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BEFORE THE TASMAN DISTRICT COUNCIL

Under the Resource Management Act 1991

In the matter of Resource Consent Applications RM120928V2 (land use change of conditions), RM190790 (land use), RM190789 (subdivision), RM190791 (land disturbance), and RM191308 (water permit)

By The Integrity Care Group Limited
(Applicant)

And in respect of proposed changes to the existing retirement village (Olive Estate Lifestyle Village) at Lakehouse Crescent, and a proposed extension of onto a site at Hill Street, Richmond

EVIDENCE OF GARY CLARK
Dated this 10 February 2021

INTRODUCTION

1. My name is Gary Paul Clark. I am a Chartered Professional Engineer and hold a New Zealand Certificate in Civil Engineering. I meet the standards to be a Registered Engineers Associate (REA) and I am a Member of the Institution of Professional Engineers NZ (MIPENZ) and its specialist Transportation Group. I am a chartered professional engineer that specialises in traffic engineering and transportation planning.
2. I have post graduate passes and master's papers for Traffic Engineering, Advanced Traffic Engineering and Accident Prevention and Reduction. I am also a Certified Road Safety Auditor and assisted in writing the "Road Safety Audit Procedures for Projects" publication released by NZTA. I also co-published the NZTA document "The Ins and Outs of Roundabouts". I was a certified Commissioner after completing the Making Good Decisions Commissioners Course. I chose not to be recertified.
3. I have been working in the road and traffic industry since 1982. The knowledge and experience gained over 39 years includes most road and traffic related matters, and in particular elements around planning, design and safety. I have prepared transportation assessments for both small and large developments throughout New Zealand, conducted road safety audits and have been engaged in the development of strategies for road and traffic related issues. I have also reviewed and prepared designs for roads, intersections, developments, road safety schemes and town centre redevelopments.
4. I have presented evidence in Resource Consent hearings and the Environment Court for applications in my specialist area of traffic engineering, road safety, transportation planning and road design.
5. Over the last 39 years I have worked for the Ministry of Works, Ministry of Transport, Local Authorities and multi-national consultancies. More recently I was Transportation Manager at Tasman District Council and worked for Traffic Design Group (TDG) which I was a Senior Associate and Branch Manager of the Nelson Office. In July 2018 I decided to return to my own consultancy which has been operating since July 2004. I am the Director of that Company.
6. I have no commercial or other interest in the outcome of this application, nor any conflict of interest of any kind.

CODE OF CONDUCT

7. Although not required for this hearing, I confirm that I have read and agree to be bound by the Environment Court Code of Conduct for Expert Witnesses and

confirm that I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express in the following evidence. The evidence I give is within my expertise.

8. Below I outline my assessment of the development in terms of transportation and traffic engineering matters. My evidence, in particular, sets out:
 - Background
 - Application Assessment of Effects
 - Development Amendments
 - Assessment of Changes
 - Council's Section 42A Report
 - Draft Conditions,
 - Submissions, and
 - Conclusions
9. However, I am happy to provide further clarification should the Commissioners require this.

BACKGROUND

10. I became involved in this project in November 2018 following the purchase and decision to extend the Olive Estates development into the adjacent block of land which connects to Hill Street.
11. The design process considered a number of layouts to continue to provide the high-quality outcomes that exist in the current complex. This process included the key principles of providing a low-speed environment through the use of reduced road widths, quality architecture of different scale next to the carriageway and landscaping. This set the framework for the proposed design.
12. Another objective included moving the Care Facility, so it became more easily identifiable for visitors to the development site, with more direct access to the main arterial road network. It was also preferred to separate the servicing area from the public access to the Care Facility.
13. A pre-application meeting was held with Council to discuss the various aspects of the development. Council officers provided feedback on traffic matters which included the width/layout of Fairrose Drive and the on-street parking arrangements along the frontage of the Care Facility. Generally other traffic aspects were acceptable, subject to the Transportation Impact Assessment being presented as part of the application.
14. There was some discussion about the service access to the Care Facility being from Brenda Lawson Way. Tracking curves and analysis was provided to Council's

Traffic Advisor. Council was satisfied that this arrangement provided a workable design.

15. The applicant had a public meeting with interested parties on 19 September 2019 to present and discuss the extension of the Olive Estates development.
16. Minor changes were made to the design and the application was submitted to Council for Resource Consent.
17. Council responded with several “Requests for Further Information” which included the following traffic/roading matters.
 - Amended plans to have parallel parking along the front of the Care Facility on Fairrose Drive.
 - Provide at least 5.0 metres from the back of the footpath to the front of the garage.
 - Assess the demand for RV parking.
 - Assess the safety of the intersection in the vicinity of Units V28-V36 and Hill Street.
 - Maintenance of the road frontage on Hill Street.
 - Formation standards of Fairrose Drive.
 - Update parking assessment as a result of amendments.
18. Responses to the RFI were provided to Council. Some changes were made to the plans to address the RFI. It should be noted that no changes were made to the formation standards of Fairrose Drive.
19. The application was notified on 30 May 2020 and there were a number of submissions which I will discuss later in my evidence.
20. As part of reviewing the submissions, changes were made to the site layout to address/remove some concerns that had been raised. There had also been some changes to Transportation requirements as a result of the process in updating the Engineering Standards, now The Nelson Tasman Land Development Manual (LDM)

KEY POINTS FROM MY ORIGINAL ASSESSMENT

21. The proposed development will see the expansion of the Olive Estate into the adjacent block of land and the relocation of the Care Facility closer to the adjacent public road network. The Transportation Assessment considered the existing Olive Estate, the expansion to Hill Street and the overall effects of the completed development.

- 22. The completed Olive Estate development will have two additional connections to the wider road network via Hill Street and Fairrose Drive. This will reduce the reliance on the connection to Wensley Road and improve the overall connectivity of the adjacent road network. This provides greater flexibility for transportation to the wider community, as well as residents of Olive Estate.
- 23. The main changes to the overall development of Olive Estate are set out in **Table 1**:

	Consented (including variation)	Proposed with changes		Total on completion of development
Villas	119	53		172
Terrace houses	32	21		53
Carriage Houses	4	0		4
Apartments (two buildings)	16	0		16
Serviced Apartments (In Care Facility)	58	20		20
Dementia Beds	100	16	70	16
Hospital Beds		16		16
Rest Home		38		38
Staff for Care Facility	38	27		27

Table 1: Total Units and Beds across the Olive Estate development

- 24. There is an overall increase in villas by 53 and increase in terrace houses by 21. There is an overall reduction in the number of Care Facility beds (less 30) and serviced apartments (less 38) along with the staff (less 11) required to service the relocated building.
- 25. The development site is located within the Residential Zone (as well as part of the Richmond South Development Area) as listed within the Tasman Resource Management Plan (TRMP). The development is subject to the transport rules and standards as set out in Section 16.2 of the TRMP.
- 26. The compliance assessment showed that the development was able to comply with most of the requirements set out in the TRMP. The assessed non-compliances included separation distances from intersections for two units and the service access onto Brenda Lawson Way (now removed).

27. The overall car parking requirement can be met across the site. I note however that recent guidance and directions from government has required Councils to remove the car parking requirements from their planning documents. Accordingly, the proposed development now does not need to provide on-site car parking. However, Olive Estate management understand the importance of providing an appropriate level of car parking to meet the needs of its residents. Therefore, the level of car parking proposed in the original application is still being provided.
28. Section 16.3 of the TRMP sets out the rules and standards for subdivisions. The application does not include a subdivision and therefore these requirements do not apply. The TRMP Planning Map 129 shows two indicative roads (cul de sacs) that are located in the development land. The development will provide a connecting road from Fairrose Drive to Hill Street. While this connection is not required, this link to be vested as road is important for the development and the wider community.
29. The connecting road design as presented in the application did not meet Council's requirements for a vested road under Section 18.8 of TRMP. Section 18.8 has been replaced by the NTLDM. I will discuss the road design and subsequent changes later in my evidence.
30. The key element of the development with regard to the movement of vehicles and people, is the continuation of the design that has provided positive outcomes for users of the road environment. Set out in the TIA the design will see narrow roads, landscaping and urban design that encourages low speeds in safe environments for all road users.
31. This design is consistent with providing positive outcomes through excellent street design for liveable communities. It follows the guidance provided by NZTA about designing roads that are for all road users to move safely along roadways through narrow road design, vertical treatments along the edge of the road and in some cases physical treatments on the road such as thresholds.
32. **Figure 1** shows the typical layout along Langdale Drive which has proved to be successful in providing an environment that is safe and meets the needs of the different users.



Figure 1: Langdale Drive

33. As shown the road is constrained with some landscaping along the edges. These features provide the 30 km/h speed environment that exists on Langdale Drive.
34. The assessed traffic generation from the site is expected to be similar to the existing consent. While there is more land area associated with the expansion, the significant reduction in the size of the Care Facility will correspondingly result in a significant reduction in the traffic generation associated with that facility. It should also be noted that a more intensive standard residential development on this land would generate more traffic which I will explain later in my evidence.
35. One of the most significant changes of the proposed development is the ability for residents of Olive Estate to access the wider road network via multiple connections to the arterial road network. Also, the relocation of the Care Facility will remove any necessary internal traffic from within the development with more direct access to Hill Street, which is defined as a Principal Road in the TRMP. Traffic generating activities such as the Care Facility should ideally be located close to arterial roads.
36. The servicing needs of the development are controlled by Olive Estate Management through supply contracts. In particular, the Care Facility servicing requirements are managed on-site. As noted in the TIA that accompanied the consent application, servicing was located separately from the main entrance and accessed via Brenda Lawson Way. As noted above, the design has been changed to address concerns raised in submissions. I will discuss these changes later in my evidence.

37. The internal layout of the development has been specifically designed to provide a safe and liveable environment for residents of Olive Estate as well as the wider community that will move across the site. This design has proven to be successful in providing a safe environment within the existing development which will continue into the new part of the site.
38. The new intersection on Hill Street is able to meet the necessary design criteria to provide a safe intersection. The new connecting road from Fairrose Drive to Hill Street has been specifically designed to encourage low speeds and again provide a safe environment for all road users.
39. In concluding the TIA noted that “Overall the number of expected movements can be accommodated on the surrounding road network, the parking demands can be accommodated on the site and visitors to the development are provided with a safe and convenient access to the development site.”

DEVELOPMENT AMENDMENTS

40. The main traffic concern that came through the submissions related to the location of the service access from Brenda Lawson Way. While it was preferred to separate the service component to the public access area, the weight of the concern led to the reconfiguration of the Care Facility servicing.
41. The design was reviewed with the reconfigured layout having the service access and car park access being co-located on the extension of Fairrose Drive. This removed all access points for the development onto Brenda Lawson Way along with any associated traffic effects.
42. Further discussions with Council and the new LDM also led to changes to the Fairrose Drive extension. The two main changes were the removal of angle parking and the introduction of parallel parking, along with a proposed shared path extension from the existing Fairrose Drive into the development. These changes were agreed with Council’s Traffic Advisor.
43. Overall, the process in developing the design has led to an outcome where any traffic effects are mitigated and are less than minor. The amendments also did not change the final conclusions of my original assessment of the development with the Olive Estates expansion readily being able to be accommodated within the surrounding road network.
44. Two plans of the changes (Third Amendment dated 06/10/2020 - Plans 017 and 019) have been prepared to assist the commissioners and other interested parties. These plans have been provided to all submitters of the application.
45. All of the changes are internal to the development site and included the following:

- Threshold treatment at the existing end of Fairrose Drive at the interface of the development site.
 - The extension of the existing shared path on the southern side of the current Fairrose Drive formation into the development site. This will extend to Iris Drive where a crossing point will be located.
 - The paths on Iris Drive have been widened to provide the link on the shared network to the internal linkages within the development.
 - Fairrose Drive decreased to 6.0 metres in line with NTLDM and Council advice.
 - New service access and service area located off Fairrose Drive through one shared access point to the Care Facility. One access point was requested by Council staff.
 - Extended shared path along the front of units TH08 to TH11.
 - Reconfiguration of the Care Facility car parking and access. This added two further car parks onto the site. This excludes parking under the canopy for drop off and pickups.
 - A 1.5 metre wide footpath along the southern side of Fairrose Drive extension.
 - Angle parking on Fairrose Drive replaced with parallel parking as requested by Council staff. This reduced the number of on-street spaces by nine (23 – 14).
46. Overall, these changes will have a positive effect when compared against the original design included in the application. The only potential negative effect is the reduction of the on-street spaces on Fairrose Drive along the front of the Care Facility. However, the development is able to meet the TRMP parking requirements.

ASSESSMENT OF CHANGES

47. The most notable change is the removal of the service access from Brenda Lawson Way. While this had support from Council officers as part of the pre-application process, it became clear as part of the public notification process that this was a significant issue for some submitters.
48. The design of the service area and access was reconsidered which resulted in the relocation of the access and reorientation of the servicing needs for the site. The access was removed from Brenda Lawson Way along with the service dock facing in this direction.
49. The service access and servicing area is now located on the Fairrose Drive extension. Any effects relating to the service on Brenda Lawson Way have been

removed. Accordingly, any effects of traffic moving to and from Brenda Lawson Way have been removed along with concerns over the Brenda Lawson Way/Hill Street intersection. This is a positive change for the submitters who have raised concerns about Brenda Lawson Way.

50. The service access will come from Fairrose Drive. This change will see the access to the Care Facility and servicing area shared between the different users. Council requested one crossing for the Care Facility. While this is less than ideal, the timing of the servicing components for the development will allow some separation between the different users on the vehicle crossing. That said, there is excellent visibility, waiting areas and access width for these activities to co-exist.
51. The reduction in on-street spaces is a negative impact and was requested by Council. A total of nine on-street spaces will be removed from the car park supply. The development is expected to be self-sufficient and meet its car parking needs on the site. The on-site parking supply (205 + 2) also meets the requirements of the TRMP (193 spaces). The changes to the Care Facility car park will add two spaces to the overall on-site supply (207 spaces). Any effects relating to the reduction in on-street parking is expected to be less than minor.
52. The amended design has altered the width of Fairrose Drive from 7.0 metres to 6.0 metres. This is in keeping with the philosophy of the development and good practice. As I noted above council were initially seeking 8.0 metres based on compliance to standards at that time. Olive Estate were seeking six metres but compromised with 7.0 metres in the application.
53. The reduction in carriageway width of Fairrose Drive (to 6.0 metres) is consistent with the NTLDM (requires 5.6 metres) and was requested by Council. This is also a positive effect as the narrower road will provide good outcomes in regard to speed management, meet new standards and provide a safer road environment within the development and along Fairrose Drive.
54. The extensions to the shared path network and widening to 2500mm will provide for the expected road users. The new linkages will provide more connectivity for these users in the development and the wider community. This is a positive effect.

SECTION 42A PLANNERS REPORT

55. The Section 42A Report has been prepared by Council Officers and their consultant planner. The Reporting Planner would recommend the application be granted subject to a condition requiring the vesting of a reserve for recreation. However, recommends refusal based on the application not providing a reserve in the form that council staff would like to see.

56. From a traffic perspective the Reporting Planner and Council's Development Engineering Mr Ley are satisfied that any adverse can be mitigated. Traffic related conditions are provided to address the effects (as viewed by council) that require mitigation which are provided in Attachment 9 of the Section 42A Report.
57. Section 10 of the Section 42A Report provides an assessment of the traffic and access including parking aspects of the application. This section summaries the analysis and assessment provided in my TIA for the development and provides their comments on the information.
58. The Reporting Planner (Section 10.4) concludes that there is sufficient parking and there are no significant adverse effects on the adjacent road network or its users. The Reporting Planner agrees with the conclusions drawn from the assessment of effects in Section 7.7 of the TIA. I note that Section 7.7 of my TIA states that any effects are less than minor and there are no adverse effects.
59. The Reporting Planner has accepts as noted in Sections 10.5 and 10.7 that fundamental philosophy in achieving a safe environment for residential developments is through narrow roads. This has come from the TIA which sets out the analysis for the formation of roads that are narrower than traditionally constructed and required.
60. There is no disagreement around with this approach with Waka Kotahi currently working on new guidelines around designing streets for the 21st century. The underlying principle of this guidance is to provide narrow roads to reduce speed and make residential streets safer for all road users. I note that this philosophy is also a fundamental design principle in the NTLDM.
61. The Reporting Planner suggested that the carriageway width is narrower than the permitted standards set out in the NTLDM in Sections 10.6 and 10.10. To assist the commissioners and clarify any confusion I note the following:
62. The Engineering Standard 2013 required Fairose Drive to have a carriageway width of 13 metres at the time of application. This was too wide to achieve the outcomes of providing a safe environment for road users within the development. After discussions with council who were, at the time, seeking the eight metres, the proposed design included a seven metre wide carriageway. This was done as a compromise to address council staff's direction to have compliance. Mr Ley, at the time, still had difficulty in accepting a seven metre carriageway as it was below the standards of the day even through any effects were less than minor.
63. My advice and preferred position was a six metre wide carriageway, which is consistent with the goals of achieving slow speed environment and providing a safe environment for all road users. This width (six metres) has already proven to

be very successful within the existing already completed parts of the development.

64. The NTLDM 2019 was adopted by Council on 20 June 2019, after the consent application was lodged. The new standards (NTLDM) recognised the positive outcomes from narrower roads and provided new design criteria around carriageway widths.
65. Under the NTLDM the required carriageway width for Fairrose Drive is 5.6 metres being a Sub Collector road which was confirmed Mr Ley before the Section 42 Report was prepared.
66. The width of the carriageway was reduced from 7.0 metres to 6.0 metres which is consistent with the other roads within the development. The carriageway width easily complies with council's NTLDM requirement of 5.6 metres.
67. Section 10.12 seeks clarification of when the extension of Fairrose Drive will link through to Hill Street. It is unclear why this clarification wasn't sought as part of the further information requests. However, the applicant will complete the connection through to Hill Street as the development progresses. The connection will be needed before the Care Facility is operational.
68. Section 10.13 through 10.16 discusses submissions and in Section 10.16 outlines that further evidence is needed in respect to the location of the Fairrose Drive on to Hill Street. The TIA provides details of the new intersection which easily meets the required sight distance to operate safely. I note that Mr Ley has raised no concerns with the location of Fairrose Drive.
69. The Austroads suite of guidelines have been used to assess the appropriate sight distances for the new connection.
70. Austroads Part 4a set out a number of elements for the assessment of sight distances. These elements include reaction time, operating speed, road grade and coefficient of deceleration. For the purpose of the analysis the following parameters have been used to assess the available sight distance and safety of the road users.
 - A reaction time of 2.5 seconds (for older drivers) has been assumed.
 - A coefficient of deceleration (d) of 0.36. This is a standard default. Higher coefficients can be used with this rate being used as a conservative approach to the assessment.
 - An operating speed of 60 km/h has been observed. The posted speed limit is 50 km/h.

- The road is flat in the vicinity of the intersection, so no grade correction has been applied. This is conservative as both the approaches to the proposed intersection have an uphill grade.
71. The Safe Stopping Distance (SSD) has been used which allows motorists on the main road to see a vehicle in the middle of the lane and react and stop without colliding with the opposing vehicle.
 72. Using Austroads Part 3 and the formula on Page 126 with the assumptions noted above we get an SSD of 81 metres. The calculation has no grade correction.
 73. The available SSD to the north is more than 300 metres and around 130 metres to the south.
 74. Accordingly, the available SSD will easily allow drivers to identify, react and stop safely, if required to do so.
 75. Interestingly the location of the connection as shown on the TRMP Map 129 is situated much closer to Brenda Lawson Way (around 40 metres to the south). At this location there are a number of driveways and a right of way. The proposed location will provide a safer intersection well clear of private accesses and has excellent sight distances.
 76. In concluding, Section 10.18 confirms that any traffic effects can be appropriately mitigated with appropriate conditions. The assessment of the Reporting Planner accepts the advice from myself (Mr Clark) and Mr Ley. However, there is no analysis on what effects need to be mitigated or an evaluation of the assessments provided.
 77. Attachment 7 of the Section 42A Report provides Mr Ley's (Council's Development Engineer) assessment of the application. The report is a memorandum addressed to the Reporting Planner.
 78. Page 3 of Mr Ley's assessment makes reference to "council's expectation that the land will be developed as normal for residential development and that Fairrose Drive would continue as a link to Hill Street." This expectation is not shown or provided for in Planning Map 129 or Mr Ley's figure on page 1 of his memo. The indicative road does not connect and there is no requirement to link these two roads. Notably there is a reserve shown between these two indicative roads which would also negate any connection on the TRMP Planning Maps.
 79. That said, in discussion with council, the design team and applicant it was agreed to connect Fairrose Drive to Hill Street, provided that the speeds along the road can be managed.

80. This was one of the drivers for reducing the width of the road as required by the Engineering Standards 2013. As I have noted above more recent changes to the standards (NTLDM) has allowed for 6.0 metre wide carriageway which is consistent with achieving the goals of safe speeds and environment.
81. I also note that the extension of Fairrose Drive is now classified as a Sub Collector (was a Collector) which leads to the reduced width.
82. Mr Ley makes a passing comment that the number of equivalent dwellings on the land will increase as to what was expected. I am not sure of the reason for this comment but note that this is not necessarily the case. If the point of the comment is around the suitability of Fairrose Drive to carry traffic, then the following matters are relevant.
- the overall number of traffic movements from the completed Olive Estate are similar to the already consented development as set out in the TIA. The reduction in the size of the Care Facility and the increase in the number of dwellings has a neutral effect on traffic generation.
 - The development of the land, as a typical subdivision, would generate more traffic than the proposed development. This is due to the number of trips from these types of developments (housing) and the timing of these movements being during the peak hours. In comparison lower trip rates for retirement villages and movements for this activity being spread outside the peak hours.
 - The 6.0 metre wide carriageway exceeds the requirements of the NTLDM and therefore it has the width expected.
83. Accordingly, the available carriageway width of Fairrose Drive is as expected and is suitable for carry the flows for the proposed development and wider road network.
84. Mr Ley usefully provides a table of the differences between the different standards over time and the dimensions for Fairrose Drive as proposed by the applicant.
85. There are some comments I would like to make around the presentation of this table which are as follows:
- The existing carriageway formation of Fairrose Drive ranges from six metres to ten metres (“10 metres in parts” noted in table). Some of the six metre wide sections do not include parking bays.

- The existing six metre wide sections on Fairrose Drive are located at intersections and in areas where speeds are being managed.
- It would appear the changes in carriageway widths relate to different developments that have happened over time.
- The proposed layout of the different parts of the extension of Fairrose Drive are met with the exception of the 19 metre legal width. This has no effect on the operational needs of the road.
- The layout as proposed road doesn't meet the pavement width suggested in the Mr Ley's table. This is due to the parking only being located on one side of the road. This is the same layout as Fairrose Drive near Harte Road. There is a portion of land that is yet to be developed and this could provide parking, if vehicle accesses allow.
- The layout meets the NTLDM requirements for pavement width when taking into account intersections and accesses.

86. In summary, the proposed extension of Fairrose Drive is consistent with the philosophy of the existing parts of Fairrose Drive and meets the operational requirements of the NTLDM. The pavement width is the same as other parts of Fairrose Drive near intersections. Any effects of the departures to the NTLDM are less than minor.
87. Top of Page 5 of Mr Ley's memo notes the extension of Fairrose Drive has been designed to the already completed Olive Estate section of Langdale Road. This is correct but I also note that is also consistent with the lower sections of the already built lower sections Fairrose Drive as shown in **Figure 2** below.



Figure 2: Fairose Drive at Harte Road. (Source: Top of the South Maps)

88. Fairose Drive at this end, where it connects on to Harte Road, is six metres wide with parking on one side of the road. This layout is consistent with the proposed extension of Fairose. I also note that Harte Road connects to Hill Street and each end of Fairose Drive as it connects to these Principal Roads is treated the same.
89. Mr Ley makes a statement about the travel and travel cost associated with the lengthen of Langdale Road and subsequently encouraging the use of Hill street and Harte Road. Both Hill Street and Harte Road are Principal Roads, and their primary purpose is for the movements of vehicles. Encouraging the use of these roads over internal sub collectors is appropriate and consistent with the functions of a road network.
90. Mr Ley notes that council have found that narrower road design achieves slower speeds, but the proximity of garage doors has created concerns with vehicles parking partially over the footpath. This statement is not correct as the narrow road design is not the cause of footpaths being partially blocked. This is simply a function of the separation of the garage door (not building) and the width behind it.
91. The design of the existing Olive Estate has gone through a consent process and building consent process. The areas that are to be vested as roads has been well defined as part of that process. The suggestion that these have not been adhered

to is at odds with the various consenting process the development has passed to be built. I will not comment on shading of the footpath and the likelihood of frost and ice as this is not within my area of expertise.

92. Mr Ley's has suggested that reduced setback have created a problem. This then leads to requiring a 5.5 metre separation from the legal road boundary. Again, this statement is not strictly correct. The issue that needs resolving is the separation from the back of footpath to the garage door. I agree that a 5.5 metre setback is required but only from the front of the garage to the back of the footpath.
93. I see that a condition of consent has been included in Attachment 9 of the Section 42A Report requiring better separation to address this issue. I will discuss the conditions of consent later in my evidence.
94. There is a mention of the streetscape planting and how this is to be managed. This has been explained the various meetings with council staff and will be consistent with the other parts of the Olive Estate development. The Olive Estate management want control of the streetscaping to provide the amenity and road environment. Effective landscaping provides the positive traffic calming outcomes for all road users. This can easily be seen below.
95. **Figure 3** shows the road environment on Fairrose Drive which is similar in width to the proposed extension within the proposed development. This section of Fairrose Drive and particularly the areas outside the carriageway are managed by Tasman District Council.



Figure 3: Fairrose Drive with no landscaping.

- 96. As shown the streetscaping provides very little in managing the road space and has no effect on encouraging lower speeds. This part of Fairrose Drive is six metres wide.
- 97. **Figure 4** shows the first part of Langdale Drive which is the same width is the road in the photograph above.



Figure 4: Langdale Drive

98. As shown the design of the development creates an environment that motorists are encouraged to drive slower.
99. Commentary from Mr Ley then suggest ideally that the road to be vested needs to be 19 metres wide. In regard to the operational needs for the road to function safely and efficiently there is no need for this legal width. Often the servicing needs (underground services) is used to claim more road reserve than what is actually physically needed. The existing formation of Langdale Drive and legal road to be vested shows that a wider legal road reserve width is not required.
100. Furthermore, the requiring wider legal road leads to inefficient use of a valuable land resources, unnecessary wide berms and poor outcomes on how these are managed.
101. Mr Ley suggests that the on-street car parks are required as part of the NTLDM and these can used by residents. This is not the case. The NTLDM requires one car park per dwelling if the parking provision of two parking lanes is not provided. The extension provides parking lane between accesses as would be expected with possible future parking being provided on undeveloped land. It should also be noted that the development complies with the parking requirements. I also note that the NTLDM does not reverse the parking for residents. It would operate on a first come first serve basis.
102. Mr Ley discusses the public walkway/reserve that is proposed through the development. The mechanism to enable public access (walking/cycle) through the development is a relatively simple arrangement which has been elsewhere across the district. The most notable one exists for the Arvida development in Richmond West which interestingly replaced an indicative road. Mr Ley statement agrees that it is a relatively simple and common arrangement.
103. The application plans show a right turn bay marked on Hill Street. No traffic assessment was provided for the right turn and with the plans being a concept layout. The right turn bay should have been removed from the plans and was not picked up by me.
104. The traffic flows do not warrant the need for a right turn bay and I note that are no other right turn bays along Hill Street except at the intersection of Williams Street. Williams Street is a busy connecting road between Hill Street and Salisbury Road and also provides access to schools.
105. That said, there are benefits to all road users from the installation of a right turn and the visitors to the Care Facility. The benefits include separated turning facility, potential speed reduction due to visually narrowing the road and better management of the road space on a Principal Road.

106. In discussing the right turn bay with the applicant, they support the right turn bay and prepared to pay the cost to have it installed to the appropriate standard. The design will be included in the Engineering Plans for council approval.
107. The right turn bay will likely require the removal of car parking along this section. This is a process that falls under the responsibility of Tasman District Council. It would appear from most of the submissions that some removal of car parking would be supported.
108. Mr Ley has recommended that the access for Villa 18 is located off the RV access. The reason for this, is that reversing on to Fairrose Drive will dangerous. I do not agree with this suggestion.
109. For the access to be dangerous (unsafe) it is Mr Leys view that there is limited sight distance. There are number of factors that need to be considered when assessing sight distance, as set out in Austroads design guides. These include operating speed and reaction times. The access is located near the threshold treatment at Iris Drive which will reduce the speed of traffic. The operating speed along Fairrose Drive is targeted at 30 km/h. Driver using the road will be alert (2.0 seconds for older drivers) due to the nature of the road environment. The required Safe Stopping Distance (SSD) is around 27 metres. The available SSD is around 34 metres.
110. The access for Villa 18, as proposed, will operate safely with any effects being less than minor.
111. Mr Ley in summing up has again suggested that a typical residential development would have joined up Hill Street with Fairrose Drive with the same design elements. This is simply not the case. The TRMP does not require the indicative road to link Hill Street with Fairrose Drive. The NTLDM does not require the same dimensions for the road as the existing formation of Fairrose Drive.
112. Finally Engineering (Services Department) support the application with suggested conditions. I will discuss the conditions later in my evidence.

DRAFT CONDITIONS – LAND USE

113. Attachment 9 sets out a number of draft conditions should the Commissioner grant consent. I have reviewed the conditions relating to traffic matters and provide my comments and suggested amendments below.
114. Condition 14 require all staff and contractors to park on the site. For contractors this is a reasonable condition during the construction process. However, for Care Facility staff upon completion of the building, it is not. While it is expected that

staff will be accommodated on the site, it is not unusual for people to park off site for a variety of reasons.

115. As noted in the Section 42A Report and in the TIA, any overflow effects of parking on to the street are less than minor. Therefore, the condition is not required to manage any adverse effects. The notation “No Staff or” at the start of Condition should be deleted.
116. Condition 33 should include “conditions of consent” as with other conditions. The way it is currently worded does not allow for the consented design.
117. Condition 34 has an advice note that suggests that Fairrose Drive is an important strategic link. This is not the case and while it is provided for as part of the development it is not required. The advice note or Condition 28 does not set any timelines for the connection to be formed.
118. Condition 35 requires parallel car parks to be 2.5 metres wide. The NTLDM only requires 2.0 metre wide car parks. The extension to Fairrose Drive is 6.0 metres which is 400mm wider than the NTLDM requires. In this interest of encouraging slower speeds, it is preferred to provide 2.0 metre wide car parks as required under the NTLDM and return the space back into the footpath areas.
119. Condition 40 requires the formation of a right turn bay and refers to two different design standards. The formation of a three metre long storage bay is not long enough for one vehicle can have a clear spaces without sitting in the taper. The design of the right turn bay should be in general accordance with MOTSAM Figure 3.26.
120. Condition 43 seeks to make some of the internal roads within the Olive Estate Village function like public roads with easements for pedestrians/cyclists and vehicles. The arterial connections of Langdale Drive and Fairrose Drive are more appropriate as the connecting roads and for the use of vehicular traffic.
121. It is unclear why council require short cul de sacs and Olive Terrace for public access. Olive Terrace, Camarosa Place and Pajero Way have been designed to provide access to individual units and are not connecting roads for the general public. There would be informal access for the public, but this does not require an easement in gross.
122. Iris Drive does provide a link between Langdale Drive and Fairrose Drive (Extension). The public pedestrian/cycle link is intended down the linear reserve through the development (off road) and therefore the need to provide it on Iris Drive I consider unnecessary. While I can accept that there is some benefit in public vehicular traffic using Iris Drive and that is the intention, the lack of control

offered by way an easement for general use may be problematic for the applicant if additional measures are needed for safety reasons.

123. Iris Drive has the potential to be a short cut for some users, over the more appropriate route of Langdale Drive and Fairrose Drive which is the arterial network. With that in mind the need for strong positive control of the use of Iris Drive is needed which may be eroded with an easement for public use.
124. The preference is that Condition 43 is deleted. However, if the Commissioners are of a mind to allow full public access then I would recommend that only Iris Drive has the public easement for the reasons noted above. Further to this any easement document should allow full management and control to the applicant to manage any effects that may occur from vehicular traffic using this route as a short cut. This should include the ability to restrict vehicular access.
125. Condition 44 appears to be a duplication of Condition 40 and should be deleted.

DRAFT CONDITIONS – SUBDIVISION

126. Condition 6 as per my evidence above Section 118 and recommended changes to Condition 35 of the Land Use Consent.
127. Condition 10 as per my evidence Section 119 above and recommended changes to Condition 40.
128. Condition 3 as per my evidence above Sections 120 to 124.

SUBMISSIONS

129. The application was publicly notified on 30 May 2020 and there were submissions received in support and also in opposition to the development.
130. Submitters opposing the development raised concerns which can generally be included into the following themes.
 - Traffic safety effects, (which includes vehicular and pedestrian safety effects) of the development.
 - The proposed intersection of Hill Street and Fairrose Drive.
 - The design of the extension to Fairrose Drive.
 - The service road from the Care Facility building onto Brenda Lawson Way.
 - The intersection of Hill Street and Brenda Lawson Way and the proximity and alignment of the service road to the Care Facility building and the ability for service vehicles to manoeuvre safely and without adverse effects to other motorists or pedestrians; and

- The width and geometry of Hill Street and the ability for vehicles to travel in both directions along Hill Street, if vehicles are parked on both sides of the road.
 - Traffic volumes arising from the proposal, including the effects this will have in respect of a reduction in residential character and amenity (including in relation to headlight glare and noise).
 - An increased demand for on-street parking in the surrounding area and the associated traffic safety effects that may be associated with this.
131. Most of the concerns raised by submitters have been detailed in the Transportation Impact Assessment that was included in the application which concluded the effects are less than minor.
132. To further assist the Commissioners in understanding these matters I have provided further analysis and assessment below on the relevant matters. As noted in my evidence above, there have been some changes to the design to address concerns raised by some submitters.

Brenda Lawson Way

133. The traffic related effects on Brenda Lawson Way have been removed with the shifting of the access and servicing area.

Hill Street

134. The main concerns raised by submitters related to the increase in traffic along Hill Street, its width and the potential safety effects of increased traffic.
135. Hill Street is listed as a Principal Road in the Tasman Resource Management Plan. The purpose of a Principal Road is to provide arterial road connections between suburbs as well as to property. The design of these types of roads is primarily for the movement of traffic.
136. Hill Street forms part of the outer ring road for the Richmond area and is expected to carry more traffic over time as the development of the Richmond South area proceeds.
137. Concerns have been raised about the carriageway width of Hill Street when vehicles are parked on both sides of the road. The relatively low traffic flows along this Principal Road enables most drivers to navigate along its length without any difficulty. When vehicles park on both sides of the road (which occurs mostly at the northern end) near Queen Street, the road becomes more difficult to users with some motorists giving way to oncoming vehicles or two vehicles passing each other slowly. This is not uncommon in the New Zealand context, but it is

acknowledged that some drivers would find this uncomfortable and/or inconvenient. However, it is not generally unsafe.

138. With increasing traffic flows along the road, it is more likely that opposing traffic is going to meet more often and therefore increasing the level of inconvenience and in some cases reducing safety.
139. As explained in detail later in my evidence, since the TIA was prepared the number of crashes along Hill Street has recently increased, with some common cause factors. There may be a need for Council to better consider how on-street parking is managed to meet the needs of users of Hill Street and future growth in the southern parts of Richmond in the near future.
140. While not clear, it is suggested by some submitters that the new intersection of Fairrose Drive and Hill Street has limited sight lines. As noted in the TIA and in my evidence, the new intersection will exceed the best practice sight distance requirements for this form of intersection. The intersection is able to operate safely.

Fairose Drive Extension

141. A number of submissions have raised concerns over the width of Fairose Drive. As set out in my evidence the traffic lane widths along Fairose Drive extension exceeds the Nelson Tasman Land Development Manual (NTLDM) requirements for a sub collector road.
142. The design has been amended to provide a consistent shared path width from the existing section of Fairose Drive to the first internal intersection. This shared path then crosses the road and connects to the wider path network within the development. This is a higher provision than required under the NTLDM as shared paths are not required.
143. Parallel parking has been provided along the northern side of the road at Council's request to replace angle parking. This has reduced the number of on-street spaces in this area.
144. The layout of Fairose Drive extension is able to meet the needs of its intended users with any effects being less than minor.

Parking

145. There was also a number of submissions concerned about the level of parking provided for the development. The TIA had a thorough analysis of the expected parking demands that was based on the existing site, evidence accepted in the original hearing and research data, that is based on surveys.

146. The parking demands for the development are complicated due to the different activities and the different demands they will have for on-site parking. It should also be noted that the expansion of Olive Estate will be one site, as no subdivision for the units is planned.
147. Council has sought further information several times on the parking supply for the development, highlighting the complex nature of the demand and supply of car parking for the application. The most recent response is dated 5 March 2020.
148. This response provided a breakdown of the TRMP parking requirements and the total on-site parking provision. In summary the TRMP parking requirement is 193 spaces with the development providing 205 on-site spaces. The on-site parking did not include any on-street parking that is available for people to legally park.
149. It is suggested by submitters that any parking associated with Olive Estate should be contained within the development. That is not a requirement of the TRMP and nor is it anticipated by the TRMP.
150. As with any development, parking can occur on the street and notably the NTLDM allows for parking on the street to meet some of the demands of a development. The Olive Estate expansion should be treated in the same way.
151. That said it is important to manage any potential on-street parking effects, which is a role of Tasman District Council who are responsible for these assets. The applicant has no ability to manage where and how people park on-street which is done through parking restrictions. The applicant would support any parking restrictions that are required.
152. Any effects of the parking demand can be managed to ensure they do not create an adverse effect.

Particular Submissions

153. There were some submissions that raised particular concerns or questioned the validity of the traffic assessment. I have provided more details for these submissions as they will assist in understanding other submissions and address particular issues raised.

Billington Submission 04

154. This submission raises concerns about headlight glare into their house which will be opposite the extension of Fairose Drive and the new intersection of Fairose Drive and Hill Street.
155. The location of the road and intersection is determined by the TRMP and the indicative roads as required by Tasman District Council. The submitters house is located to the south of the new intersection. The northern boundary of this site is roughly in line with the southern kerb line of the new road.
156. Vehicles exiting the extension of Fairose Drive will be to the right and north of the submitter's property and out of the range of the headlights. The house is also well back from the road (around 20 metres) and is above the road by around three metres.
157. There will also be street lighting at the new intersection which will reduce the effect of headlight glare in this area.

Firth submission 31

158. A number of concerns have been raised in this submission which include the standard of Fairose Drive which will adversely affect the safety and efficiency of vehicle movements.
159. It is suggested that if a road does not meet the Council engineering standards then it will be unsafe and inefficient. There is no evidential based data to prove that this is the case. In practice, the opposite is the case which is clearly demonstrated within the existing Olive Estate village. The extension of Langdale Drive, which is listed as a Collector Road, has provided a very safe and efficient road environment for all road users since its completion.
160. As with Langdale Drive, there are other examples in the Tasman and Nelson area which do not meet the Council engineering standards that operate safely and efficiently.
161. I have also recently attended a Waka Kotahi run workshop for the design of roads for the 21st century. The focus of this workshop was to design roads to meet the needs of people. This was achieved through the use of narrower roads and traffic calming measures. This practice is based in designing streets for liveable communities and is leading to changes in the various roading standards used across the country.
162. The new Nelson Tasman Land Development Manual (NTLDM) has recognised some of these changes in road design with noticeably more flexibility road width and cross sections.

- 163. Council have said that the extension of Fairrose Drive would be classified as a Sub Collector Road.
- 164. The proposed road width of Fairrose Drive is wider than the NTLDM requirements. Fairrose Drive has been made consistent with the design philosophy of the Langdale road layout, which has proven to be successful in providing the right safety outcomes, meeting the needs of all users and meeting the functional requirements to move vehicles.
- 165. With regard to parking, it has been provided in line with the NTLDM, noting that there is a section of Fairrose Drive which will be developed as part of a separate development in the future.
- 166. Shared paths and footpaths exceed the provisions of the NTLDM and have been designed to provide a clear high-quality linkage from Hill Street through to the Olive Estate entrance to Langdale Drive.
- 167. Any differences in the required design and what is proposed has been carefully considered with any effects being managed so they are less than minor. The design has positive effects in providing a road environment that caters for all road users safely and efficiently.

McGurk - Submission 67

- 168. The McGurk submission considers the proposed width of the Fairrose Drive to be too narrow.
- 169. McGurk also suggests that the crash data is selective. The approach to analysing crash data is consistent with best practice by taking the most recent full five calendar years and particularly in urban areas. I have also included reported crashes in the incomplete years following 2018 which included 2019.
- 170. There is a data lag with reported crashes being entered into the Crash Analysis System (CAS) managed by Waka Kotahi (NZTA). There has also been time pass since the writing of the TIA and notification and hearing of this application.
- 171. As noted in this submission and some others, there has been two recent crashes on Hill Street since the application was submitted. The following details of those crashes and others that were not available at the time of the crash analysis are provided in **Table 2**.

Road	Location	Date	Collision Date Reference	Accident Description	Severity
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Hill Street	Opposite Hillplough Heights	2020155878	22/06/2020	<p>A van north collided with a parked truck with a trailer. The driver was travelling at around 40km/h. There were workers at the trailer at the time of the crash.</p> <p>The cause codes included the van being too far to the left and the driver being dazzled by sun.</p> <p>The worker (pedestrian) was injured.</p>	Minor injury
Hill Street	14 metres south of Pioneer Heights	2020156865	22/06/2020	<p>Car traveling north collided with a parked truck on the side of the road. The truck was in the process of unloading an oversized load which was flagged. Beam on the truck went through the windscreen of the car and struck passenger.</p> <p>Driver was travelling slowly due to limited visibility.</p>	Minor Injury
Hill Street	Opposite Resolution Place	2020153810	02/06/2020	<p>Driver fell asleep and collided into a ute with a trailer parked on the side of the road.</p>	Non-injury
Hill Street	42 metres south of Lorimer Lane	2020143509	29/01/2020	<p>Driver heading north on Hill Street collided with wing mirror of parked car. Driver fled the scene</p>	Non-injury
Hill Street	32 metres south of Lorimer Lane	201986729	04/12/2019	<p>There were two vehicles heading south on Hill Street. The front vehicle stopped suddenly when a cat (possibly) ran across the road. The following vehicle crashed into the rear of the stopped vehicle.</p>	Non-injury

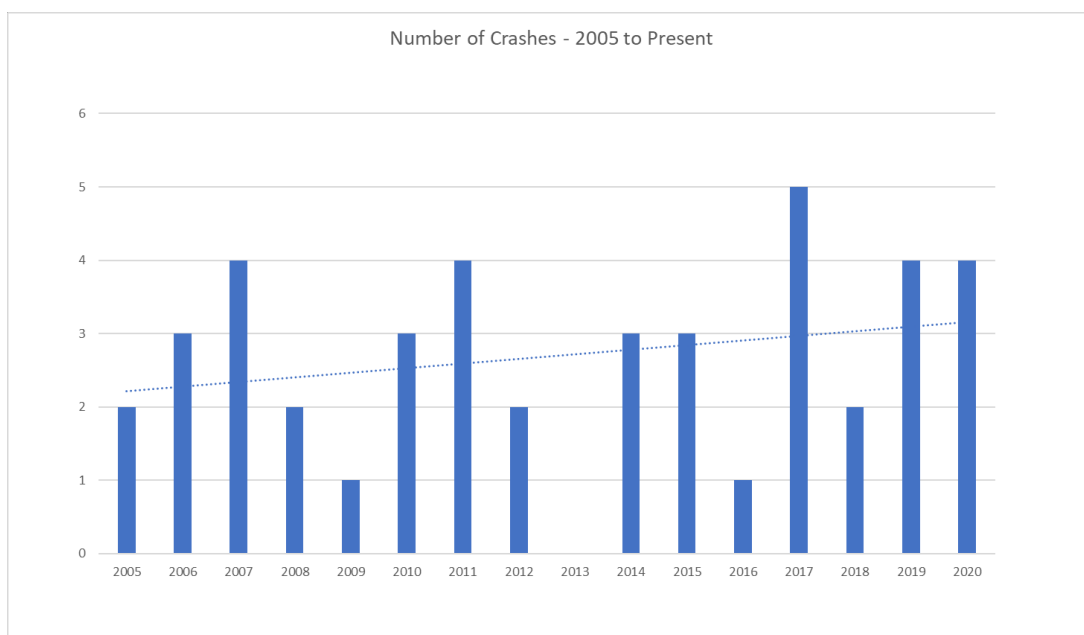
Table 2: Reported Crashes on Hill Street since 2018 (Source: Waka Kotahi)

172. I note that there have been no additional reported crashes at the intersection of Wesley Road and Langdale Drive, on Langdale Drive and in the vicinity (within 50 metres) of the new intersection of Fairrose Drive and Hill Street.

173. The crashes noted in Table 1 are outside the search area that was used for the crash analysis in the TIA. However, as part of considering the safety of the wider area other crashes were considered, which did not show any cause or movement factors that would suggest an inherent safety issue.
174. This submission and some others have expressed concerns over the general safety of Hill Street, its width and on-street parking. The more recent crash data is suggesting a trend in a particular type of crash factor being collision with parked vehicles. I note that this was not due to the road width but mostly sunstrike.
175. Of particular note is that most of the crashes have involved trucks or trailers, and one being an over dimension load.
176. Based on the nature of the crashes, it would appear that the increase in traffic flows along Hill Street is a result of the development of the Richmond South area, and some other factors on the wider road network are potentially leading to an emerging safety issue.
177. The proposed development will increase traffic along Hill Street, which is consistent with the residential zones of Richmond South, the arterial status of Hill Street and increases in new roads and accesses onto Hill Street.
178. With Hill Street being an important arterial road in the wider road network with increasing traffic, it would appear the time may have come for better parking management along the road. This would also be the opportunity to consider how speeds are managed along this road. As noted in the TIA, the operating speed is higher than the posted speed which needs to be considered as well. This does not meet Council's standards with regard to road management and the NTLDM.
179. The increase in traffic on Hill Street, the increased presence of parked vehicles on both sides of the road and the limited width of Hill Street should be addressed. This is a matter for Tasman District Council in their role to manage the changing road network arising from anticipated growth.
180. I note that while the development will increase traffic along Hill Street, this is notably less than what would occur from a standard residential subdivision. Furthermore, some of the land within the development site could also be more intensively subdivided under a more comprehensive residential development.
181. Housing for the older generation such as retirement villages, generates less traffic than typical residential developments. The Olive Estate homes, and the Care Facility will generate less traffic. Accordingly, the expansion of Olive Estate will have a lesser traffic effect than what could occur on this residentially zoned land.

182. It is unclear why McGurk thinks 2005 is a more appropriate point in time to take crash data from. To be helpful I have carried out a brief review of crashes on the road network in the vicinity of the development from 2005 to the present date. The search area included all crashes bounded by Harte Road, Hill Street, Chelsea Avenue. The intersections of Bateup Road/Wensley Road/Harte Road, Queen Street/Hill Street, Wensley Road/Chelsea Avenue and Wensley Road/Langdale Drive were also included.

183. **Graph 1** shows the results of this crash data search.



Graph 1: Reported Crashes 2005 to Present day (Source: Waka Kotahi)

184. As shown the number of reported crashes has steadily increased over time, based on the trendline. This is against a background of higher traffic growth. Most notably is the increase in traffic along Hill Street as a result of the significant development that has occurred in the last 3 to 5 years, which has not proportionally increased the number of crashes. This would suggest the road network is generally operating safer.

185. However, with the increase in traffic and with the expectation that this will continue with the ongoing expansion of the Richmond South area and other growth areas, it is reasonable to expect more vehicle interactions along Hill Street and the wider road network.

186. Tasman District Council will need to develop a strategy and provide physical improvements for the growth provided for within the TRMP. Such improvements might include the following:

- The introduction of a parking management plan for Hill Street.
 - The introduction of a roundabout at the intersection of Hill Street and Queen street.
 - Speed calming measures along Hill Street.
 - Traffic and speed management on Harte Road.
187. These measures are likely to be required regardless of the Olive Estate development, notably that this application generates less traffic than a typical subdivision on the development site as anticipated by the TRMP.
188. Any traffic related effects of the proposed development on Hill Street are less than what is already anticipated under the residential zone as set out on the TRMP.

CONCLUSIONS

189. The proposed development will provide a continuation of the positive effects that already exist within the Olive Estate Village. The combination of road design with landscaping has a positive effect in reducing the operating speed within village and on all road users.
190. Changes were made to the design provided in the application which were targeted to address concerns raised by submitters. The main change was the removal of the service access from Brenda Lawson Way. The other changes have made no material difference to the traffic related effects for the development.
191. The proposed development provides an appropriate level of car parking on and off street for its demands and meet the requirements of the TRMP. As accepted in the Section 42A Report any on street effects are less than minor.
192. The traffic generated from the expanded Village is around the same levels as the original consent. This is due to the smaller Care Facility. Also, the expected flows from the development are less than what was anticipated under the residential zone and particularly at peak times.
193. The new intersection of Fairrose Drive and Hill Street easily meets the best practice guides around providing a safe intersection with safe stopping distances easily exceeding accepted requirements. Council's Development Engineer, Me Ley, also has raised no concerns about the intersection form or location.
194. The proposed road layout for the extension to Fairrose Drive meets the requirements of the NTLDM expect for the legal road width. Council is happy to accept the reduced width of new vested road.
195. The Section 42A report accepted that any traffic related effects are less than minor and can be mitigated.

196. The conditions of consent relating to traffic are largely accepted apart from the minor changes suggested in my evidence.
197. Overall, the traffic related effects of the application can be managed and are less than minor.
198. I am happy to answer any questions the Commissioners may have.

A handwritten signature in blue ink, appearing to read 'G.P. Clark'.

Gary Paul Clark