

# MEMORANDUM OF WAKA KOTAHI NEW ZEALAND TRANSPORT AGENCY ON THE SUNFIELD DEVELOPMENT

4 August 2025

## 1 INTRODUCTION

- 1.1 This memorandum presents the assessment undertaken by Waka Kotahi NZ Transport Agency (**NZTA**) of the substantive application for the Sunfield development (**Application**), submitted by Winton Land Limited (**Winton**) under the Fast-track Approvals Act 2024 (**FTAA**).
- 1.2 The assessment has been prepared in response to an invitation from the Expert Panel (**the Panel**) to provide comment and includes a summary of preliminary findings relating to transportation and stormwater management only.
- 1.3 This assessment is based on the Application materials submitted to the Environmental Protection Authority (**EPA**) and the subsequent updates provided from Winton in response to Auckland Council's memorandum on section 67 matters, received as of 17 July 2025.
- 1.4 Winton and NZTA have had initial discussions to explore how the Sunfield development may be modified to respond to the Notice of Requirement (**NoR**) for the Mill Road – Takaanini section. To date, this engagement has been collaborative and has primarily focused on working towards identifying a viable integrated stormwater solution along the eastern edge of the NoR and early assistance with assessing traffic impacts.
- 1.5 As the Panel is aware, further work is being undertaken by Winton to address the location of the NoR and assess the implications for stormwater and transport matters. However, it is not clear when the amendments to the application will be submitted to the Panel. Without this information, NZTA is unable to complete its assessment of the effects of the Sunfield development. NZTA requests the opportunity to provide comment on any updated information provided by Winton to the Panel.

## 2 BACKGROUND

- 2.1 The Mill Road Project and the Application are both listed under Schedule 2 of the FTAA. However, the Application does not acknowledge or address the presence of the Mill Road Project, despite the alignment for the Mill Road Project (as included in NZTA's listing application) directly affecting a portion of the land subject to the Application. Discussions with Winton about the Mill Road Project started in 2020 when the full extent of the Mill Road Corridor (Manukau to Drury) was identified through Te Tupu Ngātahi Supporting Growth Alliance (**SGA**) as a key component of the southern strategic network. As part of this work, potential routes for the Mill Road Project were discussed with Winton. This included the

consideration of an alignment proposed by Winton that traversed the middle of what is now the Application site.

- 2.2 Subsequently, NZTA requested the opportunity from the Panel to provide comments to inform the Panel's consideration of the potential impacts of the Application on the Mill Road Project with its decision making on the Sunfield development.
- 2.3 On 13 June 2025, in accordance with section 168 of the Resource Management Act 1991 (**RMA**), NZTA issued a notice to Auckland Council of its requirement for a designation for the Mill Road – Takaanini section. The NoR traverses part of the landholding required for the Sunfield development (**Application site**).
- 2.4 On 7 July 2025, the Panel invited NZTA to comment on the Application, noting that the NoR includes land within the Application site.
- 2.5 Following lodgement of the NoR, Winton and NZTA have had initial discussions to explore how the Sunfield development may be modified to respond to the NoR. Discussions between NZTA and Winton are ongoing, and conceptually it appears that there may be a possible integrated solution from a stormwater perspective.
- 2.6 Winton has not yet amended its application to reflect these discussions, nor has it provided information on what the proposal involves to the Panel. As such we anticipate that further work is required in order to assess the effects of the changes and amend the technical assessments. Consequently, NZTA is currently limited to commenting on the Application as lodged, which, as previously noted, does not address the presence of the NoR. NZTA requests the opportunity to comment on the amended proposals once they are lodged with the Panel.
- 2.7 In addition to the above, further discussions are anticipated on a broader range of technical matters including, but not limited to, impacts on the wider transport network.

### 3 MILL ROAD CORRIDOR

- 3.1 The Mill Road Corridor has been identified as a Road of National Significance (**RoNS**) in the Government Policy Statement on Land Transport 2024-2034 (**GPS**). The corridor will comprise a new four lane 21.5-kilometre road extending between Manukau and Drury, running parallel to the eastern side of State Highway 1 (**SH1**).
- 3.2 The Project is proposed to be delivered in three stages (refer to **Figure 1**).

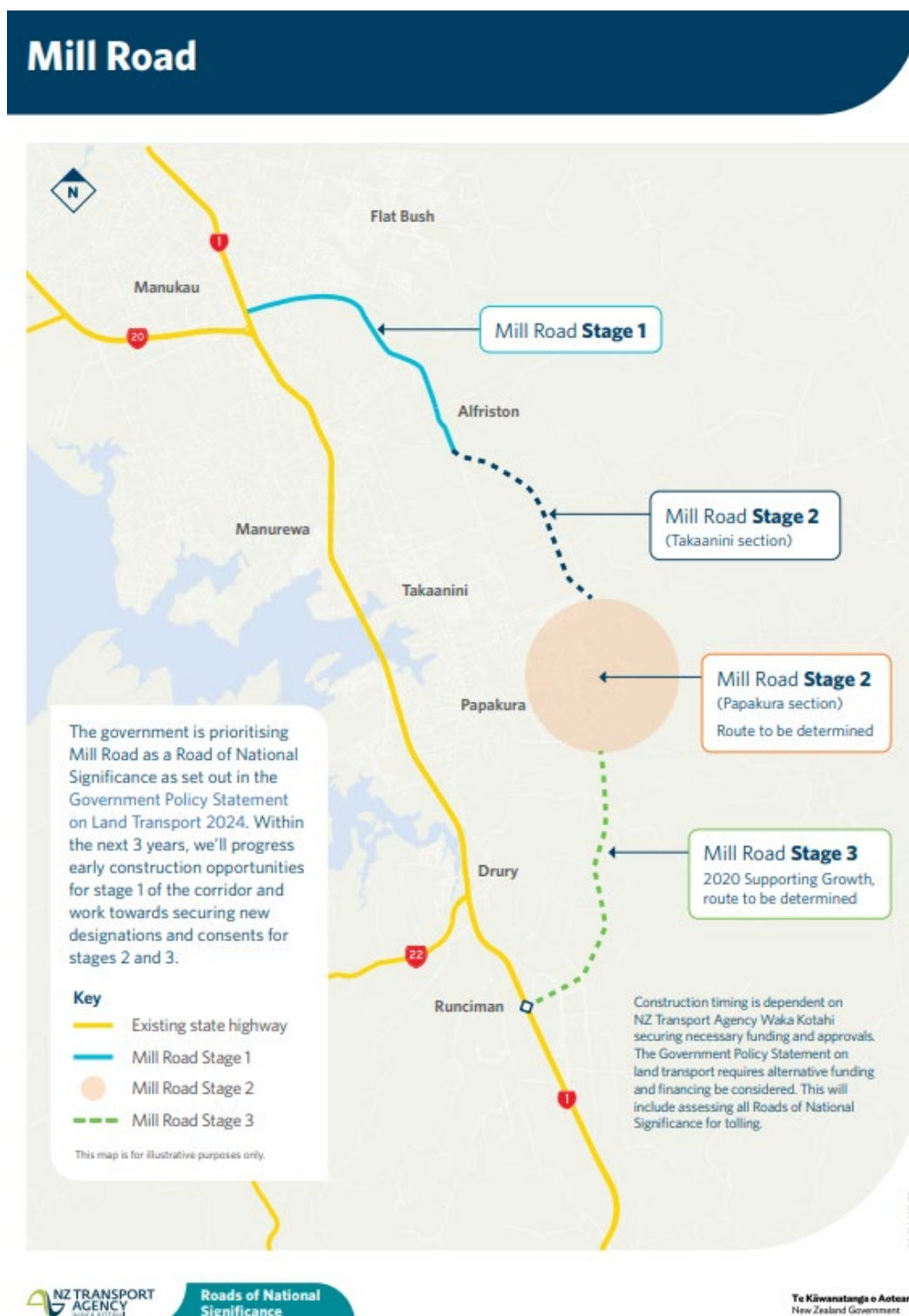


Figure 1 Stages of the Mill Road Corridor

## Stage One

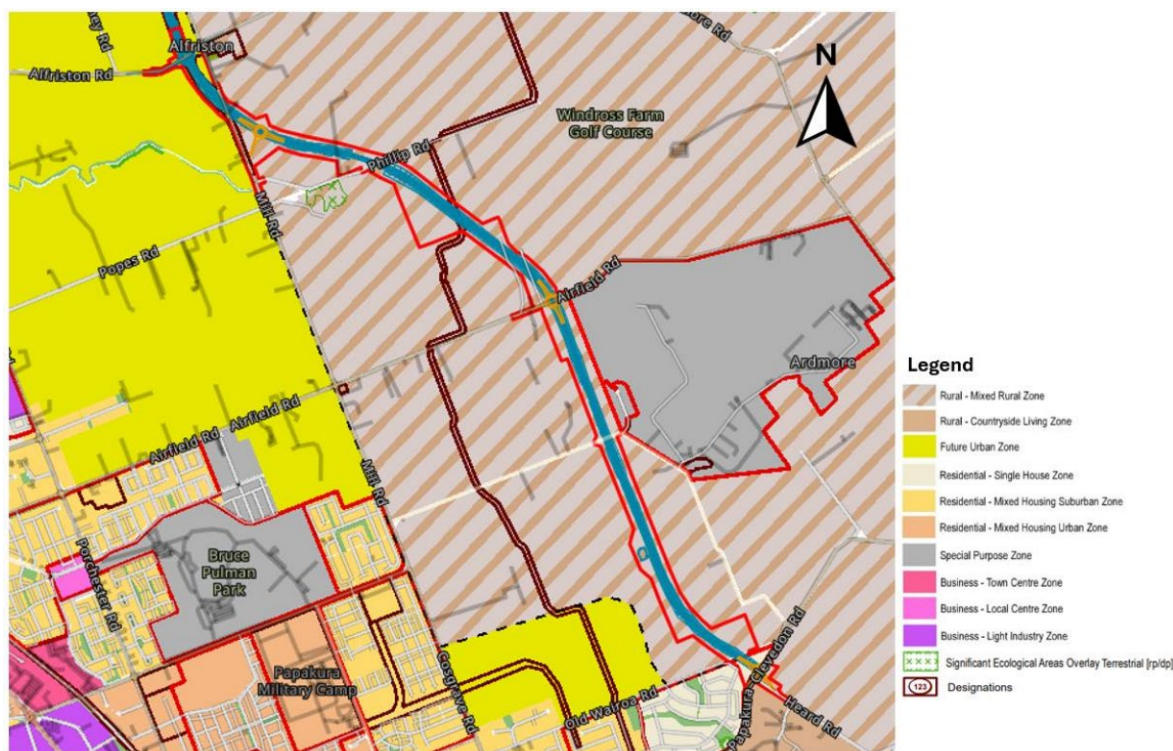
- 3.3 In 2016, Auckland Transport (**AT**) secured designations for Stage One, covering the northernmost 7.1 kilometres of the corridor between the SH1 Redoubt Road interchange and the Mill Road- Alfriston Road intersection.
- 3.4 These designations are being transferred to NZTA, which now has financial responsibility for Stage One. NZTA is currently preparing the statutory approvals for Stage One for processing under the FTAA. Stage one is a Government priority for delivery, with construction anticipated to commence in mid-2026.

## Stages Two and Three

- 3.5 Stages Two and Three will complete the remainder of the corridor. The Takaanini Section, subject to the NoR, comprises the northernmost portion of the Stage Two works. Statutory approvals for the remainder of Stage Two and Three will be sought separately at a later date.

## 4 Overview of the Mill Road – Takaanini section (NoR)

- 4.1 The extent of the NoR is approximately 5 kilometres in length, commencing at the termination point of the Stage One works at the intersection of Mill Road and Alfriston Road, and extending to a proposed new intersection with Papakura-Clevedon Road (refer to **Figure 2**)
- 4.2 The proposed alignment deviates by up to 1.6 kilometres east of the existing Mill Road-Cosgrave Road corridor between Takaanini and Ardmore. The proposed intersection with Papakura-Clevedon Road is intended to facilitate the future continuation of the corridor to the south.

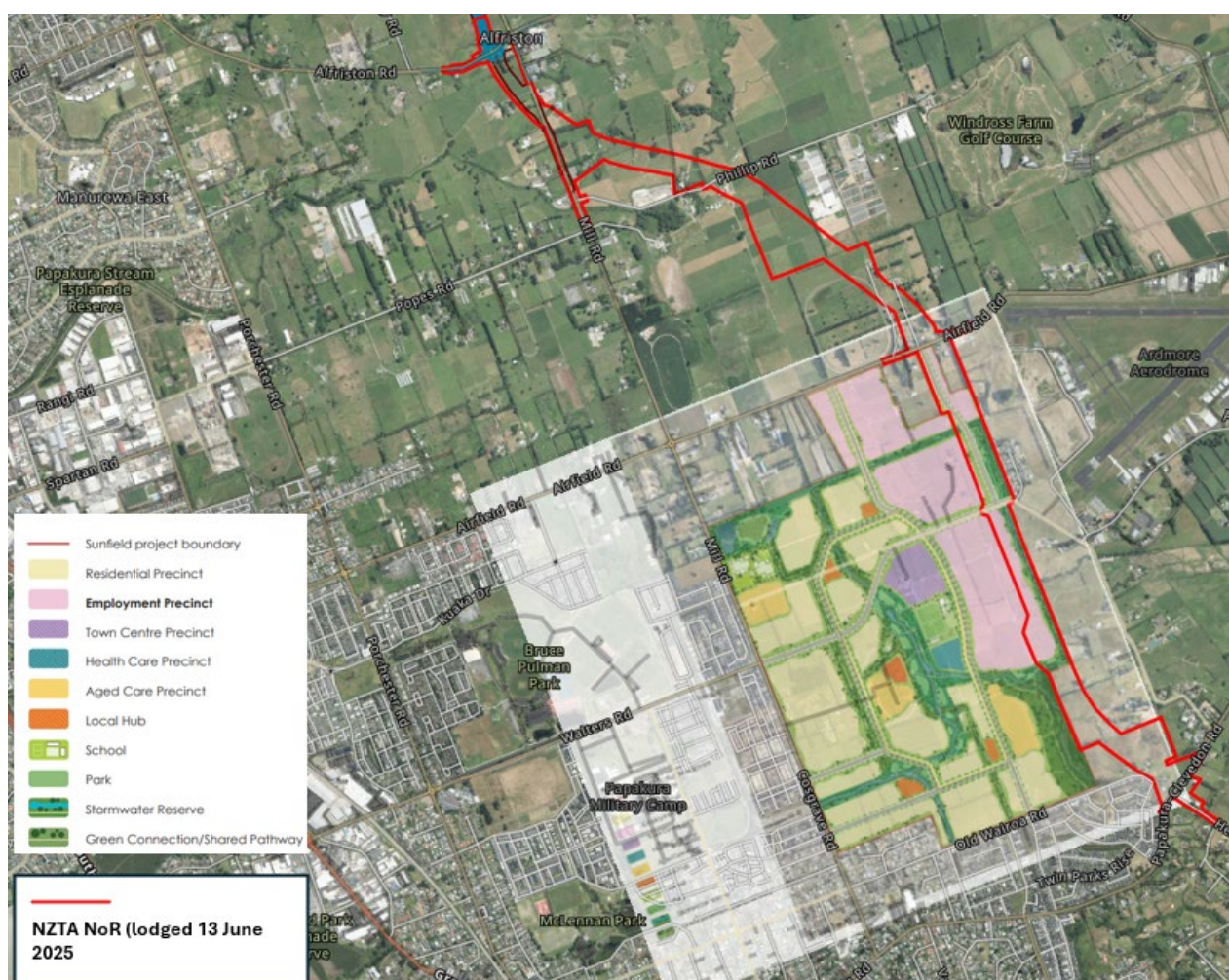


*Figure 2 Mill Road - Takaanini section planning context. Proposed alignment shown in blue.*



## 5 The RMA – Section 176/178 processes

- 5.1 On 13 June 2025, in accordance with section 168 of the RMA, NZTA, as the requiring authority, gave notice to Auckland Council, the territorial authority, of its requirement for a designation for the Mill Road – Takaanini section.
- 5.2 Section 178 of the RMA provides interim protection for requiring authorities against third party activities. Specifically, under section 178(2), no person may undertake any activity on the designated site that could prevent or hinder the proposed work associated with a NoR or designation, unless prior written consent has been obtained from the requiring authority.
- 5.3 Section 178(3)(c) confirms that this protection takes effect from the date the notice of the requirement is issued under section 168. Accordingly, the NoR has had interim effect since 13 June 2025.
- 5.4 **Figure 3** below illustrates the interface between the Application (as submitted to the EPA) and the NoR.



*Figure 3 Interface between the Application and the NoR (source: Sunfield Masterplanned Community Concept Masterplan)*

- 5.5 This figure shows that the following activities are proposed within the footprint of the NoR:
- a) Proposed commercial buildings<sup>1</sup>; and
  - b) A substantial stormwater diversion channel along the eastern boundary of the development.
- 5.6 To date, Winton has not sought written approval from NZTA for these activities. In its current form, the proposed activities associated with the Sunfield development are conflicting with the NoR and would prevent and hinder the Mill Road Project. Accordingly, NZTA is not able to provide approval under s176/178 of the RMA to Winton in its current form.
- 5.7 Since the NoR was lodged, NZTA and Winton have engaged in ongoing discussions regarding the interface between the Sunfield development and the NoR. Discussions between NZTA and Winton are continuing.

## 6 Preliminary comments based on information provided to date

- 6.1 The following sections provide an overview of the technical notes prepared to outline the potential effects of the Application that are of concern to NZTA, specifically in relation to transport and stormwater matters (refer to **Appendix 1** and **Appendix 2**). This assessment is based on the Application as lodged with the EPA, along with additional assessments developed in response to Auckland Council's preliminary comments on the Application. As noted above, NZTA is not able to provide its approval under s176/178 of the RMA to the Sunfield development in its current form.
- 6.2 The following Application documents have been considered in the preparation of this memorandum and the accompanying technical notes:
- a) Substantive application prepared for Sunfield Development by Tattico dated 31 March 2025
  - b) Correspondence to the Panel for Sunfield Development by Tattico dated 17 July 2025 – Sunfield Developments Limited Response to Auckland Councils Memorandum – section 67 Matters including:
    - i. Appendix A – A response from Maven addressing queries regarding Stormwater, Flooding and Earthworks
    - ii. Appendix B – A response from Maven addressing queries regarding Wastewater and Water Supply
    - iii. Appendix C – A response memorandum from Commute addressing queries regarding Transportation

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<sup>1</sup> [https://www.fasttrack.govt.nz/\\_\\_data/assets/pdf\\_file/0025/3877/3e.-Sunfield-Employment-Concept-Masterplan.pdf](https://www.fasttrack.govt.nz/__data/assets/pdf_file/0025/3877/3e.-Sunfield-Employment-Concept-Masterplan.pdf)

## Transport

- 6.3 **Appendix 1** contains a technical note provided by Mr Andrew Murray, Technical Fellow – Transport at Beca. This technical note provides some preliminary comments relating to the potential impact of the Sunfield development on strategic components of the transport network (including State Highway 1 and the Mill Road Corridor).
- 6.4 To summarise the key findings of the transport technical note:
- a) Overall, NZTA has significant concerns regarding the effects of the Application on both the local and strategic southern Auckland transport network including State Highway 1 and the future Mill Road corridor. The proposal assumes and relies on future residents adopting travel behaviours that are highly reliant on public transport, with minimal or no use of private vehicles by either residents or employees within the development. Effective mechanisms should be put in place to ensure that these outcomes are achieved.
  - b) An assessment is required of the effects should the stated outcomes relied upon in the proposal not be achieved.
  - c) There are no examples of development in any urban environments in New Zealand and little predictive or case-study evidence of applicable examples overseas where such outcomes have been achieved.
  - d) Although promoted as a 15 minute walkable community, the Application site is located nearly 3km from the existing rail stations at Papakura and Takaanini. The proposal would require existing or carefully planned public transport, walking, and cycling connections to the wider network and key destinations (such as places of employment, education institutions, and community facilities) outside of the Application site. Even with the local connecting services to stations proposed in the Application, the travel times to the wider employment areas by rail would be high enough to impact the attractiveness of mode shift to public transport.
  - e) Existing travel patterns within the Papakura-Takaanini area, where the Sunfield development is located, are characterised by high levels of outward commuting and an extremely high reliance on private vehicles – exceeding 90% mode share. These patterns are not aligned with the transport behaviours that the Application anticipates for its future residents.
  - f) According to the latest 2023 census data, a high proportion of private vehicle commutes are directed toward industrial areas such as Wiri and East Tāmaki. These areas are already underserved by public transport, and the nature of industrial employment often involving shift work and extensive onsite parking typically results in lower public transport uptake.
  - g) Further information is required in relation to the following:
    - i. Evidence of achieving the high public transport mode share projected for an area that is remote from any Rapid Transport Network (**RTN**) or even Frequent Transit Network (**FTN**) corridor where the travel times by public transport to key external

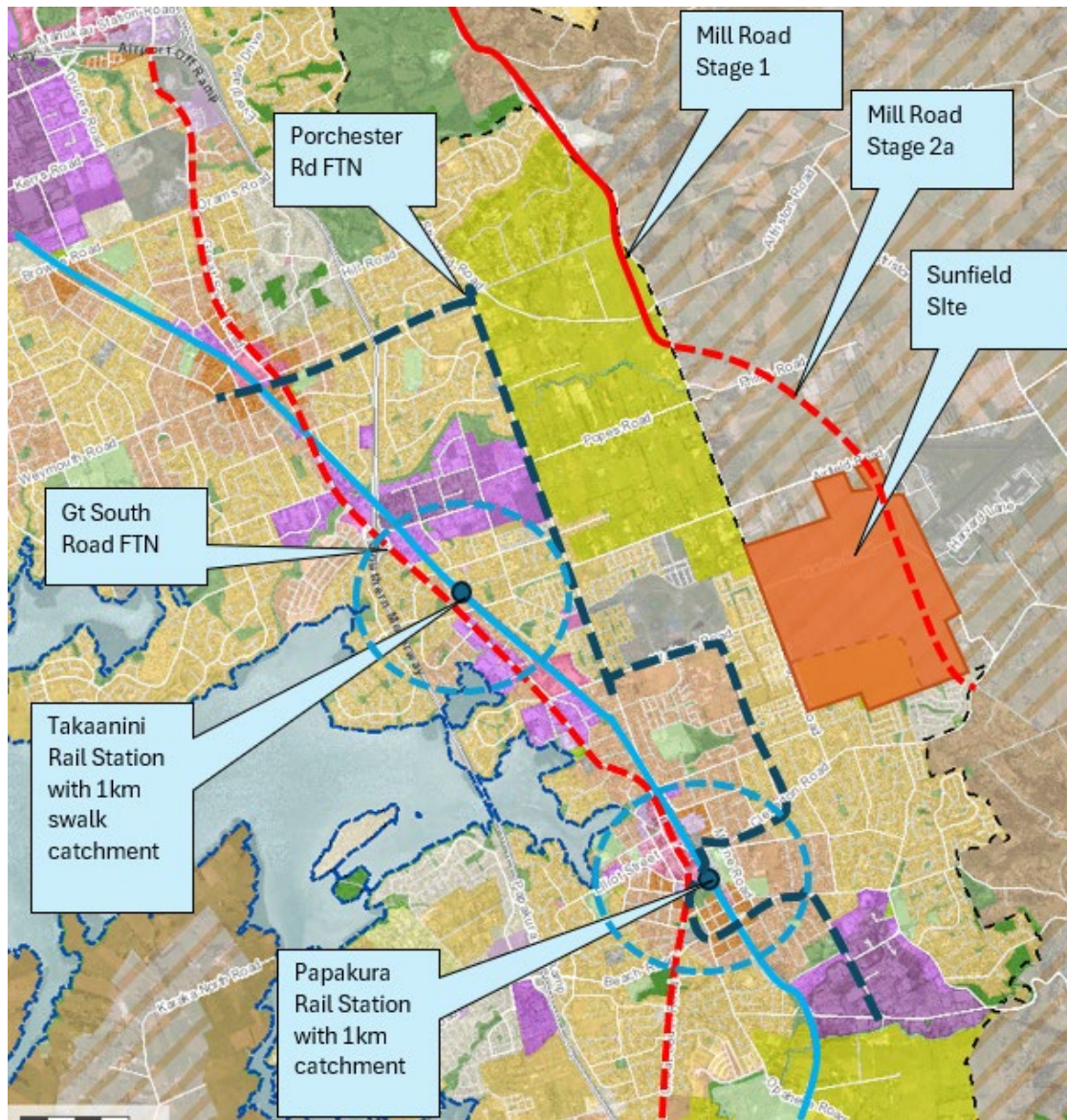
destinations are high (and therefore unlikely to be competitive with private vehicles for many users).

- ii. The feasibility of attracting and moving up to 3,500 passengers in peak periods via the proposed bus routes (without dedicated RTN or FTN infrastructure), given anticipated conflicts with general traffic movements along these routes.
- iii. Further evidence to support the assumption that half of the 11,000 employees will reside within Sunfield, as this would require more than 100% of all resident workers to be employed locally.
- iv. Further evidence to support the ITA assumptions regarding minimal car ownership and high public transport usage. The ITA proposes that bus services will not be introduced until after 890 dwellings are constructed. It is unclear how residents of these initial dwellings will travel, aside from a lengthy walk to existing local bus services. This level of constrained accessibility does not align with the development's objective for residents to avoid car ownership and use.

As a result, significant pressure will be placed on the surrounding network including local and strategic corridors like State Highway 1, which currently does not have capacity to accommodate the substantial increase in traffic generation expected from population growth within the development.

- h) Long term transport planning and route protection is being undertaken by NZTA and AT through Te Tupu Ngātahi Supporting Growth (**SGA**), a programme that has been in progress since 2018. This planning supports Auckland Council's planned growth projections for Future Urban Zone (**FUZ**) areas across the region, including land in Takaanini, north Papakura and Drury. Given the amount of future urban zoned land within this area, planning for growth in this area has been extremely challenging. The Sunfield development lies largely outside these identified southern growth areas (mostly zoned Rural and only a small part zoned FUZ). Consequently, the network planning undertaken through SGA did not anticipate or account for rural zoned land such as the Sunfield development.





*Figure 4 Strategic transport network context. Alignment shown indicatively in red.*

- i) If the transport outcomes assumed by Winton were not to materialise, significant traffic effects on the surrounding areas would be expected, particularly given that the development and its projected 11,000 residents were not anticipated for in southern Auckland's transport planning under the SGA. These impacts are likely to include significant congestion along the east-west routes into Takaanini and Papakura, as well as on north-south corridors such as the Mill Road corridor. This would constrain the operation of efficient bus services, including the FTN corridors, restrict freight access to industrial areas, and increase the risk of on-street parking overflow, especially on adjacent local streets.
- j) Further consideration by Winton of the broader strategic transport network of southern Auckland is needed to support the Application's projected travel demand. Should the assumed travel behaviour not eventuate, the resulting scale of traffic volumes could

compromise both the function and resilience of the strategic Mill Road corridor, as well as the effective operation of the local transport network.

- k) Aside from the proposed Sunbus connection to Papakura Train Station, Winton has not provided any proposal to establish high-capacity public transport facilities along existing east-west corridors accessing Papakura and Takaanini stations, with service levels comparable to RTN facilities.

6.5 Given the consequences of the site not delivering the assumed outcomes, Mr Murray recommends that:

- a) Enforceable staging and monitoring systems are used to manage the potential adverse effects including conditions relating to:
  - i. Car ownership;
  - ii. The provision of employment and service facilities in the development concurrently with residential dwellings;
  - iii. The level of internalisation within the development: and
  - iv. The provision infrastructure to support the mode shift assumptions including walking, cycling and bus services.
- b) Each stage of development be based on a new ITA, that considers the status of each of these important areas, along with the monitoring data on the observed outcomes for preceding stages.

6.6 If the Sunfield development objectives are not achieved, there will be significant impacts on the strategic transport network in terms of worsening both the congestion on State Highway 1 and significantly exceeding the capacity that the NoR will be able to accommodate.

6.7 Given the nature of the application in front of the Panel, i.e. seeking resource consent for the Sunfield development (as opposed to enabling the development through a plan change), NZTA acknowledges that it is likely to be difficult to impose controls along the lines recommended by Mr Murray. However, NZTA requests the opportunity to comment on the rearrangement of the Sunfield internal road network that is required to respond to the NoR once that information is submitted to the Panel.

## Stormwater

- 6.8 A technical note has been provided by Mr Roger Seyb, Technical Fellow – Water Resources at Beca Limited. This technical note provides some preliminary comments relating to the potential impact of the Sunfield development on the management of stormwater and the implications on the Mill Road Corridor. The technical note is provided at **Appendix 2**.
- 6.9 To summarise the key findings of the transport technical note:
- The Application in its current form conflicts with the NoR (refer to **Figure 5**) and prevents the construction of Sunfield's proposed eastern diversion channel.
  - It is anticipated that the stormwater management proposal will need to be revised as it could alter the flood levels in the area.



*Figure 5 Map showing the NoR and the Application in the context of overland flow paths and flooding extents  
(Source: Auckland Geomaps)*



- c) The stormwater management strategy for the NoR is designed to minimise flood level impacts through the use of frequent cross drainage and diversion channels. Key measures include:
  - i. Diversion channels up to 300m long, 1–2m deep to direct stormwater to culverts
  - ii. Multiple culverts located at major crossing points – Airfield Road (27.75 m<sup>3</sup>/s) and south of Hamlin Road (47.80 m<sup>3</sup>/s).
  - iii. Flood hazard conditions on the NoR which protect building floor levels and limit flood level increases to no more than 50 mm on adjacent land.
  - iv. Stormwater treatment is via grassed swales within the corridor and parallel diversion channels are provided to manage upstream flows.
  - v. Ground improvement works are anticipated due to poor soil conditions and high groundwater levels, including pre-loading prior to construction.
- d) Discussions have commenced between NZTA and Winton to determine whether an integrated stormwater management approach is feasible that accommodates flows from the NoR, the Sunfield Development and the surrounding catchment.
- e) Conceptually, while this appears to be feasible from a stormwater perspective, if agreement is not reached, Winton would need to amend its design to construct the diversion channel on the western side of the NoR (as per the figure above) which could result in several potential impacts, including:
  - i. Lowered groundwater levels beneath the NoR alignment, increasing the risk of ground settlement and the need for additional ground improvement measures.
  - ii. Stability risks associated with the diversion channel slopes and the foundations of the NoR infrastructure.

6.10 To ensure that stormwater is appropriately managed in an already sensitive and flood-prone area, Mr Seyb considers that the following information is required:

- a) Flood levels on the western boundary of the NoR;
- b) Detailed information about how the design of the proposed diversion channel provides for the loading of the future NoR embankment;
- c) Modelling results demonstrating that flood levels along the western NoR boundary will not increase following bulk earthworks and drainage construction; and

6.11 In summary, further information (including but not limited to flood modelling and geotechnical assessments) on a revised channel design along the western boundary of the NoR is required to assess stormwater and flooding effects. NZTA requests the opportunity to comment on the revised channel design once that information is submitted to the Panel.

## Summary

- 6.12 In its current form, the proposed activities associated with the Sunfield development are conflicting with the NoR and would prevent and hinder the Mill Road Project. Accordingly, NZTA is not able to provide approval under s176/178 of the RMA to Winton. Notwithstanding this, collaborative discussions between NZTA and Winton are continuing, however, it is not clear when amendments to the application to reflect these discussions will be submitted to the Panel. Without this information, NZTA is unable to complete its assessment of the effects of the Sunfield development. Therefore, NZTA requests the opportunity to provide comment on any updated information provided by Winton to the Panel.



## **APPENDIX 1 – Sunfield Development substantive application – Transport review**

## Technical note

**To:** Himani Bhatia-Mitha, Nicola Bishop  
**From:** Andrew Murray  
**Copy:** Chris Scrafton  
**Subject:** Sunfield Development substantive application – Transport review

**Date:** 4 August 2025  
**Our Ref:** 3816029-1809819416-758

### 1 Experience and Code of Conduct

My full name is Andrew Peter Murray. I am a Technical Director and Technical Fellow within Beca's Transport Advisory division in Auckland. I have over 34 years' experience in related activities of traffic engineering, transport modelling, economic analysis and transport planning.

I hold a Bachelor of Engineering (Civil) from the University of Auckland.

I have extensive experience in traffic engineering, traffic modelling, transport planning and project evaluation and specialise in forecasting and evaluating the effects of large transport infrastructure projects as well as land development proposals.

I am a committee member of the New Zealand Modelling User Group, which is a technical interest group under the Transportation Group of Engineering NZ.

I regularly lead the transport planning inputs for large-scale transport infrastructure or land use planning projects, with relevant experience including the following projects:

- a. Business Case Transport planning lead and expert witness for the Board of Inquiry process of the East West Link project in Auckland, (2017) as well as Transport planning expert witness for the Board of Inquiry processes of the Waterview tunnel project in Auckland (2010), the McKays to Peka Peka Expressway project in the Kapiti Coast (2012), and the Christchurch Southern Motorway (stage 2) (2013)
- b. Transportation Lead for the Waitematā Harbour Connections Indicative Business Case (currently being developed) and for Stage 1 of the Mill Road project in Manukau.

Within Beca I also oversee the transport modelling team and have held the role of am the Chair of the Beca Transportation Technical Development Group which focusses on practice development and innovation.

I have been involved with the Te Tupu Ngātahi Supporting Growth Alliance (Te Tupu Ngātahi), since 2018 and I am the Transport Planning Discipline Lead across the Te Tupu Ngātahi Programme responsible for a team of transport planners working on the various business cases and subsequent Notice of Requirement (NoR) processes. In this role I provide guidance and review inputs to the transport planning elements of both the business cases and subsequent transport assessments for Assessment of Environmental Effects.

I sat on the Te Tupu Ngātahi Technical Strategy Team, which considered and endorsed key project decisions for each business case, focussing on appropriate solutions, robust methodologies and consistent approaches across the Programme. I have also provided transport evidence for Auckland

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Transport and Waka Kotahi in relation to the Drury network, Pukekohe network, Airport to Botany Busway and Takaanini level crossings and FTN projects progressed by Te Tupu Ngātahi.

Although not before the Environment Court, I confirm that I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023 and that I agree to comply with it. I confirm that I have considered all material facts that I am aware of that might alter or detract from the opinions that I express, and that this technical note is within my area of expertise.

## 2 Purpose and Scope

This technical note provides a high-level review of the Integrated Transport Assessment (**ITA**) that accompanies the fast-track application for Sunfield Development (Application) in Papakura. This review focuses on potential impact on the strategic parts of the transport system including State Highway 1, rather than local, on-site detail of the proposed development.

This review is based on the material provided in the Sunfield Application and is not based on any additional traffic analysis or modelling. It has considered the following material:

- The Integrated Transport Assessment (**ITA**) by Commute Transportation Consultants Ltd (**Commute**) dated February 2024 that was lodged with the original application
- An updated ITA by Commute dated February 2025
- A memo by Commute dated 17 July 2025 providing responses to transport matters raised by Auckland Council's request for further information
- A review of the proposed Conditions, as related to transport matters

This technical note first describes the strategic land use and transport network planning in this southern part of Auckland before considering the potential impact of the Application.

## 3 Context and Strategic Planning in Southern Auckland

### 3.1 Strategic Network Planning

Long-term network planning and corridor route protection is being undertaken by Auckland Transport and Waka Kotahi New Zealand Transport Agency (**NZTA**), predominantly via Te Tupu Ngātahi Supporting Growth Alliance (**SGA**). The key strategic network upgrades identified through that work include:

- A network of new and upgraded arterial corridors in Drury and Opaheke
- Major upgrades to the rail corridor, including removal of rail level crossings in Takaanini, three new rail stations, and planning for additional track capacity
- Two Frequent Transit Network (**FTN**) bus corridors
- The Mill Road corridor, proposed between Manukau Central and SH1 in Drury south.

That network planning was developed to support both growth in regional travel passing through this area and the land use growth planned by Auckland Council (including the identified Future Urban Zoned areas (**FUZ**)). The need to provide a national strategic function through this area is of

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particular interest to NZTA, especially regarding the functionality of the State Highway network. The primary transport system supporting the broader Papakura area is therefore proposed to comprise:

- The existing north south corridors for strategic (SH1) and sub-regional (Great South Road) movement
- A rapid transit system based around the rail corridor, to provide access both north and south
- Two new FTN corridors (Great South Road and Porchester Road), to provide access to the rail stations and provide local connections
- The new Mill Road corridor, providing a new north-south strategic corridor to allow north-south movement between and through the communities east of SH1 without needing to use SH1. Importantly, this strategic corridor also helps with the effectiveness of the proposed north-south FTN corridors, by reducing the traffic flows that would otherwise wish to use the same corridors such as Porchester Road and Great South Road.
- Improved east-west connections over the rail corridor in Takaanini

A key component of the proposed network upgrades was to help protect the functionality of SH1, by providing for alternative modes, destinations and corridors. The form of the Mill Road corridor needs to pass through and integrate with existing urban roads, so it is not proposed end-to-end as a high-speed rural highway. This means that it has both a strategic and sub-regional function, and a finite amount of capacity to accommodate the forecast demands. The forecasting for the Mill Road project showed that its strategic function would be significantly compromised if its use became overly dominated by local vehicle trips. The functionality of the strategic highway network is therefore impacted by urban growth and the performance of the surrounding local network.

Through SGA, there was awareness of Winton's proposed Sunfield development. However, this growth was not considered in the network planning as it is mostly zoned rural and outside the planned growth (the FUZ zoned land) areas (the area within the planned growth area was considered in network planning).

### 3.2 Local Travel Patterns

Travel patterns in the Papakura/Takaanini area surrounding the site are characterized by very high outward commuting and extremely high mode share by car (over 90%). Mode share by public transport is typically below 3%. Analysis of the 2023 census data suggests a high proportion of commuters head to industrial areas, such as Wiri, East Tāmaki, Takaanini and around the Auckland Airport. Such industry-types typically have low mode share by public transport, often influenced by the prevalence of shift-work, low density employment areas and ample on-site parking.

These existing travel characteristics result in congestion already impacting east-west movements accessing Takaanini and Papakura and north-south movements in adjacent areas (such as on SH1 and Mill Road). Public transport connections in this area are primarily north-south oriented and located further west in the existing developed areas.

## 4 Sunfield Development

### 4.1 Site Location

The Sunfield development is a large greenfield development proposed on the northern edge of Papakura that:

- covers an area (nearest Old Wairoa Road) that is zoned FUZ, however the majority of the site is outside the FUZ in the Auckland Unitary Plan. The site is south of the Takaanini FUZ area recommended to be removed from urban development due to flood hazards in Council's Future Development Strategy (**FDS**).
- sits immediately east of the existing Mill Road/Cosgrave Road corridor and abuts the Ardmore airport to the east

The site is located east of the proposed Frequent Transit Routes (**FTN's**) identified by SGA on Gt South Road and Porchester Road, and west of the proposed new Mill Road corridor. The location of the Sunfield site within the strategic transport network is indicated in the map in **Attachment 1**.

### 4.2 Scale of Development and Transport Context

The proposal includes:

- 4,000 residential dwellings, with some 600 of these being within retirement villages
- 460,000m<sup>2</sup> of employment land, comprising a significant industrial area adjacent to the Ardmore Airport, as well as local retail centres, providing employment for some 11,000 people
- A town centre, multiple neighbourhood retail hubs, and a medical facility

The transport strategy for the development is built around a 15-minute, walkable neighborhood, based on a car-less concept with only 10% of dwellings having access to private parking. The assessment assumes most internal and external trips will be undertaken via walking, cycling, or a privately operated public transport loop (Sunbus).

The proposal identifies new or upgraded intersections on the immediate boundary of the development, including to Old Wairoa Road, Cosgrave road, Mill Road, Airfield Road and Hamlins Road.

Although walking/cycling facilities to adjacent areas such as Papakura and Takaanini are noted as important to the mode share assumptions, the ITA notes that the detail of these cycle lanes / upgrades will need to be designed / constructed with Auckland Transport. The feasibility and impacts to provide for high-quality east-west active-mode facilities on these east-west routes has not been assessed, and the work by SGA demonstrates the challenges involved in retrofitting such facilities into brownfield communities.

The ITA identifies that to meet the assumed mode shares, some 3,000-3,500 passengers per hour would need to be moved by the bus service proposed in the ITA, at up to 88 full sized buses per hour. This scale of bus frequency and passenger capacity is similar or greater than existing rapid transit facilities in Auckland, such as the Northern Busway.

The nearest rapid transit corridor to the site is the southern rail line, with the nearest station being nearly 3km away (and well outside a walk-up catchment). There are no existing or planned FTN routes connecting to this site, and the proposed new FTN corridors are more than 2km to the west.



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The site therefore does not have existing or planned public transport or walking/cycling connections to the wider network and key destinations. The local network surrounding and adjacent to the site does not have capacity to absorb a large increase in traffic generation from this site.

In regard to other strategic corridors or upgrades, the Commute ITA references SGA planning for the Takaanini level crossings (albeit using outdated maps), but does not reference the presence of the Strategic Mill Road corridor in the strategic network map.

The ITA notes that the FDS lists the Mill Road corridor and Takaanini FTN as pre-requisite infrastructure for growth in this area and that central Government wishes to implement Stage 1 of Mill Road project. No other references to Mill Road (stages 2/3) are referenced in the ITA. The Mill Road corridor is a critical element of the SGA-identified strategic network to support growth in Southern Auckland, and the Mill Road corridor has been identified as a Road of National Significance in the GPS and is listed in the Fast Track Approvals Act.

In response to requests from Auckland Council, the Commute Memo comments on Stage 2 of Mill Road corridor, recently lodged by NZTA, noting it would add road network capacity and connections to the network. As noted above, the Mill Road corridor has not been developed to accommodate this scale of growth outside the planned growth areas. Previous modelling for the Mill Road corridor demonstrates that it is expected to operate at or close to capacity during commuter peak periods, with additional lane capacity not considered feasible given the urban context and downstream constraints.

The easterly location of the Sunfield site in Takaanini/Papakura means that the Mill Road Corridor is likely to be the favoured route for vehicles associated with the development to head to/from the north. This means that the need for Mill Road to accommodate substantially more local vehicle trips would comprise its function as a strategic corridor. These impacts would likely materialise both at the immediate access point to the Mill Road corridor (such as Airfield Road and the connection to the existing Mill Road), as well as at intersections further north on the corridor (such as at Alfriston Road and Redoubt Road).

Although the Mill Road corridor is a critical part of the network required to support the expected growth in southern Auckland, it is proposed for progressive development over an extended timeframe. As noted above, the Mill Road corridor is also expected to reduce traffic on other local roads, allowing safer and more effective operation of the proposed FTN bus corridors. Therefore, even if the Sunfield Development was able to achieve the predicted levels of (low) car use, it would have a dependency on the Mill Road corridor in terms of enabling effective public transport corridors.

### 4.3 Sunfield Development Travel Assumptions

The Transport Assessment forecasts a peak hour two-way vehicle flow of 894–1,329 movements, based on:

- Significantly reduced car ownership (10%)
- 50% internalisation of employment and service-based trips
- A reduced level of external trip generation from retail, medical, and other shared facilities

These assumptions are in my view optimistic and have not, as far as I am aware, been demonstrated at this scale in the New Zealand context. Achieving these targets will require substantial behavioural

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change and effective enforcement. If not realised, there will be significant unplanned demand on the surrounding road network. The ITA indicates that the vehicle trip generation under 'typical' rates used elsewhere would be some 6,000 vehicles per hour. Subsequently the ITA has assumed vehicle trip generation of only 15%-22% of typical sites of this type. As noted above, this is in the context where the existing, surrounding communities have particularly low public transport usage, and very high usage of cars.

The travel predictions in the ITA should be supported by mode share modelling or case-study benchmarking of similar developments to demonstrate the feasibility of achieving the assumed outcomes. Given the constrained existing network, the consequences of the development failing to achieve the assumed mode shares would have adverse effects on both the local and wider network.

Further information is therefore required in relation to the following assumptions:

- Evidence of the feasibility of achieving the high mode share by public transport from an area so remote from an RTN (or even FTN) corridor, where the travel times by public transport to key external destinations are high (and therefore unlikely to be competitive with private car for many users)
- The feasibility of attracting and moving up to 3,500 passengers in peak periods with the proposed bus routes (and no dedicated FTN or RTN facilities), given the conflicts with traffic movements on the proposed routes
- The feasibility of the assumption that 50% of the 11,000 employees would come from within Sunfield, given that this would require more than 100% of all resident employees to work locally
- The economic viability of the local employment centres, given that they would be expected to attract require external employees and customer to an area with only a 10% parking provision
- How the travel behaviours (with high bus mode share and low car ownership), would be achieved for initial residents given that the proposed trigger in the ITA suggests that the bus services would not be required until after 890 dwellings have been built.

### 4.4 Likely Traffic Effects

If actual travel behaviours are not in line with the ITA assumptions—for example, if car ownership is higher, employment is not locally sourced, or external trip draw is greater (e.g. due to unenforced or offsite parking)—then:

- Significant congestion would be likely on both the east-west route into Takaanini/Papakura and also on the north-south routes such as Mill Road.
- This congestion would constrain the ability to operate efficient bus services serving the area
- Access (including for freight) to the proposed industrial area would be highly constrained, impacting their commercial viability
- Significant risk of parking, either on road berms within the development or on adjacent local streets. The ITA identifies both these risks, but relies on a future design process and potential property covenants to manage these effects.

### 5 Strategic Network Implications

The scale of planned growth in southern Auckland and the limited number of north-south routes is such that careful network planning for all modes is critical in this area, especially for development of scale outside the planned growth areas. If the assumed travel behavior of the development does not eventuate, the scale of traffic generated would likely compromise both the role and resilience of the strategic Mill Road corridor and the also the effective functioning of the local network. The typical employment destinations for existing residents in this area are not readily accessible by public transport so require long-distance vehicle travel on the strategic network, including SH1 and SH20. Therefore the outcomes from this development would also impact the State Highway network.

If the development achieves the travel behaviour objectives, the ITA should consider how the development integrates with the planned strategic and local networks in terms of:

- Providing high quality active mode facilities to nearby destinations in Papakura and Takaanini
- Providing the high-capacity bus facilities to the Papakura and Takaanini rail stations, with frequency and efficiency similar to existing Rapid transit networks able to attract and deliver the forecast number of passengers
- Integrating with planning for the strategic Mill Road corridor

### 6 Planning Provisions

The ITA includes an implementation plan with proposed triggers for the various intersection upgrades, new roads and provision of public transport services. The ITA should provide mechanisms to monitor and ensure it achieves its assumed outcomes.

In my opinion, the following areas are recommended to be subject to detailed and regular monitoring, with staging mechanisms in place to halt or modify development before additional development proceeds.

Areas for which conditions are recommended to manage the adverse effects on the network include:

- The level of car ownership, usage and parking by residents
- The provision of employment and service facilities in the development concurrently with residential dwellings
- The level of 'internalisation' of travel within the development
- The provision and usage of infrastructure to support the mode shift assumptions, including:
  - High quality walking and cycling facilities to all highly- used local destinations
  - Effective, efficient and attractive bus services from the development to the rail stations and to major local destinations

### 7 Summary and Conclusion

From a transport perspective, the Sunfield development proposes outcomes that involve:

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- Effectively no car ownership and very limited use of private cars by residents
- The vast majority of travel is undertaken by public transport and walking/cycling
- Some 50% of travel will be retained within the site itself, based on the provision of major employment areas and local service centres

In my experience, such travel behaviour generally only occurs in high density areas in close proximity to well established and efficient rapid transit systems. The Sunfield site is well over 2km from a rapid transit station and has no existing or proposed FTN corridors providing bus access to the stations. It is also located in an area where existing communities demonstrate extremely low levels of PT or walking/cycling usage.

The Sunfield ITA should include mode share modelling or case-study benchmarking to demonstrate the feasibility of such behaviour occurring. The ITA notes a 'typical' development could generate up to 6 times greater vehicle trips than has been assumed.

In my view, the consequences of failing to achieve the assumed travel behaviour are significant, with potential for high levels of congestion on both the local and wider strategic networks. That congestion would further undermine the effectiveness of the planned FTN corridors relied on to help mode share for other adjacent communities

Even if very high use of public transport is achieved, the feasibility of effectively moving over 3,500 bus passengers per hour requires further analysis, especially given this is a level of patronage matching major RTN systems, such as the North Shore Busway.

The proposal is reliant on this assumed travel behavior being adopted from the very first residents of the site, with significant risk of adverse impact on the network if the assumed behaviours do not eventuate. The assumed travel behaviours are dependent on:

- The provision of significant local employment, provided concurrently with residential development
- Thriving local commercial centres, also provided concurrently with residential development
- Provision of high-capacity, high quality public transport services with extensive coverage across the day and week, that enables residents to have good accessibility without needing to own a car
- Provision of high-quality walking and cycling infrastructure, both internal to the site and reaching key transport, employment and social destinations in the adjacent areas
- Extensive enforcement of parking, both within the site and on local streets in adjacent communities, including visitors and external employees of the on-site business
- Upgrades to the surrounding transport network, including intersections in the adjacent network and also upgrades to the strategic networks, including the rail corridor, the Mill Road corridor and the planned FTN networks
- Mechanisms to restrict car ownership of residents

Enforceable staging and monitoring systems are required to manage the potential adverse effects on the transport network should the Sunfield outcomes not be achieved. It is also recommended that each stage of development be based on a new Integrated Transport Assessment (ITA), that

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considers the status of each of these important areas, along with the monitoring data on the observed outcomes for preceding stages.

A handwritten signature in blue ink, appearing to read 'A. Murray', with a long, sweeping horizontal stroke extending to the right.

### **Andrew Murray**

Beca Technical Fellow - Transportation

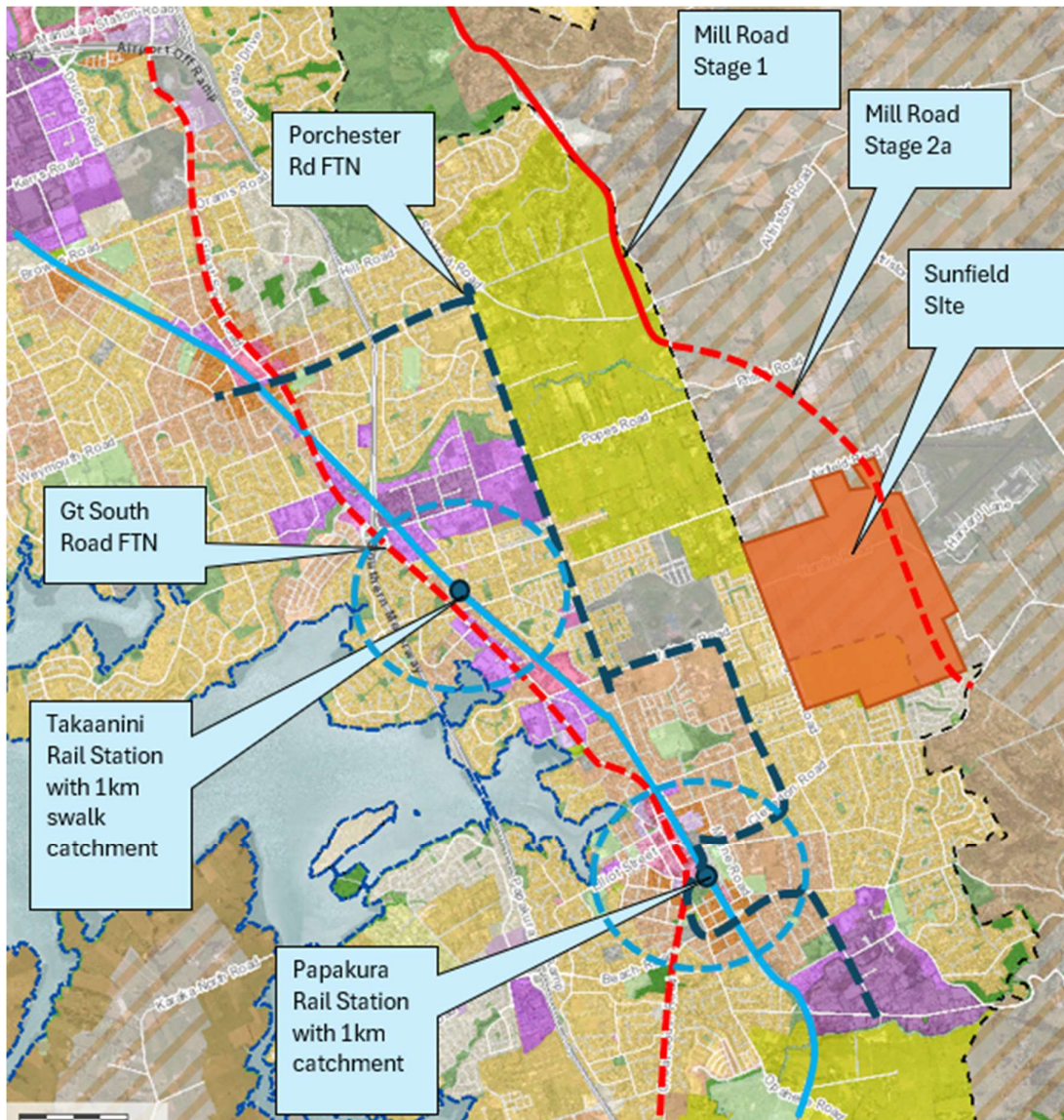
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## Technical note

### Site Location and Strategic Network Context



## **APPENDIX 2 – Sunfield Development substantive application – Stormwater review**

## Technical note

**To:** Himani Bhatia-Mitha, Nicola Bishop  
**From:** Roger Seyb  
**Copy:** Chris Scrafton  
**Date:** 31 July 2025  
**Our Ref:** 3816029-1809819416-756  
**Subject:** Sunfield Development substantive application – Stormwater effects on Mill Road – Takaanini Section

### 1 Experience and Code of Conduct

My full name is Roger Morgan Seyb. I am currently employed by Beca Limited as a Senior Technical Director: Water Resources. I have over 35 years' experience in civil engineering, and over 30 years' experience in surface water engineering and consenting.

I hold the qualification of Bachelor of Engineering (Civil) from the University of Auckland.

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

For the past 30 years I have undertaken a variety of projects focusing on issues relating to infrastructure planning, flooding, stormwater contaminants and quality treatment, stream erosion, structures in streams, water takes, catchment management, wastewater networks and consenting. I have a broad range of experience in flood assessment, including preparing stormwater assessments, management plans, designs and reviews for a range of infrastructure projects and roading, residential, commercial and industrial developments.

My previous experience includes the following relevant projects:

- a. Waikato Expressway – Ngaruawahia to Tamahere, Waka Kotahi: Overall design reviewer for the stormwater infrastructure along the 22km route. Includes stormwater networks, flood mitigation, stormwater treatment and erosion protection works.
- b. Infrastructure Masterplans: Mt Roskill, Mangere and Tamaki precincts, Kāinga Ora and HLC: Overall lead and technical reviewer for identifying infrastructure constraints, requirements and identification of key upgrade projects to enable large scale (approx. 30,000 dwellings per precinct) brownfields urban intensification. Includes; stormwater, wastewater, water supply, transport, contamination, geotechnical and utilities.
- c. Rotokauri Greenway – Notice of Requirement, Hamilton City Council: Stormwater and civil design lead and expert witness for NoR for a 4 km long approx. 5m deep floodway and stream diversion in low lying flat land to service approx. 500 ha of greenfields residential developments.
- d. Auckland Airport – various projects, stormwater lead and verifier for multiple planning and design projects across the Airport precinct.

I have been involved with Te Tupu Ngātahi Supporting Growth Alliance (Te Tupu Ngātahi) since 2019 and am the lead stormwater specialist for the southern area projects within Te Tupu Ngātahi.

Although not before the Environment Court, I confirm that I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023 and that I agree to comply with it. I confirm that I have considered all material facts that I am aware of that might alter or detract from the opinions that I express, and that this technical note is within my area of expertise.



### 2 Introduction

Part of the Mill Road – Takaanini Section Notice of Requirement (**NoR**) area overlies land owned by Winton Land Development (**Winton**) and its proposed Sunfield development (**Application**).

Land to the west and north of the NoR is generally flat and is affected by flooding. Stormwater features of note, adjacent to the proposed Application, include:

1. An overland flow path running east to west along Airfield Road that conveys an estimated 1% AEP flow (including 3.8 degrees of climate change) of 27.75 m<sup>3</sup>/s (AC Geomaps).
2. A flood plain near Airfield Road and Village Way that nominally runs from south to north and is adjacent to residential development and Ardmore Airport.
3. South of Hamlin Road, the NoR alignment crosses a stream with an estimated 1% AEP flow (including 3.8 degrees of climate change) of 46.5 m<sup>3</sup>/s (Auckland Council Geomaps).
4. Several other smaller overland flow paths up to 10 m<sup>3</sup>/s also cross the alignment.



**Figure 1:** Auckland Council Geomaps Flooding extents and overland flow paths near Mill Road Stage 2 and Sunfield

### 3 Mill Road – Takaanini Section – Stormwater Management

The proposed flood management approach for the NoR is to have minimal effect on flood levels by providing frequent cross drainage (culverts and/or bridges). Diversion channels will be provided on the upslope side of the road corridor to divert flows low or intermediate points in the terrain where culverts will be located. These diversion channels are expected to be up to about 300m in length and 1 to 2m deep.

Multiple culverts are likely required at the two major crossing points near the Sunfield site at Airfield Road (27.75 m<sup>3</sup>/s) and the stream south of Hamlin Road (47.80 m<sup>3</sup>/s, MR2 chainage 3740m).

The proposed NoR conditions include a flood hazard condition which commits to no more than a 50mm change / increase in the flood level on adjoining land. In particular, there are likely to be constraints on increasing flood level near the houses on Village Way and the buildings around the southern end of Ardmore Airport. It was envisaged that the major flood flows would pass under the corridor with minimal change in hydraulic conditions.

Stormwater treatment is envisaged to be provided by constructed grassed swales.

Space has been allowed within the NoR extent for treatment/attenuation swales and a second separate parallel diversion channel to intercept local overland flows and direct them along the corridor to the culverts or bridges.

Ground conditions along the corridor are often poor with soft alluvial and organic soils.

Groundwater levels can be close to ground level, particularly in winter months. This means that geotechnical issues (settlement and bearing capacity) are expected and that ground improvement (such as placing pre-loads for 1 to 2 years) is likely required before the main construction phases.

### 4 Proposed Sunfield development – application design

Winton propose to discharge to the north-west side / corner of their site and at two points to the north onto Airfield Road. This design does not take into account the construction of the NoR.

They propose to:

- a) carry out bulk earthworks and fill much of the middle third of the site which is within the existing 1% AEP flood levels;
- b) divert much of the middle of the site (approx. 57 ha) away from the Papakura Stream catchment into an extension of the Awakeri wetland channel at the southern end of their site; and
- c) divert flows coming toward their site from the east into a large diversion channel on their eastern boundary and direct the flow north and then west and then north towards Airfield Rd. The NoR will occupy the land next to, and on top of, the Sunfield eastern diversion channel alignment.

Nominally they maintain the general direction of inflow and outflow for about more than 50 m<sup>3</sup>/s of water in the 1% AEP event (this is a large amount of flow).

There are two large detention basins proposed, one on the north-west corner to attenuate overland flow and the other in the middle of the site which will attenuate flow into the extension of Auckland Council's Awakeri channel.

Flood modelling results provided by Winton indicate the proposed flood management approach works conceptually. However Healthy Waters have raised concerns about whether the flood attenuation ponds may fill up before the peak flows arrive due to groundwater inflows and backflows from the off-site drainage system to the north.

### 5 Potential effects on the NoR

The NoR overlies the proposed location of the development's eastern diversion channel. The two proposals are incompatible.

Based on the information provided, and assuming the Application design was to be implemented in its current form outside of the NoR (noting the conflict between the NoR and the Application within the NoR boundaries and the matter of obtaining s176 approval from NZTA), it is anticipated that the proposed drainage design and bulk earthworks will (as a minimum) cause changes to flood levels along the western NoR boundary - which could affect the tailwater conditions for cross drainage and block natural drainage pathways to receive discharges from treatment swales.

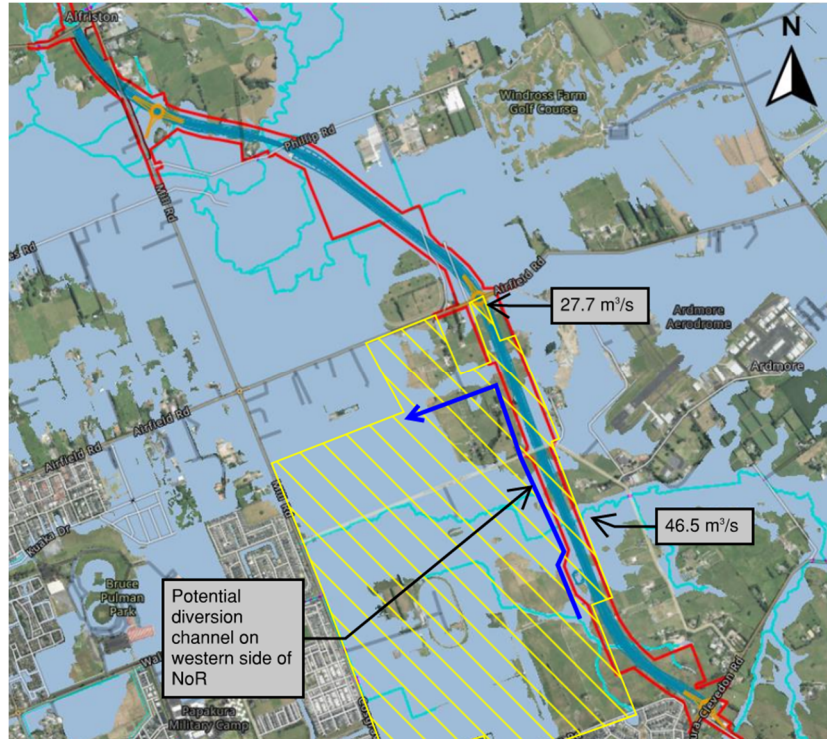
Discussions have commenced between NZTA and Winton to determine whether the Application can be amended to accommodate the NoR and whether an integrated stormwater management approach is feasible that accommodates flows from the Sunfield development, the NoR and the surrounding catchment. Conceptually this appears to be feasible from a stormwater perspective, but further work is required to confirm the technical design, get input from Healthy Waters and allocate responsibilities for costs, construction staging and ongoing maintenance.

If agreement cannot be reached, then Winton would need to amend its design to construct the diversion channel on the western side of the NoR. Constructing the diversion channel on the western side would lead to potential effects on the MR2 alignment, including:

- Flood levels at the NoR western boundary
- Groundwater diversion lowering the groundwater table under the NoR which is likely to lead to additional settlement and more extensive ground improvements to provide appropriate bearing capacity for the NoR project works; and
- Risks of instability in the diversion channel side slopes and the NoR foundations.

These issues would be best managed by the channel design allowing for the future loading from the NoR embankment, under a range of conditions (including static stability, rapid groundwater drawdown, and earthquake). One approach may be to preload the NoR corridor for the required time (possibly two years) prior to construction of the channel.





**Figure 2:** Major overland flows crossing Mill Road Stage 2 into Sunfield and potential diversion channel

## 6 Suggested matters for consideration

Assuming that an integrated design solution is not agreed, Winton would need to amend their proposal to enable development such that all their works area west of the NoR . They would need to undertake bulk earthworks across the site and construct a new large diversion channel on the western side of the NoR.

If flood levels increased on the western boundary of the NoR the design of the NoR drainage will be compromised.

Geotechnical issues associated with the channel may affect the physical works of the NoR – for example through groundwater drawdown. If Winton progress with this concept there will be connectivity / interaction between the Sunfield development drainage and the NZTA NoR drainage – i.e. the Sunfield channel would receive flows from NoRs cross drainage.

I have not been provided with any information as to what such a revised concept may entail, and I would need to see the proposal to comment further. At the very least, I consider that Winton would need to provide modelling results to show that flood levels (along the western NoR boundary with their revised drainage in place) do not increase following their bulk earthworks and drainage construction.

I suggest the following matters are considered by the Panel such that:

1. Winton provide flood levels to NZTA along the western boundary of the NoR to demonstrate that the design of the future NoR cross drainage will not be adversely affected

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2. The potential geotechnical and groundwater effects associated with the Sunfield diversion channel on the future NoR works are to be provided for in the design of the Sunfield channel, with the design coordinated with, and approved by, NZTA
3. Allow for coordination, design and construction of physical works to connect the two drainage systems where appropriate.

### **Roger Seyb**

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