristram Avenue
  - Upgrades to Ken Browne Drive
  - The closure to Mainstreet Place
  - The performance of the Garnett Avenue / Te Rapa Road intersection
- 12 I address each of these in further detail below.

#### **SIR TRISTRAM AVENUE**

- 13 Along Sir Tristram Avenue it is proposed by the applicant to increase the length of the footpath on the northern side, add a new shared path on the southern side, new kerb let-downs (pram crossings) and remove on-street parking.
- 14 I support the extension of the footpath on the northern side. There will be some detailed design matters to resolve as were identified in section 7.5.2 of the ITA. However, it is my opinion that an appropriate design can be achieved.
- 15 I also support the inclusion of a new path on the southern side of Sir Tristram Avenue which is also proposed as part of PC13.
- 16 While not explicitly stated, Figure 17 from Mr Balachandran's evidence suggests that parking would be prohibited on both sides of Sir Tristram Avenue. At present there are no

parking restrictions however vehicles only park on the northern side of the carriageway which allows opposing vehicles to pass each other on the remaining carriageway width.

- 17 I have measured the carriageway on Sir Tristram Avenue as being 8m wide from face of kerb to face of kerb. This differs from what has been reported within the ITA and in evidence prepared by Mr Balachandran and I am not able to confirm the reason for this difference. The vehicles parked along the side of the road generally occupied 2m of width from the face of kerb with up to 2.2m for the vehicle that projected furthest from the face of kerb. This meant that at least 5.8m of carriageway was available for vehicles to pass each other.
- 18 The width of the 99 Percentile car from Figure 15-1k of the District Plan notes that the width of the vehicle is 1.95m. The 99 Percentile vehicle would represent the vehicle that is larger than 99% of other cars. Two 99 Percentile vehicles adjacent to each would have a combined width of 3.9m. Allowing for 600mm between the vehicles, as is the recommended distance between the body of the vehicle and to the adjacent kerbs/parked cars would result in a total overall width of 5.7m. This is less than the minimum 5.8m available.
- 19 It is my opinion that a narrow carriageway is an effective method to reduce the operating speed of vehicles. Removing parking would increase the perception that drivers have of the carriageway and potentially encourage higher speeds. This would be contrary to providing a slow speed environment along Sir Tristram Avenue.
- 20 Therefore, it is my opinion that the existing parking on the northern side of the road does not need to be removed. I would however recommend that yellow no stopping lines are added to the southern side of the carriageway to formalise the existing parking situation.

#### **TE RAPA ROAD**

- 21 New signalised pedestrian crossings and raised tables are proposed on Te Rapa Road. The primary purpose stated for these upgrades is to better support people crossing the road including those using the bus stop on the opposite side of Te Rapa Road from PC13. I support increasing the connectivity for pedestrians at this location.
- 22 I note that the raised table within the slip lane is also proposed to be signalised. Given that this lane has relatively low traffic volumes, it is my opinion that a zebra crossing would be an appropriate method to allow people to cross the slip lane. With signals, it is likely that people would cross without waiting for a pedestrian phase anyway.
- 23 Signalisation of the main traffic lanes on Te Rapa Road is appropriate given the high traffic volumes.

- 24 Raised tables are typically designed with a 4m top section and 1m section that rise and fall resulting in a total length of 6m. I note that there is a current 8m gap in the on-street parking within the slip lane for a gate. Therefore, the raised table can be added within the slip lane without removing any car parking spaces from the slip lane. A raised table at this location would not require the removal of this gate.
- 25 The raised tables as part of the signalised crossing would likely result in a loss of 4-5 spaces from either side of Te Rapa Road as extra space is required for the cycle ramps and limit line. It is my opinion that the removal of these spaces is required from the arterial road and is appropriate to support the inclusion of the pedestrian crossing facilities. As outlined previously in my evidence, on-street parking on Sir Tristram Avenue can be retained which notably reduces the effect of the loss of on-street parking from near the TRL and EIL sites.
- 26 The new intersection design proposed between Sir Tristram Avenue and Te Rapa Road is unorthodox given that it is attempting to incorporate the slip lane while also prohibiting right turns out of Sir Tristram Avenue. It is my opinion that the right turn into Sir Tristram Avenue should also be prohibited. This would reduce the potential complexity of the intersection and significantly improve road safety as vehicles would no longer be attempting to turn across multiple lanes of traffic. There are other access options available for PC13, the racecourse and other vehicles that park on Sir Tristram Avenue. This includes access via Ken Browne Drive or potentially Mainstreet Place which is explored in further detail in my evidence.
- 27 I also note that there has been no analysis within the ITA or other evidence of the effect on traffic as a result of adding the signalised pedestrian crossings. There appears to be approximately 100m between the proposed signalised crossings and the signalised intersection with Home Straight. It is therefore possible that queues from one intersection may extend upstream to the other intersection.
- 28 BBO undertook a modelling exercise of the Sir Tristram Avenue intersection with Te Rapa Road. Of note, the modelling results suggest that a vehicle turning right from Te Rapa Road into Sir Tristram Avenue would have an average delay of only 4.6 seconds despite such vehicle having to give-way to over 1,300 vehicles northbound on Te Rapa Road.
- 29 Based on my experience, most if not all of the 4.6 seconds delay reported would be attributable to the geometric delay associated with the vehicle completing the turn and that there would be negligible delay for turning vehicles having to give-way and wait for an appropriate gap. This suggests that there is an error in the modelling of this intersection that may affect the conclusions reached by the assessment. Upon refinement, it may be identified that the existing right turn bay may not be sufficient to accommodate the increase in demands for right turning traffic at this intersection and that delays may

become excessive to the point where drivers would be likely to take shorter gaps in the oncoming traffic which is likely to increase the risk of a crash occurring. I therefore believe that additional analysis and review of this modelling is necessary if Sir Tristram Avenue is to be a primary connection to the residential development proposed in PC13.

#### **KEN BROWNE DRIVE**

- 30 As part of PC13, and similar to Sir Tristram Avenue, it is suggested to remove on-street parking from both sides of Ken Browne Drive, noting that parking is already prohibited on one-side through the use of no stopping lines. The reason given for this change is to provide a carriageway width that caters for two-way movement.
- 31 However, similar to Sir Tristram Avenue, I have measured the carriageway width as being 8m from face of kerb to face of kerb. Parked vehicles were generally within 2.1m of the adjacent kerb which is slightly closer than what I observed on Sir Tristram Avenue. This results in 5.9m available for the general carriageway which as I assessed in paragraph 19 previously, is sufficient to accommodate two-way vehicular movement. Therefore, it is my opinion that the existing on-street parking on Ken Browne Drive does not need to be removed. The narrower carriageway also supports the 40km/h slower speed limit that applies to Ken Browne Drive.
- 32 Paragraph 78 of Mr Balachandran's evidence assumes that the existing parking on Ken Browne Drive is associated with the commercial/industrial activities at 89 Garnett Avenue, 6 Ken Brown Drive and the CIL site 11 Ken Browne Drive. Mr Balachandran's calculations then provided in paragraph 79 suggest that these three sites have more on-site parking than the average parking demand rates for their activities. However, I note that the parking rates provided are only averages and therefore some activities will be above or below this value. I therefore do not agree with the assessment that these three sites identified have more than sufficient on-site parking to accommodate their current demands. It is also possible that the parking along Ken Browne Drive may be associated with other nearby activities such as the retirement village or large office building at 1 Ken Browne Drive. Not removing the existing on-street parking as I have recommended above would therefore reduce the effect of PC13 on these nearby activities including the CIL site.
- 33 In addition to the above, there is no assessment provided in relation to removing the existing parking from Sir Tristram Avenue. From visiting the site, I have noted that there is an existing high demand for on-street parking on both Sir Tristram Avenue and Ken Browne Drive and it is my opinion that PC13 does not mitigate the effect of removing the parking spaces.
- 34 On top of existing parking demands, it is possible that the future development would not include dedicated parking and therefore would likely increase the demand for on-street

parking. Based on 2018 census data, there is an average of 1.8 vehicles per household in Hamilton. For a future development of 200 dwelling, this would likely result in a parking demand of 360 vehicles. From the proposed Plan Change it is not clear where such vehicles would be parked and what effect there would be on the existing parking resource.

### **MAINSTREET PLACE**

- 35 Paragraph 19.a.iii. of Mr Balachandran's evidence states that the access to the racecourse from Mainstreet Place will be permanently closed. However, there are no reasons given for this in either his evidence or the ITA. The current sealed width appears to lie fully within the public road reserve and would therefore require approval from Hamilton City Council under the Local Government Act to change the existing situation.
- 36 It is my opinion that the access should not be permanently closed. This would enable Mainstreet Place to be a future connection to either the racecourse and/or future development within PC13. The assessment undertaken by the applicant to date does not appear to have considered the potential benefits of providing a link from PC13 to Mainstreet Place. Mainstreet Place branches off Sunshine Avenue which connects to Te Rapa Road via a roundabout. I consider this to be a notably safer option for access for vehicles from the site to Te Rapa Road in comparison to Sir Tristram Avenue.
- 37 With access via Mainstreet Place, it is possible that a vehicular connection to Sir Tristram Avenue may not be necessary. This would enable design of the intersection between Sir Tristram Avenue and Te Rapa Road to be a simpler design that removes all right turning traffic significantly improving road safety. It is my opinion that having vehicles enter Te Rapa Road from the established Sunshine Avenue roundabout rather than increasing traffic volumes at an unorthodox priority intersection where vehicles may be turning across multiple lanes of traffic is a safer outcome.
- 38 Paragraph 92 of Mr Balachandran's evidence concludes that signalling the Sir Tristram Avenue / Te Rapa Road intersection would not be beneficial. Therefore, it is my opinion that it is unlikely that this intersection would ever be upgraded in the future. Hence the existing safety issues associated with vehicles turning right across multiple lanes of traffic would persist.
- 39 Similarly, there would be additional reasoning to not remove parking from Sir Tristram Avenue. Adopting this alternative solution of using a Mainstreet Place access therefore has the potential to notably mitigate the effect of PC13 on the TRL site as well as potentially improving the safety of access for future residents within PC13. This solution would also not preclude inclusion of signalised pedestrian crossings on Te Rapa Road given that this is addressing pedestrian connectivity and supporting use of the public transport system.



Similarly, the signalised pedestrian crossings would not preclude use of Mainstreet Place by motorised vehicles.

### **GARNETT AVENUE**

- 40 The PC13 assessment undertaken, specifically Table 5 from the ITA and paragraph 97 from Mr Balachandrans' evidence, has identified that the signalised intersection between Garnett Avenue and Te Rapa Road is already heavily congested. However, there is still a notable increase in average delay times as a result of PC13 with an almost 30 second increase in delay for traffic from Garnett Road in the baseline and also almost 70 seconds delay for the 2031 scenario. The solution presented to mitigate the effects of this increase in delay is for traffic to find alternative routes such as via Dalgliesh Avenue or Forest Lake Road. However, this would likely result in traffic having to turn onto Te Rapa Road at a priority-controlled or other intersection which is likely to already accommodate high traffic volumes. I consider reliance on other priority intersections to be a more dangerous alternative given that vehicles would be turning across multiple lanes of traffic. There is also no assessment as to whether these alternative route options would have capacity to accommodate additional traffic.
- 41 I am also of the opinion that the modelling results summary in Tale 5 of the ITA do not present the full range of traffic effects. Only Garnett Avenue and the overall results are presented whereas some scenarios also see notable effect on Te Rapa Road with delay increases of over 50 seconds and queuing increases of over 150m. Such increases may affect upstream intersections or properties that access Te Rapa Road.
- 42 Based on the above, it is my opinion that use of Mainstreet Place should be re-considered to mitigate the effects of PC13.

### **CONCLUSION**

- 43 I have been engaged by CIL, TRL and EIL to review the transportation effects of PC13. It is my opinion that further assessment and consideration is required in order to fully assess the traffic effects and identify appropriate mitigating measures. Based on my review I hold the following opinions:
- It is not necessary to remove the existing on-street parking on Sir Tristram Avenue and Ken Browne Road.
  - The raised tables on Te Rapa Road would likely result in 4-5 spaces being removed on the mainline. No spaces would need to be removed from the slip lane.

- Additional modelling is required of the intersection between Sir Tristram Avenue to Te Rapa Road to assess the effect of maintaining right turns into Sir Tristram Avenue. I believe that right turns should not be permitted at this location.
- Mainstreet Place should not be closed and should be considered as a primary connection to PC13.

Date: 9 August 2023

A handwritten signature in blue ink, appearing to be 'M. Turner', with a long horizontal stroke extending to the right from the top of the first letter.

**Michael Turner Hall**