Milldale Fast-Track

29/07/2025 – Auckland Council Response

Annexure 22:

Auckland Transport

Specialist Response Template – Fast-track Approvals Act 2024 – Substantive Application

Technical Specialist Memo – Auckland Transport Traffic and roading matters

To:	Dylan Pope – Lead Planner & Carly Hinde - PPL
From:	Shahriar Tehrani, Senior Development Planner, Auckland Transport
Date:	17/07/2025

1.0 APPLICATION DESCRIPTION

Application and property details

Fast-Track project name:	Milldale
Fast-Track application number:	BUN60446761 & FTAA-2503-1038
Site address:	Wainui Road, Milldale, Upper Orewa

2.0 Executive Summary / Principal Issues

The proposed development is generally consistent with the Wainui Precinct Plan, the indicative overall layout of the precinct, and the anticipated staging of the Milldale Development. Auckland Transport has reservations regarding the timeline for the delivery of required infrastructure to support this stage of the Milldale development, operational performance and safety of the proposed roads and intersections, and stormwater management. These matters are discussed in further detail below.

3.0 Documents Reviewed

- Stage 4C Transportation Assessment, Prepared by Stantec, dated 25/03/2025;
- Stages 10-13 Transportation Assessment, prepared by Stantec, dated 27/03/2025

- 3C_Part-1c-Civil-Drawings-Stage-4C-Overall-Servicing
- Appendix 3A_Part 2 - LUC60419153-A and SUB60419152-A Stage 4C-1
- Appendix 3B_ Part 1 – Architectural Plans Stage 4C Overall
- Appendix 3C_Part 1b - Civil Drawings Stage 4C - Overall Roading
- Appendix 3C_Part 2a - Civil Drawings Stage 4C-2
- Appendix 3C_Part 2b - Civil Drawings Stage 4C-2
- Appendix 3C_Part 3a - Civil Drawings Stage 4C-3
- Appendix 3C_Part 3b - Civil Drawings Stage 4C-3
- Appendix 3C_Part 3c - Civil Drawings Stage 4C-3
- Appendix 3C_Part 3d - Civil Drawings Stage 4C-3 (1)
- Appendix 3C_Part 3e - Civil Drawings Stage 4C-3
- Appendix 3C_Part 4 - Civil Drawings Stage 4C-4 (1)
- Appendix 3C_Part 4 - Civil Drawings Stage 4C-4
- Appendix 3C_Part 5a - Civil Drawings Stage 4C-5
- Appendix 3C_Part 5b - Civil Drawings Stage 4C-5 (1)
- Appendix 3D_Scheme Plans
- Appendix 3E_Landscape Plans
- Appendix 3F_Infrastructure Design Report (1)
- Appendix 3H_Transport Assessment (1)
- Volume 3 - Stage 4C AEE Final (1) (2)
- Volume 6 - Fast-Track Conditions of Consent

- Appendix 2A Geotechnical Report Part 1 (1)
- Appendix 2A Geotechnical Report Part 2 (1)
- Appendix 2A Geotechnical Report Part 3 (1)
- Appendix 2A Geotechnical Report Part 4 (1)
- Appendix 2A Geotechnical Report Part 5 (1)
- Appendix 2A Geotechnical Report Part 6 (1)
- Appendix 2A Geotechnical Report Part 7 (1)
- Appendix 2A Geotechnical Report Part 8 (1)
- Appendix 2D Stream Width Investigation With Plan
- Appendix 2E Hydrology Report
- Appendix 2F Infrastructure Report
- Appendix 2G Stormwater Report Part 1
- Appendix 2G Stormwater Report Part 2
- Appendix 2H Detailed Site Investigation
- Appendix 2K Engineering Drawings Part 1
- Appendix 2K Engineering Drawings Part 2
- Appendix 2K Engineering Drawings Part 3
- Appendix 2K Engineering Drawings Part 4
- Appendix 2K Engineering Drawings Part 5
- Appendix 2K Engineering Drawings Part 6
- Appendix 2K Engineering Drawings Part 7
- Appendix 2N Transportation Assessment Report

4.0 Specialist Assessment

Infrastructure Requirements

Pine Valley Road/Dairy Flat Highway Intersection

When Milldale was originally being planned, the Applicant prepared an Integrated Transportation Assessment (ITA). This ITA examined the entire Milldale development and identified the types of measures needed to manage transport related effects. It considered the wider network beyond the site boundaries and outlined what improvements would be required and when they would be necessary. These requirements were expressed in terms of the number of dwellings that could be built before specific upgrades to the surrounding network would be triggered. The 2019 update to the ITA, included in the Fast-track application, recommends signalising the Pine Valley Road / Dairy Flat Highway intersection once 2,800 dwellings are occupied.

The Fast-track proposal adds 1,100 dwellings, bringing the total to 3,080—triggering the need for the intersection upgrade. The ITA includes transport modelling of both an interim and full design for the intersection. While the interim design was assessed for 2,800 dwellings, the full design was modelled for 4,500 dwellings.

Auckland Transport has consent for the Pine Valley Road/ Dairy Flat Highway intersection upgrade (BUN60366520 granted 3rd October 2021). Fulton Hogan will carry out the works in accordance with the consented upgrade design as per an approved Infrastructure Funding Agreement. The consented Mott MacDonald design for Auckland Transport's Notice of Requirement 8 - Upgrade to Dairy Flat Highway between Silverdale and Dairy Flat (NoR 8), is a variation to the design which is considered the full design in the ITA. The Applicant has indicated their intention to construct this design layout, with construction anticipated to begin in late 2025. It is recommended that the upgrade be in place before any further dwellings are consented and occupied beyond 2,800 dwellings.

No traffic modelling has been provided for the layout prepared by Mott MacDonald. While it is expected that the design will increase intersection capacity and improve levels of service—particularly by reducing delays for vehicles turning in and out of Pine Valley Road during peak periods—the relative performance of this design to the interim or full design in the ITA has not been tested through further modelling. However, the proposed design provides adequate space to allow minor modifications and for the addition of extra lanes—such as those shown in the NoR8 design or the 2019 ITA SIDRA model diagram—without requiring changes to the overall road reserve width.

It should be also noted that Level of Service (LOS) at an intersection refers to its performance in terms of the time drivers spend queued at an intersection, usually measured at the commuter peak times. According to SIDRA software modelling, LOS A represents the least delay, while LOS F indicates the greatest delay—i.e., an intersection with LOS A is performing well, whereas LOS F signifies significant delays and poor performance. Aspirational LOS as per Auckland Network Operating Plan (which is an agreed plan of how the transport network should be operated at different times of day for the different transport modes) vary between B, C and sometimes D. However, LOS C is considered acceptable for general vehicle, freight and public transport in this instance. In this case, the proposed interim intersection design achieves LOS C and therefore aligns with Auckland Transport's aspirational LOS for general traffic, freight and public transport.

A key concern is timing of the upgrade as it may not be completed before the proposed dwellings are occupied. Without the upgrade, LOS drops to E (AM peak) and D (PM peak). With the upgrade, LOS improves to B and C, respectively.

It is noted that the roading upgrades in proximity to this intersection do not include cycling infrastructure at this stage as this will be delivered as part of the development of the sites adjacent to the roads of Dairy Flat Highway and Pine Valley Road. The intersection however adequately caters for walking provision in the future.

Wainui Road/ Argent Lane Intersection Upgrade

The ITA provided by the Applicant assumes that the Wainui Road / Argent Lane intersection has been upgraded. The traffic modelling for 2,800 dwellings is based on this assumption, showing that with the upgrade works, the intersection would operate at LOS A. This would result in improved functionality and safety at the intersection.

A separate resource consent has been granted to the Applicant for the upgrade of Wainui Road, including improvements to the Wainui Road / Argent Lane intersection, as well as the installation of footpaths and cycle lanes along its southern sections. The upgrade of Wainui Road and the Wainui Road / Argent Lane intersection are required to be completed prior to the proposed stages in the Fast-track consent being built out.

As outlined in the Public Transport section below, the Wainui Road upgrade will enable bus routes to be extended to this part of Milldale. Additionally, as noted in the ITA, the upgrade of Wainui Road and the Wainui Road / Argent Lane intersection will enhance walking and cycling options for residents.

A condition requiring the upgrade of Wainui Road including the Wainui Road/ Argent Lane intersection is recommended below for the Panel's consideration.

Public Transport

The application is located in an area that is live zoned, discussions regarding the provision of infrastructure have taken place in the past as development has gradually progressed, including considerations around public transport. As a result, Auckland Transport has been anticipating development in this area within the next few years.

Currently, Route 989 services Milldale. Although the Regional Public Transport Plan 2023–2031 (2025 Variation) does not list any specific changes to Route 989, Auckland Transport is incrementally improving the route. The area subject to the current Fast-track proposal is positioned such that it would be feasible to extend Route 989 to service the next phase of development. However, this extension is subject to co-funding from NZTA. The current 989 Route can be seen in Figure 1.

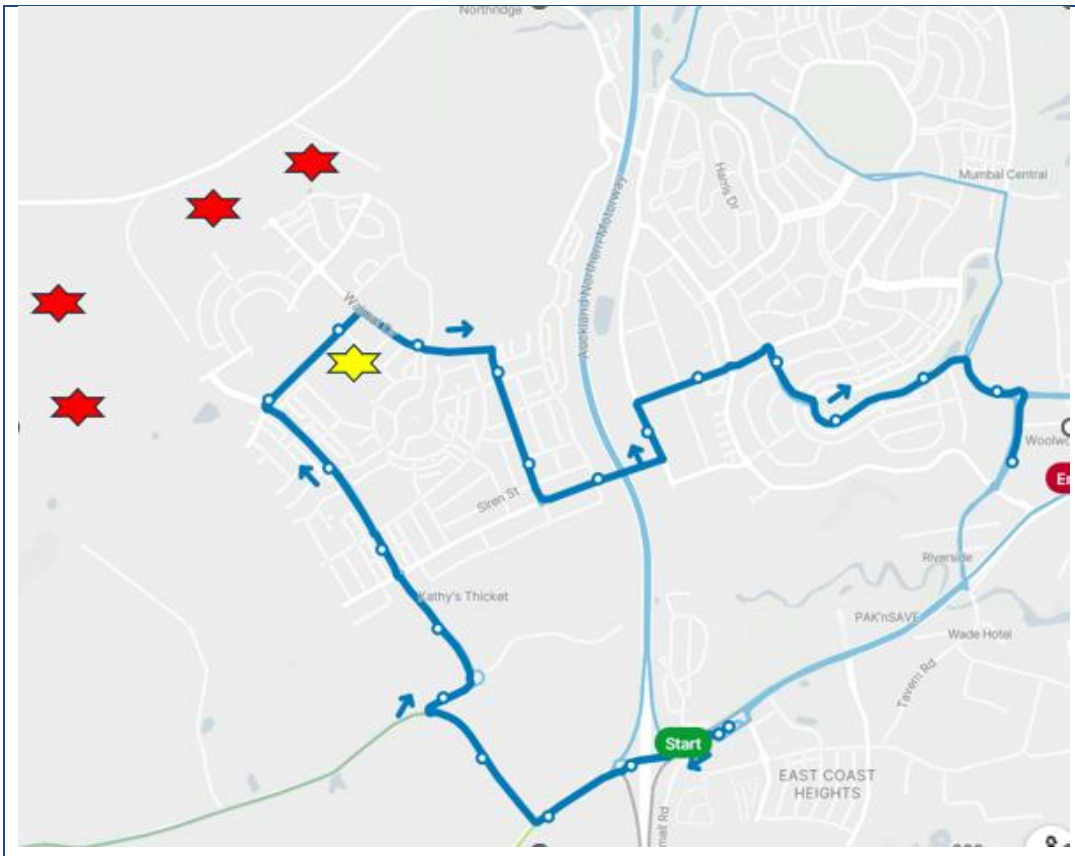

Figure 1: Route 989, which serves Milldale to the south of Stages 10 to 13 (marked with red star in the figure) and is runs just to the north of Stage 4C (marked with yellow star in the figure). The start point in the figure is Hibiscus Coast Bus Station.

The potential future bus route, which has been discussed between the Applicant and Auckland Transport, is shown in Figure 2. It should be noted that the bus stop locations along the proposed collector roads have been suggested by the Applicant, approximately aligning with the potential future bus stop locations indicated in Figure 2. Route 989 will pass through Stages 10 to 13 of the Milldale Development, and Wainui Road shares a boundary with these stages. Therefore, as noted above, it is also required that Wainui Road be upgraded before the dwellings are occupied so that residents can access public transport.

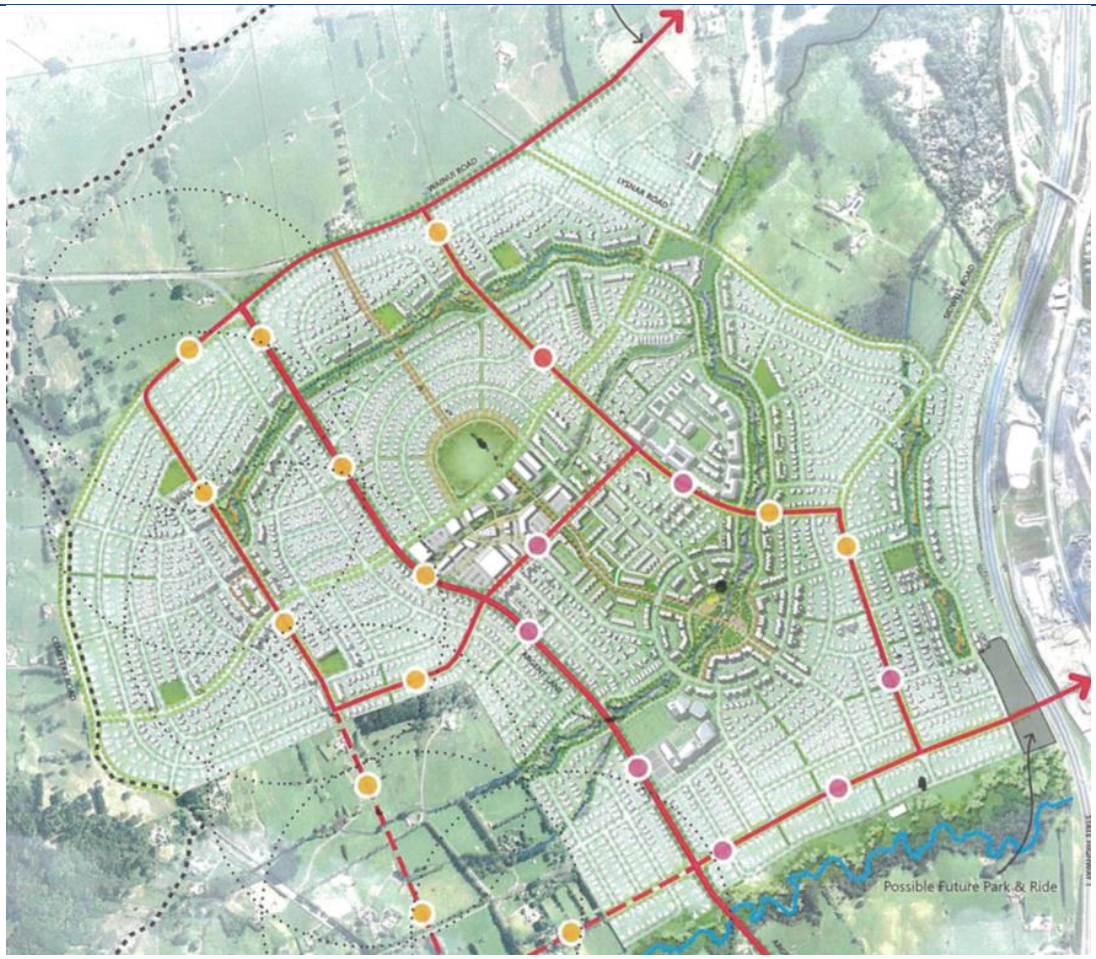

Figure 2: Potential future bus routes and bus stop locations as discussed between Auckland Transport and the Applicant.

Walking and Cycling

There are many walking and cycling facilities within the Milldale Development. Both the arterial and collector roads have been designed with cycle lanes, proper footpaths, and public accessway connections. The proposed residential lots have adequate access to bus stops, and most of which are located within safe and accessible walking distances to services within the Wainui Precinct.

It should be noted that the most direct access routes from the development site to Hibiscus Coast Bus Station will likely be either:

Via the Highland Park Bridge over State Highway 1, then along Waterloo Road to the edge of the motorway, where a future active mode link is proposed; or

From the Pine Valley Road / Dairy Flat Highway intersection toward the motorway interchange, to the east of which is the Hibiscus Coast Bus Station.

While these routes provide more the direct walking and cycling connections, they are not within accessible walking distances for most residents. Therefore, it is expected that, regardless of the development of these two links,

residents will continue to rely on feeder buses within the Milldale Development to reach the Hibiscus Coast Bus Station.

Auckland Transport also considers that the Applicant should provide a shared path that accommodates cyclists on Local Road 18 and either Local Road 22 or Local Road 23. This would ensure a continuous bicycle path, forming a loop that connects:

Collector Road 01

Stream Edge Road 05

Bridge 04

Local Road 18

Bridge 03

Local Road 22 or Local Road 23

Back to Collector Road 01

This loop would provide a continuous cycling route throughout the development.

Recreational Bridges

Five recreational active mode bridges have been proposed by the Applicant. The locations of these bridges are indicated in the Engineering Drawing P24-128-00-2080-RD provided by the Applicant:

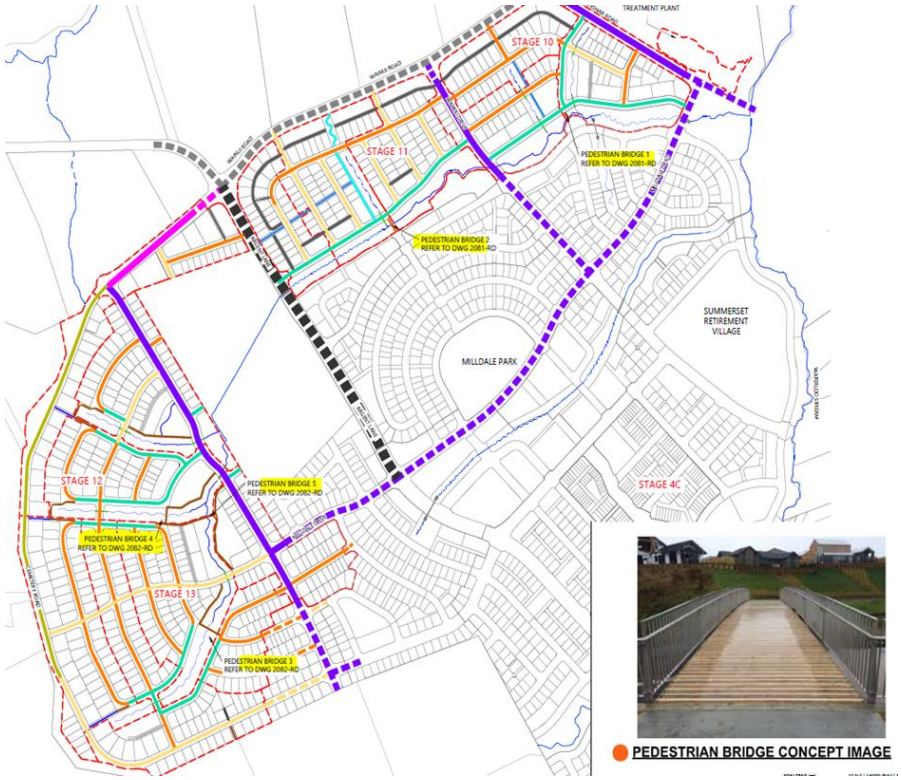

Figure 3: Eng drawing P24-128-00-2080-RD, showing five recreational bridges highlighted.

Auckland Transport has reviewed the bridges and has expressed openness to accepting Bridges 2, 3, and 4 as assets, as they can be considered road-to-road bridges serving a transport function, subject to the following conditions:

The Applicant must ensure that the bridges and their interfaces are designed in accordance with the Transport Design Manual (TDM); and

For any bridges with a dual function (e.g., Bridge 4, which includes a stormwater pipe), the responsibility for maintaining the utility must be clearly defined.

Auckland Council's Parks Planning team has confirmed that Bridge 1 will be accepted as a park's asset. Auckland Transport's has reviewed Bridge 5 and noted that it is not considered to have a road-to-road transport function. Therefore, Auckland Transport will not accept Bridge 5 as an asset.

Missing Technical Documentation

Road Long Sections and Tracking Plans

The application lacks long-section drawings to confirm gradients and vehicle tracking diagrams. Without these, Auckland Transport is unable to assess the suitability of the proposed road design. Auckland Transport's Transport Design Manual (TDM) sets standards for the maximum allowable gradients of footpaths to ensure accessibility for all users, including the elderly and those with mobility impairments or other accessibility needs. Pedestrian comfort is often influenced by road design, particularly the steepness of the gradient. In general, pedestrians tend to avoid steeper routes, and for accessibility purposes, steep gradients are not recommended. Therefore, without long-section plans, Auckland Transport cannot determine whether the development provides suitable options for the most vulnerable footpath users.

There are also risks associated with other transport modes. Auckland Transport requires long-section plans to assess whether vertical curves may create visibility issues for road users. A lack of visibility presents a critical safety risk and can negatively impact the road network. Without these drawings, Auckland Transport cannot determine the suitability of the roads proposed for vesting

Similarly, without vehicle tracking diagrams, Auckland Transport cannot assess whether vehicles can safely operate within the proposed roads and intersections. If operational or safety issues are identified during the Engineering Approval (EA) stage and cannot be mitigated, the Applicant may be required to amend their scheme plans. Therefore, adequate tracking diagrams must be provided to confirm that there is sufficient space for vehicle movements and to ensure there are no operational or safety concerns.

These matters have been discussed with the Applicant during the processing of this application and prior to its lodgement. The Applicant has indicated that they believe the deliberate omission of these plans does not present a 'significant risk' to the approval process at the resource consent stage.

However, Auckland Transport considers that the absence of long-section plans does present a significant risk to the approval process. If non-compliance is identified at the Engineering Approval (EA) stage, the Applicant may be required to seek a variation to the consent—particularly if road widths are found to be insufficient to accommodate tracking of vehicles. Auckland Transport therefore recommends that the Applicant mitigate this risk by providing long-section drawings and tracking diagrams at this stage.

Visibility Assessments

No visibility assessments have been provided for the proposed intersections. As a result, Auckland Transport is unable to confirm whether the proposed intersection treatments are sufficient to ensure safe traffic operations. Inadequate sightlines pose a significant road safety risk, particularly at intersections, and can lead to serious accidents. The Applicant has been made aware of the potential need to amend their plans but has opted not to provide a visibility assessment.

To address visibility concerns, a range of mitigation measures may be considered. These include less intrusive options such as traffic calming devices, signage, and road markings, as well as more substantial interventions like reconfiguring intersection layouts—shortening crossing distances or adjusting intersection angles. In some cases, these measures may require changes to road reserve boundaries.

If visibility issues are identified during the EA stage and cannot be resolved without altering the scheme plan or lot boundaries, a consent variation may be necessary. While the Applicant has indicated that a visibility assessment will be provided at the EA stage, Auckland Transport strongly recommends that this assessment be submitted now. Early identification of visibility constraints allows for more effective mitigation and avoids complications at later stages when scheme plans may already be approved.

Intersection Spacing on Waiwai Drive

The proposed layout includes closely spaced T-intersections along Waiwai Drive between Stages 10 and 11, as shown in Woods Drawing P24-128-00-2047-RD. This configuration may result in conflicts between turning vehicles, resulting in road safety and operation risks. Auckland Transport is also concerned about the potential impact of nearby bus stops on visibility at these intersections and recommends that the Applicant assess and mitigate these issues at this stage.

As with the previously noted visibility concerns, the Applicant has been made aware of the risks but has chosen not to address them at this point in the process.

Auckland Transport also has concerns regarding limited pedestrian visibility at the zebra crossing near the WaiWai Drive/Local Road 02/Local Road 04/ Stream Edge Road 01, particularly when looking to the left. This issue may be worsened by buses stopped at adjacent bus stops, further obstructing sightlines. The Applicant has been encouraged to assess this risk and propose appropriate mitigation measures. However, similar to the intersection concerns, these matters have not been addressed at this stage.

While the Applicant has acknowledged Auckland Transport's concerns and indicated that these issues will be considered in future assessments, they remain unresolved at this time.

Intersection Spacing on Collector Road 01 (Stage 12)

A similar concern exists on Collector Road 01 in Stage 12, where T-intersections are located too closely. Auckland Transport suggests relocating the eastern intersection one lot south to improve spacing and reduce potential conflicts.

Direct Lot Access to Collector Road

Three lots on the west side of Waiwai Drive have direct access to the Collector Road, which is not considered desirable due to the resulting safety (conflict points with active modes) and efficiency effects (slowing down buses). Auckland Transport recommends that the Applicant explore options to reduce or eliminate these accesses, such as adjusting lot boundaries or introducing a Jointly Owned Access Lot (JOAL).

Stormwater and Hazards

Stage 4C:

As per Auckland Transports Raingarden Safety Practice Note 03, roadside raingardens are required to be in accordance with Auckland Transport's Bioretention Design Guide Version 2 published in February 2025. The current design will not be in accordance with this guide and may not be feasible with the current road reserve boundaries. For example, the width required for a raingarden according to Auckland Transport's Bioretention Design Guide Version 2 published in February 2025, is 2.5 metres plus 0.5 metres buffer for safety (so that pedestrians do not fall into the raingarden). The width proposed by the Applicant is 2.4 metres, and there is no buffer between pedestrians and the raingardens. For these reasons, Auckland Transport may not be able to accept the proposed raingardens for vesting on the basis it may cause serious injuries as result of pedestrians falling into them.

Stages 10-13:

Auckland Transport's engineering design guidelines require roads to be designed to accommodate major flooding scenarios. The focus of major event management design is on ensuring personal safety, protecting property, and enabling the resilience and recovery of infrastructure during extreme events. Typically, designs are based on storm events with a 1% Annual Exceedance Probability (AEP), which helps ensure infrastructure can withstand or recover from such conditions. This approach also facilitates access for emergency services and provides protection for both human life and habitable or commercial properties.

For the current proposal, there are some concerns in relation to flooding hazards which can result in safety issues and damage to property if no adequate assessment has been provided:

The Applicant has not provided road long-section drawings. Additionally, the Overland Flow Path (OLFP) calculations appear to use incorrect input values, including road slopes that, in some instances, exceed Auckland Transport's maximum allowable gradient of 12.5% for roads intended to be vested. For example, Section A-A on drawing P24-128-00-3021-DR applies a road slope of 0.276 m/m (equivalent to 27.6%) to calculate OLFP parameters such as flow depth and velocity for a 100-year rainfall event.

Using inaccurate slope values may result in incorrect flood hazard parameters, making it impossible for Auckland Transport to assess whether the proposed assets are safe in terms of flooding risk. Further information is required to determine whether the assets proposed for vesting appropriately address safety concerns and avoid potential property damage.

OLFPs for the 1% AEP + climate change within roads to be vested to AT are required to meet the minimum safety requirements specified in Table 3 of the Road Drainage chapter of Auckland Transport's TDM. In relation to these safety requirements, the calculations provided show the depth x velocity products significantly exceed the maximum value for safety of pedestrians. This is a major concern for pedestrians' safety during major rainfall events that are expected to become more frequent in the future. Aukland Transport requires that new designed roads are safe for use, and at this stage this does not appear to be the case. The Applicant should note that the design of an unsafe road may not be granted EA in later stages.

There are some concerns in relation the proposed culverts which will be Auckland Transport assets:

Although some provision for fish passage has been shown in the details for the proposed culverts, no assessments have been provided that show the proposed culverts will meet the requirements of the National Environmental Standards for Freshwater 2020. The Applicant has proposed fish baffles but also has the culverts 25% below

upstream/downstream bed levels, meaning the baffles may become fully covered by bed substrate, negating any benefits they provide to fish passage. Specifically, it should be demonstrated that:

The culvert must provide for the same passage of fish upstream and downstream as would exist without the culvert, except as required to carry out the works to place, alter, extend, or reconstruct the culvert.

The mean cross-sectional water velocity in the culvert must be no greater than that in all immediately adjoining river reaches.

The bed substrate must be present over the full length of the culvert and stable at the flow rate at or below which the water flows for 80% of the time.

Annexure A, Milldale Stage 4C and Stages 10 to 13 - Fast Track Application Transport Assessment (Revision 2) dated 28 July 2025 prepared PTM Consultants

Memorandum

To:	Shahriar Tehrani | Senior Development Planner (North/West) | Auckland Transport
From:	Paul Schischka | Consultant Transportation Engineer | PTM Consultants
Date:	28 July 2025
Subject:	Milldale Stage 4C and Stages 10 to 13 - Fast Track Application Transport Assessment
Revision:	2

This memorandum contains my road safety / traffic engineering specialist review comments on the Milldale Stage 4C and Stages 10 to 13 fast track resource consent application

The proposal is part of the wider Milldale development, located in the Wainui / Orewa area north of Auckland. The Stage 4C development will result in 168 new residential dwellings. Stages 10 to 13 development will result in 623 new residential dwellings, 27 super lots, and one neighbourhood centre. All stages have new public roads to vest.

I have reviewed the application documents supplied by the applicant. The documents most pertinent to my review are;

- The Stage 4C Transportation Assessment Report prepared by Stantec and dated March 2025 ('the S4C TAR').
- The Stages 10 to 13 Transportation Assessment Report prepared by Stantec and dated March 2025 ('the S10-13 TAR').
- The Integrated Transportation Assessment prepared by Stantec and dated October 2019 ('the 2019 ITA').
- The Stage 3C Civil stageswings, prepared by Woods and dated February 2025.
- The Stages 10 to 13 Civil Drawings, prepared by Woods and dated February 2025.

As part of this review I visited the site on 21 November 2025 for a joint site visit and workshop with Auckland Transport, Auckland Council, the applicant and their advisors.

Executive Summary

A. The design of the new public roads to vest which are included in the proposal are generally consistent with the Wainui Precinct Plan and the 2019 ITA. Typical road cross-sections are generally consistent with Auckland Transport's Transport Design Manual. I consider that aside from a few specific matters the overall layout of the new road network within the development is appropriate.

B. The applicant has not provided long-section drawings, vehicle tracking drawings, or sight distance check drawings for the new road as part of the fast tracking application. These things are typically provided at resource consent because addressing any deficiencies in them can potentially require changes to the lot boundaries post-consent.

C. In Stage 4C I recommend that Lots 491 to 496 have their vehicle access off the jointly owner access lot running along their rear boundary. This will minimise the number of vehicle crossings onto public roads and improve pedestrian safety and amenity.

D. There are three lots in Stage 11 which have direct vehicle access onto Waiwai Drive, which is a collector road with an off-road cycle path and a future bus route. To reduce the potential safety issues resulting from vehicles reversing out of the lots across the

cycle path and potential delays for bus services I recommend that the lot boundaries are reconfigured to provide alternative vehicle access to the lots.

E. There are four side road intersections on Waiwai Road and two on Collector Road CR01 which I consider to be too closely spaced. This has potential traffic safety and operational effects as drivers turning in and out of the side roads may need to wait on the same parts of Waiwai Drive or CR01.

F. There are bus stops in close proximity to side road intersections on Waiwai Drive, which could interfere with driver sight lines when turning out of the side roads or from a nearby zebra crossing. I recommend that alternative locations for the bus stops, zebra crossing, or intersections be investigated to address this matter.

G. The 2019 ITA contained a list of five recommended improvements to the road network outside of the site which are needed to address the effects of additional trips generated by the Milldale development, along with thresholds for these improvements based on the number of occupied dwellings. It is understood that the proposal, along with consents already granted, would allow the number of occupied dwellings to increase to 3,080.

H. The improvements listed in the 2019 ITA included the Highgate motorway bridge and roundabout at the intersection of Pine Valley Road, Old Pine Valley Road and Argent Lane. These improvements have been constructed and are operational.

I. 2019 ITA included signalisation of the intersection of Pine Valley Road and Dairy Flat Highway when the 2,800 dwelling threshold was exceeded. I have been supplied drawings for signalisation of the intersection prepared by Mott McDonald by Auckland Transport and have been advised that the intersection will be upgraded in the near future.

J. The signalised intersection layout shown in the Mott McDonald drawings differs from the layout modelled in the 2019 ITA and the 2024 Notice of Requirement 8 (NoR8) drawings for the upgrade of Dairy Flat Highway. While I expect that the Mott McDonald design will add capacity to the intersection and make it easier for drivers to turn in and out of Pine Valley Road safely, especially during peak hours, I have not been supplied traffic modelling for the Mott McDonald design and cannot confirm that it will operate at the same level of service as the 2019 ITA.

K. The 2019 ITA list also included two improvements which were only required at the 3,800 dwelling threshold. The proposal will not meet this threshold.

L. I have been supplied with a copy of a document titled suggested conditions to mitigate the impact on traffic congestion and safety from the Rodney Local Board Feedback on BUN60446761 / FTAA-2503-1038 - Milldale Fast-track Application, and have been asked to provide comments on the suggested conditions which relate to the Pine Valley / Dairy Flat Highway intersection, the Silverdale Motorway Interchange, Wainui Road, Road Widths, and parking spaces per dwelling respectively. Detailed commentary on these matters is provided in the body of this memorandum, but by way of summary I consider that the applicant's proposal is generally appropriate in regards to these matters and the potential traffic related effects of the development.

Memorandum

Matters Relating to Both Stage 4C and Stages 10 to 13

1. No vehicle tracking drawings have been provided for the proposal. Vehicle tracking is typically checked at resource consent stage before boundaries are fixed because providing more space for turning vehicles may require boundaries to be adjusted.
2. Similarly, no sight distance check drawings have been provided by the applicant for the intersections or pedestrian crossing facilities. These drawings are normally provided at resource consent stage because providing additional sight distance to meet applicable engineering standards often requires adjustments to property boundaries.

Stage 4C Specific Matters

3. I generally consider the proposed new road layout and other transportation matters for Stage 4C to be appropriate and have comments on a relatively small number of matters for this stage. The proposed layout of Stage 4C is generally consistent with the Wainui Precinct Plan and the 2019 ITA.
4. The roads included in this stage are all low traffic volume, low speed local roads. The typical cross-sections widths proposed are in general accordance with Auckland Transport's Transport Design Manual (TDM). Given the length and overall layout of the proposed roads I expect that vehicle operating speeds will typically be around 30 km/h which is appropriate for local residential streets.
5. The topography of Milldale in the vicinity of Stage 4C is generally flat and I expect that the longitudinal gradients of roads and footpaths will be appropriate and provide for easy pedestrian access. Page 19 of the S4C TAR states that long-sections comply with Auckland Transport's Transport Design Manual Standards. However, no long-sections have been provided to confirm this. Long-sections are typically provided for new roads to vest as part of the resource consent application and I recommend that the applicant be asked to provide them for this consent. Adjusting road levels post-consent can have knock-on effects on matters such as earthworks, drainage, and floor levels for buildings and in some cases could require boundary adjustments.
6. Lots 491 to 496 have vehicle crossings directly onto Road 800, but also have a jointly owned access lot (JOAL) running along their rear boundary. It is best for pedestrian safety and amenity if the number of vehicle crossings on public roads is minimised and I recommend that these lots have their vehicle access from the JOAL and only have pedestrian access from Road 800.
7. Page 19 of the S4C TAR states that rubbish collection will either be from the public road or the JOALS. This should be confirmed and rubbish truck vehicle tracking be checked for the JOALS if they are to be used for rubbish collection.

Stages 10 to 13 Specific Matters

8. The proposed layout of Stages 10 to 13 shown in the Woods civil plans are generally consistent with the Wainui Precinct Plan and the 2019 ITA.
9. The topography of the existing landform underlying these stages is significantly steeper than it is for Stage 4C. No long-section drawings have been provided with the application to allow us to understand the potential effects of the steeper road and footpath gradients or the effects on road users. Long-section drawings are typically provided for new roads to vest at resource consent stage and I recommend that the applicant be asked to provide them for this consent.

10. The applicant has provided an overall gradient plan (refer Woods Drawing P24-128-00-2090-RD) which shows some but not all of the information typically included in long-section drawings.
11. I consider that the applicant's design approach of having the vehicle crossings for the lots coming off roads that generally follow the topographic contours and have lower longitudinal gradients is the best way to develop a site like this, and I support the overall principle they have applied.
12. I consider that the typical cross-sections for the new roads shown in Woods Drawings P24-128-000-2010-RD to P24-128-000-2015-RD are in general accordance with Auckland Transports engineering standards and are appropriate for the environment.
13. There is limited connectivity allowed for between the southern edge of Stage 13 and the adjacent Future Urban Zone (FUZ) zoned land to the south. Woods Drawing P24-128-00-2003-RD shows that the only road connection to the boundary is Collector Road 01.
14. There is a recreational path indicated opposite JOAL 15 but this is the only connection along the southern boundary of the site which is approximately 440 metres long. The block length here is too great to allow for good future walking and cycling connections between Stage 13 and the land to the south when it is developed. I recommend that an additional connection is provided either in the form of another walkway or a local road stub to the boundary.
15. There is a section of existing paper road at the north end of Young Access which links to Road LR25. This could be used to provide better connectivity to the land to the south when it is developed and the applicant should be asked to ensure that their design will allow an intersection to be constructed on Road LR25 connecting to the paper road (or confirm the topography of Road LR25 makes it impractical to provide a connection).
16. There are three lots in Stage 11 on the west side of Waiwai Drive with direct vehicle access onto the road. Waiwai Drive is a collector road, and like other collector roads in the proposal it has separate cycle paths on both sides It would be best for cyclist safety if vehicles did not reverse out of the lots across the cyclist paths. Waiwai Drive is also a future bus route and vehicles reversing out of vehicle crossings can delay bus services. I recommend that the lot boundaries be reconfigured to either allow access from local road or via a JOAL.
17. The proposed layout has T-intersections in close proximity to each other on Waiwai Drive between Stages 10 and 11 (refer to the excerpt from the Woods drawings in Figure 1 below). This creates potential issues with turning vehicles needing to use the same space which could have potential traffic safety and operational effects.
18. Bus stops are proposed close to the intersections on Waiwai Drive in positions which will limit sight distances for drivers turning out of nearby side roads when a bus is present. This will increase the risk of a crash at these intersections and constitutes a road safety effect. The applicant has provided additional comments on this matter, stating that it can be deferred to engineering approval stage for review. However at that stage boundary and intersection locations will be fixed and it is not clear if there are any suitable alternative locations for bus stops nearby which will not have either an impact on driver sight lines from intersections or would place bus stops too far from the dwellings they are intended to serve.

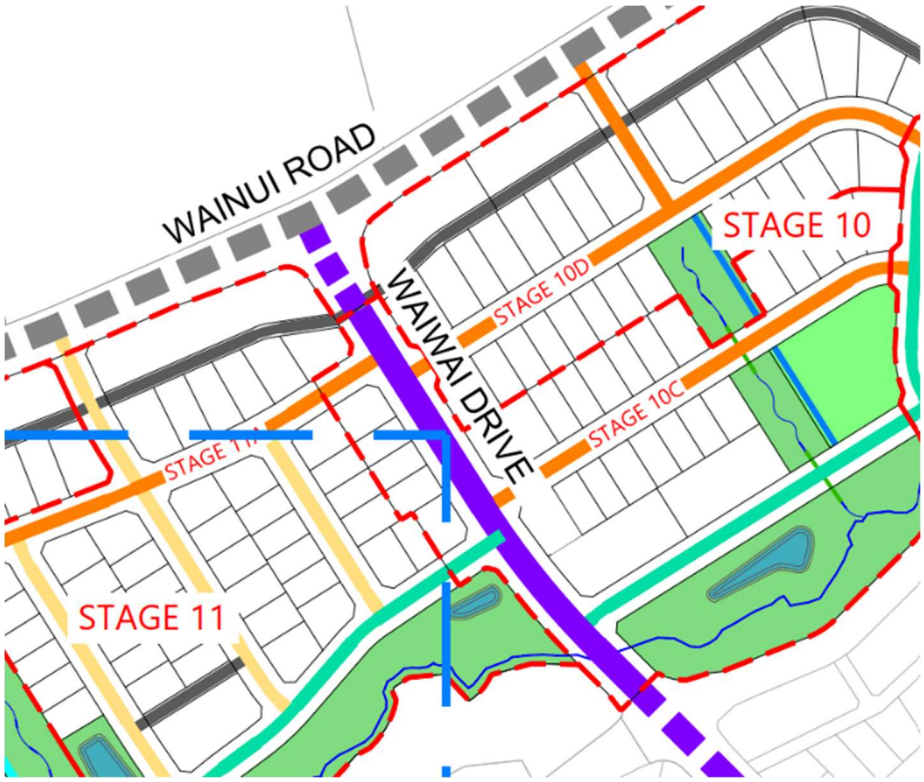

Figure 1: Excerpt from the Woods Civil Drawings showing T-intersections with side roads in close proximity to each other on Wainui Drive.

19. A similar concern with intersection spacing also exists on Collector Road 01 in Stage 12 where T-intersections with side roads are also similarly closely spaced (refer Figure 2).

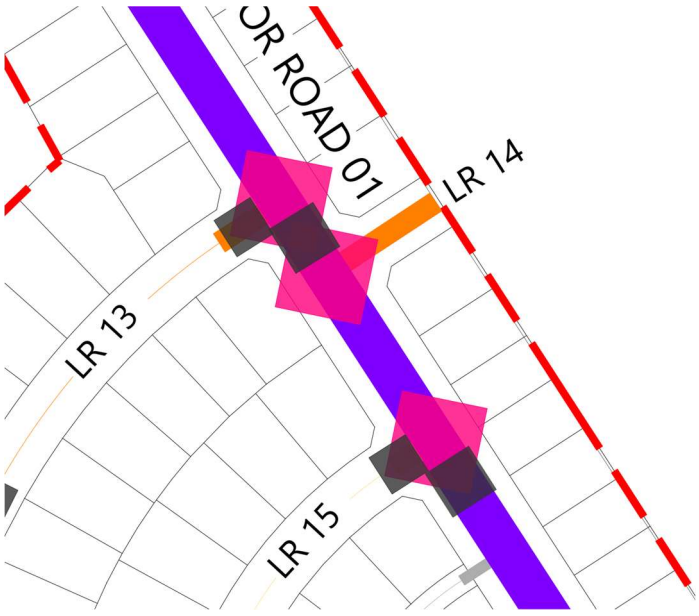

Figure 2: Excerpt from the Woods Civil Drawings showing T-intersections with side roads in close proximity to each other on Collector Road CR01

Matters Relating to the Surrounding Road Network

20. When Milldale was originally being planned the applicant prepared an Integrated Transportation Assessment (ITA). This ITA looked at the whole Milldale development and the types of measures which would be needed to manage the transportation related effects, and was based on traffic modelling for site covering both the internal network and the network beyond the site.

21. It identified what improvements to the network beyond the site would be needed and when they would be needed. This was expressed in terms in the number of dwellings which could be built before a particular improvement on the surrounding network would be needed. An updated ITA was prepared by Stantec in 2019, a copy of which is included with the fast-track application.

22. The specific improvements proposed by the 2019 ITA are listed below along with commentary on their status.

    a. *The provision of a separate cycle path off Sidwell Road, extending under SH1 at a point near the Orewa River and then connecting to Millwater-Parkway, which will serve as a recreational path for cyclists until new motorway over-bridge to Highgate is completed.*

    The new motorway over-bridge to Highgate has recently been completed.

    b. *Upgrade the intersection of Pine Valley Road and Dairy Flat Highway to a signalised intersection at the time 2,800 dwellings are occupied in Milldale.*

    Upgrade works at the intersection are planned in the near future and are discussed in more detail below.

    c. *The addition of a westbound lane to the over-bridge between Hibiscus Coast Highway and Dairy Flat Highway within the Silverdale motorway interchange and the four-laning of Dairy Flat Highway between Pine Valley Road and the Silverdale interchange, if the Penlink project is not operational by the time 3,800 dwellings are occupied in Milldale.*

    The proposal will not take the number of occupied dwellings in Milldale over 3,800.

    d. *A full upgrade to the intersection of Pine Valley Road and Dairy Flat Highway, if the addition of the westbound lane to the Silverdale interchange over-bridge and the four-laning of Dairy Flat Highway occurs, and if the Penlink project is not operational by the time 3,800 dwellings are occupied in Milldale*.

    The proposal will not take the number of occupied dwellings over 3,800.

    e. *Upgrade the intersection of Pine Valley Road, Old Pine Valley Road and Argent Lane to a roundabout.*

    This roundabout has been constructed.

23. It is understood that the proposal will increase the number of occupied dwellings in Milldale to 3,080 when all dwellings included in the proposal or already consented as part of earlier stages are occupied.

24. Auckland Transport has supplied me with a set of drawings prepared by Mott McDonald showing the proposed signalisation of the intersection of Pine Valley Road and Dairy Flat Highway dated December 2021. An excerpt from Drawing 422554-MMD-00-XX-DR-C-0203 Rev A is shown below. I have rotated the image to place north roughly at the top of the image.

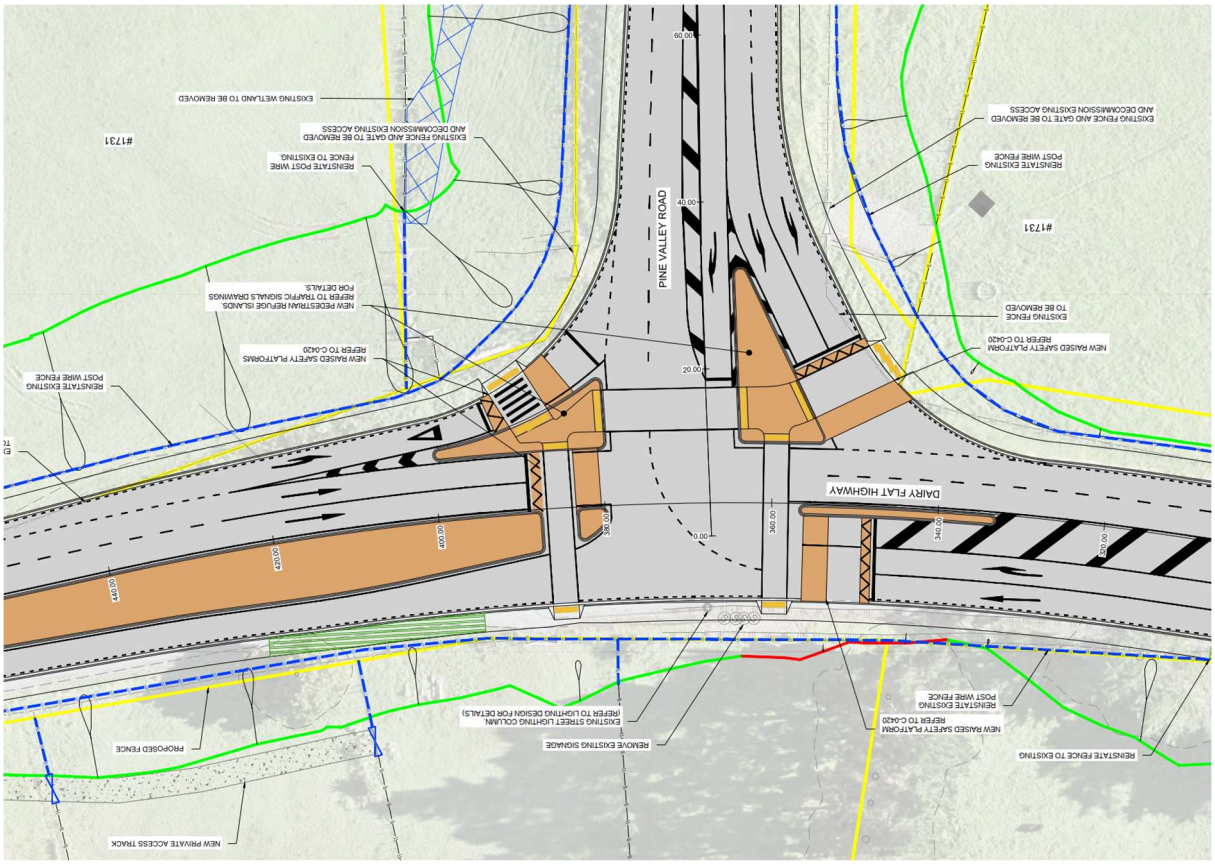

Figure 3: Excerpt from Mott McDonald Drawing 422554-MMD-00-XX-DR-C-0203-Rev A showing the upgrade works for the intersection of Pine Valley Road and Dairy Flat Highway.

25. The drawings provided show the works in plan view only. No typical cross-sections, long-sections, or data showing existing or finished levels has been provided. Aside from chainage lines no dimensions are shown on the drawings. No vehicle tracking, traffic signal phasing, or sight distance check drawings have been supplied. I cannot confirm whether the design is appropriate or in accordance with applicable engineering guidance and standards in regard to these matters. My comments in this memorandum are limited to the intersection and details which are apparent from the drawings.

26. The Mott McDonald Drawing shows raised safety platforms (speed tables) across the slip lanes and also the through lanes on Dairy Flat Highway. According to Auckland Transport Practice Note 02 Use of raised devices on the AT Network raised safety platforms require a departure from standards when used on arterial roads. The practice note was issued after the date the drawings were produced, and I recommend confirming that the departure has been sought.

27. The intersection layout shown in the Mott McDonald drawings has a signalised pedestrian crossings across all legs of the intersection and across the left turn slip lane on the

northeastern corner. A zebra crossing is shown across the slip lane on the northwestern. Pram crossings and tactile ground surface indicators are shown for all of the pedestrian facilities.

28. No footpaths or cycle facilities are shown at the intersection, but earthworks 'tad pole' indicators show that the grass berm area on either side will be shaped to facilitate future construction of these facilities on Pine Valley Road, but not Dairy Flat Highway. Mott McDonald Drawing 422554-MMD-00-XX-DR-C-0205 contains annotations indicating that the grass berms on Pine Valley Road will be future proofed for footpaths and cycleways.
29. The Mott McDonald drawing set shows two eastbound lanes on Dairy Flat Highway between Pine Valley Road and the Silverdale Motorway Interchange.
30. In October 2023 NZTA lodged 13 notices of requirement (NoR) with Auckland Council for route protection.
31. NoR8 comprised an upgrade to Dairy Flat Highway between Silverdale and Dairy Flat to an urban arterial corridor with walking and cycling facilities. This includes the intersection with Pine Valley Road.
32. I have sourced a copy of the NoR8 drawings from the Auckland Council web site and Figure 4 shows an excerpt from the drawings covering the intersection of Pine Valley Road and Dairy Flat Highway.

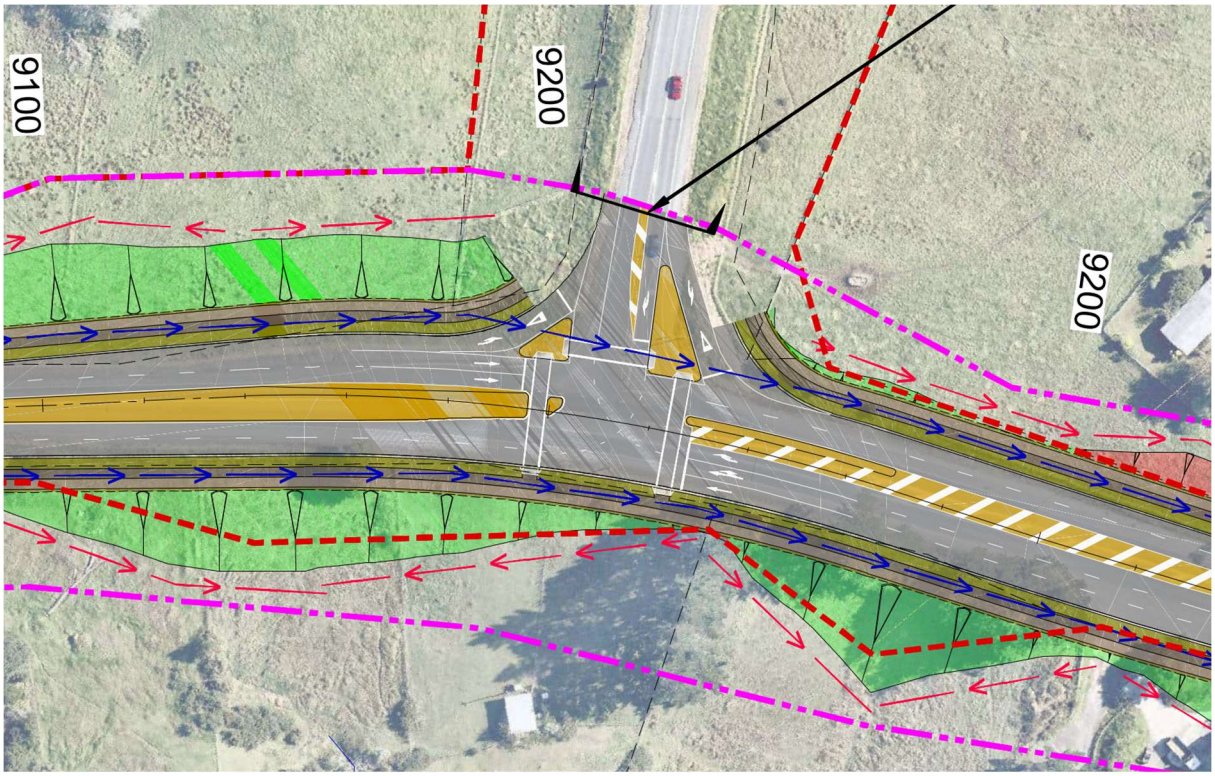

Figure 4: NoR8 drawings for the intersection of Dairy Flat Highway and Milldale Road.

33. The principal differences between the two drawings are that compared to the Mott McDonald drawing the NoR8 drawing has only one lane for the left turn out of Pine Valley Road, no raised safety platforms are shown on the NoR8 drawing, no pedestrian crossing facilities are shown for the slip lanes, pedestrian and cyclist paths are shown on Dairy

Flat Highway, there is an extra westbound departure lane on Dairy Flat Highway west of the intersection and an extra shared right and through approach lane for Dairy Flat Highway east of the intersection.

34. Figure 5 shows the SIDRA layout diagram from the 2019 ITA for the Pine Valley Road / Dairy Flat Highway Intersection. This has a different layout from both the NoR8 and Mott McDonald Drawings.

35. The three layouts differ in length of the auxiliary lanes, the number of left turn lanes out of Pine Valley Road, the number or approach and departure lanes, and in a number of more minor ways.

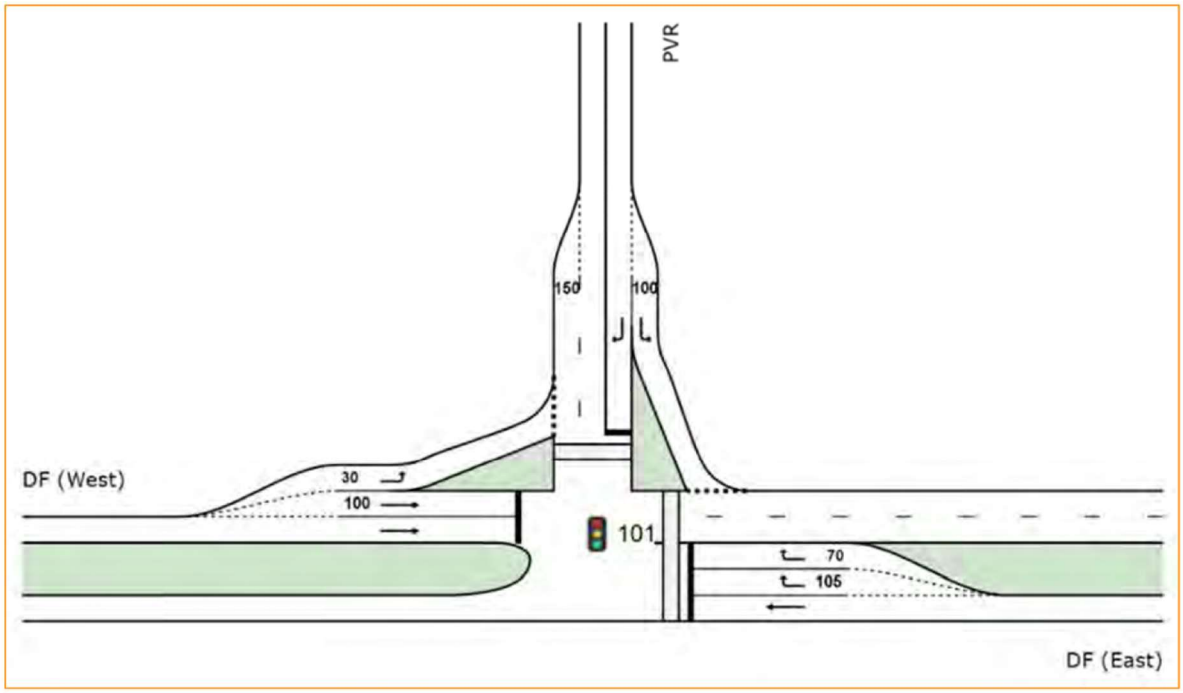

Figure 24: Interim Signalised Intersection Upgrade (2,800 households)

Figure 5: Excerpt from the 2019 ITA showing the SIDRA layout diagram from the 2019 ITA

36. Figure 6 below is an excerpt from the 2019 ITA showing modelling results for the intersection during peak hours with 2,800 dwellings in Milldale.

Approach	Movement	2800HH							
		AM Peak Hour				PM Peak Hour			
		Flow (vph)	Delay (s)	LOS	Max 95% Q (vehs)	Flow (vph)	Delay (s)	LOS	Max 95% Q (vehs)
Pine Valley Road (north)	Left	1,187	16	B	25	423	9	A	5
	Right	286	23	C		181	31	C	
Dairy Flat Highway (east)	Through	466	12	B	10	381	4	A	17
	Right	209	27	C		896	34	C	
Dairy Flat Highway (west)	Left	78	7	A	5	386	10	B	13
	Through	336	28	C		795	27	C	
All Vehicles		**2,562**	**18**	**B**	**25**	**3,062**	**22**	**C**	**17**

Figure 6: Excerpt from the 2019 ITA showing modelling results for intersection of Pine Valley Road and Dairy Flat Highway during peak hours.

37. The table below from the AT Network Operating Plan shows AT's levels of service (LoS) for the arterial road network. According to AT Future Connect Dairy Flat Highway and Pine Valley Road near the site are primary arterial roads and Dairy Flat Highway is a Level 1B freight route. The LoS from the operating plan table is therefore C. According to the 2019 ITA table the intersection will meet this LoS for all movements.

Mode	Strategic network type	LOS AM peak	LOS Off Peak	LOS PM Peak
Walking	Primary	B	B	B
	Secondary	C	C	C
Cycling	Regional	B	B	B
	Primary	B	B	B
Public Transport	Rapid Transit	B	B	B
	Frequent Transit 1	C	C	C
	Frequent Transit 2	D	C	D
General Traffic	Motorway	C	C	C
	Strategic and Primary Arterial *	C	C	C
	Secondary Arterial *	C	D	C
Freight	Level 1A	C	B	C
	Level 1B	C	C	C

Table 3 – LOS Table

* General traffic routes within activity centres, or where provision for PT and/or active modes demand higher priority, lower LOS for general traffic will apply.

Figure 7: Excerpt from AT's Network Operating Plan showing levels of service for the arterial road network.

38. The Section 6.3.7 of the 2019 ITA includes some commentary about the potential effects on traffic flows for vehicles turning left out of Pine Valley Rd in the AM peak if a zebra crossing is provided across the slip lane. I consider that that pedestrian demand associated with the Milldale development at this intersection is unlikely to be sufficient to cause any material impact on capacity at the slip lane. This might occur when the FUZ zoned area around the intersection is urbanised, but those effects would have been caused by the future urbanisation and are not associated with the fast track proposal.

39. Table 21 from the 2019 ITA shows modelling results at the intersection for the full 4500 dwelling buildout of Milldale. It shows that all movements expect the right turn from Pine Valley Rd in the PM peak are LoS C or better in both peaks. The LoS D right turn is not an effect which can be attributed to the current proposal, but I recommend that AT raise this matter with the applicant as something which they may be required to address as during future stages. The 2019 ITA document does not have enough information for me to determine what would be needed to address this issue.

Approach	Movement	4500HH							
		AM Peak Hour				PM Peak Hour			
		Flow (vph)	Delay (s)	LOS	Max 95% Q (vehs)	Flow (vph)	Delay (s)	LOS	Max 95% Q (vehs)
Pine Valley Road (north)	Left	1,112	15	B	22	450	9	A	8
	Right	318	23	C		242	38	D	
Dairy Flat Highway (east)	Through	516	12	B	12	369	4	A	17
	Right	288	26	C		886	31	C	
Dairy Flat Highway (west)	Left	90	7	A	5	502	12	B	13
	Through	323	28	C		671	35	D	
All Vehicles		**2,647**	**18**	**B**	**22**	**3,120**	**23**	**C**	**17**

Table 21: Dairy Flat Highway / Pine Valley Road Modelling Results (Interim Signalised Layout) – 4,500 HH

Figure 8: Excerpt from the 2019 ITA showing modelling results for the Pine Valley Road / Dairy Flat Highway Intersection 4,500 occupied dwellings in Milldale.

40. On 21 July 2025 I met with Auckland Transport and Mott McDonald to discuss the design of the intersection shown in the Mott McDonald Drawings. Mott McDonald's representative explained that the intersection had been designed with a wide flush median marking on the eastern leg which would allow an extra lane for right turn movements into Pine Valley Road to be added to the intersection with relative ease in future and that an extra wide median island was proposed on the western leg of the intersection and that this had been done to allow for an additional westbound departure lane to be added to this leg future by removing part of the median island. This would allow the extra lanes which are shown in the NoR6 design or ITA 2019 SIDRA model

diagram to be added to the intersection in future when required with no changes to the overall carriageway width.

41. I have not been supplied with traffic modelling for the layout shown in the Mott McDonald drawings. It is clear to me that, when compared to the existing intersection, this layout will increase capacity at the intersection and provide better levels of service and decreased delays for drivers turning in and out of Pine Valley Road in peak periods (particularly those turning out). However, without modelling I cannot be sure that intersection will achieve the AT Network Operating Plan's levels of service or the levels of service shown in the 2019 ITA modelling. During the 21 July 2025 the Mott McDonald representative stated that there was no updated traffic modelling for their design.

42. I recommend that traffic modelling for the Mott McDonald intersection layout is prepared and reviewed before the intersection design is finalised.

Rodney Local Board Feedback

43. I have been supplied with a copy of a document titled suggested conditions to mitigate the impact on traffic congestion and safety from the Rodney Local Board Feedback on BUN60446761 / FTAA-2503-1038 - Milldale Fast-track Application, and have been asked by Auckland Transport to comment on some of the suggested conditions relating to traffic, and in particular items 18, 19, 20, 23, and 24 which relate to the Pine Valley / Dairy Flat Highway intersection, the Silverdale Motorway Interchange, Wainui Road, Road Widths, and parking spaces per dwelling respectively.

44. Item 18, which relates to the upgrade of the Dairy Flat Highway and Pine Valley Road has been covered earlier in this memorandum.

<u>Silverdale Motorway Interchange Upgrade for Pedestrians and Cyclists</u>

45. The feedback proposes that this interchange should be upgraded for safely including safe pedestrian and cycling access.

46. This interchange is under NZTA's control not Auckland Transport's. Any upgrade works would need NZTA's approval. I recommend that NZTA's view is sought on this matter as they may have different views from mine on this upgrade.

47. Upgrading the interchange to provide better pedestrian and cycling facilities would provide a benefit for these users, but for it to be set as a condition of consent it needs to be linked to an effect the applicant will cause as a result of their proposal and the burden it puts on the applicant cannot be completely out of proportion with the effect they are causing. I am of the view that the effects on pedestrians and cyclists resulting associated with the stages in Milldale which are part of the fast track consent are not of a magnitude which would justify requiring the applicant to upgrade the interchange.

48. The existing road bridge over the motorway has space for narrow footpaths each side, but they are not wide enough for cyclists and given their narrow width and position immediately adjacent to a traffic lane they are not particularly safe for pedestrian use. The bridge is shown in Figure 69 I consider that a safe and appropriate pedestrian and cyclist route across the interchange would need more space.

Figure 9: Image of the road bridge over the motorway at the interchange looking eastward (source: Google Maps).

49. The NoR8 drawings for this area shows this in the form of two new active mode bridges crossing the motorway on either of the road bridge. This is shown in the excerpt from the NoR8 drawings below in Figure 10.

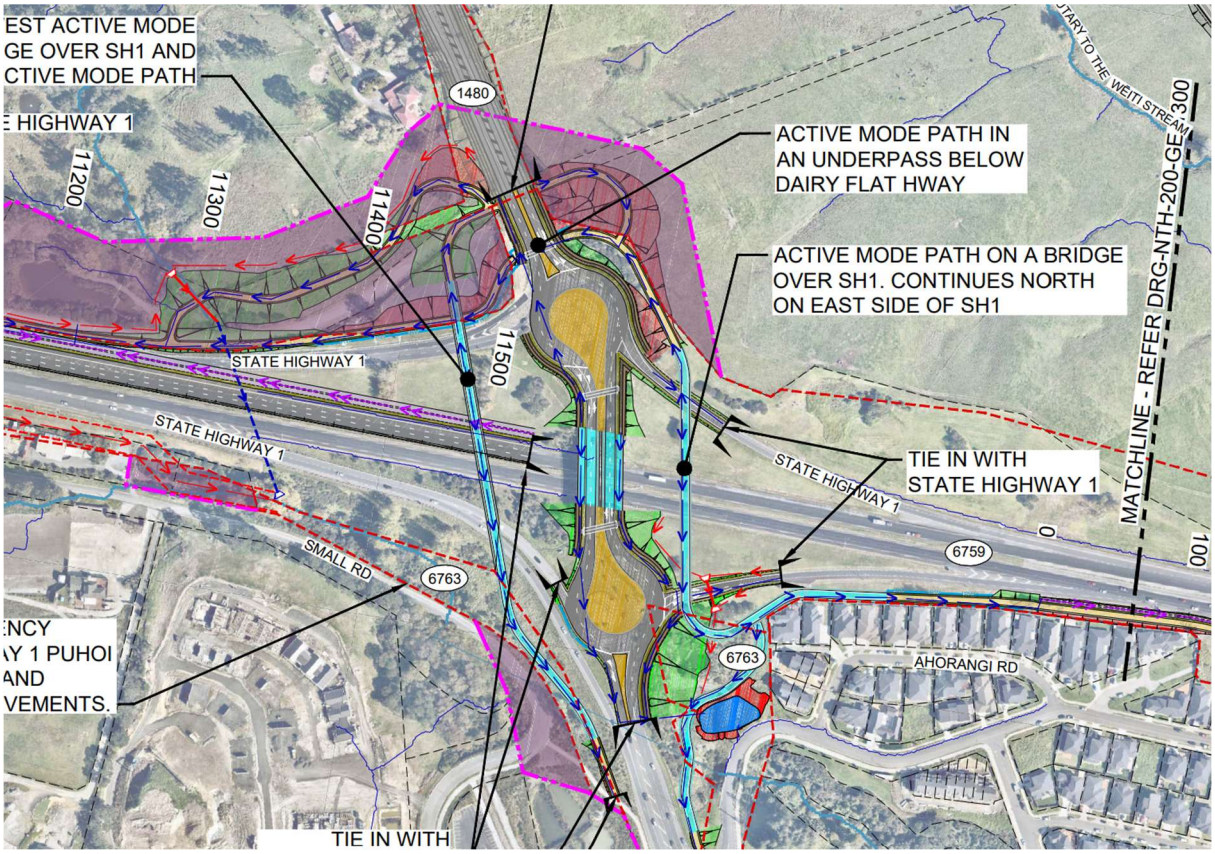

Figure 10: Excerpt from the NoR8 drawings showing an upgrade of the Silverdale Motorway Interchange.

50. Upgrading the interchange for pedestrians and cyclists was not one of measures included in the 2019 ITA. The improvements shown in the NoR8 drawings would be expensive to construct, and it may be hard to justify putting the whole cost of the improvements on the applicant as something which is needed to mitigate the effects they have caused by the proposed development of the parts of Milldale included in the fast track application.

51. For pedestrians walking from Milldale to get any benefit from them it would require a footpath linking Milldale to the interchange via Pine Valley Road and Dairy Flat Highway. If this were done then the walking distance between Milldale Stage 4 the Hibiscus Coast bus station would be around 3 km (30 to 45 minute walking time). While some people may walk this distance to get to the station, most won't.

52. Also, Highgate Bridge, which I understand is complete, provides an alternative walking / cycling route across the motorway for Milldale residents. The walking and cycling route to between Milldale Stage 4 and the Silverdale Mall and Woolworths supermarket between Stage 4 and Highgate Bridge and Wainui Road would actually be shorter than going via the Silverdale Interchange.

Wainui Road

53. The local board requested that Wainui Road is upgraded to an arterial road and roundabouts are constructed at the intersections with new roads before development starts.

54. Upgrades are proposed to Wainui Road adjacent to the Milldale development. Some of this work was included in earlier stages of the development which already have consent and some is included in the current fast track proposal.

55. Roundabouts are proposed at the intersections with the most important side roads (Argent Lane, Waiwai Drive, and Lysnar Road). There are three proposed local road T-intersections which are not roundabouts. These local roads are expected to carry low traffic volumes . Diver sight lines at these intersections are good and I do not expect any safety issues at them. I do not consider it necessary for them to be roundabouts to mitigate any traffic safety or capacity effects of the development.

Road Width

56. The local board has requested that the new roads including local roads within this development are wide enough to accommodate on street parking, Council refuse trucks, emergency services vehicles, walking and safe cycling.

57. AT's Transport Design Manual (TDM) covers requirements for these matters. Normally vehicle tracking is checked at intersections and on curves during the resource consent stage to confirm that that there is sufficient space for Council's rubbish truck to pass, however the applicant has declined Auckland Transport's request to provide drawings showing vehicle tracking information for this fast track application.

58. Fire trucks require slightly less space than the rubbish truck, so if the rubbish truck can pass then the fire truck can too.

59. The AT Transport Design Manual has recommendations for where cycling facilities are needed. Generally, in new roads these facilities are expected when traffic volumes on a road are more than 2,000 per day (and always when traffic volumes exceed 3,000 vehicles per day), which in the case of Milldale is the collector roads. The drawings supplied by the applicant show separate cycle paths separated from the footpath by a low mountable kerb on the collector roads.

60. On-street parking is provided in parking bays where appropriate, but it is limited. A lot of the dwellings in Milldale are terraced houses which have a narrow front boundary. This means that the vehicle crossings are closer together and there is limited space for parking in between them. Parking bays are used because it ensures that parked vehicles do not prevent two-way movement and because it helps keep the distance for pedestrians crossing the road down.

Parking Spaces Per Dwelling

61. The Rodney Local Board has requested that all dwellings within this proposed development have at least two off street car parks.

62. This cannot be requested as a condition of consent. The National Policy Statement on Urban Development (NPS-UD) in compelled Auckland Council to remove the minimum car parking requirements from the Unitary Plan. It is not something that Council or AT can control anymore.

Memorandum

Disclaimer / Important note:

The views and comments expressed by PTM Consultants within this memorandum are made without prejudice, on the applicant's proposal. Specialists have not conducted a specific review for design and standards compliance. We reserve the right to add to our comments in the future should there be any further changes or information presented. This memorandum has been compiled for the use of Auckland Transport, Auckland Council, and the expert panel only and is not to be amended, used, forwarded or circulated without the written permission of PTM Consultants. It is an express condition of the supply of this information that the recipient is responsible for verifying its content, correctness, and completeness. PTM Consultants accepts no liability or responsibility for any error, loss or damage suffered by the recipient arising out of, or in connection with, the use or misuse of this information.

5.0 Section 67 Information Gap			
Information gap	**Nature of deficiency**	**Decision-making impact**	**Risk / uncertainty created**
1. *Infrastructure upgrade timeline and condition.*	- *While the ITA recommends infrastructure upgrade required for the proposed Fast-track development, it does not discuss any timeline for it (e.g. before or after dwellings threshold is reached).*	*Without a clear timeline or a condition, Auckland Transport is unable to assess if the intersection in question/road performs without having operation and safety issues.*	***Medium;*** *operation and safety of road network**.;*** *however, it is medium because there is no need to change scheme plans, and the works have been contested. The bigger issue is the timeline for infrastructure upgrades, which can be dealt with through conditions.*
2. *The application lacks long-section drawings and vehicle tracking diagrams.*	- *Long-sections drawings which could show roading gradients; including vertical curves; and* - *Tracking drawings which could show that vehicles maneuver safely through roads and intersections.*	*Without long-section plans, Auckland Transport cannot assess whether the proposed development accommodates vulnerable users or meets visibility and safety requirements for road users. Vertical curves may pose visibility risks, and without these plans, road suitability cannot be confirmed.* *Additionally, vehicle tracking diagrams are essential to evaluate safe vehicle operation within proposed roads and intersections. If safety or operational issues arise during the Engineering Approval stage and cannot be resolved, the applicant*	***High****; Auckland Transport cannot assess the adequacy of roads and changes including to scheme plans may be required.*

		may need to revise their plans. Therefore, both long-section drawings and tracking diagrams are critical for assessing accessibility, safety, and operational viability.	
3. *No visibility assessments have been provided for the proposed intersections.*	- *Visibility assessments for intersections have not been provided in accordance with Auckland Transport's engineering guidelines.*	*Auckland Transport cannot confirm whether the intersection treatments are adequate to ensure safe traffic operations. If visibility issues are identified at the EA stage and cannot be resolved without altering the scheme plan or lot boundaries, a consent variation may be necessary.*	***High;*** *lack of adequate sightlines adversely impacts the safety of the intersections. It creates risks on all type of road users, including pedestrians and cyclists; this is a significant safety risk - Auckland Transport cannot assess the adequacy of visibility at critical locations and changes including to scheme plans may be required.*
4. *Safety assessment for T-intersections in close proximity along Waiwai Drive between Stages 10 and 11, being close to bus stops and points where pedestrians cross the intersections.*	- *Assessment for operations and the safety of the intersections in close proximity to each other while also taking into consideration the proposed bus stops;* - *Assessment for safety of pedestrians near the intersections' zebra crossings, particularly when looking left. This issue may be exacerbated by buses stopped at adjacent bus stops. There is a lack of assessment for this, and this is a safety concern.*	*The configuration may lead to conflicts between turning vehicles, and Auckland Transport cannot assess the risks without assessment.*	***High;*** *The reason it is high is that the intersections may need to be relocated on scheme plans if not proper mitigation has been found; this runs the risks of further changes to the scheme plan.*
5. *Safety assessment for operation and safety of intersections on Collector Road 01 in Stage 12, where T-*	- *Assessment for operation and safety of intersections on Collector Road 01 in Stage 12, where T-intersections are located too close and could pose safety risks for all modes of transport.*	*The configuration may lead to conflicts between turning vehicles, and Auckland Transport cannot assess the risks without assessment.*	***High;*** *The reason it is high is that the intersections may need to be relocated on scheme plans if not proper mitigation*

intersections are located too closely.			*has been found; this runs the risks of further changes to the scheme plan.*
6. *Stage 4C: Lack of tracking drawings for 10.3 meters rubbish trucks for all JOALs, showing that these types of vehicles exit the JOALs in forward direction.*	- *Tracking drawings are missing for all JOALs for rubbish Council rubbish trucks: Traffic Assessment states that rubbish collection will be Council Kerb-side collection either from public roads or the JOALs.*	*If no tracking drawings are provided for all JOALs, Auckland Transport cannot assess if the trucks will be exiting the JOALs in forward direction and this is considered as a safety risk on pedestrians and other road users.*	***Medium;** it could be that the owners shared JOAL can decide among themselves to change the rubbish collection method to private, which would require smaller truck, although it is better that tracking for smaller trucks are provided because lack of adequate space may entail that even smaller trucks need to reverse out.*
7. *Lack of long-section drawings for Auckland Transport to check the suitability of overland flow path mitigation measures.*	- *Long section of the roads to check the slope of the roads to be vested in relation to Overland Fow Path (OLFP) calculations. Some of the drawings for OLFP calculations show a slope of 27%, which is not legal.*	*Auckland Transport requires this information to assess whether the asset proposed for vesting adequately addresses safety concerns in relation flooding hazard, and it does not cause potential damage to property.*	***High:** OLFP poses a safety risk if not mitigated adequality through road design.*
8. *OLFP calculations provided show the depth x velocity products significantly exceed the maximum value for safety of pedestrians.*	- *OLFPs calculations for the 1% AEP + climate change within roads to be vested to AT are required to meet the minimum safety requirements specified in Table 3 of the Road Drainage chapter of Auckland Transports Transport Design Manual. The Assessment provided does not show this.*	*Auckland Transport requires this information to assess whether the asset proposed for vesting adequately addresses safety concerns in relation flooding hazard, and it does not cause potential damage to property.*	***High:** OLFP poses a safety risk to life and property if not mitigated adequality through road design.*

6.0 Recommendation

Key Headings

Auckland Transport can only support the proposed Fast-track development if infrastructure issues mentioned in this report have been resolved; and if adequate information has been provided which shows that operation and safety of the road network has not been compromised. In this case, adequate information has not been given on tracking, roading gradients, and visibility at the intersections, and these are important transport issues that need to be addressed.

Conditions are provided below which would further mitigate operation and safety effects on road network.

7.0 Proposed Conditions

Auckland Transport agrees with the proposed conditions provided in Volume 6 of the substantive application, but notes that the following conditions should also be added:

Pine Valley Road/Dairy Flat Highway Intersection

Following the completion and occupation of 2800 dwellings, no further dwellings must be occupied until such time as the intersection of Pine Valley Road/Dairy Flat Highway has been signalised and operational in accordance with approved consent BUN60366520.

Wainui Road Upgrade

The upgrade of Wainui Road to the east of Lysnar Road as required by the conditions of the approved consent LUC60393114-A, Condition 1, must be undertaken prior to the occupation of any dwellings in Stages 4C and 10-13.

Public Roads and Accessways

The consent holder must design and construct all public roads, pedestrian accessways and intersections in accordance with the requirements of Auckland Transport's relevant engineering standards. Certification from Auckland Transport that the works have been satisfactorily undertaken must be provided when applying for a certificate under section 224(c) of the RMA.

Advice Notes

- *Acceptable forms of evidence of certification include Engineering Approval Completion Certificates.*
- *Construction of public roading requires an Engineering Plan Approval.*
- *Design of public roads must include (but is not limited to), road pavement, pedestrian footpaths, cycle ways, street lighting, street furniture, road marking, traffic calming devices, road stormwater drainage, raingardens, etc. where required. Plans approved under Resource Consent do not constitute an Engineering Plan Approval and should not be used for the purposes of constructing public works in the absence of that approval.*
- *On the scheme plan, bridges 2,3 and 4 must be shown as a "public accessway" so that they can be vested as an Auckland Transport asset.*
- *The consent holder is advised that the New Zealand Addressing Standard (AS/NZS 4819:2011) requires all new public roads and all extensions to existing roads to have a road name. A*

Prior to the commencement of any engineering works, the consent holder must submit engineering plans (including engineering calculations and specifications) to the Council for approval in writing. The engineering plans must include, but not be limited to, the information regarding the detailed design of all roads and road network activities provided for by this resource consent approval. The engineering plans shall include but not be limited to the information regarding the following engineering works:

- *Visibility assessment for all intersections, crossings in accordance with Auckland Transport's engineering team requirements*
- *Roading gradients, long sections, k-values and intersections to the satisfaction Auckland Transport's engineering team requirements*
- *Tracking detail design for all roads, road endings, and intersection to the satisfaction Auckland Transport's engineering team requirements;*
- *Detailed design for streetlighting;*
- *Detailed design for roading elements including back berms, footpaths, front berms, and road carriageway; and*
- *NSAAT lines.*

As part of the application for Engineering Plan Approval, a registered engineer must certify that all public roads and associated structures/facilities or access ways have been designed in accordance with Auckland Transport's Transport Design Manual. (a) will depend on that asset being provided, revise the wording to suit your application). Provide a statement that the proposed infrastructure has been designed for the long-term operation and maintenance of the asset. Confirm that all practical measures are included in the design to facilitate safe working conditions in and around the asset.

8.0 Supporting Documents

Milldale Stages 4 and 10 to 13 - PTM 1