BEFORE AN EXPERT CONSENTING PANEL

IN THE MATTER of the Fast-track Approvals Act 2024 (the **FTAA**)

AND

IN THE MATTER of Ashbourne (FTAA-2507-1087)

STATEMENT OF EVIDENCE OF ALASTAIR JAMES BLACK ON BEHALF OF THE MATAMATA-PIAKO DISTRICT COUNCIL

(TRANSPORTATION)

Dated: 11 November 2025

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1. SUMMARY OF EVIDENCE

1.1 As proposed, the development will significantly increase traffic on nearby low-volume local streets, potentially affecting safety and efficiency. While the ultimate development layout is generally suitable, I am concerned that the proposed development staging and mitigation does not adequately address the wider transportation impacts of the proposal.

1.2 The proposal relies on there being adequate capacity in the surrounding transport network. I am concerned that the proposed increase in traffic will create safety and efficiency effects on the existing transport network as parts of the network have not been constructed to provide for the proposed level of traffic. In my view changes to the development staging and infrastructure thresholds and additional physical works are required to the external transport network to mitigate potential adverse transport impacts.

1.3 My main concern arises as the development relies on a single point of vehicle access to an existing residential neighbourhood to serve 400 lots or almost 80% of the total residential development. This has the potential to generate 340 peak hour trips. The increase in traffic on currently low-volume local roads may lead to higher vehicle speeds, rat-running, an increased risk of conflicts, and reduced residential amenity for nearby residents.

1.4 In my view changes to the development staging and infrastructure thresholds and additional physical works are required to the external transport network to mitigate potential adverse transport impacts. I prefer an approach, where infrastructure staging is identified, but periodic transport assessments are also required. This would confirm whether the proposed staging remains appropriate, accounts for any changes in the transport environment, and identifies any additional transport needs.

1.5 While some detailed design matters raised in my Initial Transportation Review can be managed through conditions of consent and engineering plan approval, there are matters that will impact on the current subdivision boundaries which should be addressed now through updated Engineering Drawings.

1.6 I have recommended changes to the proposed development staging and required infrastructure in this evidence and highlighted areas where the conditions of consent could be improved.

2. INTRODUCTION

2.1 My full name is Alastair James Black.

2.2 I am a senior transportation engineer at Gray Matter Ltd and have been in this role since 2009.

2.3 My qualifications and relevant experience are set out in **Appendix 1**.

2.4 In preparing this evidence, I have reviewed:

(a) Integrated Transport Assessment, 9 July 2025 (Appendix 1P to the Substantive Application), Commute,

(b) Ashbourne: Fast-Track Approvals Act 2024 Substantive Application (14 July 2025) with a focus on Appendices 2A, 2D, 3L, 4D, 4L, 5F, 5O.

(c) Applicant's responses, comprising:

(i) Transport Commentary - Private Developer Agreement, Letter from Michelle Seymour (Commute) to Caleb Pearson (Unity Developments), 24 September 2025.

(ii) Ashbourne: Response to Transport Matters, Memorandum from Michelle Seymour (Commute) to Caleb Pearson (Unity Developments), 2 October 2025.

(iii) Ashbourne – Cumulative Effects, Memorandum from Michelle Seymour (Commute) to Steph Wilson (B&A), 24 October 2025.

(iv) Response to Comments, Memorandum from Michelle Seymour (Commute) to Caleb Pearson (Unity Developments), 3 November 2025.

2.5 I attended a site visit on 21 August 2025.

3. CODE OF CONDUCT

3.1 Although this matter is not before the Environment Court, I confirm that I have read the Code of Conduct for Expert Witnesses outlined in the Environment Court's Practice Note (2023) (**Code**) and have complied with it in preparing

this statement of evidence. If a hearing is held, I also agree to follow the Code when presenting evidence to the Panel.

3.2 I confirm that the issues addressed in this brief of evidence are within my area of expertise, except where I state that I rely upon the evidence of other expert witnesses. I also confirm that I have not omitted to consider material facts known to me that might alter or detract from my opinions. My qualification and experience are attached at **Appendix 1**.

4. EVIDENCE

Background and Overview

4.1 I prepared the Initial Transportation Review[1] which is attached at **Appendix 2**. That review addressed the following matters:

(a) Background assumptions, trip generation and distribution

(b) Impacts on existing roads, external connections

(c) Speed limits

(d) Easements and vehicle access, intersections, public and private roads

(e) Layout – development, road long- and cross-sections, parking

(f) Refuse collection

(g) Intersections

(h) Vehicle tracking

(i) Proposed conditions

4.2 Following my Initial Transportation Review, the Applicant provided further information which I reviewed when preparing this evidence (memorandums and letters referenced in Paragraph 2.4).

[1] Ashbourne Development: Initial Transportation Review – Update (2 September 2025), Gray Matter Ltd.

Staging of Infrastructure Improvements

4.3 The Applicant proposes staging thresholds[2, 3] to trigger infrastructure provision. Initially the proposed thresholds do not align with the residential development stages in terms of dwelling numbers. The most recent proposal includes thresholds based on stage or number of residential lots[4]. No assessment has been provided to justify the selected thresholds. I have the following concerns with the proposed thresholds:

(a) The development trigger of Stage 5 or 280 lots before any alternative construction access is provided infrastructure is provided. Until this time all construction traffic will need to use the existing transport network (Peakedale Drive, Jellicoe Road, Archford St and Hampton Tce)

(b) The development trigger of Stage 7 or 400 lots before any permanent infrastructure is provided, is almost 80% of total residential development.

(c) The current proposed staging means that traffic from 400 lots will need to use the existing transport network (Peakedale Drive, Jellicoe Road, Archford St and Hampton Tce) to access Station Road and SH27.

(d) 400 lots each with a single dwelling are expected to result in 340 peak trips, representing over half of the total 567 peak trips expected when the development is complete. This is a significant increase compared to current traffic volumes. The table below is from my Initial Transportation Assessment and shows existing and expected increase in traffic on key roads:

[2] Transport Commentary – Private Developer Agreement. Letter from Michelle Seymour (Commute) to C Pearson (Unity Developments), 24 September 2025.
[3] Response to Comments, Memorandum from Michelle Seymour (Commute) to Caleb Pearson (Unity Developments), 3 November 2025.
[4] Response to Comments, Memorandum from Michelle Seymour (Commute) to Caleb Pearson (Unity Developments), 3 November 2025.

Table 1 Traffic volume changes

Road	Approx current peak volume	Source	Additional due to development	Total future	% increase
Peakedale Drive	18	Estimate based on current development (from aerial & streetview)[5]	513	531	2,850%
Jellicoe Road	93	AM counts from ITA	513	606	552%
Station Road	376	AM counts from ITA	143	519	38%
Firth Street	717	PM counts from ITA	513	1,230	72%

(e) Stage 7 provides for a cumulative total of 383 lots and Stage 8 451 lots, so the proposed threshold of 400 lots would occur partway through development of Stage 8. This will be difficult to monitor and implement.

4.4 The following table presents my understanding of the peak hour and daily trip[6] generation for each stage of the development based on the assumptions in the ITA.

Table 2 Development Staging and Trip Generation

Stage	Lots	% of total	Cumulative Lots	% of total	Peak Trips (vph)	Daily Trips (vpd)
1	68	13%	68	13%	58	612
2	77	15%	145	28%	123	1,305
3	72	14%	217	42%	184	1,953
4	60	12%	277	53%	235	2,493
5	60	12%	337	65%	286	3,033
6	52	10%	389	75%	331	3,501
7	62	12%	451	87%	383	4,059
8	67	13%	518	100%	440	4,662
Residential	**518**	**100%**			**440**	**4,662**
Commercial Development					66	
Solar farm					4	
Retirement village					55	
Total					**565**	

[5] Land currently under development on Peakedale Drive would increase these baseline peak volumes. 94 lots each with a single dwelling will generate 80peak trips.
[6] The ITA did not provide daily trip generation rates for the non-residential activities.

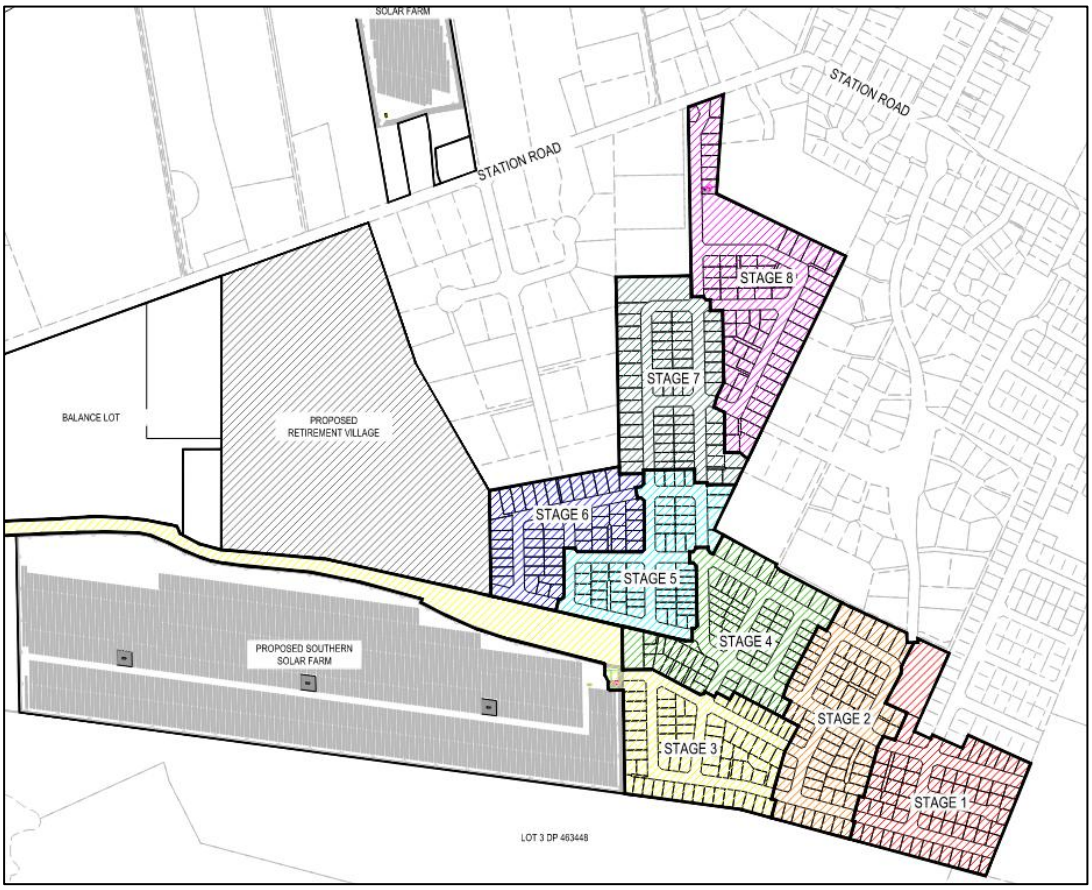

Figure 1 Proposed Development Staging

4.5 I am concerned that the proposed traffic volumes identified above will create safety and efficiency effects on the existing transport network as parts of the network have not been constructed to provide for the expected level of traffic. The MPDC Development Manual (Table 3.1) provides the following indicative traffic volumes for different road types:

(a)	Local (residential)	200-1,000veh/day
(b)	Sub-collector (residential)	800-1,200 veh/day
(c)	Collector (residential)	1,000-2,500 veh/day
(d)	Arterial	2,500+veh/day

4.6 The table below shows the road type according to Table 3.1 of the MPDC Development Manual, with both existing and predicted traffic volumes. The ITA focussed on peak traffic volumes for assessment, but the road type in the Development Manual uses daily traffic volumes. My assessment of road

type based on the expected traffic volume is shown below. In my assessment I have:

(a) Used existing daily traffic volumes from www.mobileroad.org.

(b) Assumed that the additional peak traffic due to the development is around 15% of the daily traffic and have calculated the future daily traffic based on this approach.

Table 3 Road category according to MPDC Development Manual

Road	Daily Volume (now)[7]	Existing road type	Daily Volume (future)[8]	Future road type
Peakedale Drive	150	Local	3,570	Arterial
Jellicoe Rd	353	Local	3,773	Arterial
Hampton Tce	236	Local	3,656	Arterial
Station Rd	1,728	Collector	2,681	Arterial
Firth Street	8,180	Arterial	11,600	Arterial

4.7 Based on these traffic volumes the proposed development staging will result in traffic volumes on local residential roads that are typically expected on Arterial Roads. Arterial roads have a higher level of infrastructure including wider traffic lanes and an increased road width when compared to local roads providing a safer environment for all road users.

4.8 The Development Manual (Table 3.1) provides for local roads carrying up to 1,000veh/day with a minimum traffic carriageway width of 3.5m. Sub-collector and collector road are expected to carry >800veh/day and >1,000veh/day respectively both with a 7m wide traffic carriageway.

4.9 The existing local roads carry approximately 250veh/day, indicating that there is capacity of 750veh/day – equivalent to 83 dwellings[9] – before a change in road type or improved infrastructure is necessary to maintain the anticipated level of safety and efficiency. This indicates that the first two stages (totalling 145 lots) could be developed prior to infrastructure improvements being required. However, the full trip generation, and transport effects, are only realised once the individual dwellings are constructed and occupied. Assuming that each stage is 50% occupied, I recommend that

[7] www.mobileroad.org
[8] Daily volume now, plus 8x the additional peak volume due to the proposal (from Table 1).
[9] The ITA assessed the daily trip generation for a residential dwelling as 9 trips/dwelling/day

construction of alternative vehicle access to Station Road or Firth St occur prior to the development of Stage 4 (once 217 lots have been developed).

4.10 As outlined later in this evidence, I prefer an approach, where planned infrastructure staging is identified, but periodic transport assessments are also required. This would confirm whether the proposed staging remains appropriate, accounts for any changes in the transport environment, and identifies any additional transport effects that require mitigation.

Potential Connection to Firth Street

4.11 The additional information provided[10] included an option for a connection to State Highway 27 south of Haig Road (or equivalent), to be implemented when the development reaches Stage 7, or 400 dwellings or 1,850 sqm commercial activities.

4.12 I support providing the Firth St connection as early as possible and requiring construction traffic to use this route to avoid transport effects on the existing network (Jellicoe Str, Hampton Tce and Peakedale Road).

4.13 Providing a connection to Firth St has the following benefits for the developers:

(a) It avoids the need for a temporary construction access to Station Road.

(b) The permanent connection to Station Road would only be required at Stage 8.

4.14 While I support the intent of this connection, I am concerned that the threshold of 400 dwellings/lots is too high and no assessment has been provided that determines the impact, and any required mitigation, on the Firth Street / State Highway 27 intersection (shown below).

[10] Transport Commentary - Private Developer Agreement, 24 September 2025.

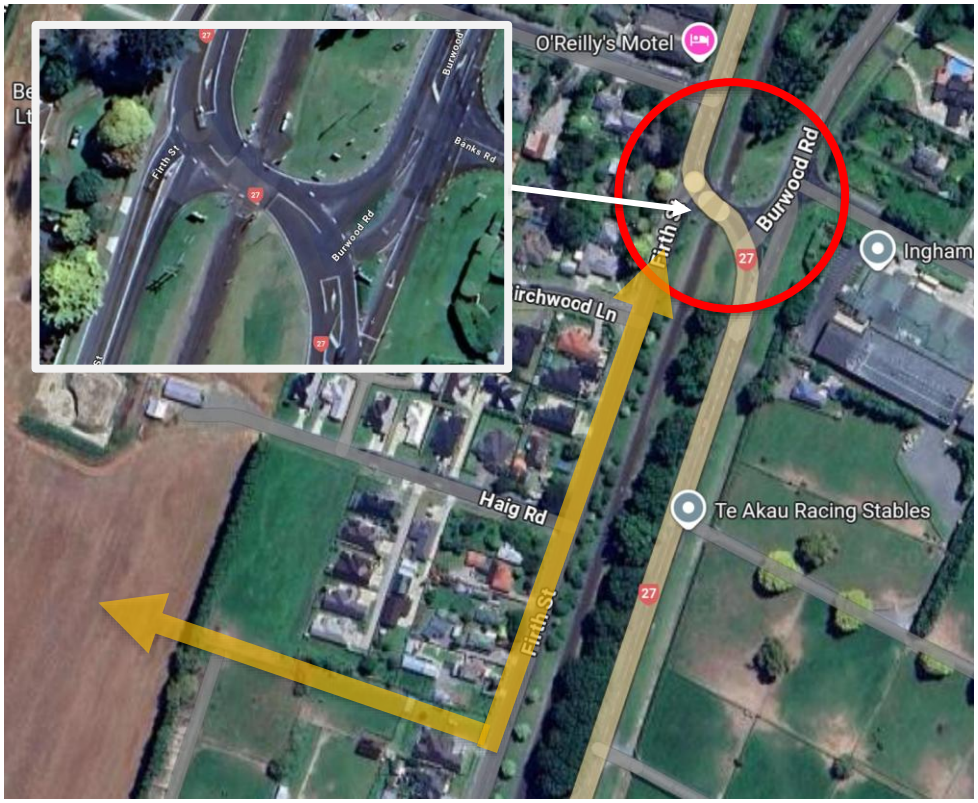

Figure 2 Firth Street / SH27 intersection

4.15 The Firth Street / SH27 intersection is complex due to the angle, presence of a rail crossing and proximity to other intersections. NZTA's CAS system shows five crashes (one serious injury and one minor injury) in the period 2020-2025[11], indicating an existing safety issue.

[11] CAS search completed on 6 November 2025.

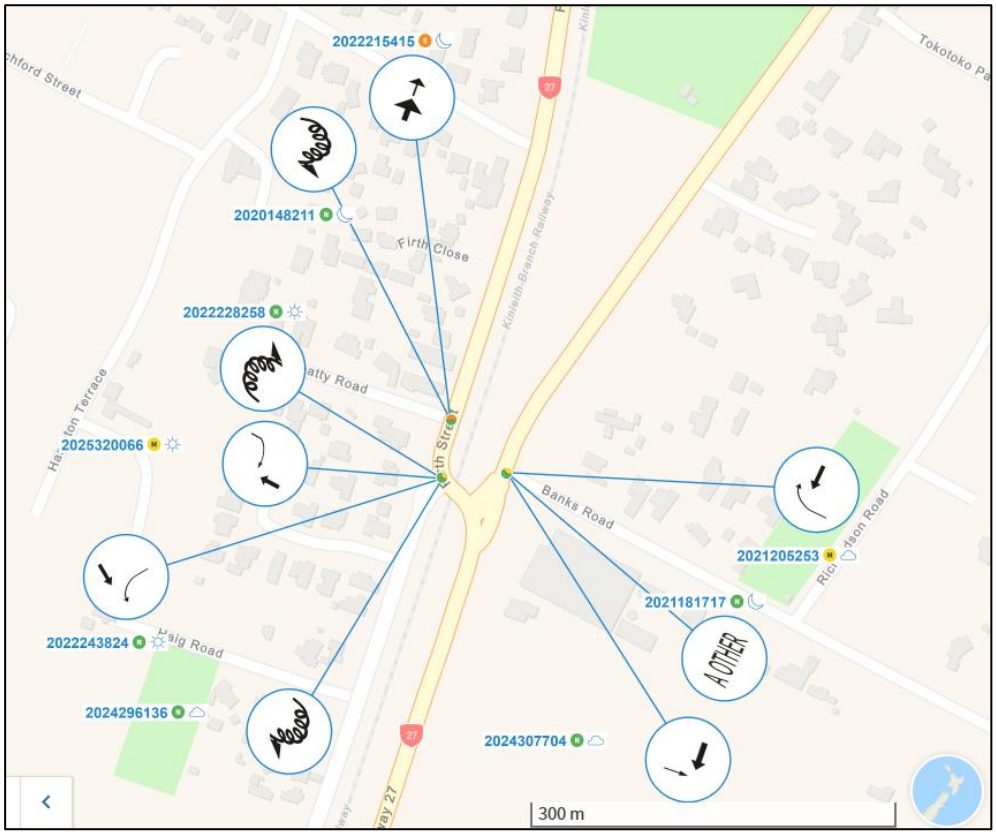

Figure 3 Firth Street / SH27 intersection – Crash Diagram 2020-2025

4.16 I am concerned that diverting additional traffic through this intersection may result in adverse safety impacts that need mitigation. This needs to be assessed, and mitigation identified and implemented, prior to any development that would utilise this link. My concern would be addressed by requiring an ITA at key development stages.

Station Road Urbanisation

4.17 The new Road 1/ Station Road intersection will be approx. 150m from the current 'urban' road formation (where the kerb and channel ends). To better define the form and function of this section of Station Road I recommend that the southern side of Station Road be urbanised through widening and provision of kerb and channel etc to meet the residential collector standard of the MPDC Development Manual (Table 3.1). I consider that this upgrade is needed to:

(a) Provide an appropriate road standard for the increase in traffic volume.

(b) Support the proposed urban development by better defining the Matamata urban boundary.

(c) Better delineating the road edge and more clearly separating the proposed shared path from the carriageway.

(d) Support potential lowering of the speed limit on this section of Station Road.

4.18 I recommend that the required urbanisation extend from the proposed Road 1/ Station Road intersection east to the current 'urban' road formation (at 86 Station Road where the kerb and channel ends).

4.19 As part of the urbanisation, a safe and continuous footpath network is required to encourage the use of active modes. I recommend that this include:

(a) 3m wide sealed shared path from the Road 1/ Station Road intersection to the existing footpath. I understand that it may not be practical to provide a 3m wide path over this full length due to the presence of utility cabinets etc. I support Council working with the developer to maximise the path width at these constraints.

(b) Pedestrian refuge island on Station Road (just east of Sheffield St) providing access across Station Road for pedestrians walking to/from Smith St which will likely include school students.

4.20 In general, the most common crash type at an intersection is a side impact crash. The Safe System threshold speed for a side impact between vehicles is 50km/h. Safe System threshold speeds are speeds that are well established in evidence to give the best chance of survival without death or serious injury to anyone involved in a crash. I support lowering the speed limit to 50km/h on Station Road so that the new Road 1/ Station Road intersection is located within a lower speed limit reducing the likelihood of serious injury or death arising from a crash at the new intersection.

4.21 I note that the speed limit can only be changed by MPDC through a bylaw process. I recommend that MPDC include this section of Station Road in the next speed limit review, and preferably prior to construction of the retirement village access or the Road 1/ Station Road intersection.

Station Road Intersection

4.22 As discussed in my Initial Transportation Review (Section 5.2), the proposed alignment of the Road 1 approach to Station Road does not comply with the

horizontal geometry requirements of the MPDC Development Manual. The MPDC Development Manual (Section 3.7.4)requires a centreline radius of 80m, but much smaller radii of 15-20m are proposed. In my view Road 1 needs to be realigned to achieve compliance with the MPDC Development Manual. In my view realigning Road 1 to comply with the MPDC Development Manual will impact on the proposed subdivision layout and should be addressed now.

4.23 I recommend that the intersection design be revised to include a refuge island to facilitate pedestrian movements along the Station Road shared path to support movements to/from the retirement village located further west.

4.24 The Chestnut Lane intersection with Station Road is located 25m west[12] of the proposed Road 1 intersection which increases the likelihood of crashes. The MPDC Development Manual (Table 3-C) requires 45m separation between a vehicle crossing and an intersection where the operating speed is higher than 80km/h. The separation distance reduces to 20m for operating speeds less than 60km/h. The minimum separation between intersections on a collector road is 60m (MPDC Development Manual, section 3.7.1a)).

4.25 In my view, the potential crash risk would be avoided by removing the Chestnut Lane right-of-way and providing direct access to Road 1 for each of the three existing lots on Chestnut Lane. I recommend that the conditions include an advice note that allows flexibility to alter the location of the Road 1/ Station Road intersection should the properties on Chestnut Lane be provided with direct access to Road 1 and the Chestnut Lane/ Station Road intersection be closed.

Impacts on the Existing Residential Area

4.26 The ITA and subsequent responses have focussed on network capacity. I agree that the wider road network can theoretically accommodate the additional traffic, however, I reiterate my earlier comments, that there is a need to look at the wider impacts on the affected residential streets.

4.27 I consider that the proposed staging and infrastructure threshold will result in adverse transport effects including:

(a) Higher vehicle speeds (through traffic may travel faster);

[12] Measure centreline to centreline

(b) Increased conflict risk between vehicles;

(c) Rat-running; and

(d) Increased conflict risk for pedestrian and cyclists.

4.28 Jellicoe Road is 6m to 6.5m wide compared to 8.5m required for a local road in the MPDC Development Manual (Table 3.1). This existing narrow width means that cars parked on the carriageway will limit traffic to one-way movement. In my view, the increase in traffic combined with the existing narrow width increases the likelihood of delays for existing residents and will potentially result in rat-running to other existing roads.

4.29 While existing on-street parking demand is low, the significant increase in traffic increases the likelihood of residents parking on the berms of Jellicoe Road and Hampton Tce to maintain space for two-way traffic potentially damaging the berm and impeding pedestrians and cyclists.

4.30 Jellicoe Road, Archford St and parts of Hampton Tce only have a footpath on one side. The figure below demonstrates that there are no existing paths on the northern side of Jellicoe Rd. I note that the kerb cutdowns are poorly aligned.

Figure 4 Jellicoe Road / Hampton Terrace intersection (red dashed lines indicate where there is no existing footpath)

Figure 5 Jellicoe Road / Hampton Terrace intersection pedestrian cutdowns (looking north along Hampton Tce)

4.31 The MPDC Development Manual (Table 3.1) requires footpaths on both sides of all local roads. The significant increase in traffic on these existing roads increases the exposure of pedestrians and cyclists to traffic, especially when crossing the Jellicoe Road/ Hampton Tce intersection. While the lack of footpaths is an existing deficiency the low traffic volumes (<250veh/day) mean the likelihood of a crash occurring is low. Without a connection to Firth St or Station Rd there will be a significant increase in traffic which increases the likelihood of a crash occurring. I recommend that pedestrian improvements are required to address the increase in likelihood arising from the development. The need for these improvements would be reduced if a connection to Firth St were provided early in the development staging and construction related traffic used that route instead of this existing network.

4.32 I understand that the development could be staged over 10-15 years. Given the uncertainty in residential development timing, timing for the Southern Solar Farm construction traffic volumes, and impact on existing residential neighbourhoods, I recommend additional Integrated Transport Assessments (ITA) are completed at key stages of the development. The purpose of the ITA is to review the transport environment that exists at that time and confirm whether the mitigation identified in the conditions of consent and implemented to date has adequately addressed the transport effects. For example, a future assessment may identify safety concerns and/or residential complaints relating to the Jellicoe Road/ Hampton Tce intersection. In my opinion, a roundabout at this intersection would help reduce speeds along Jellicoe Road, help facilitate movements out of Hampton Terrace, and improve overall safety including for pedestrians.

4.33 To address the potential adverse transport effects on the existing transport network, I recommend that:

(a) The proposed staging and development thresholds are lowered to reduce the level of development-related traffic using the existing roads.

(b) The proposed staging and development thresholds are altered to require alternative direct connections to the existing network at Station Road or Firth St earlier in the development staging.

(c) As part of Stage 1, the developer be required to construct additional footpaths and kerb cutdowns on Jellicoe Rd and Hampton Tce to address the existing deficiencies. A continuous footpath network is required to provide a continuous link between the development and Station Road and Smith Street.

(d) Future ITAs consider the need for traffic calming on Hampton Terrace and Archford Street to address unexpected safety effects on these residential streets. Traffic calming should encourage vehicles to use Peakdale Drive rather than rat-running, reducing the effects on the residents of both Hampton Terrace and Archford Street. Traffic calming may include kerb extensions, roundabouts at existing intersections, build-outs, raised safety platforms/ safety cushions, and changes to road marking.

4.34 In my view, the need for some of the pedestrian and traffic calming improvements would be reduced if a connection to Firth St was provided early in the development staging and development related traffic used that route instead of this existing network.

4.35 In my opinion the above recommendations should be required via conditions of consent.

Pedestrian Provision

4.36 A 3m wide shared path is proposed along Station Road, with the Applicant suggesting an unsealed section at the retirement village end. Considering the preferred urbanisation of Station Road up to the edge of the residential development, and the need for a smooth, accessible surface for more elderly retirement village users, I recommend that the entire path be sealed.

4.37 I stated in my Initial Transportation Assessment (Section 3.3.3) that small differences in route option travel times between the development and the town centre may lead to higher traffic volumes on Smith Street, potentially requiring mitigation such as crossing facilities. The Applicant then carried out intersection modelling and has since proposed a refuge island to facilitate pedestrian movements at the Smith Street intersection.

4.38 I support the provision of a refuge island on the Smith Street approach to the Smith Road / Station Road intersection. A refuge island on this approach will facilitate east-west pedestrian movements along Station Road and assist in managing speeds of turning vehicles.

4.39 In additional I consider that an additional crossing facility is required between Sheffield Street and Smith Street to facilitate access to/from the development. This is required to facilitate safe pedestrian access to the schools on Smith Street and the northern side of Station Road.

4.40 I recommend that the conditions of consent require the pedestrian improvements described above.

4.41 As discussed elsewhere, I recommend that the developer be required to construct additional footpaths and kerb cutdowns on Jellicoe Road and Hampton Tce to address the existing deficiencies on roads where the traffic volumes are expected to have increase significant increases which lead to an increase likelihood of a crash for existing road users.

On-street Parking, Residential Area

4.42 In my Initial Transportation Review (Section 6.4) I recommended a condition of consent requiring 0.3 on-street parking spaces per dwelling, in the residential area. The Applicant does not support this requirement, stating that it is difficult to implement as the provision is directly related to the amount of available roadside space, which is currently not known. In my experience medium density development can provide 0.3 on-street parking spaces per dwelling although careful attention to the location and layout of vehicle crossings, berm planting and stormwater infrastructure is required to maximise on-street parking.

4.43 I expect that the final number of parking spaces provided will be less than what is illustrated on the engineering plans, due to the placement of

driveways, rain gardens, and no-stopping lines required to maintain two-way traffic flow at intersections and curves.

4.44 Without a defined minimum provision, there is a risk that the development will not accommodate typical visitor and overflow parking demand, leading to illegal parking, obstruction of footpaths, and damage to berms or landscaping.

4.45 Options to address the risk of adverse effects arising from a lack of on-street parking include:

(a) Retaining the suggested requirement for 0.3 spaces per dwelling (my preference) and adjusting the detailed design to ensure sufficient spaces.

(b) Accepting the risk of undesirable parking behaviour.

(c) Review and optimisation as part of engineering plan approval.

Commercial Node

4.46 My preference is that the development include the commercial node so as to help meet the day-to-day needs of residents through walking and cycling trips, rather than driving to other locations within Matamata. Without the commercial node, people are required to drive to the Matamata town centre for all retail/commercial trips, rather than undertake short trips by walking and cycling to this node.

4.47 As discussed in my Initial Transportation Assessment (Section 7.1.1), I recommend that the Road 1/ Road 10 and Road 10/ Road 14 intersections be designed and constructed as roundabouts to facilitate vehicle access to the commercial node from Road 14.

4.48 I recommend that the conditions of consent require a Parking Management Plan (PMP) be prepared and implemented for the commercial node. The PMP should address the following concerns:

(a) Allocating specific spaces for childcare centre use at peak pick-up / drop-off times (spaces closest to the childcare centre).

(b) Using time limits on parking to discourage longer-term parking near the childcare centre.

(c) Dedicated staff parking away from the childcare centre, leaving the closest spaces available for parents.

(d) Requiring rubbish collection to take place outside of peak hours to reduce the risk of heavy vehicles manoeuvring at the same time as children.

(e) Clearly delineated pedestrian paths and signage to emphasise user priority and reduce the risk of pedestrians crossing in other locations.

(f) Clear signage that warns drivers of the presence of children.

(g) Traffic calming to maintain a low speed environment.

(h) Maintaining good visibility at the vehicle crossing and within the carpark by keeping any planting low (<1.1m height).

Retirement Village

4.49 The retirement village is likely to be developed in stages as a stand-alone project. The Applicant has indicated that roads within the retirement village will be private roads, with gates restricting vehicular access at both ends of the main road. I understand that non-vehicular public access arrangements (i.e. walking, and cycling) are still being determined.

4.50 In my view operation of the gated accesses should ensure that private roads and gates do not compromise emergency access, service delivery, safety, or circulation, and that responsibilities for maintenance and operation are clearly defined.

4.51 In my opinion, the design and operation of the proposed private roads and the gates must:

(a) Ensure unrestricted emergency access, with override options.

(b) Confirm how retirement village residents will get through the gates in their vehicles (e.g. PIN, swipe card, number plate recognition). This is important for access to the commercial node.

(c) Ensure that all gates and all associated infrastructure are located within the boundary of the retirement village.

(d) Provide for safe access and manoeuvring for refuse collection, deliveries, and service vehicles.

(e) Consider pedestrian and vehicle safety, including clear sightlines and low-speed operation.

(f) Ensure that the ongoing maintenance of roads, gates, drainage, signage, and line marking remain the responsibility of the retirement village.

4.52 The Applicant has indicated that refuse collection is likely to be a private arrangement. I recommend a consent condition requiring a Refuse Management Plan be included, to ensure that collection is done safely, efficiently, and with minimal impact on residents and the surrounding area.

4.53 In general transport matters relating to the Retirement Village can be addressed at detailed design stage and conditions of consent.

Solar Farms

4.54 I agree that operation of the solar farms is likely to generate minimal traffic. I consider that the construction phase could result in significant vehicle movements, which could adversely affect the surrounding transport network.

4.55 I agree that the effects for the northern solar farm can be managed through a Construction Management Plan as this site has direct vehicle access to Station Road.

4.56 I am concerned about the potential for safety and efficiency effects arising from construction traffic (both heavy vehicles and staff trips) from the Southern Solar Farm using Peakedale Road for access.

4.57 Commute has provided an assessment of the construction traffic [13], concluding that:

(a) No more than 32 trips / day are anticipated. If, as expected, the solar farms are not constructed simultaneously then eight trucks per day are expected (16 trips), over a period of around 12 months.

(b) Effects can be addressed through a Construction Management Plan.

[13] Ashbourne: Response to Transport Matters, 21 October 2025.

(c) Vehicle access to the Northern Solar Farm will be direct to Station Road.

(d) Vehicle access to the Southern Solar Farm will be from the existing road network (Peakedale Road) and new roads as delivered as part of the staged residential development. The Applicant does not support my recommendation to utilise Easement C, and states that the Greenway is programmed to be delivered prior to the Southern Solar Farm, and access over the greenway will be difficult.

4.58 Although not considered in Commute's assessment, construction is also likely to generate light vehicle trips. Contractors will access the site to install panels, inverters, wiring, fencing etc, and site supervisors, engineers and visitors are also likely to travel by car. These trips would be in addition to the heavy vehicle trips considered by Commute, however, they would be similar in nature to the existing residential traffic on affected streets and less likely to result in adverse transport impacts.

4.59 I am concerned that Commute's assessment has under-estimate the number of vehicle movements that will occur during construction of the Southern Solar Farm. I consider that construction of the Southern Solar Farm, may result in adverse impacts for residents of the affected streets. Heavy vehicles navigating residential streets may result in issues such as tracking (trucks may hit kerbs or infrastructure due to tight turning spaces, cross the centreline and increase the likelihood of crashes), pedestrian / cyclist safety (trucks may limit visibility), noise and vibration (risking pavement damage), congestion (trucks may struggle to pass parked vehicles on narrower streets).

4.60 Depending on the route taken by construction traffic, the proposed commercial node may be affected. Routing heavy vehicles past a commercial node with shops and a childcare centre increases safety risks due to higher pedestrian activity, narrow carriageways, and the presence of on-street parking.

4.61 Although the pavement on the newly constructed residential streets may be able to accommodate heavy vehicles, the existing local road may not be suitable and pavement damage may be incurred from the additional loading.

4.62 In summary, I recommend that the condition requiring a Construction Management Plan (CMP) is expanded to cover the following matters:

(a) Construction traffic uses designated and approved routes to minimise impacts on local roads. The routes need to be checked to ensure that there are no potential issues related to heavy vehicle tracking, parking, pedestrian and cycle safety.

(b) Requiring that construction traffic use Easement C to access the Southern Solar Farm during its construction. This will avoid adverse effects on the existing residential streets.

(c) Requiring construction traffic for the Southern Solar Farm to use the potential connection to Firth Street (south of Haig Road) instead of Easement C should it be completed when the Southern Solar Farm is being constructed. This will limit the number of residential streets affected.

(d) All proposed pedestrian upgrades (e.g. footpaths) be completed. This will reduce the risk of conflict.

(e) Construction hours are restricted to avoiding peak pedestrian periods (e.g. 8-9am and 2.45-3.30pm Monday to Friday).

(f) Low speeds are enforced, and idling / parking on local streets by construction traffic is prohibited.

(g) Pre- and post-construction road condition surveys are carried out in conjunction with MPDC, with the consent holder responsible for repairing any damage.

(h) No dust, mud or debris is to be tracked outside the site boundary. This may require a wheel washing facility.

(i) Residents along affected routes should be notified and provided with a contact point for concerns and complaints.

5. DESIGN MATTERS NOT YET ADDRESSED

5.1 My Initial Transport Assessment (Section 9.2) raised a number of concerns with the Engineering Drawings provided with the Substantive Application. To date, I have not received any updated Engineering Drawings.

5.2 While some of these concerns can be managed through conditions of consent and engineering plan approval, some concerns are likely to impact on the current subdivision boundaries including:

(a) Removal of the left-turn deceleration lane at the Retirement village access to Station Road.

(b) Road 1/ Station Road intersection

(c) Roundabout and pedestrian improvements within the residential subdivision including

(i) Provide roundabouts and pedestrian facilities at these intersections:

(A) Road 1/ Road 13/ Peakedale Drive

(B) Road 1/ Road 10 (to access the commercial node and address insufficient sight distance)

(C) Road 10/ Road 14 (to access the commercial node)

(D) Road 1/ Road 3

(E) Road 1/ Road 2 (south) or alternatively realign the western portion of Road 2 to avoid a crossroads intersection).

(F) Road 1/ Road 9

(ii) Provide pedestrian crossing facilities (e.g. kerb build-outs and/or refuge islands) along Road 1 to safely provide for pedestrian movements, for example, at the Road 1/ Road 10 and Road 1/ Road 7 intersections adjacent to the commercial node.

5.3 If these matters are not addressed in updated Engineering Drawings, additional conditions of consent should be included to ensure that they are dealt with during the detailed design and engineering plan approval processes.

6. CONCLUSION

6.1 As proposed, the development will significantly increase traffic on nearby low-volume local streets (<500 veh/day), potentially affecting safety and efficiency. While the overall internal development layout is generally suitable, I am concerned that the proposed development staging and mitigation does not adequately address the wider transportation impacts of the proposal.

6.2 The proposal relies on there being adequate capacity in the surrounding transport network. I am concerned that the proposed traffic volumes identified above will create safety and efficiency effects on the existing transport network as parts of the network have not been constructed to provide for the expected level of traffic.

6.3 My main concern arises as the development relies on a single point of vehicle access to an existing residential neighbourhood to serve 400 lots or almost 80% of total residential development is complete. This has the potential to generate 340 peak hour trips. The increase in traffic on currently low-volume local roads may lead to higher vehicle speeds, rat-running, an increased risk of conflicts, and reduced residential amenity for nearby residents.

6.4 In my view changes to the development staging and infrastructure thresholds and additional physical works are required to the external transport network to mitigate potential adverse transport impacts. I prefer an approach, where infrastructure staging is identified, but periodic transport assessments are also required. This would confirm whether the proposed staging remains appropriate, accounts for any changes in the transport environment, and identifies any additional transport needs. For example, an ITA may identify that some of the pedestrian and traffic calming improvements are not needed if a connection to Firth St is provided early in the development staging and development related traffic used that route instead of the existing network.

6.5 My recommended approach to staging of the residential development is shown in the following table.

Table 4 Recommended Development Staging and Required Infrastructure

Development Stage	Required Infrastructure to enable this stage	ITA Required?
Stage 1 (68 lots)	• Continuous footpath network to Station Road (via Jellicoe Rd).	No
Stage 2 (145 lots)	As for Stage 1.	No

Development Stage	Required Infrastructure to enable this stage	ITA Required?
Stage 3 (217 lots)	As for Stage 2 plus: • All construction traffic to travel via a temporary access route from Station Road or construction of a new road connection to Firth St. • Mitigation within the existing residential areas as identified in the ITA.	Yes
Stage 4 (277 lots plus commercial development)	As for Stage 3 plus: • Construction of Road 1 to Station Road including right-turn bay on Station Road or construction of a new road connection to Firth St. • Urbanisation of Station Road (southern side eastwards from the Road 1 intersection). • Construction of a 3m wide sealed shared path on Station Road. • Pedestrian refuge island on Smith Street at the Smith Street/ Station Road intersection. • Pedestrian refuge island on Station Road (located between Sheffield and Smith Streets). • Mitigation within the existing residential areas as identified in the ITA.	Yes
Stage 5 (337 lots)	As for Stage 4.	Yes
Stage 6 (389 lots)	As for Stage 5.	No
Stage 7 (451 lots)	As for Stage 6.	No
Stage 8 (518 lots)	As for Stage 7 plus: • Construction of Road 1 to Station Road including right-turn bay on Station Road (if not completed as part of an earlier stage).	No

6.6 While some detailed design matters raised in my Initial Transportation Review (Section 9.2) can be managed through conditions of consent and engineering plan approval, there are matters that will impact on the current subdivision boundaries and should be addressed now through updated Engineering Drawings.

6.7 I have recommended changes to the proposed development staging and required infrastructure in this evidence and highlighted areas where the conditions of consent could be improved.

Alastair James Black

11 November 2025

APPENDIX 1

QUALIFICATIONS AND EXPERIENCE

6.8 I hold a Bachelor of Engineering degree (Civil, 2002) from the University of Canterbury.

6.9 I have over 20 years' experience working in the area of transportation engineering. I have provided transport advice to Hamilton City Council, Waipa District Council, Matamata Piako District Council, Waikato District Council, Rotorua Lakes Council and other local authorities. I have also provided advice to NZ Transport Agency Waka Kotahi ("NZTA") and developers on a range of transport related projects, including residential subdivision developments.

6.10 I am a Chartered Member of Engineering New Zealand (CMEngNZ) and a Chartered Professional Engineer (CPEng).

6.11 My experience includes:

(a) Consultant civil / transportation engineer for Road Controlling Authorities assisting in the review of consent applications ranging from quarries, industrial, intensive farming, commercial, childcare and residential developments within the wider Waikato and Bay of Plenty Regions.

(b) Consultant civil / transportation engineer for developers, landowners and local authorities preparing traffic impact assessments for development proposals including quarries, intensive farming, rest homes, museums, childcares, schools, solar farms, commercial and residential developments.

(c) I have completed the NZTA Road Safety Engineering Workshop and have led safety audits on urban and rural improvement projects and development proposals affecting local roads and state highways.

APPENDIX 2 - INITIAL TRANSPORTATION REVIEW (2 SEPTEMBER 2025)

2 September 2025

Gray Matter
2 Alfred Street Hamilton 3214
97 Duke Street Cambridge 3434
Tel: 07 853 8997

Matamata Piako District Council
c/- Resource Management Consultancy Ltd
PO Box 272-1374
Papakura, 2244
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Via email: roadhouse@outlook.co.nz

Dear Marius

ASHBOURNE DEVELOPMENT: INITIAL TRANSPORTATION REVIEW - UPDATE

1. INTRODUCTION

1.1. Purpose

As requested, we have reviewed the transportation aspects of the proposed Ashbourne development in Matamata. This letter includes our initial comments.

We have based our review on the following documents:

- Appendix 1P Integrated Transport Assessment, 9 July 2025, Commute
- Appendix 2A – Scheme Plan
- Appendix 2D – Proposed Conditions of Consent, Ashbourne Day 0 Superlot Subdivision Fast Track Approvals Substantive Application, 15 July 2025, B&A Urban & Environmental
- Appendix 3L – Proposed Conditions of Consent, Ashbourne Solar Farms Fast Track Approvals Substantive Application, 15 July 2025, B&A Urban & Environmental
- Appendix 4D – Engineering Drawings – C3000 Roading
- Appendix 4L – Proposed Conditions of Consent, Ashbourne Retirement Village Fast Track Approvals Substantive Application, 15 July 2025, B&A Urban & Environmental
- Appendix 5F – Engineering Drawings – C300 Roading
- Appendix 5F – Engineering Drawings – C320 Long-sections
- Appendix 5F – Engineering Drawings – C340 Typical road cross sections
- Appendix 5O – Proposed Conditions of Consent, Ashbourne Residential and Greenway Fast Track Approvals Substantive Application, 15 July 2025, B&A Urban & Environmental

1.2. Initial Conclusions

Peakedale Drive, Jellicoe Road, Archford St and Hampton Tce all carry less than 500veh/day and the development traffic represents a significant increase that will potentially have cumulative impacts on the safe and efficient operation of these roads. We are concerned that the ITA has not adequately considered the impact of traffic accessing the existing network prior to construction of the new access to Station Road. More information is required.

In general, the proposed residential subdivision layout appears appropriate although we are concerned about the lack of connectivity with the retirement village, Lot 2 and along the southern boundary of the site. The design needs to be updated to review vehicle tracking and safety of some intersections, especially where crossroads intersections are proposed. We have also recommended changes to the subdivision layout and intersection forms to improve safety and access. These design changes are likely to require alteration of the road reserve boundaries and should be completed now.

A more detailed review of the proposed conditions is necessary to ensure that they address the matters we have identified.

2. PROPOSAL SUMMARY

The proposal is for a mixed use development, comprising:

- 218 retirement units to be developed in stages from the north to south, depending on demand.
- 520 residential lots to be developed in stages beginning near the south-eastern part of the site.
- Two solar farms with the northern solar farm to be constructed first.
- Commercial node – childcare, café, dairy, retail
- Three access points to road network
  - Peakedale Dr (Stage 1 connects to the existing road)
  - Station Rd adjacent to the existing right-of-way (Stage 8)
  - Station Rd – new, dedicated for access to retirement village
- The retirement village will include a second access to Road 7 within the residential development

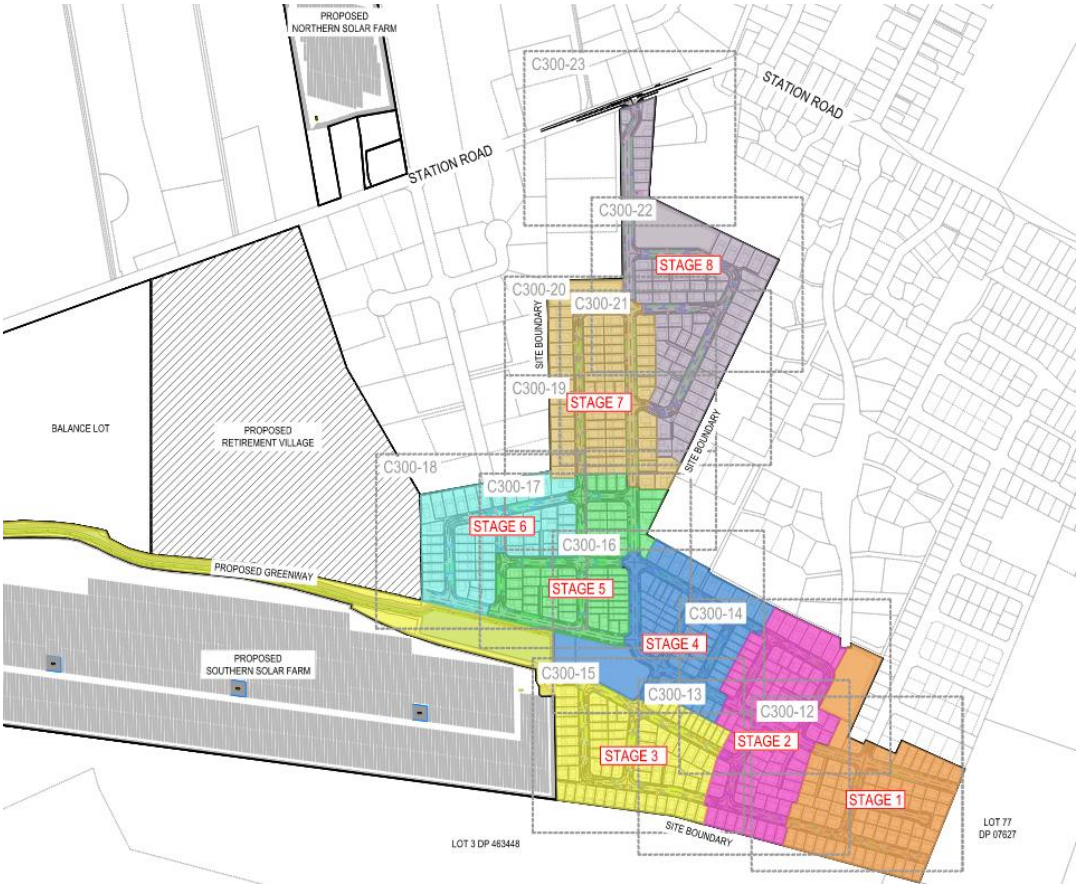


Figure 1 Proposed layout and staging

3. GENERAL COMMENTS

3.1. Background Assumptions

We agree with the growth assumptions in the ITA for background traffic. The ITA does not identify any committed environmental changes that could impact traffic near the site. While we are not currently aware of any such changes, this should be confirmed to ensure the modelling is based on accurate forecast volumes.

3.2. Trip Generation

Peak hour trip generation for the site when fully developed is expected to be 567 trips.

The ITA estimates trip generation based on the RTA guide, and applies a percentage reduction based on internal capture, to generate the number of trips, new to the transport network outside of the site boundary. The reductions to account for internal capture are:

- 20% for the café/restaurant, convenience store and retail. This is reasonable given that the commercial node will mostly service the surrounding residents.
- 80% for the childcare, assuming that it will service the site and surrounding suburbs and that some people will walk or cycle. 80% appears to be a high value, given that:
  - Around 6.3% of the population are under 5 years old.[1]
  - 62% of the projected population of 0-4 year olds were participating in a licensed early learning service[2].
  - For 520 households at an average household size of 2.7 people, this equates to around 56 children in the development area that will participate in early childhood education, or roughly half of the childcare centre capacity (100 children). This suggests that the other half may travel in from outside the site area.
  - Childcare is generally used by working parents. Only about 5% of people in the district walk or cycle to work.

Table 1 Childcare trip generation

Reduction to allow for internal capture	Peak trips, based on 0.8 trips / child
0%	80 trips
80%	16 trips
50%	40 trips

This suggests that the childcare centre trip generation may be slightly underestimated. While the difference is not significant in the context of the overall traffic generation for the site, it could mean higher-than-anticipated traffic volumes within the site and around the commercial area.

3.3. Trip Distribution

3.3.1. Directional Split

The assumptions in the ITA regarding peak directional split appear appropriate (75:25 for residential, 60:40 for retirement village).

3.3.2. Retirement Village

Retirement village traffic is expected to travel to Matamata centre via Station Road and Smith Street. Given that the retirement village is to be developed starting from the north, this is reasonable. Some traffic may use Peakedale Drive when:

- The retirement village is fully developed,
- During school peak times when Smith Street may be more congested.

Given that retirement village trip generation is low at 55 trips / hour, splitting this between routes and directions means a significant impact is not likely.

3.3.3. Residential area

According to the ITA, residential traffic is expected to travel via Peakedale Drive and Firth Street. The ITA also states that this is a conservative estimate as some traffic may eventually travel via Smith Street. We agree this is the case for the Jellicoe / Firth intersection, however, are concerned that there may be impacts on the Station Road / Smith Street intersection especially once the subdivision connects to Station Road via Chestnut Lane.

Given the small difference in travel time from Peakedale Drive and Matamata town centre between the two routes, there is a risk that traffic will use Smith Street to avoid delays on SH27 and at the SH27/ Broadway/ Peria Road roundabout. This is particularly relevant when the new access to Station Road is available, as it will require less travel time than Firth Street.

[1] https://figure.nz/chart/K2QbU15xqJV0nkCK
[2] https://www.educationcounts.govt.nz/statistics/participation

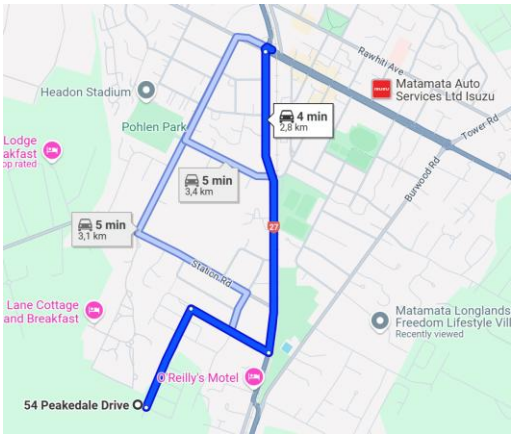


Figure 2 Travel routes and times from Peakedale Drive to Matamata

In addition, the presence of schools along Smith Street means that it may be more attractive for traffic that includes school children, being dropped off and picked up, though that generally falls outside of peak times (7-9am and 5-6pm). However, it will increase trips along Smith Street when there is a high number of vulnerable pedestrians using Smith Street.

The trip assignment diagrams provided with the ITA did not include Smith Street. We recommend that the intersection of Station Road and Smith Street be evaluated for a potential increase in traffic, given the small difference in travel time between the two routes to Matamata. The evaluation should include sensitivity testing and should consider the potential increase in traffic and intersection performance.

There is the potential that additional mitigation will be required including:

- Crossing facilities so that residents can safely cross Station Road.
- Refuge island(s) at the Station Road/ Smith Street intersection.
- Additional turning lanes to address delays from the increase in traffic.
- Implementation of no-stopping lines to address inappropriate parking near the intersection

3.4. Impacts on Existing Roads

Peak hour trip generation for the site when fully developed is expected to be 567 trips. Given that the second access to Station Road is only provided as part of Stage 8 (the last stage) there is likely to be a significant period where the majority of these trips can only access the existing transport network via Peakedale Drive, Jellicoe Road, Archford St and Hampton Tce to access Station Road and SH27.

Peakedale Drive, Jellicoe Road, Archford St and Hampton Tce all carry less than 500veh/day and the development traffic represents a significant increase that will potentially have cumulative impacts on the safe and efficient operation of these roads.

The ITA states that "*The proposal does not connect directly to Hampton Terrace. As such, the effects of the proposal on Hampton Terrace are considered minimal.*" Although the site does not directly connect with Hampton Terrace, some traffic may use Archford St and Hampton Tce as an alternative route.

The table below outlines the existing and expected increase in traffic on key roads:

Table 2 Impact on traffic volumes

Road	Approx current peak volume	Source[3]	Additional due to development	Total future	% increase
Peakedale Drive	18	Estimate based on current development (from aerial & streetview)	513	531	2,850%
Jellicoe Road	93	AM counts from ITA	513	606	552%
Station Road	376	AM counts from ITA	143	519	38%
Firth Street	717	PM counts from ITA	513	1,230	72%

Smith Street is not included in the ITA trip assignment calculations. As a sensitivity check, the following table shows the increase in traffic assuming that all retirement village traffic (55 veh / hour) and a percentage of the residential / commercial traffic uses the Smith Street route:

Table 3 Potential increase in traffic volumes on Smith Street

Additional traffic	% of residential / commercial	Current ADT	Peak volume (10%)	Additional due to development	Total future	% increase
Retirement village (RV) traffic only	0%	2,000	200	55	255	28%
RV plus residential / commercial: = 55 trips (retirement village) = %age of 567 peak trips	10%	2,000	200	112	312	56%
	20%	2,000	200	168	368	84%
	30%	2,000	200	225	425	113%

The data shows that the proposed development will lead to a large increase in traffic on several roads, beyond typical growth rates. While the ITA focuses on key intersections which are expected to perform at acceptable levels, there is a need to look at the wider impacts on the affected residential streets. Examples include higher speeds (through traffic may travel faster), increased conflict risk, rat-running or reduced safety and amenity for residents.

We recommend that conditions of consent or PDA require that prior to commencing construction for each stage of the residential development, an updated transport assessment is completed to determine whether additional mitigation is required to be implemented to address effects on the existing network with a focus on the following routes and intersections:

- SH27/ Station Road
- SH27/ Jellicoe Road
- Station Road/ Hampton Tce
- Jellicoe Road/ Hampton Tce
- Archford St/ Hampton Tce
- Archford St/ Peakedale Drive
- Station Road/ Smith Street
- Smith St corridor
- Station Road corridor
- Hampton Tce corridor
- Jellicoe Road corridor
- Archford St corridor

Mitigation could include minor work such as road widening and kerbline adjustments (to provide for higher volumes of traffic on narrow low volume local roads), temporary traffic management (to address the effects of construction traffic), no-stopping restrictions (temporary or permanent), new or improved pedestrian crossing facilities, traffic

[3] Land currently underdevelopment on Peakedale Drive would increase these baseline peak volumes

calming to manage speeds or assist in emphasising route/intersection priorities. If the effects are significant, it may be necessary to construct Stage 8 and provide the new vehicle access to Station Road earlier than planned.

The ITA has not considered the effect of additional traffic on the existing local transport network and whether pavement strengthening is necessary. This is especially important where construction traffic will use the existing local network (e.g. Peakedale Road, Jellicoe Rd, Hampton Tce, etc.)

3.5. External Connections for Alternative Modes

We support the proposed shared path, and the pedestrian connections from the development to Highgrove Avenue, Eldonwood Drive and the Greenway.

We understand that current easements held by MPDC for access over private roads within Eldonwood are restrictive. They currently only allow public access from Station Road, during limited hours. We understand that MPDC has previously received legal advice on this matter. In principle we support the proposed connections to improve connectivity between the two developments and encourage short trips (e.g. to/from the commercial node or greenway) to be by walking and cycling rather than private vehicle. The ability for public access to and through Eldonwood needs to be clarified, and the impact on the proposal assessed.

There are schools on both Station Road and Smith Street. Given that both the pedestrian and traffic volumes are expected to increase, we recommend that crossing provisions are reviewed. This can be addressed as a condition of consent or through a PDA. Suggested wording:

- *Prior to the completion of Stage 4, the consent holder shall commission a qualified traffic engineer to review pedestrian crossing facilities on Station Road and Smith Street, taking into account the expected increase in traffic volumes and pedestrian desire lines. The consent holder shall implement any improvements recommended as a result of the review following approval by MPDC.*

To provide access to the retirement village by alternative modes (i.e. walking, cycling and mobility scooters) a continuous 3m wide shared path should be provided along the southern side of Station Road from the retirement village to the Station Road/ Smith Street intersection. This should be required as a condition of consent or through a PDA.

3.6. Speed Limits

The figure below shows the current speed limits, described in the ITA. The 80/100 boundary is at the approximate location of the proposed vehicle crossing that will provide access to the retirement village.

Figure 3 Current speed limits

Based on the expected traffic environment a speed limit of 60km/h may be more appropriate for this stretch of road, extended to the west so that the retirement village access is located in the lower speed environment.

We recommend that MPDC include this area of Station Road in the next speed limit review, and preferably prior to construction of the retirement village access or the new residential access to Station Road. We understand a speed limit review typically occurs every three years.

4. SUPERLOT SUBDIVISION

4.1. Easements and Vehicle Access

The scheme plan includes a balance lot (Lot 2) and several easements. Not all of the potential vehicle accesses have been identified and assessed.

Access arrangements to Lot 2 are not identified in the ITA, and need to be clarified. Easement C provides for a right-of-way access over Lot 2 to Lot 3, but this vehicle access has not been identified in the ITA. Further information is required to confirm the location and standard of the vehicle access to Lot 2 and Easement C serving Lot 3.

The subdivision creates Easement E (wastewater disposal field for the retirement village) and it's unclear whether this activity requires a vehicle crossing to Station Road, or whether vehicle access is via the retirement village. Further information is required to confirm the nature and location of any vehicle access to Easement E. If a vehicle crossing is proposed, an assessment confirming the location and standard of the vehicle access is required.

The road network within the retirement village provides a physical connection to the public road network (Road 7) within Lot 4, but no easement is identified on the superlot scheme plan (Appendix 2A) which would allow public access through Lot 1 (retirement village). This is discussed further at Section 5.5 below.

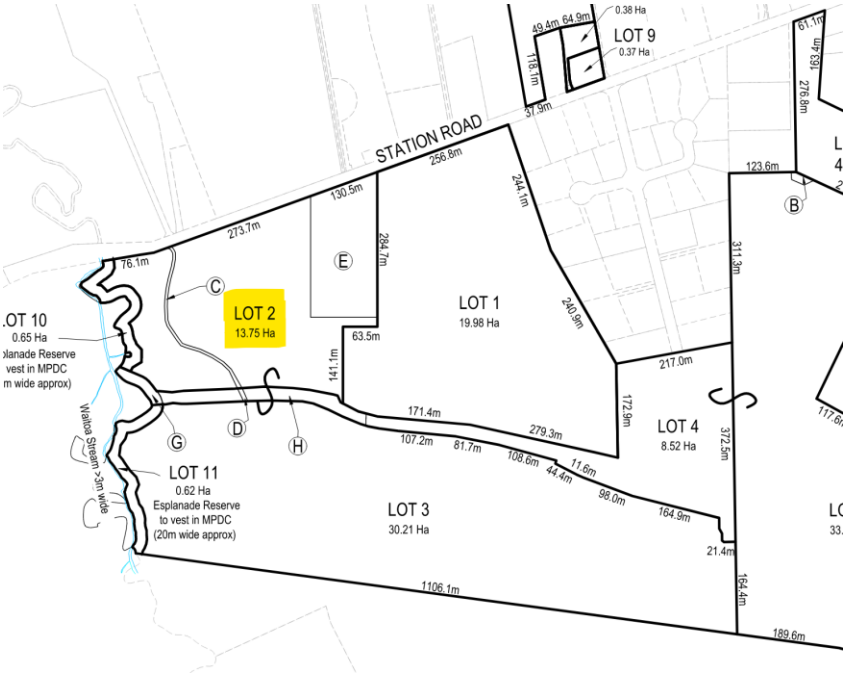


Figure 4 Superlot Subdivision Layout

4.2. Proposed Conditions

We have not yet reviewed the conditions at Appendix 2D (Superlot Subdivision) in detail. Our initial comments on the subdivision conditions are that:

- Condition 6 does specify a minimum time frame prior to construction commencing that the plans need to be submitted for certification.
- Conditions are required specifying the form and location of vehicle access to both Lot 2 and Easement C.
- A new condition may be required specifying the form and location of vehicle access to Easement E.
- Conditions requiring design and post-construction Safe System Audits should be included.

5. RETIREMENT VILLAGE

5.1. Layout

The ITA notes that some of the intersections within the retirement village do not meet the spacing requirements of the MPDCDM. We agree that this is acceptable, given the low-speed environment (<30 km/h), familiarity drivers are likely to have with the area, and low traffic volumes.

Vehicle tracking included in the ITA indicates that manoeuvring is tight in certain locations and appropriate clearances are not achieved. For example, tracking near the Road 1/Road 9 roundabout indicates that the large truck tracks over the islands. The tracking also shows that the large truck requires the entire carriageway to manoeuvre around the curve on Road 7.

Figure 5 Vehicle tracking within the retirement village – trucks use whole of the carriageway width to turn at intersections

We recommend that the retirement village layout road design is updated to address the following comments prior to engineering plan approval:

- Vehicle tracking is updated to ensure that sufficient clearance is achieved as follows:
  - Minimum 1m between opposing vehicles is required; and
  - Minium 0.5m clearance between vehicles and kerb/signs.
- Vehicle tracking for the RV carpark indicates that multiple manoeuvres are required to enter the RV parking spaces. It is unclear how many manoeuvres are required to exit. This can be resolved by widening the aisle with the RV carpark.
- Crossing Sight Distance (CSD) at the zebra crossing on Road 9 is likely to be blocked by vehicles parked in the Hospital car park. We recommend that the layout is updated to ensure that CSD at the zebra crossing on Road 9 can be achieved.
- A 1.5m wide footpath is provided on one side of Road 1 within the retirement village. While this provides sufficient width for a wheelchair and able-bodied pedestrian to pass, there is insufficient space for two wheelchairs or mobility scooters to pass. We recommend that a 3m wide shared path is provided.
- The roading plans do not show Tactile Ground Surface Indicators at pedestrian crossing locations. We recommend that these are provided at all pedestrian crossing locations.
- The roundabouts include central islands with 3m radius. We are concerned that the central islands may not be big enough to effectively manage vehicle speeds through the roundabouts. The vehicle tracking demonstrates that there is space available to increase the central island radius to better manage speeds at the roundabouts.
- The long sections include small vertical curves. MPDC Development Manual requires *where the design speed is ≤ 50 km/h, vertical curves shall have a minimum length of 20 m, except where the grade change is ≤ 1% where the minimum vertical curve length is 10m.* We recommend that the long sections are updated to comply with MPDC requirements.

- The cross sections (Section C,D and E) show a dish channel. It is unclear whether the dish channel will be accessible for elderly pedestrians or those using mobility devices.

5.2. Intersection with Station Road

The retirement village access to Station Road includes a right turn bay and a left-turn deceleration lane.

We support the right-turn bay. However, left-turn deceleration lanes can result in crashes resulting from dynamic visual obstruction[4]. We recommend that, in combination with a reduced speed limit of 60km/h (maximum), the left-turn deceleration lane be removed.

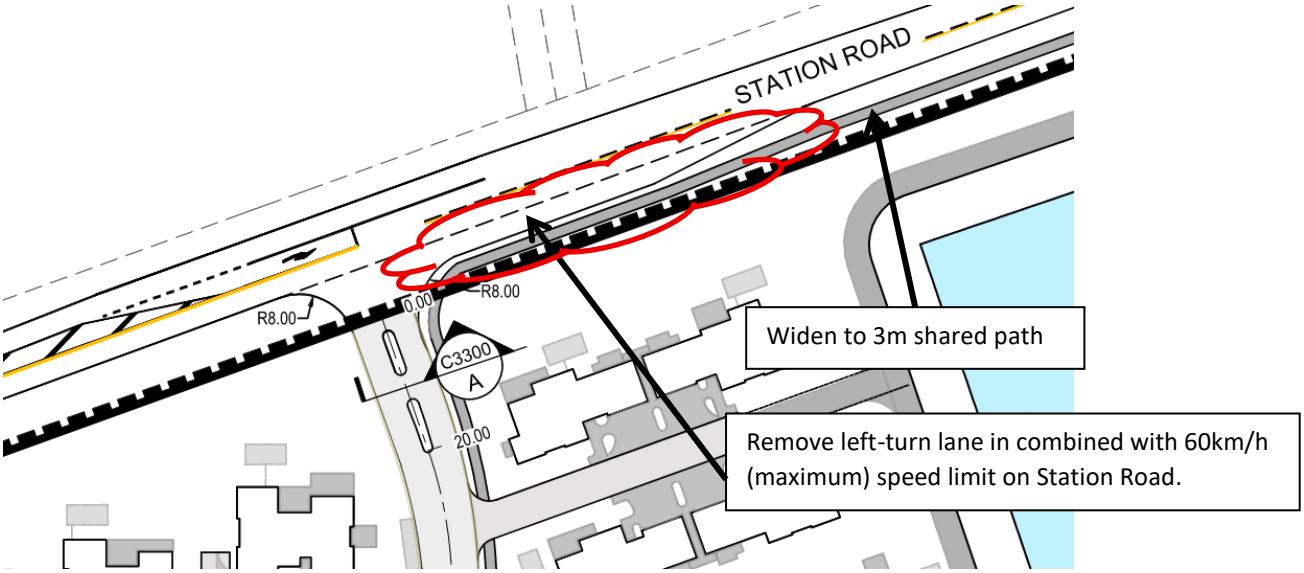


Figure 6 Retirement village access to Station Road

5.3. Parking

Retirement villa parking is appropriate, at two per villa plus other available site parking. The layout includes 41 spaces for the aged care hospital, a shortfall of three spaces compared to district plan requirements. We agree that this is acceptable given that there is additional parking available nearby and a drop-off facility.

5.4. Refuse Collection

It's unclear if public refuse collection will be carried out in the retirement village, or if this will be managed by the retirement village operator. This raises questions around access, insurance liability/ indemnity, potential need for easements, road maintenance responsibilities, and whether public service vehicles can legally and safely operate on private roads. These matters will need to be clarified and resolved in consultation with Council to ensure clear responsibilities and ongoing service provision.

5.5. Public vs Private Roads

The retirement village is proposed as private roads, but it connects to the public road network within the residential subdivision at Road 7. There is a potential for trips to/from the residential subdivision to use the retirement village for access, especially if the retirement village is complete but the new residential connection to Station Road has not been formed.

It is unclear whether the public will be permitted to drive, walk or cycle through the retirement village and what the impacts of public traffic may be. The degree of public access through the retirement village should be clarified by the Applicant.

[4] https://safesystemsolutions.com.au/safe-system-snippet-219-dynamic-visual-obstruction/

If public access is not provided through the retirement village (i.e. the Road 7 connection is gated), clarify the consequences in terms of connectivity and walkability for residents of both the retirement village and the residential subdivision.

5.6. Wastewater Easement (Easement C)

As discussed above, the subdivision creates Easement E (wastewater disposal field for the retirement village) and it's unclear whether this activity requires a vehicle crossing to Station Road, or whether vehicle access is via the retirement village. Further information is required to confirm the nature and location of any vehicle access to Easement E. If a vehicle crossing is proposed, an assessment confirming the location and standard of the vehicle access is required.

5.7. Proposed Conditions

We have not yet reviewed the conditions at Appendix 4L (Retirement Village) in detail. Our initial comments are that:

- There does not appear to be a requirement for Council certification of engineering plans. As a minimum this will be required for the new intersection to Station Road and where the retirement village road network connects to Road 7. Condition 41 requires that plans be submitted for engineering plan approval (EPA), but it lacks the requirement for Council certification of the plans.
- Condition 28 should require that the management plans are provided to Council 20 working days prior to commencing construction.
- A condition requiring a Corridor Access Request (CAR) for works in the public road corridor should be included.
- Additional conditions are required to require further assessment and/or change to the design discussed above.
- Additional conditions may be required relating to vehicle access to Easement E (wastewater disposal field for the retirement village).
- Conditions may be required to address insurance/ indemnity for public use of the private roads within the retirement village.
- Conditions requiring design and post-construction Safe System Audits should be included.

6. RESIDENTIAL DEVELOPMENT

6.1. Layout

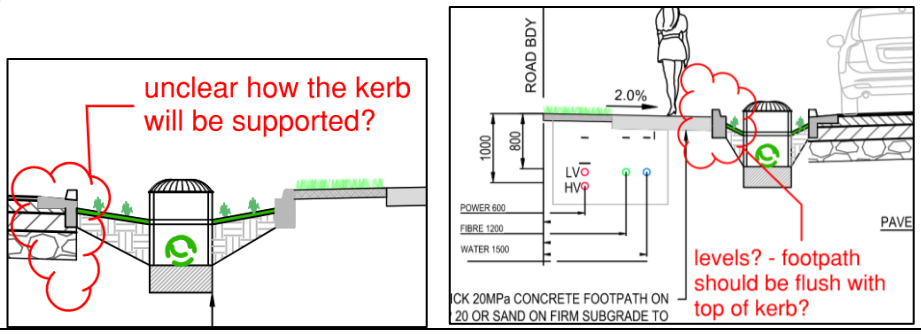
The ITA identifies some areas within the residential development that do not meet the standards required in the district plan.

6.1.1. Cross-Sections

The proposal includes a 20m road reserve width for collector roads and 18m road reserve width for local roads, where 20m is required. We generally agree with the ITA that the required facilities can be provided within an 18m road reserve width (footpaths, parking etc), although some minor changes have been identified.

Table 4 Cross section comments

Road Type	Comments
20m cross section	- Lane, footpath and parking widths are acceptable. - Narrow back berms could result in maintenance issues. Suggest removal of 0.3m berm adjacent to the shared path and widen path to 2.8m. This reduces future maintenance issues and creates a wider shared path. Potential for visibility splay issues where path is located up against the boundary. - Services will be located underneath the footpath. This service arrangement has been accepted elsewhere in the district.
18m cross section	- Lane, footpath and parking widths are acceptable. - Narrow back berm width due to reduced road reserve width. However, the berms still comply with minimum grass berm widths in RITS Section 3.3.6 (0.6m in urban areas). - Services will be located underneath the footpath. This service arrangement has been accepted elsewhere in the district.

Road Type	Comments
JOAL 4m	= Complies with minimum MPDC reserve and carriageway width requirements for private access service 2-3 lots.
JOAL 6m	= Complies with minimum MPDC reserve and carriageway width requirements for private access serving 4-6 lots
JOAL 8m	= Does not comply with MPDC standards. There is no specification for private access serving 7 or more lots. MPDC Development Manual requires a local road cross section for an access serving 7 lots or more. In our view the 6m carriageway width is sufficient for two-way movement, and a local road is not required. = Provides access to 8 lots (Lots 70-73,77-80). The carriageway width is sufficient for two-way movement. The vehicle crossing is shown as 3m wide which does not allow for two-way movement but is supported as it promotes slow speed and reduces the time that pedestrians are exposed to manoeuvring vehicles.
General comments	= Kerbs may not be properly supported at rain garden edges. Further refinement of the detailed design is required prior to engineering plan approval. = Kerb and footpath tie in levels at rain garden edges vary e.g. in some locations the top of kerb is not shown flush with the footpath. Further refinement of the design is required prior to engineering plan approval. 

6.1.2. Long-Sections

MPDC Development Manual Section 3.7.3b states *"Where the design speed is ≤ 50 km/h, vertical curves shall have a minimum length of 20 m, except where the grade change is ≤ 1% where the minimum vertical curve length is 10 m".*

Some of the vertical curve geometry shown on the long sections does not comply. For example, Road 2 at chainage 500m has an 8m long vertical curve and a 15m long vertical curve at chainage 560m. We recommend that the vertical geometry is updated to comply with MPDC Section 3.7.3b prior to engineering plan approval.

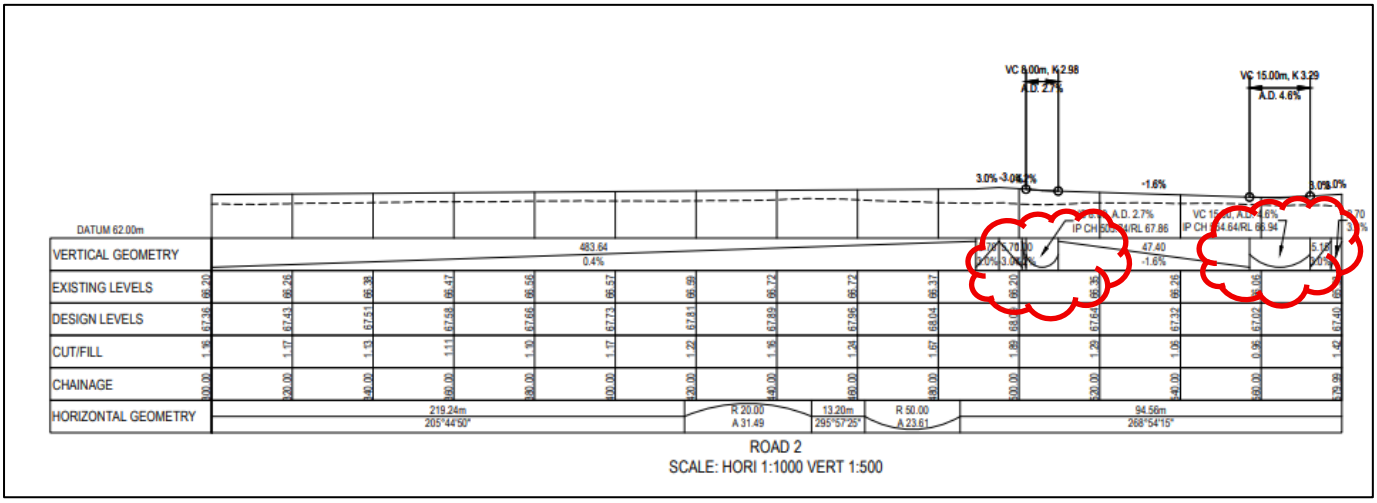


Figure 7 Non-compliant vertical curves on Road 2

MPDC Development Manual Section 3.7.3a requires minimum longitudinal grade of 0.4%. Some of the grades shown on the long sections do not comply. For example, the Road 5 long section includes a -0.1% longitudinal grade for length of around 200m. We are concerned that there may not be sufficient positive drainage and there is a risk of water ponding. This should be revised prior to engineering plan approval.

6.1.3. Internal Intersections

The ITA (Section 6.2.2) states that six crossroads intersections will be constructed. We have concerns that crossroads intersections (especially on Road 1) will create safety concerns due to the higher traffic volume and, potentially higher speeds making it challenging for pedestrians to cross. We recommend that these intersections are designed and constructed as roundabouts. Due to the vehicle tracking requirements, roundabouts take up significantly more space than a crossroads intersection. We are concerned that the proposed road reserve boundaries do not allow for roundabouts to be designed and constructed.

The ITA (Section 6.2.2.3) recommends that future design iterations alter the layouts of Road 1/ Road 9 and the Road 14/ Road 10 intersections. It is unclear if changes to the road reserve boundary will be needed to accommodate these changes, or how this will be managed in future. We recommend that these changes to the intersection layouts are made now.

There is likely to be significant demand of pedestrian movement across Road 1 to access the commercial node. However, no crossing facilities (e.g. kerb build-outs and/or refuge islands) are shown.

The Engineering Drawings (Appendix 5F) should be updated to:

- Provide roundabouts and pedestrian facilities at these intersections:
  - Road 1/ Road 13/ Peakedale Drive
  - Road 1/ Road 10 (to access the commercial node and address insufficient sight distance)
  - Road 10/ Road 14 (to access the commercial node)
  - Road 1/ Road 3
  - Road 1/ Road 2 (south) or alternatively realign the western portion of Road 2 to avoid a crossroads intersection).
  - Road 1/ Road 9
- Provide pedestrian crossing facilities (e.g. kerb build-outs and/or refuge islands) along Road 1 to safely provide for pedestrian movements, for example, at the Road 1/ Road 10 and Road 1/ Road 7 intersections adjacent to the commercial node.

6.1.4. Vehicle Tracking

The vehicle tracking provided in the ITA (Figures 3-1 to 3.12). This:

- Does not include all intersections or vehicle movements.
- Does not include vehicle tracking for the cul-de-sac heads.
- Has vehicles tracking over the centreline which is not appropriate.
- Has vehicles tracking over the kerbline and berm which is not appropriate.
- Does not provide the required 1m clearance between opposing vehicles.

On some curves it appears that no-stopping will be required to allow for two-way traffic including heavy vehicles. The extent of no-stopping should be minimised and can be reviewed as part of engineering plan approval.

Detailed design will need to review the vehicle tracking, adjust the kerblines and provide curve widening to allow for two-way traffic. It is likely that this can be achieved within the proposed road reserve boundaries, but it may result in the loss of on-street parking and/or relocation of raingardens and soakage trenches.

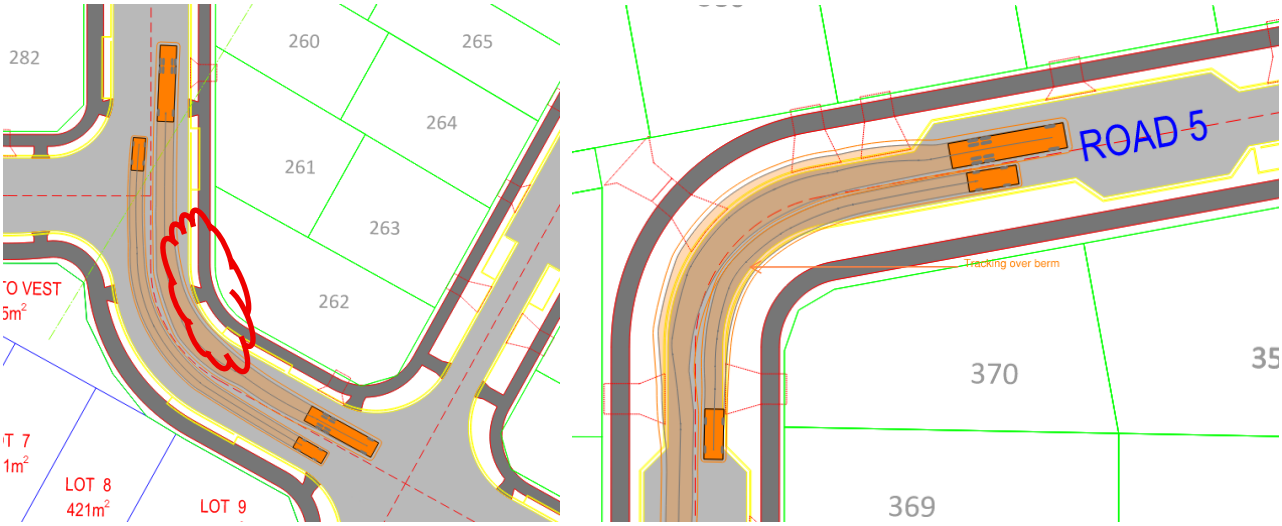


Figure 8 Requires no-stopping on curves (left) and curve widening and realignment of kerblines required (right)

6.1.5. Temporary Turning Heads

Roads 1 and 16 terminate at the site boundary and temporary turning heads are indicated. These turning heads could be in place for several years, i.e. until the adjacent land is developed and the road extended. The vehicle tracking provided in the ITA shows the vehicle (refuse collection truck) tracking over the footpath which is not appropriate. This could be addressed through the detailed design and conditions of consent, but may delay the use of Lots 1 and 9.

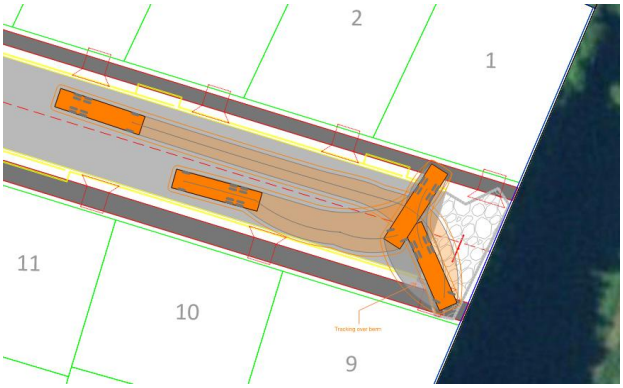


Figure 9 Insufficient Turning Head on Road 1 (ITA, Figure 3-12)

Turning heads will need to be included in each stage of the subdivision to ensure that vehicles can turn around until the subsequent stage is developed. Turning heads should be required in each stage through the conditions of consent.

6.1.6. Vehicle Crossings vs Soakage Trenches

There are many instances where vehicle crossings are shown over the soakage trench (indicated by red star on figure below). It is not clear whether providing concrete vehicle crossings across/ through the soakage trench will impact on its performance. This should be considered by others.

Figure 10 Vehicle crossings impacting on soakage trench

6.2. Southern Boundary Interface

The lack of connectivity along the southern boundary of the site makes it difficult for this development to integrate with any future urban growth of Matamata. The applicant should explain how this southern interface can be designed to better provide for future connections by all modes to the south.

6.3. Station Road Intersection

The proposed alignment of Road 1 does not comply with the horizontal geometry requirements of the MPDC Development Manual which requires a centreline radius of 80m. Radii of 15-20m are proposed. In our view Road 1 will need to be realigned through Lot 518 to achieve compliance with the Development Manual/ RITS.

The vehicle tracking provided in the ITA for this intersection:

- Has vehicles tracking over the centreline which is not appropriate.
- Has vehicles tracking over the kerbline and berm which is not appropriate.
- Does not provide the required 1m clearance between opposing vehicles.

This intersection and the Road 1 approach needs to be redesigned now so that it is not constrained by the currently proposed subdivision boundaries. This should include a refuge island to facilitate pedestrian movements along the Station Road shared path to support movements to/from the retirement village to the west.

It is likely that realigning the Road 1 approach will result in the existing vehicle crossing (combined right-of-way) being immediately adjacent to the new intersection. This could be resolved by removing the right-of-way and providing direct access to Road 1 for each of the three existing lots.

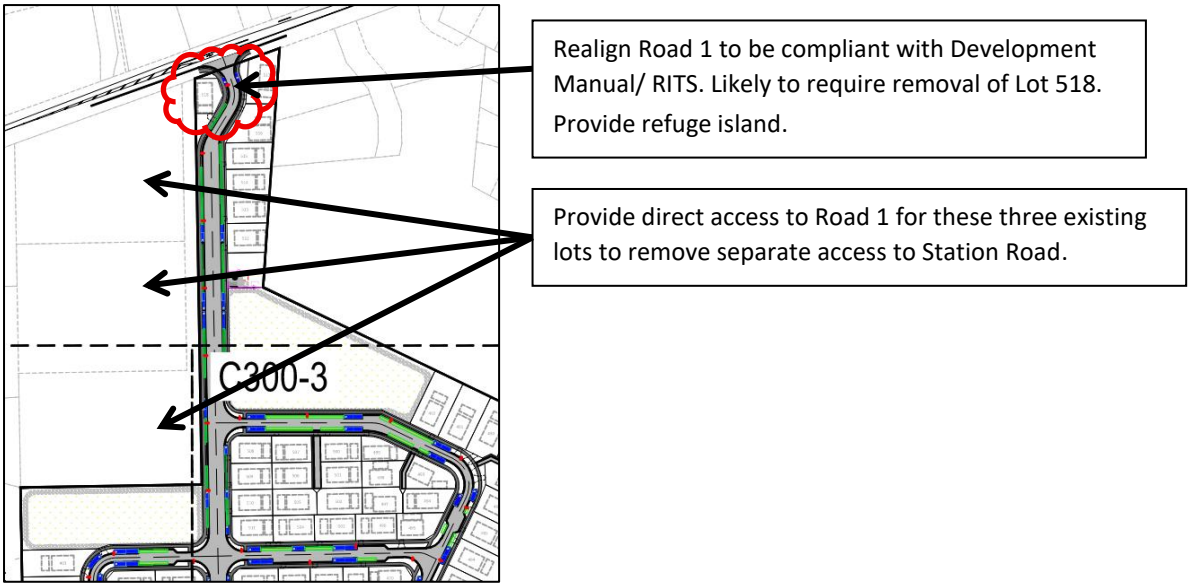


Figure 11 Changes to Road 1 alignment and Station Road intersection

To provide access to the residential subdivision by alternative modes (i.e. walking and cycling) a continuous 3m wide shared path should be provided along the southern side of Station Road from this intersection to the Station Road/ Smith Street intersection. This should include a pedestrian refuge island on Road 1. This could be required as a condition of consent or through a PDA.

6.4. Parking

Each lot provides parking for a minimum of two vehicles. In some cases, this involves stacked parking, with one space located in the garage and additional space(s) provided outside the garage.

- In all instances, vehicles reverse out onto the road. While this is generally considered acceptable on local roads due to lower traffic volumes and speeds, it is discouraged on roads where higher traffic volumes and speeds increase safety risks.
- Layout typology E incorporates a double-width vehicle crossing, which increases the area of interaction between vehicles and pedestrians on the footpath, thereby raising the potential risk of conflict. If possible this width should be reduced at the time of detailed design in line with the other typologies.

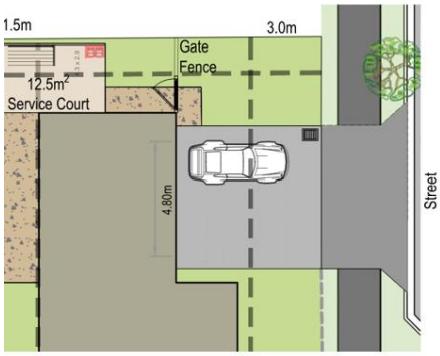


Figure 12 Typology E double width vehicle crossing

On-street recessed parking bays are proposed. The total number of on-street parking spaces is not provided and as stated in the ITA will depend on the locations of driveways and rain gardens. It is likely that the extent of on-street parking will be less than shown due to the need to provide no-stopping line to ensure that two-way traffic is maintained. This can be confirmed at detailed design stage, however we recommend that the design provides 0.3 spaces per lot to reduce the risk of illegal or berm parking.

6.5. Proposed Conditions

We have not yet reviewed the conditions at Appendix 5O (Residential and Greenway) in detail. Our initial comments are that:

- Condition 42 requires that the management plans are provided to Council 10 working days prior to commencing construction. We recommend this is increased to 20 working days.
- Condition 141 does not require certification of the engineering plans
- Additional conditions are required to require further assessment and/or change to the design discussed above.
- The conditions of consent or a PDA should require that prior to commencing construction of each stage of the residential development, an updated transport assessment is completed to determine whether additional mitigation is required to be implemented to address effects on the existing transport network.
- Conditions requiring design and post-construction Safe System Audits should be included.
- Require a Parking Management Plan for the commercial node.

7. COMMERCIAL NODE

7.1. Option 1 – Commercial Node

7.1.1. Layout

We have some concerns with the layout of the commercial area and car park. These are summarised below and can be addressed at detailed design stage.

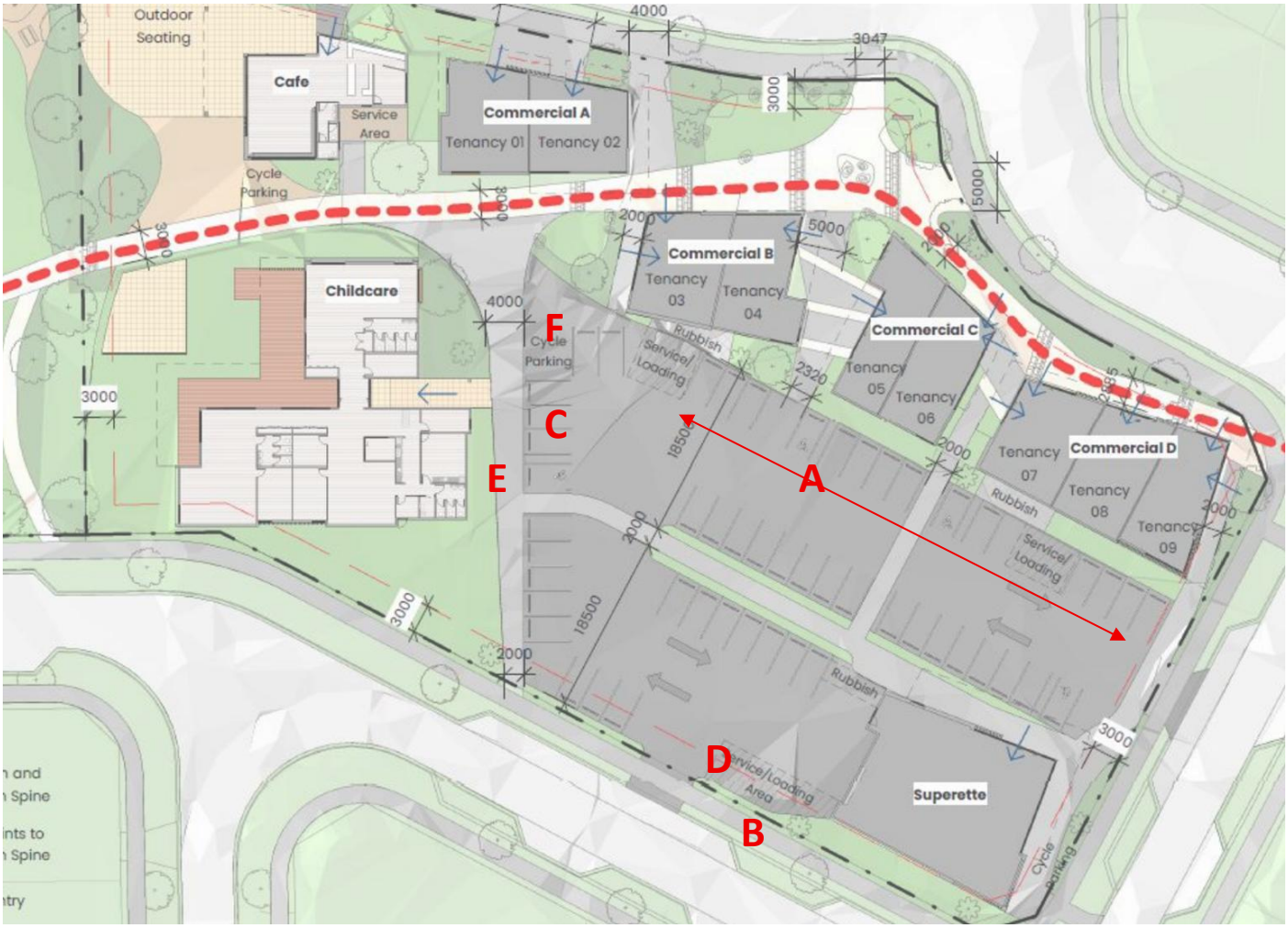


Figure 13 Commercial area layout comments

Table 5 Commercial area layout comments

Reference	Comments
A	No pedestrian path means that people parking in this area need to walk through the car parking area, behind reversing vehicles. Particularly a problem if childcare visitors park here as they will have small children.
B	No easy pedestrian access to superette from south – need to walk across the car park past loading area. Recommend that the north-south footpath is extended to connect to the road on the southern boundary.

Reference	Comments
C	It may be worth providing some parking with additional width near the childcare centre, as caregivers need more space to unload / load children. Caregivers often need to open a rear door fully to get children into and out of car seats.
D	The location of the service / loading area used for vehicle tracking in the ITA does not match the engineering plans. Vehicle tracking has only been provided for a medium rigid truck to one of the three service/ loading areas. Arrangement of service / loading area for the superette requires vehicles to reverse over the entrance, increasing the risk of vehicle conflict. Tracking larger vehicles should be provided for all service/ loading areas and the layout of the service / loading areas adjusted to suit.
E	Consider protecting pedestrian areas with bollards where there is no berm
F	The location of the cycle parking, adjacent to the service/loading area, presents some safety and accessibility concerns. There is limited separation from vehicle movements, and it is difficult to get to from within the car parking area, without going through the loading zone or back around to the pedestrian path. Providing physical separation and weather protection would improve functionality.

The ITA (Section 6.2.2.2) identifies that traffic calming to reduce the speed around the commercial area is needed to mitigate the sight distance shortfall at intersections of Road 1/ Road 7 and Road 1/ Road 10. In our view this could be addressed by providing a roundabout at the Road 1/ Road 10 intersection along with a refuge island or kerb build-outs at the Road 1/ Road 7 intersection. These changes should be made to the engineering drawings now to ensure the pedestrian crossing sight distance remains within the road reserve and that the roundabout can be accommodated within the road reserve.

As discussed above we recommend that the Road 1/ Road 10 and Road 10/ Road 14 intersection be designed and constructed as roundabouts to facilitate vehicle access to the commercial node from Road 14. This is likely to require changes to the road reserve boundaries and should be completed now to avoid compromising the design in future.

7.1.2. Parking

The commercial node layout includes 51 parking spaces, three loading spaces and four accessible spaces. This is a 27 space shortfall compared to district plan requirements (78 spaces required).

We support the approach of shared parking and acknowledge the benefits of shared parking in making efficient use of available spaces. However, there are some safety risks associated with shared areas, particularly where young children are present due to the childcare centre. These include:

- Vehicle/pedestrian conflict, especially when vehicles are reversing in areas where children may be walking.
- Driver inattention, where drivers may not be expecting children or may be focused on other activities.
- Reduced visibility, with parked cars potentially blocking sightlines to small children.

We recommend some parking management measures to mitigate the risks, such as:

- Allocating specific spaces for childcare centre use at peak pick-up / drop-off times (spaces closest to the childcare centre).
- Limiting duration of parking in nearby bays to discourage longer-term parking near the childcare centre.
- Dedicated staff parking away from the childcare centre, leaving the closest spaces available for parents.
- Requiring rubbish collection to take place outside of peak hours to reduce the risk of heavier vehicles manoeuvring in the same space as children.
- Clearly delineated pedestrian paths and signage to emphasise user priority and reduce the risk of pedestrians crossing in other locations.
- Clear signage that warns drivers of the presence of children.
- Traffic calming to maintain a low speed environment.
- Maintaining good visibility by keeping any planting low.

- A travel plan for the childcare centre that communicates safe and walking procedures, encourages holding children's hands and using designated paths and reminds parents not to let children run ahead.

This can be managed through conditions of consent which require these matters to be included in the detailed design and/or through a Parking Management Plan.

7.2. Option 2 - Residential

The AEE described Option 2 where this site is developed as 18 residential lots, instead of a commercial node. This option is likely to generate fewer trips than the commercial node but does mean that people are forced to drive to the Matamata town centre for all retail/commercial trips, rather than undertake short trips by walking and cycling to this node.

Our preference is for the development to included the commercial node so as to help meet the day-to-day needs of residents through walking and cycling trips, rather than driving to other locations within Matamata.

7.3. Proposed Conditions

The conditions for the commercial node are included within Appendix 5O (Residential and Greenway), and we have not yet reviewed these conditions in detail. Our initial comments on these conditions are included in Section 5.4 above.

8. SOLAR FARMS

8.1. General Comments

We agree that operational traffic, when the solar farms are constructed, will be very low and no transport effects are expected. There are potential effects related to construction traffic accessing the site for the duration of construction.

The proposed construction traffic route and its impacts are not addressed in the ITA but are deferred to the CMP. Heavy vehicle movements may affect key intersections and contribute to pavement wear. Without a defined construction timeframe, trip generation and traffic route the effects cannot be accurately assessed. These factors should be confirmed before construction to ensure proper planning and mitigation. Given the scale of the southern solar farm, we expect that construction could take more than 12 months. We noticed that the ITA states that the solar farms will be 27 ha across two areas, however the concept plan shows that the southern solar farm is 24 ha and the northern is 12.7 ha (a total of 36.7 ha).

The proposed conditions (Appendix 3L) include the following transport-related requirements (summarised):

- Construction hours 7.30am – 6pm, Monday to Saturday
- Nearby residents must be advised of construction before commencement
- Construction management plan (CMP) that includes (is not limited to) number of vehicle movements, traffic routes, temporary traffic management, road upgrades, parking and loading. The CMP has to be submitted to MPDC 20 days prior, for certification.

8.2. Northern Solar Farm

Access to the northern solar farm during construction is proposed via two one-way access points. One (west) will be retained for two-way access for operational vehicles, and the eastern one for future residential dwellings.

This appears to be an appropriate approach, provided that appropriate traffic management is in place for the duration of construction (speed management, site access signage etc) and the need for localised widening etc is identified and implemented. This is included in the CMP condition.

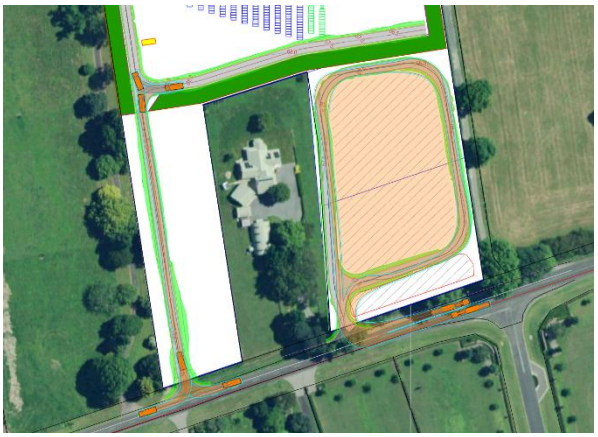


Figure 14 Northern solar farm proposed access and tracking

8.3. Southern Solar Farm

The southern solar farm has access proposed via a cul-de-sac on Road 14 in the residential area. The ITA states that during the access will be:

- 10m wide at the boundary during construction.
- 5m wide following construction.

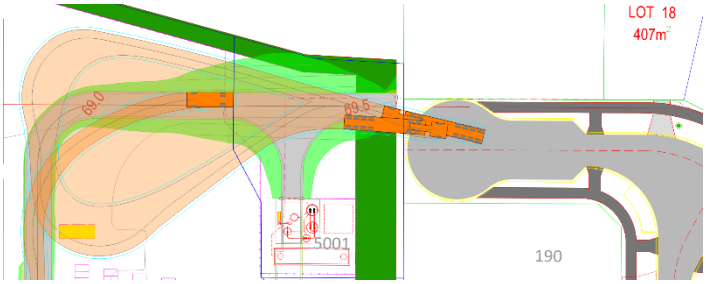


Figure 15 Southern solar farm access and tracking

We agree that this is appropriate and recommend that design allow for maintenance access by larger vehicles that may be needed on occasion, i.e. via a wider gateway and mountable kerb wide enough for trucks.

Given the proposed timeframes and staging, it is likely that the southern solar farm will be constructed when residential development has already taken place. This means that construction traffic including a significant number of heavy vehicles will be going past the commercial node and through residential areas.

As with the northern solar farm, the proposed route for construction traffic, and the potential effects, are not considered in the ITA and are instead deferred to the CMP. Vehicle movements and route selection may impact key intersections, and regular heavy traffic past the commercial node and through a residential area has potential safety impacts. The output of the solar farm in mega-watts is not provided. Without knowing the construction timeframe, it is difficult to predict the trip generation and therefore the potential impact on key intersections and safety. These factors should be evaluated and confirmed prior to construction to ensure adequate planning and mitigation.

Our preferred approach would be to use an alternative temporary access for the duration of construction, to avoid developed residential areas. We note that the superlot subdivision provides Easement C across Lot 2 which would provide vehicle access to the southern solar farm site and avoid the need for a construction access in the residential area.

If the solar farm is built following the residential development, a construction access may be possible by utilising land identified as Easement C across Lot 2, shown below. If the solar farm is constructed prior to Stages 5-8 it would be possible to provide a temporary construction access that follows the Road 1 alignment to Station Road. This would avoid construction traffic passing through residential areas. We suggest a condition to that effect, utilising Easement C and prohibiting construction traffic from using residential streets.

The conditions of consent should clearly identify the preferred access arrangements to avoid adverse effects on residential areas.

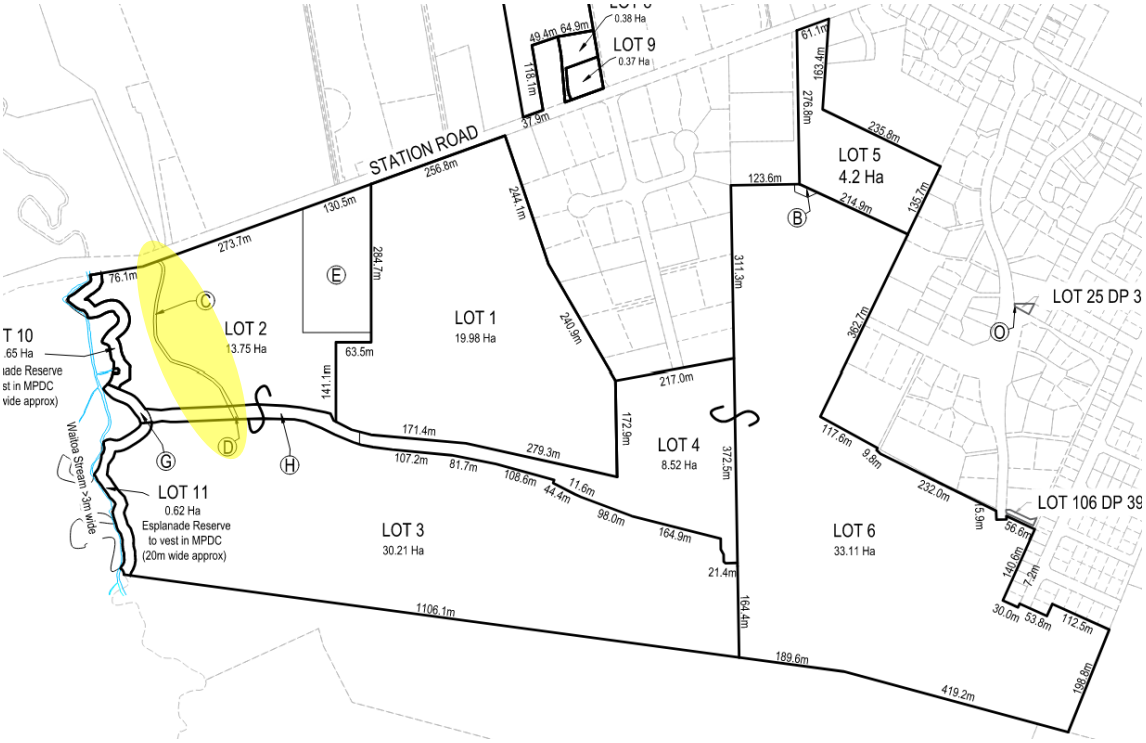


Figure 16 Easement providing right-of-way access to southern solar farm

In our view, the potential impacts of solar farm construction on surrounding developed areas should be assessed and addressed at this stage of the planning process. Early identification of issues such as construction traffic, noise, dust, pavement impacts, and disruption to local access will ensure that appropriate mitigation measures can be developed and incorporated into the project plans. Proactively considering these effects now allows for better outcomes.

8.4. Proposed Conditions

We have not yet reviewed the conditions at Appendix 3L (Solar Farms) in detail. Our initial comments are that:

- The recommendation to reduce the southern solar farm vehicle crossing to Road 14 from 10m width to 5m following construction has not been included in the conditions, but may be superseded by access via the use of Easement C.
- Conditions 9 and 63 should require that the engineering plans are provided to Council 20 working days prior to commencing construction.
- Conditions 14 and 68 should require that the management plans are provided to Council 20 working days prior to commencing construction.
- Condition 78k only requires communication to residents on Station Road and within 50m of the solar farm. This should be extended to cover other residential roads that will be used for construction access to the southern solar farm.
- Additional conditions are required to provide construction traffic access to the southern solar farm that avoid adverse effects on residential areas (e.g. either via Easement C through Lot 2 or a separate construction access to Station Road that aligns with the future Road 1).
- Conditions requiring design and post-construction Safe System Audits should be included.

9. CONCLUSION AND RECOMMENDATIONS

9.1. Conclusion

Peak hour trip generation for the site when fully developed is expected to be 567 trips/hour. Given that the second access to Station Road is only provided as part of Stage 8 (the last stage) there is likely to be a significant period where the majority of these trips can only access the existing transport network via Peakedale Drive, Jellicoe Road, Archford St and Hampton Tce to access Station Road and SH27.

Peakedale Drive, Jellicoe Road, Archford St and Hampton Tce all carry less than 500veh/day and the development traffic represents a significant increase that will potentially have cumulative impacts on the safe and efficient

operation of these roads. There appears to be the potential for seven stages of development to occur prior to the new connection to Station Road being implemented. We are concerned that the ITA has not adequately considered the scale or impact of traffic accessing the existing network prior to construction of the new access to Station Road. We recommend that the incremental impacts are reviewed prior to the construction of each subsequent stage.

The ITA has not considered the impact of additional traffic using Station Road and whether this requires improvements for pedestrians walking along and crossing Station Road. We recommend that a 3m wide shared path is provided. A PDA may be necessary to identify and implement pedestrian safety improvements and changes to the Smith St/ Station Road intersection.

In general, the proposed residential subdivision layout appears appropriate although we are concerned about the lack of connectivity with the retirement village, Lot 2 and along the southern boundary of the site. The design needs to be updated to review vehicle tracking and safety of some intersections, especially where crossroads intersections are proposed. We have also recommended changes to the subdivision layout and intersection forms to improve safety and access. These design changes are likely to require alteration of the road reserve boundaries and should be completed now.

We are concerned that the effects of construction traffic from the southern solar farm have not been considered. It may have adverse effects on the existing residential neighbourhoods that could be avoided through the use of a specific construction access direct to Station Road.

9.2. Recommendations

While many of our concerns can be addressed through conditions of consent and engineering plan approval, there are aspects that may impact on the proposed road reserve boundary/ subdivision layout that should be addressed now.

Due to the nature of our queries, we suggest that you provide a copy of this letter to the Applicant so that they can better understand our queries. Our recommended actions to resolve the issues and concerns we have identified in this initial review are summarised in the following table. Additional actions may be identified following a more detailed review of the proposed conditions. The rows shaded grey highlight where action is needed now.

9.2.1. General Comments and Superlot Subdivision

Recommendation	Action Required
Confirm whether there are any other committed developments or changes to the transport or land use environment that may affect underlying assumptions.	Immediate – information required now.
Confirm proposed access arrangements to Lot 2 and Easement C (e.g. confirm vehicle crossing location and standard, likely trip generation, etc)	Immediate – information required now.
Confirm if a vehicle access is required to Easement E, for example to maintain the wastewater disposal area. If a vehicle crossing is proposed, an assessment confirming the location and standard of the vehicle access is required.	Immediate – information required now.
Assess the potential for increased traffic volumes and turning movements on Smith Street prior to construction of the new access to Station Road. Due to minimal differences in travel times via alternative routes, Smith Street could experience higher traffic volumes and may require mitigation such as crossing facilities. The assessment should consider increased traffic volumes and intersection performance, and include sensitivity testing to test scenarios where more traffic uses Smith Street than expected.	Immediate – information required now.
Require that, prior to construction of each stage of the residential development, an updated transport assessment is completed to determine if additional mitigation is needed (with a focus on key routes and intersections outlined in Section 3.4. This should include a review of	Require via a consent condition or Private Development Agreement (PDA)

Recommendation	Action Required
crossing provisions on Station Road and Smith Street, and consider the following intersections = SH27/ Station Road = SH27/ Jellicoe Road = Station Road/ Hampton Tce = Jellicoe Road/ Hampton Tce = Archford St/ Hampton Tce = Archford St/ Peakedale Drive = Station Road/ Smith Street = Station Road	
Consider reducing the speed limit on Station Road (along the development frontage and at the retirement village intersection) to 60 km/h.	MPDC to include Station Road in next speed limit review.
Provide a 3 m wide shared path along the southern side of Station Road from the retirement village to the Station Road/Smith Street intersection.	Prefer that this is clearly identified on the drawings. Require via a consent condition or Private Development Agreement (PDA).

9.2.2. Retirement Village

Recommendation	Action Required
Incorporate layout and design changes within the retirement village as outlined in Section 4.1.	This can be addressed at detailed design stage
Remove the left-turn deceleration lane on Station Road.	Prefer that the drawings are updated now, however, it could be addressed at detailed design stage. To avoid confusion this should be identified in the conditions of consent.
Confirm refuse collection arrangements (public or private responsibility).	To be clarified with Council - information needed prior to consent.
Clarify whether public access through the retirement village road network from Road 7 is permitted or restricted. If public access is not provided through the retirement village (i.e. the Road 7 connection is gated), clarify the consequences in terms of connectivity and walkability for residents of both the retirement village and the residential subdivision.	To be clarified with Council - information needed prior to consent.
Council certification of engineering plans should be required prior to construction.	Include as a consent condition, requiring the Applicant to submit plans to Council for certification at least 20 working days before commencement of construction.
Ensure a Corridor Access Request is submitted for any works within the public road corridor.	Include as a advice note to the consent conditions.
Require design and post-construction Safe System Audits	Include as a consent condition.

9.2.3. Residential Development

Recommendation	Action Required
Refine internal layout taking into account our recommendations in Section 6.1. This includes layout adjustments, vertical alignment, tracking including refuse vehicles.	Some aspects could be addressed at detailed design stage, but it's important that any changes that impact on the proposed subdivision or road reserve boundaries are addressed now.
Explain how the southern interface can be designed to better provide for future connections by all modes to future urban development that may take place beyond the site.	Immediate – information required now.
Provide roundabouts and pedestrian facilities as outlined in Section 5.1.3.	Immediate – to ensure that subdivision boundaries allow sufficient space for roundabouts.
Assess and address potential traffic impacts on surrounding areas and local roads (Peakedale Drive, Jellicoe Rd, Archford St, Hampton Tce), considering that up to seven stages of the development appear possible prior to the new Station Road connection. Identify any required mitigation measures on the existing network or staging conditions.	Immediate – information required now.

Recommendation	Action Required
Review need for no-stopping restrictions along curves.	At engineering plan approval stage.
Provide turning heads for each stage until future connections are available.	Include as a condition of consent.
Redesign the intersection of Road 1 and Station Road to meet Council development standards and RITS. Refer to discussion at Section 6.2.	Immediate – to avoid subdivision boundary constraints.
Provide a continuous 3 m wide shared path along southern Station Road, including a pedestrian refuge island at Road 1.	Require via a consent condition or Private Development Agreement (PDA)
Reduce vehicle crossing widths (Typology E) to single-width if possible.	Include consent condition/ advice note. Review at detailed design stage.
Provide at least 0.3 on-street parking spaces per dwelling.	Include as a consent condition or advice note.
Require design and post-construction Safe System Audits	Include as a consent condition.
Amend proposed consent conditions to include mitigation measures outlined in Section 5.4.	Include consent conditions.

9.2.4. Commercial Node

Recommendation	Action Required
Address layout feedback outlined in Section 7.1	This can be addressed at design stage.
Develop and implement a parking management plan to mitigate potential safety effects of shared parking (Section 7.1.2).	Include a condition of consent that requires this to be detailed at design stage.

9.2.5. Solar Farms

Recommendation	Action Required
Confirm proposed access arrangements to Lot 2 and Easement C (e.g. confirm vehicle crossing location and standard, likely trip generation, etc)	Immediate – information required now.
Assess and address potential construction-related impacts on surrounding areas and local roads (Peakedale Drive, Jellicoe Rd, Archford St, Hampton Tce), considering construction timeframe, trip generation, vehicle routes and potential pavement impacts, and any required mitigation measures.	Immediate – information required now.
Identify and provide for alternative construction access routes to avoid heavy traffic in residential areas (Section 8.3).	Include as a consent condition – specify preferred access routes.
Amend proposed consent conditions to include mitigation measures outlined in Section 8.4.	Include consent conditions.
Include a consent condition requiring construction traffic to use Easement C and avoid residential streets.	Include consent conditions.

We have provided some initial comments on the proposed conditions of consent and have highlighted areas where refinement or additional conditions are needed. We will continue to work with you to complete a more detailed review of these conditions.

If you have any questions or need anything else, please contact us.

Yours sincerely

Isa Ravenscroft
Senior Transportation Engineer

Alastair Black
Senior Transportation Engineer